

REPORT

2024 Annual Groundwater Monitoring and Corrective Action Report

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

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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, 2024 through December 31, 2024 including verification results related to late 2023 sampling.

Throughout 2024, the multi-unit monitoring well network for the MEC Surface Impoundments has been in Corrective Action Monitoring status, 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 2024 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
October-November 2023 Sampling Event	Detection & Assessment Monitoring, October 30 to November 2, 2023	November 30, 2023	Appendix III, Detected Appendix IV ^(See Note 1) , & Major Cations and Anions	<u>Boron:</u> MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 <u>Calcium:</u> MW-1, MW-4, MW-6, MW-7, MW-8 <u>Sulfate:</u> MW-4, MW-6, MW-7, MW-8 <u>TDS:</u> MW-4, MW-6, MW-7, MW-8	<u>Arsenic:</u> MW-4, MW-5 <u>Lithium:</u> MW-6, MW-7 <u>Molybdenum:</u> MW-6, MW-7, MW-8	February 27, 2024
	Verification Sampling, February 5, 2024	February 21, 2024	Detected Appendix III parameters ^(See Note 2)			
June 2024 Sampling Event	Detection & Assessment Monitoring, June 27-28, 2024	July 22, 2024	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters	<u>Boron:</u> MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 <u>Calcium:</u> MW-1, MW-4, MW-6, MW-7, MW-8 <u>Sulfate:</u> MW-2, MW-3, MW-4, MW-6, MW-7, MW-8 <u>TDS:</u> MW-4, MW-6, MW-7, MW-8	<u>Arsenic:</u> MW-4, MW-5 <u>Lithium:</u> MW-6, MW-7 <u>Molybdenum:</u> MW-6, MW-7, MW-8	October 20, 2024
	Verification Sampling, August 1, 2024	August 15, 2024	Detected Appendix III parameters ^(See Note 2)			
October- November 2024 Sampling Event	Detection & Assessment Monitoring, October 3-8 & November 7, 2024	December 10, 2024	Appendix III, Detected Appendix IV ^(See Note 3) , & Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2025.		

Notes:

- 1) Testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the April 2023 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 June 2024 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 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 1×10^{-7} centimeters per second (cm/sec) versus 1×10^{-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.

A Supplemental Remedy Selection report was published for the MEC in July 2024. The report documents the results of the above corrective measures since their inception as well as future supplemental measures that may be applied in the future. The report notes that source control, in addition to ongoing natural attenuation, appears to contribute to a general reduction in most groundwater constituent concentrations near the MEC surface impoundments.

Historically, the MEC has managed CCR generated from the facility at 9 surface impoundments, of which 4 were originally exempt from the CCR Rule; however, they may be subject to the Legacy CCR Surface Impoundments rule promulgated on May 8, 2024. 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 based on 2015 CCR Rule – MOPF, MOPG, MOPH (closed), and MOPI (closed)

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 commenced in late 2023, with the first Phase 2 Corrective Action sampling event occurring in November 2023, followed by associated statistical analysis completed in February 2024. Since that time, groundwater sampling and statistical evaluations have been completed semi-annually to determine if any constituents within the Corrective Action Monitoring Well Network are statistically in exceedance of the GWPS. A summary of Corrective Action Monitoring activities and associated statistical results for the year is provided in **Table 2**.

Table 2 - Summary of 2024 MEC Sampling Events and Statistical Evaluations for Corrective Action Monitoring Well Network

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt Date	Parameters Collected	Constituents Statistically Exceeding the GWPS as a Part of Corrective Action Statistical Evaluations	Date Exceedance of GWPS was determined
November 2023 Sampling Event	Phase 2 – Corrective Action Sampling November 1-2, 2023	November 29, 2023	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions	<u>Arsenic:</u> MW-9, MW-10, TP-1, MW-11D <u>Cobalt:</u> MW-10* <u>Lithium:</u> MW-10, TP-2, MW-11D <u>Molybdenum:</u> MW-11D	February 27, 2024
June-July 2024 Sampling Event	Phase 2 – Corrective Action Sampling June 27 - July 1, 2024	July 24, 2024	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters	<u>Arsenic:</u> MW-9, MW-10, TP-1, MW-11D <u>Cobalt:</u> MW-10* <u>Lithium:</u> MW-10, TP-2, MW-11D <u>Molybdenum:</u> MW-11D	October 22, 2024
October-November 2024 Sampling Event	Phase 2 – Corrective Action Sampling October 4-8 & November 7, 2024	December 10, 2024	Appendix III, Detected Appendix IV (See Note 2), & Major Cations and Anions	To be determined after statistical analysis is completed in 2025.	

Notes:

- 1) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2023 sampling event.
- 2) Testing was completed for Appendix IV analytes that were detected above the PQL during the June-July 2024 sampling event.
- 3) * - Cobalt has not historically been identified as an SSL in Assessment Monitoring. Results from MW-10 were below the site GWPS during both the June and October 2024 sampling events.

While there are exceedances of the GWPS using corrective action statistical analysis methods for arsenic, lithium, cobalt and molybdenum, variability in the initial groundwater sampling results after closure of the MEC Surface Impoundments is expected, especially at wells in close proximity to the CCR Unit. Constituents at an SSL and a statistical exceedance over the GWPS using Corrective Action statistical methods are expected to show decreases in concentration over time after stabilization occurs due to closure of the CCR Units. Future data collection will be used to further constrain calculated statistical confidence limits used for SSL determination.

Cobalt has not been identified as an SSL in the monitoring wells adjacent to the CCR Units used for Assessment Monitoring. In 2024, the cobalt concentrations were below the site GWPS for both the June and October sampling events. Cobalt is an exceedance at monitoring well MW-10 well using Corrective Action statistical methods; however, if Assessment Monitoring statistical methods are used to evaluate cobalt at this well, it would not be a statistical exceedance. An alternative source demonstration for cobalt will be evaluated once geochemical soil data collected for the MNA evaluation is available and analyzed.

Evaluation of Corrective Measures

Overall, corrective actions taken by Ameren, including closure of the MCPA, MCPB, MCPC, MCPD, and MCPE with an engineered geomembrane cover system and MNA has reduced concentrations of key CCR constituents. In monitoring wells downgradient of the MEC Surface Impoundments with statistical exceedances for arsenic, lithium, or molybdenum in either the Assessment Monitoring or Corrective Action monitoring networks, the following decreases have been observed since 2022:

- Average boron concentrations have decreased approximately 11%
- Average molybdenum concentrations have decreased approximately 8%
- Average arsenic concentrations have decreased 4%
- Average lithium concentrations have decreased 1%

Monitoring and further evaluation of results will continue each year and progress will be tracked in future Annual Reports and statistical evaluations.

Additionally, in 2024, five direct-push soil borings were advanced across the MEC as part of the ongoing MNA Evaluation Report, which will be published on Ameren's website once it is completed. Similar evaluations have been published at other Ameren facilities that document the effectiveness of MNA as a corrective measure.

Table of Contents

1.0	Installation or Decommissioning of Monitoring Wells.....	1
2.0	Groundwater Sampling Results and Discussion.....	1
2.1	Detection Monitoring Program	1
2.2	Assessment Monitoring Program	1
2.3	Corrective Action Monitoring	2
2.4	Groundwater Elevation, Flow Rate and Direction	3
2.5	Evaluation of Corrective Measures	3
2.6	Sampling Issues	5
3.0	Activities Planned for 2025.....	5

TABLES

Table 1 - Summary of 2024 MEC Sampling Events, Previous Year Verification, and Statistical Evaluations (in text)

Table 2 - Summary of 2024 MEC Sampling Events for Corrective Action Monitoring Well Network (in text)

Table 3 - Summary of Well Construction Details

Table 4 - Summary of Detection and Assessment Groundwater Network Sampling Dates

Table 5 - Summary of Corrective Action Groundwater Network Sampling Dates

Table 6 - October-November 2023 Detection Monitoring Results

Table 7 - June 2024 Detection Monitoring Results

Table 8 - October-November 2024 Detection Monitoring Results

Table 9 - October-November 2023 Assessment Monitoring Results

Table 10 - June 2024 Assessment Monitoring Results

Table 11 - October-November 2024 Assessment Monitoring Results

Table 12 - November 2023 Corrective Action Monitoring Results

Table 13 - June-July 2024 Corrective Action Monitoring Results

Table 14 - October-November 2024 Corrective Action Monitoring Results

FIGURES

Figure 1 - Meramec Energy Center Groundwater Monitoring Programs and Monitoring Well Location Map

APPENDICES

Appendix A - Laboratory Analytical Data

Appendix B - Boring Logs from Direct-Push Drilling Investigation

Appendix C - October-November 2023 Assessment Monitoring Statistical Evaluation

Appendix D - June 2024 Assessment Monitoring Statistical Evaluation

Appendix E - November 2023 Corrective Action Monitoring Statistical Evaluation

Appendix F - June-July 2024 Corrective Action Monitoring Statistical Evaluation

Appendix G - 2024 Potentiometric Surface Maps

Appendix H - MW-8 Updated Well Construction Diagram

1.0 INSTALLATION OR DECOMMISSIONING 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 2024. Monitoring well MW-8 was damaged on or around May 31, 2024 due to construction activities adjacent to the well. Upon further investigation, it was determined that the PVC riser pipe was cracked above the concrete surface completion near the ground surface. A certified well installation contractor repaired the well on June 13, 2024. A summary of the well construction details for monitoring wells in both networks is provided in **Table 3**, which contains updated survey information for the repair of MW-8. Further details, including well construction diagrams for these wells, are provided in previous Annual Reports for the MEC Surface Impoundments.

In addition to the modification of MW-8, five direct-push soil boring were completed at the MEC as part of the ongoing MNA Evaluation Report. Soil borings, SEP-1–5, were completed in August 2024 and the location of each of these borings is provided in **Figure 1**. Boring logs associated with these boreholes are provided in **Appendix B**. These boring were used to collect geochemical soil samples for laboratory analysis and are discussed in the MEC MNA Evaluation which will be published on Ameren's publicly available website following its completion.

2.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the MEC Surface Impoundments in 2024. **Tables 4** and **5** provide a summary of the groundwater samples collected in 2024, 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 October 30 through November 2, 2023. Verification sampling and the statistical analysis to evaluate for SSIs for the October-November 2023 event were not completed until 2024 and are therefore included in this report. New initial exceedances of Appendix III analytes triggered a verification sampling event, which was completed on February 5, 2024. **Table 6** summarizes the results and the statistical analysis of the October-November 2023 Detection Monitoring event.

Detection Monitoring samples were again collected June 27-28, 2024, and testing was completed for all Appendix III analytes, as well as major cations and anions. New initial exceedances of Appendix III analytes triggered a verification sampling event, which was completed on August 1, 2024. **Table 7** summarizes the results and the statistical analysis of the June 2024 Detection Monitoring event.

A Detection Monitoring sampling event was completed October 3-8 and November 7, 2024, and testing was performed for all Appendix III analytes, as well as major cations and anions. Statistical analysis to evaluate for SSIs in the October-November 2024 data was not completed in 2024 and will be included in the 2025 Annual Report. **Table 8** summarizes the results of the October-November 2024 Detection Monitoring event.

2.2 Assessment Monitoring Program

An Assessment Monitoring groundwater sampling event was completed October 30 through November 2, 2023, 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 2024 and is included in this report. **Table 9** summarizes the results of the October-November 2023 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 C**. 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 June 27-28, 2024, and testing was completed for all Appendix IV analytes, major cations and anions, and other selected MNA parameters. **Table 10** summarizes the results of the June 2024 Assessment Monitoring event. The statistical evaluation for this event was completed in 2024 and is included in this report as **Appendix D**. The statistical evaluation determined there were no new SSLs, and those identified previously remain.

An Assessment Monitoring sampling event was completed October 3-8 and November 7, 2024 and testing was completed for Appendix IV analytes that were detected above the PQL during the June 2024 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 2024 Assessment Monitoring event; however, statistical analysis to evaluate SSLs was not completed in 2024. Results of the statistical evaluation will be included in the 2025 Annual Report.

2.3 Corrective Action Monitoring

A Corrective Action groundwater sampling event was completed November 1-2, 2023, 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 2023 Corrective Action sampling event results is provided in **Table 12**. This was the first Corrective Action sampling event for Phase 2 of Corrective Action (post-closure), and the results of this initial statistical evaluation are provided in **Appendix E**. Using corrective action statistical methods¹, the following constituents were determined to be in exceedance of the GWPS at these monitoring wells:

- Arsenic at MW-9, MW-10, TP-1, and MW-11D
- Cobalt at MW-10²
- Lithium at MW-10, TP-2, and MW-11D
- Molybdenum at MW-11D

A Corrective Action sampling event was completed June 27 through July 1, 2024, 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 June-July 2024 Corrective Action sampling event. The statistical evaluation for this event was completed in 2024 and is included in this report at **Appendix F**. The statistical evaluation determined the exceedances within the Corrective Action network remain the same as those identified previously.

A Corrective Action sampling event was completed October 4-8 and November 7, 2024, and testing was completed for Appendix III analytes, Appendix IV analytes that were detected above the PQL during the June-July 2024 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as

¹The statistical testing method used to evaluate the Corrective Action monitoring results is the confidence interval method, which is the same method used during Assessment Monitoring, except the null hypothesis for the confidence intervals is reversed. For Corrective Action, the Unified Guidance states that the appropriate null hypothesis is that the groundwater population (mean) exceeds the Groundwater Protection Standard (GWPS) for those constituents that exceed the GWPS under Assessment Monitoring program. Therefore, in Corrective Action the Upper Confidence Limit (UCL) is compared to the GWPS instead of the Lower Confidence Limit (LCL) [as used during Assessment Monitoring].

² Cobalt results were below the site GWPS for both the June and October 2024 sampling events. Cobalt is an exceedance at this well using Corrective Action statistical methods; however, if Assessment Monitoring statistical methods are used to evaluate cobalt at MW-10, it would not be a statistical exceedance. An alternative source demonstration will be evaluated once geochemical soil data collected for the MNA evaluation is available and analyzed.

well as major cations and anions. **Table 14** summarizes the results of the October-November 2024 Corrective Action sampling event. Statistical analysis of this event was not completed in 2024, and results of the statistical evaluation will be included in the 2025 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 G**. 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 MEC 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 MEC 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 84 feet per year in the prevailing downgradient direction.

2.5 Evaluation of Corrective Measures

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 closure 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 based on 2015 CCR Rule – MOPF, MOPG, MOPH (closed), and MOPI (closed)

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. The first full year with sampling results after the closure of the MCPA, MCPB and MCPC is 2024.

In June 2024, the Missouri Department of Natural Resources (MDNR) issued the National Pollutant Discharge Elimination System (NPDES) Permit (MO-0000361) for the MEC. This permit allows for sub-surface discharges of impacted groundwater to surface waters, and in the permit, MDNR has stated that MNA is the Best Available Technology (BAT) for CCR impacts at the site.

In July 2024, a Supplemental Remedy Selection Report was prepared by Haley & Aldrich, Inc. This report provided documentation of corrective measures implemented since the preparation of the 2019 Remedy Selection

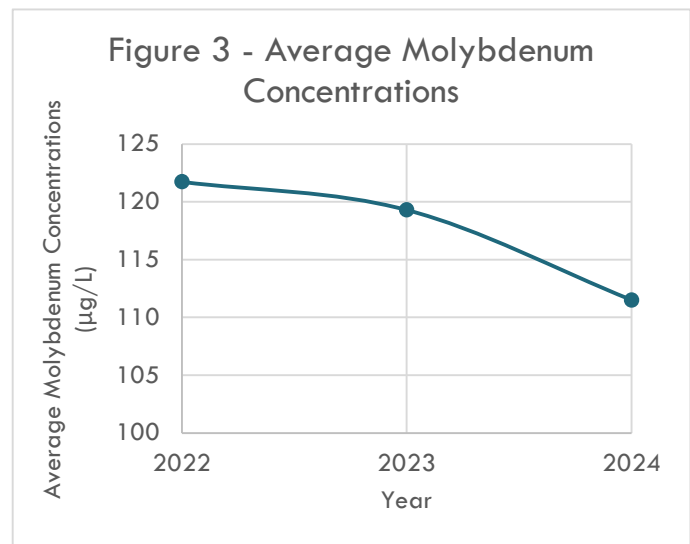
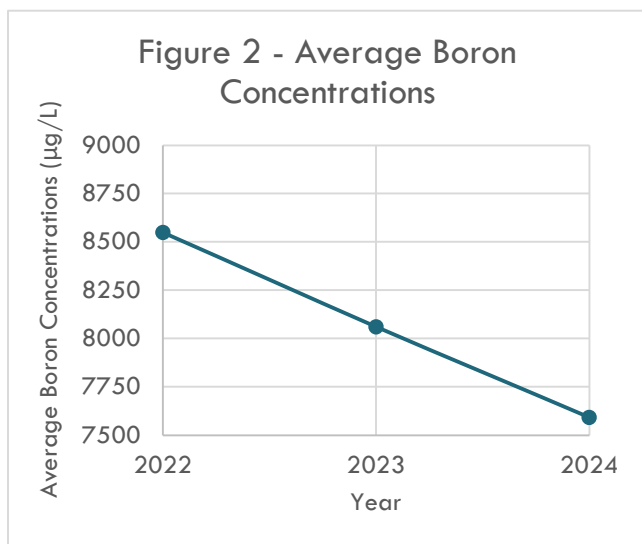
Report, an evaluation of the results from these corrective measures, and any additional supplemental corrective measures that may be anticipated in the future to comply with both MDNR and Federal CCR Rule requirements.

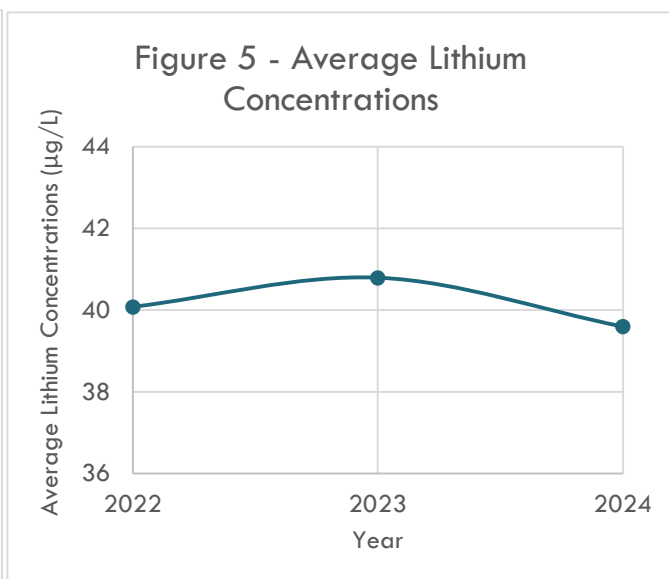
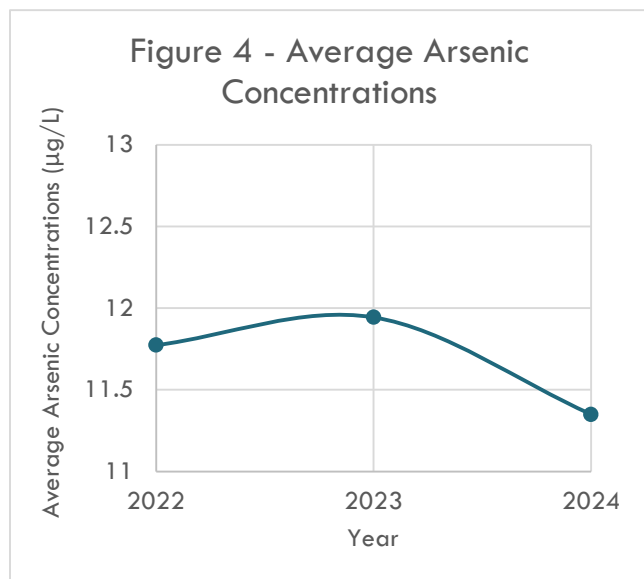
As a part of the July 2024 Supplemental Remedy Selection Report, Haley & Aldrich evaluated concentrations of key CCR Indicators. Since initiating closure activities in 2018 and completing closures in 2023, monitoring data indicate a general decrease in groundwater concentrations of several constituents, including boron, sulfate, lithium, and molybdenum. Boron and sulfate concentrations have declined by approximately 23% and 32%, respectively, while lithium and molybdenum have decreased by approximately 20% and 15%. However, arsenic levels remain relatively stable near the established Groundwater Protection Standard (GWPS) concentration. Data trends suggest that the implemented remedy—consisting of source control measures such as dewatering, low-permeability capping, and monitored natural attenuation (MNA)—is contributing to the attenuation of constituent concentrations over time.

In order to document the ongoing effectiveness of the corrective measures, an evaluation of key site CCR indicators was completed using the data collected through 2024. **Figures 2 – 5** below display average boron, molybdenum, arsenic, and lithium concentrations in the monitoring wells that currently contain a statistical exceedance for arsenic, molybdenum, or lithium in either the Assessment Monitoring or Corrective Action Monitoring Networks at the MEC. Data was evaluated from 2022 to the present, as 2022 was the last year that the MCPA, MCPB, and MCPC were active before the CCR Units were closed. While there is variability in individual well results, the average annual concentrations at the site are decreasing as follows:

- **Boron** - Average concentrations in these monitoring wells downgradient of the MEC have decreased approximately 11% since 2022.
- **Molybdenum** - Average concentrations in these monitoring wells downgradient of the LCPA have decreased approximately 8% since 2022.
- **Arsenic** - Average concentrations in these monitoring wells downgradient of the MEC have decreased approximately 4% since 2022.
- **Lithium** - Average concentrations in these monitoring wells downgradient of the LCPA have decreased approximately 1% since 2022.

As displayed by these figures, corrective measures taken by Ameren including the closure the CCR Rule Surface Impoundments with an engineered geomembrane system and MNA have been effective at reducing concentrations of key CCR constituents. Further MNA progress will be tracked in future Annual Reports and statistical evaluations.





2.6 Sampling Issues

During the October 2024 sampling event, low Mississippi River levels and groundwater elevations prevented sampling of monitoring well TP-2, which is sampled with a peristaltic pump. Additionally, ongoing construction and activities in the vicinity of monitoring well MW-8 inhibited safe access for sampling in early October. Therefore, sampling at each of these wells was delayed to November 7, 2024, when both wells were able to be sampled effectively and safely.

Monitoring well MW-8 was damaged on or around May 31, 2024 due to construction activities adjacent to the well. Upon further investigation, it was determined that the PVC riser pipe was cracked above the concrete surface completion near the ground surface. A certified well installation contractor repaired the well on June 13, 2024. A summary of the well construction details for monitoring wells in both networks is provided in **Table 3**, which contains updated survey information for the repair of MW-8. An updated Well Construction Diagram is provided in **Appendix H**.

During the October-November 2024 sampling event, several monitoring wells had high field readings of dissolved oxygen (MW-3, MW-6, MW-7 and MW-11D). Based on professional judgement and comparison to previous dissolved oxygen readings, these measurements are considered to be errors and not representative of dissolved oxygen conditions at the time of sampling.

No other notable sampling issues were encountered at the MEC in 2024.

3.0 ACTIVITIES PLANNED FOR 2025

Detection and Assessment Monitoring are scheduled to continue on a semi-annual basis in the second and fourth quarters of 2025. Statistical analysis of the October-November 2024 Detection and Assessment Monitoring data will be completed in 2025 and will be included in the 2025 Annual Report. 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. After the first semiannual sampling event in 2025, there will be at least 4 new results for each Appendix III parameter. Therefore, background updates are planned to be completed in 2025.

As part of 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 2025. Statistical analysis of the October-November 2024 Corrective Action Monitoring data will be completed in 2025 and will be included in the 2025 Annual Report. Monitoring and statistical evaluation of the corrective measures will be completed in accordance with the corrective measures remedial plan discussed in the Remedy Selection Report.

Evaluation of the effectiveness of Corrective Action and Corrective Measures on CCR constituent concentrations in groundwater will continue in 2025 and be included in the 2025 Annual 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	423.55	421.6	355.8	345.6	76.0
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.
- 5) *: MW-8 repaired on 6/13/2024. Table reflects updated top of casing and ground surface elevations, as well as total depth.

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				
	February 2024 Verification Sampling	June 2024 Sampling Event	July 2024 Verification Sampling	October-November 2024 Sampling Event	Total Number of Samples
CCR Rule Compliance Monitoring Well Network					
BMW-1	-	6/28/2024	-	10/7/2024	2
BMW-2	-	6/27/2024	-	10/7/2024	2
MW-1	-	6/27/2024	-	10/7/2024	2
MW-2	-	6/27/2024	8/1/2024	10/8/2024	3
MW-3	-	6/27/2024	8/1/2024	10/3/2024	3
MW-4	-	6/27/2024	-	10/8/2024	2
MW-5	2/5/2024	6/27/2024	-	10/3/2024	3
MW-6	2/5/2024	6/27/2024	-	10/4/2024	3
MW-7	-	6/27/2024	-	10/7/2024	2
MW-8	-	6/28/2024	-	11/7/2024	2
Detection or Assessment Monitoring	Detection	Assessment/ Detection	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.

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		
	June/July 2024 Sampling Event	October-November 2024 Sampling Event	Number of Samples
Corrective Action Monitoring Well Network			
MW-9 (AMW-1)	6/27/2024	10/7/2024	2
MW-10 (AMW-2)	6/28/2024	10/7/2024	2
MW-11S	6/28/2024	10/4/2024	2
MW-11D	6/28/2024	10/4/2024	2
TP-1	6/27/2024	10/8/2024	2
TP-2	7/1/2024	11/7/2024	2
Event Type	Corrective Action	Corrective Action	NA

Notes:

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

Table 6
October-November 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
October-November 2023 Detection Monitoring Event												
DATE	NA	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	6.421-7.55	7.15	6.90	6.97	6.50	6.60	6.91	7.35	6.80	7.26	7.01
BORON, TOTAL	µg/L	554	113	62.2 J	34.9 J	589	895	12,000	4,790	7,410	19,300	10,500
CALCIUM, TOTAL	µg/L	132,993	130,000	114,000	140,000	84,700	103,000	209,000	132,000	347,000	337,000	176,000
CHLORIDE, TOTAL	mg/L	248	133	15.7	47.9	23.4	46.2	37.7	49.3	15.9	66.9	24.8
FLUORIDE, TOTAL	mg/L	0.48	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND
SULFATE, TOTAL	mg/L	156.2	54.6	34.8	113	118	138	460	197	456	676	390
TOTAL DISSOLVED SOLIDS	mg/L	832	633	524	672	526	609	1,140	730	1,280	1,610	911
February 2024 Verification Sampling Event												
DATE	NA	NA							2/5/2024	2/5/2024		
pH	SU	6.421-7.55										
BORON, TOTAL	µg/L	554										
CALCIUM, TOTAL	µg/L	132,993										
CHLORIDE, TOTAL	mg/L	248										
FLUORIDE, TOTAL	mg/L	0.48										
SULFATE, TOTAL	mg/L	156.2							155 J	582		
TOTAL DISSOLVED SOLIDS	mg/L	832										

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.

Table 7
June 2024 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
June 2024 Detection Monitoring Event												
DATE	NA	NA	6/28/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/28/2024
pH	SU	6.421-7.55	6.79	6.93	6.98	7.03	6.62	7.21	7.27	6.90	7.33	6.96
BORON, TOTAL	µg/L	554	101	62.3 J	36.9 J	1,180	2,160	10,300	3,100	15,000	18,900	10,100
CALCIUM, TOTAL	µg/L	132,993	121,000	113,000	139,000	93,000	114,000 J	194,000	102,000	278,000	321,000	182,000
CHLORIDE, TOTAL	mg/L	248	120	14.7	39.8	23.7	34.9	32.7	43.5	34.4	67.2	26.3
FLUORIDE, TOTAL	mg/L	0.48	0.23	0.25	0.18 J	ND	0.25	0.24	0.20 J	ND	ND	0.19 J
SULFATE, TOTAL	mg/L	156.2	67.8	30.6	112	167	160	496	94	437	722	520
TOTAL DISSOLVED SOLIDS	mg/L	832	589	466	626	630	605	1,000	547	1,030	1,430	924
August 2024 Verification Sampling Event												
DATE	NA	NA				8/1/2024	8/1/2024					
pH	SU	6.421-7.55										
BORON, TOTAL	µg/L	554										
CALCIUM, TOTAL	µg/L	132,993										
CHLORIDE, TOTAL	mg/L	248										
FLUORIDE, TOTAL	mg/L	0.48										
SULFATE, TOTAL	mg/L	156.2				201	162					
TOTAL DISSOLVED SOLIDS	mg/L	832										

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. Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.

Table 8
October-November 2024 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 2024 Detection Monitoring Event											
DATE	NA	10/7/2024	10/7/2024	10/7/2024	10/8/2024	10/3/2024	10/8/2024	10/3/2024	10/4/2024	10/7/2024	11/7/2024
pH	SU	6.97	6.87	6.77	6.43	6.39	6.77	7.12	6.61	6.99	6.99
BORON, TOTAL	µg/L	106	63.9 J	46.7 J	2,020	2,280	10,900	5,090	8,960	10,900	10,600
CALCIUM, TOTAL	µg/L	115,000	114,000	139,000	102,000	109,000	185,000 J	150,000	352,000	263,000	171,000
CHLORIDE, TOTAL	mg/L	105	17.9	48.5	30.2	40.9	37.3 J	55.9	18.5	37.0	26.3
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31
SULFATE, TOTAL	mg/L	53.1	51.2	118	193	174	430	295	491	379	445
TOTAL DISSOLVED SOLIDS	mg/L	569	523	660	627	613	1,010	832	1,250	1,100	908

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.

Table 9
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.

Table 10
June 2024 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	6/28/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/27/2024	6/28/2024
DISSOLVED OXYGEN	mg/L	0.34	0.06	0.30	0.25	0.18	0.22	0.70	0.99	4.43	0.65
pH	SU	6.79	6.93	6.98	7.03	6.62	7.21	7.27	6.90	7.33	6.96
REDOX POTENTIAL	mV	144.7	-92.7	-84.4	-77.2	-24.7	-76.1	-69.4	-43.3	70.8	-10.3
SPECIFIC CONDUCTIVITY	mS/cm	1.068	0.926	1.137	0.947	1.039	1.468	0.956	1.503	1.899	1.248
TURBIDITY	NTU	3.60	4.63	2.57	4.71	3.17	7.98	2.94	9.65	3.12	19.5
APPENDIX IV PARAMETERS											
ANTIMONY, TOTAL	µg/L	0.34 J	ND	ND	ND	ND	ND	ND	ND	0.40 J	ND
ARSENIC, TOTAL	µg/L	4.1	1.2	0.70 J	1.7	7.8	14.9	18.6	6.7	3.0	9.3
BARIUM, TOTAL	µg/L	212	552	362	232	182	153	136	45.2	40.4	110
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	0.059 J	0.23 J	0.084 J
CHROMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	1.4 J	ND	ND
FLUORIDE, TOTAL	mg/L	0.23	0.25	0.18 J	ND	0.25	0.24	0.20 J	ND	ND	0.19 J
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	14.1	9.8 J	ND	5.0 J	6.1 J	26.2	15.9	132	45.6	32.3
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	4.3 J	ND	ND	ND	2.0 J	65.0	60.4	121	288	227
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	1.510	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	1.9	ND	ND	ND	ND	ND	ND	ND	3.3	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: GTM
Checked By: JTR
Reviewed By: MNH

Table 11
October-November 2024 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	10/7/2024	10/7/2024	10/7/2024	10/8/2024	10/3/2024	10/8/2024	10/3/2024	10/4/2024	10/7/2024	11/7/2024
DISSOLVED OXYGEN	mg/L	0.51	0.35	0.07	0.23	4.58	0.15	0.41	11.10	4.49	0.30
pH	SU	6.97	6.87	6.77	6.43	6.39	6.77	7.12	6.61	6.99	6.99
REDOX POTENTIAL	mV	59.9	-24.0	-18.8	-121.3	-90.7	4.1	-157.5	106.7	217.3	-23.3
SPECIFIC CONDUCTIVITY	mS/cm	1.057	0.798	0.934	1.098	0.940	1.083	1.190	0.871	1.690	1.111
TURBIDITY	NTU	2.42	3.69	3.58	0.99	2.20	3.58	3.94	6.08	1.34	15.60
APPENDIX IV PARAMETERS											
ARSENIC, TOTAL	µg/L	3.0	2.9	0.80 J	1.9	6.9	15.5	18.9	2.4	3.4	5.4
BARIUM, TOTAL	µg/L	192	557	364	261	168	144	210	50.1	34.4	120
CHROMIUM, TOTAL	µg/L	ND	ND	0.37 J	ND	ND	ND	0.35 J	ND	0.31 J	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	8.5	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31
LITHIUM, TOTAL	µg/L	11.8	6.8 J	ND	5.4 J	3.8 J	24.7	15.2	124	41.0	28.0
MOLYBDENUM, TOTAL	µg/L	3.9 J	ND	ND	ND	1.9 J	63.7	60.0	96.7	296	248
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	1.5	ND	ND	ND	ND	ND	ND	ND	31.2	ND

NOTES

- 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.
- J - Result is an estimated value.
- NA - Not Applicable.
- 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.
- 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.
- Based on professional judgment, dissolved oxygen field readings at MW-3, MW-6, and MW-7 are considered to be errors and not representative of dissolved oxygen conditions at the time of sampling.

Table 12
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

- 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.
- J - Result is an estimated value.
- NA - Not Applicable.
- 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.
- 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.

Table 13
June-July 2024 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	6/27/2024	6/27/2024	6/28/2024	7/1/2024	6/28/2024	6/28/2024
DISSOLVED OXYGEN	mg/L	0.96	0.16	0.08	0.16	0.10	0.30
REDOX POTENTIAL	mV	-43.9	-46.5	-39.1	-33.6	-72.0	-59.5
SPECIFIC CONDUCTIVITY	mS/cm	1.403	0.758	1.439	1.970	1.698	1.674
TURBIDITY	NTU	1.76	4.75	6.04	2.51	4.98	2.85
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	8,180	330	2,560	2,580	2,340	10,800
CALCIUM, TOTAL	µg/L	172,000	73,900	167,000	203,000	220,000	238,000
CHLORIDE, TOTAL	mg/L	37.7	14.4	89.0	162	18.2	40.6
pH	SU	6.97	7.51	7.00	7.10	6.75	7.14
SULFATE, TOTAL	mg/L	399	ND	242	449	106	504
TOTAL DISSOLVED SOLIDS	mg/L	897	350	867	1,210	890	1,160
APPENDIX IV PARAMETERS							
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	17.7	23.7	10.1	4.7	1.6	11.4
BARIUM, TOTAL	µg/L	274	346	80.6	50.5	673	86.4
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.10 J
CHROMIUM, TOTAL	µg/L	ND	ND	ND	4.8	ND	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	0.25	0.35	0.20 J	ND	0.36
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	19.0	10.7	31.6	43.8	31.6	44.1
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	34.0	1.0 J	13.8 J	12.9 J	4.2 J	307
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	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	339	405	403	408	823	401
IRON, FERRIC, TOTAL	mg/L	22.0	3.8	9.6	15.9	50.1	19.7
IRON, FERROUS, TOTAL	mg/L	0.95 J	0.45 J	0.59 J	0.52 J	1.5 J	0.61 J
IRON, TOTAL	µg/L	23,000	4,240	10,200	16,500	51,600	20,300
MAGNESIUM, TOTAL	µg/L	51,600	29,800	40,000	51,100	63,400	58,600
MANGANESE, TOTAL	µg/L	598	80.7	518	571	1,680	658
POTASSIUM, TOTAL	µg/L	5,020	3,110	7,570	8,220	7,560	5,910
SODIUM, TOTAL	µg/L	44,000	40,800	67,700	145,000	25,400	37,400
SULFIDE, TOTAL	mg/L	0.018 J	0.13	ND	ND	0.051	0.023 J

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: JTR
Reviewed By: MNH

Table 14
October-November 2024 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	10/7/2024	10/8/2024	10/7/2024	11/7/2024	10/4/2024	10/4/2024
DISSOLVED OXYGEN	mg/L	0.16	0.17	0.22	0.39	1.80	8.80
REDOX POTENTIAL	mV	-16.3	-13.9	-60.0	-54.2	76.7	87.9
SPECIFIC CONDUCTIVITY	mS/cm	1.072	0.617	1.946	2.030	1.319	1.036
TURBIDITY	NTU	3.10	1.95	4.07	1.76	3.24	4.73
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	7,800	335	2,000	3,120	679	10,300
CALCIUM, TOTAL	µg/L	167,000	76,600	262,000	235,000	262,000	231,000
CHLORIDE, TOTAL	mg/L	44.6	14.6	77.3	228	15.2	87.6 J
pH	SU	6.72	7.31	6.85	7.07	6.58	6.82
SULFATE, TOTAL	mg/L	283	ND	415	532	2.6	453
TOTAL DISSOLVED SOLIDS	mg/L	899	414	1,270	1,520	940	1,160
APPENDIX IV PARAMETERS							
ARSENIC, TOTAL	µg/L	16.7	22.6	4.3	4.8	1.0	12.9
BARIUM, TOTAL	µg/L	236	349	72.2	65.4	644	125
CHROMIUM, TOTAL	µg/L	ND	ND	ND	0.43 J	ND	ND
COBALT, TOTAL	µg/L	ND	ND	5.8	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	0.32	0.27	ND
LITHIUM, TOTAL	µg/L	17.6	10.7	43.3	41.5	16.9	44.8
MOLYBDENUM, TOTAL	µg/L	45.3	ND	7.3 J	17.5 J	ND	265
RADIUM [226 + 228]	pCi/L	ND	ND	ND	1.885	2.531	ND
SELENIUM, TOTAL	µg/L	ND	ND	0.32 J	ND	ND	ND
ADDITIONAL PARAMETERS							
ALKALINITY	mg/L	93.8	392	2,140	394	1,010 J	496
IRON, TOTAL	µg/L	19,400	3,710	2,990	18,500	38,500	21,800
MAGNESIUM, TOTAL	µg/L	51,000	30,600	64,700	58,500	63,600	58,400
MANGANESE, TOTAL	µg/L	465	65.8	780	676	2,140	750
POTASSIUM, TOTAL	µg/L	5,250	3,150	9,400	8,600	8,110	6,890
SODIUM, TOTAL	µg/L	45,900	41,700	88,400	168,000	20,500	42,900

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.
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.
6. Based on professional judgment, dissolved oxygen field reading at MW-11D is considered to be an error and not representative of dissolved oxygen conditions at the time of sampling.

Prepared By: GTM
Checked By: VAH
Reviewed By: MNH

Figures



MERAMEC ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

LEGEND

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

Monitoring Well Networks

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

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.
- 5.) EXEMPT SURFACE IMPOUNDMENTS MAY BE SUBJECT TO LEGACY CCR RULE.

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

DESIGN	GTM	YYYY-MM-DD	2024-12-16
PREPARED	GTM	PROJECT No.	23010-24
REVIEW	JSI		
APPROVED	MNH		

FIGURE 1

Appendix A

Laboratory Analytical Data



February 21, 2024

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

RE: Project: AMEREN MEC-VERIFICATION SAMP.
Pace Project No.: 60446549

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on February 06, 2024. 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,

A handwritten signature in cursive script, reading "Jamie Church".

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

Enclosures

cc: Jeffrey Ingram, Rocksmith Geoengineering, LLC.
Lisa Meyer, Ameren
Grant Morey, Rocksmith Geoengineering, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

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 #: T104704407-23-17

Utah Certification #: KS000212022-12

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60446549001	M-MW-5	Water	02/05/24 14:14	02/06/24 05:30
60446549002	M-MW-6	Water	02/05/24 13:19	02/06/24 05:30
60446549003	M-DUP-1	Water	02/05/24 00:00	02/06/24 05:30
60446549004	M-FB-1	Water	02/05/24 13:08	02/06/24 05:30

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60446549001	M-MW-5	EPA 300.0	RKA	1	PASI-K
60446549002	M-MW-6	EPA 300.0	MLD	1	PASI-K
60446549003	M-DUP-1	EPA 300.0	MLD	1	PASI-K
60446549004	M-FB-1	EPA 300.0	MLD	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

Sample: M-MW-5 Lab ID: 60446549001 Collected: 02/05/24 14:14 Received: 02/06/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Sulfate	155	mg/L	20.0	11.0	20		02/19/24 13:30	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

Sample: M-MW-6		Lab ID: 60446549002		Collected: 02/05/24 13:19		Received: 02/06/24 05:30		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Sulfate	582	mg/L	50.0	27.5	50		02/20/24 22:28	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

Sample: M-DUP-1		Lab ID: 60446549003	Collected: 02/05/24 00:00	Received: 02/06/24 05:30	Matrix: Water				
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Sulfate	548	mg/L	50.0	27.5	50		02/20/24 22:41	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-VERIFICATION SAMP.
Pace Project No.: 60446549

Sample: M-FB-1		Lab ID: 60446549004		Collected: 02/05/24 13:08		Received: 02/06/24 05:30		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Sulfate	<0.55	mg/L	1.0	0.55	1		02/20/24 22:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

QC Batch:	883627	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: 60446549001, 60446549002, 60446549003, 60446549004

METHOD BLANK: 3497834 Matrix: Water

Associated Lab Samples: 60446549001, 60446549002, 60446549003, 60446549004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	<0.55	1.0	0.55	02/19/24 11:56	

LABORATORY CONTROL SAMPLE: 3497835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3497836 3497837

Parameter	Units	60446549001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	155	100	100	218	224	63	70	80-120	3	15	M1

SAMPLE DUPLICATE: 3497838

Parameter	Units	60446549001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	155	148	5	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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QUALIFIERS

Project: AMEREN MEC-VERIFICATION SAMP.

Pace Project No.: 60446549

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

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-VERIFICATION SAMP.
Pace Project No.: 60446549

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60446549001	M-MW-5	EPA 300.0	883627		
60446549002	M-MW-6	EPA 300.0	883627		
60446549003	M-DUP-1	EPA 300.0	883627		
60446549004	M-FB-1	EPA 300.0	883627		

REPORT OF LABORATORY ANALYSIS

WO#: 60446549



DC#_Title: ENV-FRM-LENE-0009_Sample Co

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name:

Rocks with Geoen9Courier: 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 Corr. Factor -0.3 Corrected 1.1

Date and initials of person examining contents:

pv 2/6/24

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: <u>WT</u>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#:	☐ 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:

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:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Rocksmith Geosengineering, LLC	Report To:	Mark Haddock	Company Name:	Rocksmith
Address:	5233 Roanoke Drive St. Charles, MO 63304	Copy To:	Jeffery Ingram, Grant Morey	Address:	
Email To:	mark.haddock@rocksmithgeo.com	Purchase Order No.:	COC #1	Pace Quote Reference:	
Phone:	314-974-5678	Project Name:	Ameren MEC - Verification Sampling	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	COC#1	Pace Profile #:	15856, line 1

Page: 1 of 1

REGULATORY AGENCY	
☐ NPDES	☐ GROUND WATER
☐ UST	☐ RCRA
☐ OTHER	
Site Location	MO
STATE:	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOLID S OIL OL MP MR MT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Y/N	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
					COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME					DATE	TIME	N	N	N	N	N	N	N	N	N	N			N	N																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
1		M-MW-5	WT	G			2-5-24	1414		1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

Client: Rocks with Green

Profile #

15856-1

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	5																		3											
2																			1											
3																			1											
4																			1											
5																			1											
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
DG9H	40mL HCl amber vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	1L unpreserved plastic
DG9S	40mL H2SO4 amber vial	AG0U	100mL unres amber glass	BP1Z	1L NaOH, Zn Acetate
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NaOH plastic
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic
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
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
BG3H	250mL HCl Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate
				BP4U	125mL unpreserved plastic
				BP4N	125mL HNO3 plastic
				BP4S	125mL H2SO4 plastic
				WPDU	16oz unpreserved plastic

Work Order Number:

60446549



Memorandum

February 22, 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 – Data Package 60446549**

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 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 Name: Ameren MEC
Reviewer: G. Morey

Project Manager: J. Ingram
Project Number: 23010
Validation Date: 2/22/2024

Laboratory: Pace Analytical

SDG #: 60446549

Analytical Method (type and no.): EPA 300.0 (Sulfate)

Matrix: ☐ Air ☐ Soil/Sed. ☒ Water ☐ Waste ☐ _____

Sample Names M-MW-5, M-MW-6, M-DUP-1, M-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?	☒	☐	☐	<u>2/5/2024</u>
b) Sampling team indicated?	☒	☐	☐	<u>GTM/ANT</u>
c) Sample location noted?	☒	☐	☐	<u></u>
d) Sample depth indicated (Soils)?	☐	☐	☒	<u></u>
e) Sample type indicated (grab/composite)?	☒	☐	☐	<u>Grab</u>
f) Field QC noted?	☒	☐	☐	<u>See Notes.</u>
g) Field parameters collected (note types)?	☒	☐	☐	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	☒	☐	☐	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☒	☐	<u></u>
j) Does the laboratory narrative indicate deficiencies?	☐	☐	☒	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

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-FB-1 @ M-MW-6
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-DUP-1 @ M-MW-6
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	RPD: 6%
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	
d) Were lab dup. precision criteria met (note RPD)?	☒	☐	☐	RPD: 5%

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:

Sulfate was diluted in many samples; no qualification necessary.

Duplicates:

Lab duplicate max RPD: 15%.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MS/MSD:

3497836/3497837: MS/MSD recoveries low for sulfate. Associated with sample -001, result qualified as estimate.

Data Qualification:

Date: 2/22/2024



July 22, 2024

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

RE: Project: AMEREN MEC
Pace Project No.: 60455908

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 2024. 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,

A handwritten signature in cursive script, reading "Jamie Church".

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

Enclosures

cc: Jeffrey Ingram, Rocksmith Geoengineering, LLC.
Lisa Meyer, Ameren
Grant Morey, Rocksmith Geoengineering, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MEC

Pace Project No.: 60455908

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

Arkansas Certification #: 88-00679

Colorado Division of Oil and Public Safety

Illinois Certification #: 2000302023-6

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MEC

Pace Project No.: 60455908

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60455908001	M-MW-1	Water	06/27/24 13:36	06/29/24 06:47
60455908002	M-MW-2	Water	06/27/24 10:34	06/29/24 06:47
60455908003	M-MW-3	Water	06/27/24 12:20	06/29/24 06:47
60455908004	M-MW-4	Water	06/27/24 15:13	06/29/24 06:47
60455908005	M-MW-5	Water	06/27/24 13:32	06/29/24 06:47
60455908006	M-MW-6	Water	06/27/24 16:52	06/29/24 06:47
60455908007	M-MW-7	Water	06/27/24 16:32	06/29/24 06:47
60455908008	M-MW-8	Water	06/28/24 13:55	06/29/24 06:47
60455908009	M-BMW-1	Water	06/28/24 09:15	06/29/24 06:47
60455908010	M-BMW-2	Water	06/27/24 12:17	06/29/24 06:47
60455908011	M-DUP-1	Water	06/27/24 00:00	06/29/24 06:47
60455908012	M-FB-1	Water	06/27/24 13:32	06/29/24 06:47
60455908013	M-MS-1	Water	06/27/24 12:20	06/29/24 06:47
60455908014	M-MSD-1	Water	06/27/24 12:20	06/29/24 06:47

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC

Pace Project No.: 60455908

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60455908001	M-MW-1	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60455908002	M-MW-2	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60455908003	M-MW-3	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60455908004	M-MW-4	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC

Pace Project No.: 60455908

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60455908005	M-MW-5	EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
60455908006	M-MW-6	EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
60455908007	M-MW-7	EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC

Pace Project No.: 60455908

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60455908008	M-MW-8	SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60455908009	M-BMW-1	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
60455908010	M-BMW-2	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
60455908011	M-DUP-1	EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC

Pace Project No.: 60455908

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60455908012	M-FB-1	EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
60455908013	M-MS-1	EPA 300.0	PL	3	PASI-K
		EPA 903.1	CLM	1	PASI-PA
60455908014	M-MSD-1	EPA 904.0	JJS1	1	PASI-PA
		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

Pace Project No.: 60455908

Sample: M-MW-1 Lab ID: 60455908001 Collected: 06/27/24 13:36 Received: 06/29/24 06:47 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	362	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:08	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:08	7440-41-7	
Boron	36.9J	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:08	7440-42-8	
Calcium	139000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:08	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:08	7440-48-4	
Iron	15200	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:08	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:08	7439-92-1	
Lithium	<3.7	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:08	7439-93-2	
Magnesium	44800	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:08	7439-95-4	
Manganese	1910	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:08	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:08	7439-98-7	
Potassium	1570	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:08	7440-09-7	
Sodium	29300	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:08	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	07/03/24 14:07	07/08/24 11:47	7440-36-0	
Arsenic	0.70J	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 11:47	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 11:47	7440-43-9	
Chromium	0.49J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 11:47	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 11:47	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 11:47	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	07/02/24 11:00	07/02/24 16:12	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	437	mg/L	20.0	10.5	1		07/02/24 12:38		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	626	mg/L	10.0	10.0	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	14.8	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.35	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-1 Lab ID: 60455908001 Collected: 06/27/24 13:36 Received: 06/29/24 06:47 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		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	39.8	mg/L	10.0	5.3	10		07/02/24 22:36	16887-00-6	
Fluoride	0.18J	mg/L	0.20	0.12	1		07/02/24 22:22	16984-48-8	N2
Sulfate	112	mg/L	10.0	5.5	10		07/02/24 22:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-2 Lab ID: 60455908002 Collected: 06/27/24 10:34 Received: 06/29/24 06:47 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	232	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:09	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:09	7440-41-7	
Boron	1180	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:09	7440-42-8	
Calcium	93000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:09	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:09	7440-48-4	
Iron	43100	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:09	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:09	7439-92-1	
Lithium	5.0J	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:09	7439-93-2	
Magnesium	30900	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:09	7439-95-4	
Manganese	4700	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:09	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:09	7439-98-7	
Potassium	2090	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:09	7440-09-7	
Sodium	32800	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:09	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	07/03/24 14:07	07/08/24 11:50	7440-36-0	
Arsenic	1.7	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 11:50	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 11:50	7440-43-9	
Chromium	0.52J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 11:50	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 11:50	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 11:50	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	07/02/24 11:00	07/02/24 16:14	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	315	mg/L	20.0	10.5	1		07/02/24 12:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	630	mg/L	10.0	10.0	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	17.0	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	26.1	mg/L	1.0	0.20	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60455908

Sample: M-MW-2		Lab ID: 60455908002		Collected: 06/27/24 10:34		Received: 06/29/24 06:47		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		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	23.7	mg/L	10.0	5.3	10		07/02/24 23:04	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		07/02/24 22:50	16984-48-8	N2
Sulfate	167	mg/L	10.0	5.5	10		07/02/24 23:04	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-3 Lab ID: 60455908003 Collected: 06/27/24 12:20 Received: 06/29/24 06:47 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	182	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:11	7440-39-3	M1,P6
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:11	7440-41-7	
Boron	2160	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:11	7440-42-8	
Calcium	114000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:11	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:11	7440-48-4	
Iron	37700	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:11	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:11	7439-92-1	
Lithium	6.1J	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:11	7439-93-2	
Magnesium	34800	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:11	7439-95-4	
Manganese	2860	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:11	7439-96-5	
Molybdenum	2.0J	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:11	7439-98-7	
Potassium	3120	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:11	7440-09-7	
Sodium	44000	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:11	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	07/03/24 14:07	07/08/24 11:55	7440-36-0	B
Arsenic	7.8	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 11:55	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 11:55	7440-43-9	
Chromium	0.53J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 11:55	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 11:55	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 11:55	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	07/02/24 11:00	07/02/24 16:17	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	349	mg/L	20.0	10.5	1		07/02/24 12:49		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	605	mg/L	10.0	10.0	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	24.2	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	13.5	mg/L	1.0	0.20	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-3		Lab ID: 60455908003		Collected: 06/27/24 12:20		Received: 06/29/24 06:47		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		07/02/24 12:05	18496-25-8	M1
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	34.9	mg/L	5.0	2.6	5		07/03/24 00:13	16887-00-6	
Fluoride	0.25	mg/L	0.20	0.12	1		07/02/24 23:17	16984-48-8	N2
Sulfate	160	mg/L	20.0	11.0	20		07/03/24 01:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-4 Lab ID: 60455908004 Collected: 06/27/24 15:13 Received: 06/29/24 06:47 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	153	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:16	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:16	7440-41-7	
Boron	10300	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:16	7440-42-8	
Calcium	194000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:16	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:16	7440-48-4	
Iron	28500	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:16	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:16	7439-92-1	
Lithium	26.2	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:16	7439-93-2	
Magnesium	49800	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:16	7439-95-4	
Manganese	1130	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:16	7439-96-5	
Molybdenum	65.0	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:16	7439-98-7	
Potassium	7000	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:16	7440-09-7	
Sodium	53300	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:16	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	07/03/24 14:07	07/08/24 12:02	7440-36-0	
Arsenic	14.9	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:02	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:02	7440-43-9	
Chromium	0.58J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:02	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:02	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:02	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	07/02/24 11:00	07/02/24 16:24	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	361	mg/L	20.0	10.5	1		07/02/24 13:09		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1000	mg/L	13.3	13.3	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	26.6	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	2.0	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-4		Lab ID: 60455908004		Collected: 06/27/24 15:13		Received: 06/29/24 06:47		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		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	32.7	mg/L	5.0	2.6	5		07/03/24 02:45	16887-00-6	
Fluoride	0.24	mg/L	0.20	0.12	1		07/03/24 02:31	16984-48-8	N2
Sulfate	496	mg/L	100	55.0	100		07/03/24 02:59	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-5 Lab ID: 60455908005 Collected: 06/27/24 13:32 Received: 06/29/24 06:47 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	136	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:23	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:23	7440-41-7	
Boron	3100	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:23	7440-42-8	
Calcium	102000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:23	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:23	7440-48-4	
Iron	9420	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:23	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:23	7439-92-1	
Lithium	15.9	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:23	7439-93-2	
Magnesium	33800	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:23	7439-95-4	
Manganese	265	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:23	7439-96-5	
Molybdenum	60.4	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:23	7439-98-7	
Potassium	4070	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:23	7440-09-7	
Sodium	38500	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:23	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	07/03/24 14:07	07/08/24 12:04	7440-36-0	
Arsenic	18.6	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:04	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:04	7440-43-9	
Chromium	0.48J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:04	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:04	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:04	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	07/02/24 11:00	07/02/24 16:26	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	362	mg/L	20.0	10.5	1		07/02/24 13:15		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	547	mg/L	10.0	10.0	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	9.1	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.36	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-5		Lab ID: 60455908005		Collected: 06/27/24 13:32		Received: 06/29/24 06:47		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		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	43.5	mg/L	20.0	10.5	20		07/03/24 04:08	16887-00-6	
Fluoride	0.20J	mg/L	0.20	0.12	1		07/03/24 03:41	16984-48-8	N2
Sulfate	94.0	mg/L	20.0	11.0	20		07/03/24 04:08	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-6 Lab ID: 60455908006 Collected: 06/27/24 16:52 Received: 06/29/24 06:47 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	45.2	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:25	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:25	7440-41-7	
Boron	15000	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:25	7440-42-8	
Calcium	278000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:25	7440-70-2	
Cobalt	1.4J	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:25	7440-48-4	
Iron	14000	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:25	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:25	7439-92-1	
Lithium	132	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:25	7439-93-2	
Magnesium	17600	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:25	7439-95-4	
Manganese	1180	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:25	7439-96-5	
Molybdenum	121	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:25	7439-98-7	
Potassium	12400	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:25	7440-09-7	
Sodium	21300	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:25	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	07/03/24 14:07	07/08/24 12:09	7440-36-0	
Arsenic	6.7	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:09	7440-38-2	
Cadmium	0.059J	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:09	7440-43-9	
Chromium	0.51J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:09	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:09	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:09	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	07/02/24 11:00	07/02/24 16:28	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	368	mg/L	20.0	10.5	1		07/02/24 13:21		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1030	mg/L	13.3	13.3	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	12.6	mg/L	0.050		1		07/22/24 00:00	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		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-6		Lab ID: 60455908006		Collected: 06/27/24 16:52		Received: 06/29/24 06:47		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		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	34.4	mg/L	2.0	1.1	2		07/03/24 04:36	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		07/03/24 04:22	16984-48-8	N2
Sulfate	437	mg/L	50.0	27.5	50		07/03/24 04:50	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-7 Lab ID: 60455908007 Collected: 06/27/24 16:32 Received: 06/29/24 06:47 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	40.4	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:26	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:26	7440-41-7	
Boron	18900	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:26	7440-42-8	
Calcium	321000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:26	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:26	7440-48-4	
Iron	<9.1	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:26	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:26	7439-92-1	
Lithium	45.6	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:26	7439-93-2	
Magnesium	25300	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:26	7439-95-4	
Manganese	<0.39	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:26	7439-96-5	
Molybdenum	288	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:26	7439-98-7	
Potassium	17800	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:26	7440-09-7	
Sodium	89800	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:26	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.40J	ug/L	1.0	0.12	1	07/03/24 14:07	07/08/24 12:12	7440-36-0	
Arsenic	3.0	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:12	7440-38-2	
Cadmium	0.23J	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:12	7440-43-9	
Chromium	0.55J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:12	7440-47-3	B
Selenium	3.3	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:12	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:12	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	07/02/24 11:00	07/02/24 16:31	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	339	mg/L	20.0	10.5	1		07/02/24 13:27		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1430	mg/L	20.0	20.0	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0J	mg/L	0.050		1		07/22/24 00:00	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		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-7		Lab ID: 60455908007		Collected: 06/27/24 16:32		Received: 06/29/24 06:47		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		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	67.2	mg/L	10.0	5.3	10		07/03/24 05:18	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		07/03/24 05:04	16984-48-8	N2
Sulfate	722	mg/L	200	110	200		07/03/24 05:32	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-8 Lab ID: 60455908008 Collected: 06/28/24 13:55 Received: 06/29/24 06:47 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	110	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:28	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:28	7440-41-7	
Boron	10100	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:28	7440-42-8	
Calcium	182000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:28	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:28	7440-48-4	
Iron	10100	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:28	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:28	7439-92-1	
Lithium	32.3	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:28	7439-93-2	
Magnesium	37200	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:28	7439-95-4	
Manganese	1780	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:28	7439-96-5	
Molybdenum	227	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:28	7439-98-7	
Potassium	6570	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:28	7440-09-7	
Sodium	33700	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:28	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	07/03/24 14:07	07/08/24 12:14	7440-36-0	
Arsenic	9.3	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:14	7440-38-2	
Cadmium	0.084J	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:14	7440-43-9	
Chromium	0.85J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:14	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:14	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:14	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	07/02/24 11:00	07/02/24 16:37	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	211	mg/L	20.0	10.5	1		07/03/24 14:11		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	924	mg/L	13.3	13.3	1		07/02/24 10:59		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	9.4	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.64	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60455908

Sample: M-MW-8		Lab ID: 60455908008		Collected: 06/28/24 13:55		Received: 06/29/24 06:47		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		07/03/24 11:20	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	26.3	mg/L	5.0	2.6	5		07/03/24 06:27	16887-00-6	
Fluoride	0.19J	mg/L	0.20	0.12	1		07/03/24 05:46	16984-48-8	N2
Sulfate	520	mg/L	100	55.0	100		07/03/24 07:40	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-BMW-1 Lab ID: 60455908009 Collected: 06/28/24 09:15 Received: 06/29/24 06:47 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	212	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:30	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:30	7440-41-7	
Boron	101	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:30	7440-42-8	
Calcium	121000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:30	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:30	7440-48-4	
Iron	547	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:30	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:30	7439-92-1	
Lithium	14.1	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:30	7439-93-2	
Magnesium	31800	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:30	7439-95-4	
Manganese	350	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:30	7439-96-5	
Molybdenum	4.3J	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:30	7439-98-7	
Potassium	2700	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:30	7440-09-7	
Sodium	57200	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:30	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.34J	ug/L	1.0	0.12	1	07/03/24 14:07	07/08/24 12:17	7440-36-0	
Arsenic	4.1	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:17	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:17	7440-43-9	
Chromium	0.44J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:17	7440-47-3	B
Selenium	1.9	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:17	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:17	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	07/02/24 11:00	07/02/24 16:40	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	357	mg/L	20.0	10.5	1		07/03/24 14:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	589	mg/L	13.3	13.3	1		07/02/24 10:59		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.52	mg/L	0.050		1		07/22/24 00:00	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		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-BMW-1		Lab ID: 60455908009		Collected: 06/28/24 09:15		Received: 06/29/24 06:47		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		07/03/24 11:20	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	120	mg/L	10.0	5.3	10		07/03/24 19:35	16887-00-6	
Fluoride	0.23	mg/L	0.20	0.12	1		07/03/24 08:40	16984-48-8	N2
Sulfate	67.8	mg/L	10.0	5.5	10		07/03/24 19:35	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-BMW-2 Lab ID: 60455908010 Collected: 06/27/24 12:17 Received: 06/29/24 06:47 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	552	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:33	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:33	7440-41-7	
Boron	62.3J	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:33	7440-42-8	
Calcium	113000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:33	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:33	7440-48-4	
Iron	15500	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:33	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:33	7439-92-1	
Lithium	9.8J	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:33	7439-93-2	
Magnesium	36900	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:33	7439-95-4	
Manganese	4460	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:33	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:33	7439-98-7	
Potassium	1490	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:33	7440-09-7	
Sodium	21600	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:33	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	07/03/24 14:07	07/08/24 12:21	7440-36-0	
Arsenic	1.2	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:21	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:21	7440-43-9	
Chromium	0.58J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:21	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:21	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:21	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	07/02/24 11:00	07/02/24 16:42	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	455	mg/L	20.0	10.5	1		07/02/24 13:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	466	mg/L	10.0	10.0	1		07/01/24 14:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	15.0	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.43	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-BMW-2		Lab ID: 60455908010		Collected: 06/27/24 12:17		Received: 06/29/24 06:47		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		07/02/24 12:05	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		07/03/24 09:07	16887-00-6	
Fluoride	0.25	mg/L	0.20	0.12	1		07/03/24 09:07	16984-48-8	N2
Sulfate	30.6	mg/L	5.0	2.8	5		07/03/24 09:21	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-DUP-1 Lab ID: 60455908011 Collected: 06/27/24 00:00 Received: 06/29/24 06:47 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	157	ug/L	5.0	0.64	1	07/08/24 14:08	07/15/24 11:35	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:35	7440-41-7	
Boron	10600	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:35	7440-42-8	
Calcium	199000	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:35	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:35	7440-48-4	
Iron	29600	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:35	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:35	7439-92-1	
Lithium	26.1	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:35	7439-93-2	
Magnesium	51000	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:35	7439-95-4	
Manganese	1160	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:35	7439-96-5	
Molybdenum	66.1	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:35	7439-98-7	
Potassium	6980	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:35	7440-09-7	
Sodium	54400	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:35	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	07/03/24 14:07	07/08/24 12:26	7440-36-0	
Arsenic	14.8	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:26	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:26	7440-43-9	
Chromium	0.62J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:26	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:26	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:26	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	07/02/24 11:00	07/02/24 16:44	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	355	mg/L	20.0	10.5	1		07/02/24 13:39		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	943	mg/L	13.3	13.3	1		07/01/24 14:52		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	27.2	mg/L	0.050		1		07/22/24 00:00	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		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-DUP-1		Lab ID: 60455908011		Collected: 06/27/24 00:00		Received: 06/29/24 06:47		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	0.022J	mg/L	0.050	0.016	1		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	35.8	mg/L	20.0	10.5	20		07/03/24 09:49	16887-00-6	
Fluoride	0.22	mg/L	0.20	0.12	1		07/03/24 09:35	16984-48-8	N2
Sulfate	434	mg/L	50.0	27.5	50		07/03/24 10:03	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-FB-1 Lab ID: 60455908012 Collected: 06/27/24 13:32 Received: 06/29/24 06:47 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	07/08/24 14:08	07/15/24 11:36	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 14:08	07/15/24 11:36	7440-41-7	
Boron	9.0J	ug/L	100	6.4	1	07/08/24 14:08	07/15/24 11:36	7440-42-8	
Calcium	<26.9	ug/L	200	26.9	1	07/08/24 14:08	07/15/24 11:36	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 14:08	07/15/24 11:36	7440-48-4	
Iron	<9.1	ug/L	50.0	9.1	1	07/08/24 14:08	07/15/24 11:36	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 14:08	07/15/24 11:36	7439-92-1	
Lithium	<3.7	ug/L	10.0	3.7	1	07/08/24 14:08	07/15/24 11:36	7439-93-2	
Magnesium	<20.1	ug/L	50.0	20.1	1	07/08/24 14:08	07/15/24 11:36	7439-95-4	
Manganese	<0.39	ug/L	5.0	0.39	1	07/08/24 14:08	07/15/24 11:36	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	07/08/24 14:08	07/15/24 11:36	7439-98-7	
Potassium	<69.7	ug/L	500	69.7	1	07/08/24 14:08	07/15/24 11:36	7440-09-7	
Sodium	<115	ug/L	500	115	1	07/08/24 14:08	07/15/24 11:36	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	07/03/24 14:07	07/08/24 12:29	7440-36-0	
Arsenic	<0.13	ug/L	1.0	0.13	1	07/03/24 14:07	07/08/24 12:29	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/03/24 14:07	07/08/24 12:29	7440-43-9	
Chromium	0.42J	ug/L	1.0	0.30	1	07/03/24 14:07	07/08/24 12:29	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/03/24 14:07	07/08/24 12:29	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/03/24 14:07	07/08/24 12:29	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	07/02/24 11:00	07/02/24 16:47	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	<10.5	mg/L	20.0	10.5	1		07/02/24 13:45		
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		07/01/24 14:52		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0011J	mg/L	0.050		1		07/22/24 00:00	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		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60455908

Sample: M-FB-1		Lab ID: 60455908012		Collected: 06/27/24 13:32		Received: 06/29/24 06:47		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		07/02/24 12:05	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		07/03/24 10:16	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		07/03/24 10:16	16984-48-8	N2
Sulfate	<0.55	mg/L	1.0	0.55	1		07/03/24 10:16	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	900351	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012		

METHOD BLANK:	3564032	Matrix:	Water
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	07/02/24 15:32	

LABORATORY CONTROL SAMPLE:	3564033					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.8	116	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3564034			3564035								
Parameter	Units	60455906005 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	5.3	5.4	106	107	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3564036			3564037								
Parameter	Units	60455908003 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	4.8	4.7	96	94	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.

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	900929	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:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012		

METHOD BLANK: 3566206

Matrix: Water

Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	07/15/24 11:03	
Beryllium	ug/L	<0.12	1.0	0.12	07/15/24 11:03	
Boron	ug/L	<6.4	100	6.4	07/15/24 11:03	
Calcium	ug/L	<26.9	200	26.9	07/15/24 11:03	
Cobalt	ug/L	<1.2	5.0	1.2	07/15/24 11:03	
Iron	ug/L	<9.1	50.0	9.1	07/15/24 11:03	
Lead	ug/L	<3.8	10.0	3.8	07/15/24 11:03	
Lithium	ug/L	<3.7	10.0	3.7	07/15/24 11:03	
Magnesium	ug/L	<20.1	50.0	20.1	07/15/24 11:03	
Manganese	ug/L	<0.39	5.0	0.39	07/15/24 11:03	
Molybdenum	ug/L	<1.0	20.0	1.0	07/15/24 11:03	
Potassium	ug/L	<69.7	500	69.7	07/15/24 11:03	
Sodium	ug/L	<115	500	115	07/15/24 11:03	

LABORATORY CONTROL SAMPLE: 3566207

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	998	100	85-115	
Beryllium	ug/L	1000	986	99	85-115	
Boron	ug/L	1000	940	94	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1010	101	85-115	
Lithium	ug/L	1000	1020	102	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	996	100	85-115	
Molybdenum	ug/L	1000	983	98	85-115	
Potassium	ug/L	10000	9990	100	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3566208 3566209

Parameter	Units	60455908003	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Barium	ug/L	182	1000	1000	1160	1170	98	99	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3566208 3566209											
Parameter	Units	60455908003	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Beryllium	ug/L	<0.12	1000	1000	981	986	98	99	70-130	1	20
Boron	ug/L	2160	1000	1000	3070	3050	91	88	70-130	1	20
Calcium	ug/L	114000	10000	10000	120000	120000	64	59	70-130	0	20 M1
Cobalt	ug/L	<1.2	1000	1000	990	1000	99	100	70-130	1	20
Iron	ug/L	37700	10000	10000	46100	46000	84	82	70-130	0	20
Lead	ug/L	<3.8	1000	1000	986	994	99	99	70-130	1	20
Lithium	ug/L	6.1J	1000	1000	1040	1040	103	103	70-130	0	20
Magnesium	ug/L	34800	10000	10000	43800	43700	90	90	70-130	0	20
Manganese	ug/L	2860	1000	1000	3750	3720	89	86	70-130	1	20
Molybdenum	ug/L	2.0J	1000	1000	991	1000	99	100	70-130	1	20
Potassium	ug/L	3120	10000	10000	13400	13300	103	102	70-130	1	20
Sodium	ug/L	44000	10000	10000	52900	52500	89	85	70-130	1	20

SAMPLE DUPLICATE: 3570102

Parameter	Units	60455908009	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Barium	ug/L	212	210	1	20	
Beryllium	ug/L	<0.12	<0.12		20	
Boron	ug/L	101	95.4J		20	
Calcium	ug/L	121000	120000	1	20	
Cobalt	ug/L	<1.2	<1.2		20	
Iron	ug/L	547	543	1	19	
Lead	ug/L	<3.8	<3.8		27	
Lithium	ug/L	14.1	12.8	10	20	
Magnesium	ug/L	31800	31500	1	20	
Manganese	ug/L	350	349	0	12	
Molybdenum	ug/L	4.3J	4.2J		20	
Potassium	ug/L	2700	2610	3	20	
Sodium	ug/L	57200	56400	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	900525	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012		

METHOD BLANK: 3564719

Matrix: Water

Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	07/08/24 11:40	
Arsenic	ug/L	<0.13	1.0	0.13	07/08/24 11:40	
Cadmium	ug/L	<0.050	0.50	0.050	07/08/24 11:40	
Chromium	ug/L	0.48J	1.0	0.30	07/08/24 11:40	
Selenium	ug/L	<0.18	1.0	0.18	07/08/24 11:40	
Thallium	ug/L	<0.14	1.0	0.14	07/08/24 11:40	

LABORATORY CONTROL SAMPLE: 3564720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.8	99	85-115	
Arsenic	ug/L	40	39.3	98	85-115	
Cadmium	ug/L	40	40.0	100	85-115	
Chromium	ug/L	40	40.6	101	85-115	
Selenium	ug/L	40	39.0	97	85-115	
Thallium	ug/L	40	38.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564721 3564722

Parameter	Units	60455908003	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result										
Antimony	ug/L	<0.12	40	40	39.0	39.5	98	99	70-130	1	20	
Arsenic	ug/L	7.8	40	40	47.4	47.5	99	99	70-130	0	20	
Cadmium	ug/L	<0.050	40	40	38.0	38.3	95	96	70-130	1	20	
Chromium	ug/L	0.53J	40	40	41.4	41.3	102	102	70-130	0	20	
Selenium	ug/L	<0.18	40	40	38.3	37.9	96	94	70-130	1	20	
Thallium	ug/L	<0.14	40	40	40.8	41.0	102	102	70-130	1	20	

MATRIX SPIKE SAMPLE: 3564723

Parameter	Units	60455908010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	38.5	96	70-130	
Arsenic	ug/L	1.2	40	40.2	98	70-130	
Cadmium	ug/L	<0.050	40	38.0	95	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

MATRIX SPIKE SAMPLE:		3564723					
		60455908010	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chromium	ug/L	0.58J	40	41.2	102	70-130	
Selenium	ug/L	<0.18	40	37.7	94	70-130	
Thallium	ug/L	<0.14	40	40.4	101	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60455908

QC Batch:	900449	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908010, 60455908011, 60455908012

METHOD BLANK:	3564416	Matrix:	Water
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Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908010, 60455908011, 60455908012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	07/02/24 12:00	

LABORATORY CONTROL SAMPLE: 3564417

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	510	102	90-110	

SAMPLE DUPLICATE: 3564418

Parameter	Units	60455814003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	508	490	3	10	

SAMPLE DUPLICATE: 3564419

Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	349	352	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch: 900599

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60455908008, 60455908009

METHOD BLANK: 3565061

Matrix: Water

Associated Lab Samples: 60455908008, 60455908009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	07/03/24 12:37	

LABORATORY CONTROL SAMPLE: 3565062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	499	100	90-110	

SAMPLE DUPLICATE: 3565063

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	403	416	3	10	

SAMPLE DUPLICATE: 3565064

Parameter	Units	60455993001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	92.8	98.8	6	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60455908

QC Batch:	900335	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908010, 60455908011, 60455908012

METHOD BLANK:	3563993	Matrix:	Water
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Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908010, 60455908011, 60455908012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	07/01/24 14:50	

LABORATORY CONTROL SAMPLE:	3563994					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1050	105	80-120	

SAMPLE DUPLICATE:	3563995					
Parameter	Units	60455791001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	508	527	4	10	

SAMPLE DUPLICATE:	3563996					
Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	605	609	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch: 900438

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60455908008, 60455908009

METHOD BLANK: 3564275

Matrix: Water

Associated Lab Samples: 60455908008, 60455908009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	07/02/24 10:56	

LABORATORY CONTROL SAMPLE: 3564276

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1060	106	80-120	

SAMPLE DUPLICATE: 3564277

Parameter	Units	60455912001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1170	1190	1	10	

SAMPLE DUPLICATE: 3564278

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	867	865	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	900728	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:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908009, 60455908010, 60455908011, 60455908012		

METHOD BLANK:	3565561	Matrix:	Water
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908009, 60455908010, 60455908011, 60455908012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	07/05/24 14:15	H6

LABORATORY CONTROL SAMPLE:	3565562					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	100	90-110	H6

SAMPLE DUPLICATE:	3565563					
Parameter	Units	60454265010 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.29	0.29	0	20	H6

SAMPLE DUPLICATE:	3565564					
Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	13.5	13.4	1	20	H6

SAMPLE DUPLICATE:	3565565					
Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.59	0.61	2	20	H6

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	900729	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: 60455908008

METHOD BLANK: 3565566 Matrix: Water

Associated Lab Samples: 60455908008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	07/05/24 14:15	H6

LABORATORY CONTROL SAMPLE: 3565567

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	99	90-110	H6

SAMPLE DUPLICATE: 3565568

Parameter	Units	60455906001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.5	1.5	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	900459	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908010, 60455908011, 60455908012		

METHOD BLANK:	3564466	Matrix:	Water
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908010, 60455908011, 60455908012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	07/02/24 12:05	

LABORATORY CONTROL SAMPLE:	3564467					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.47	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3564468			3564469								
Parameter	Units	60455906003 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	0.13	0.5	0.5	0.54	0.54	82	82	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3564475			3564476								
Parameter	Units	60455908003 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	<0.016	0.5	0.5	0.37	0.40	72	78	75-125	7	20	M1

SAMPLE DUPLICATE: 3564473

Parameter	Units	60455906003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.13	0.12	8	20	

SAMPLE DUPLICATE: 3564477						
		60455908003	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60455908

SAMPLE DUPLICATE: 3564478

Parameter	Units	60455906004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.018J	<0.016		20	

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REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch: 900567

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60455908008, 60455908009

METHOD BLANK: 3564901

Matrix: Water

Associated Lab Samples: 60455908008, 60455908009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	07/03/24 11:20	

LABORATORY CONTROL SAMPLE: 3564902

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.45	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564903 3564904

Parameter	Units	60455906001 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	0.051	0.5	0.5	0.48	0.44	86	79	75-125	8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564906 3564907

Parameter	Units	60455906005 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	<0.016	0.5	0.5	0.29	0.29	56	55	75-125	2	20	M1

SAMPLE DUPLICATE: 3564908

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3564910

Parameter	Units	60455906001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.051	0.058	13	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60455908

SAMPLE DUPLICATE: 3564911

Parameter	Units	60455906002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.023J	0.016J		20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	900392	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:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012		

METHOD BLANK:	3564153	Matrix:	Water
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/02/24 09:26	
Fluoride	mg/L	<0.12	0.20	0.12	07/02/24 09:26	N2
Sulfate	mg/L	<0.55	1.0	0.55	07/02/24 09:26	

METHOD BLANK:	3565693	Matrix:	Water
Associated Lab Samples:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/03/24 14:26	
Fluoride	mg/L	<0.12	0.20	0.12	07/03/24 14:26	N2
Sulfate	mg/L	<0.55	1.0	0.55	07/03/24 14:26	

LABORATORY CONTROL SAMPLE:	3564154					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	90	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	N2
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE:	3565694					
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	2.5	101	90-110	N2
Sulfate	mg/L	5	4.8	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3564155											
		MS	MSD									
		60455906005	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Chloride	mg/L	89.0	100	100	179	171	90	82	80-120	5	15	
Fluoride	mg/L	0.35	2.5	2.5	3.1	3.0	108	108	80-120	0	15	N2

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60455908

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564155												
3564156												
Parameter	Units	60455906005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	242	100	100	339	331	98	90	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:												
3564158					3564159							
Parameter	Units	60455908003	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	34.9	25	25	57.5	58.3	90	94	80-120	1	15	
Fluoride	mg/L	0.25	2.5	2.5	2.6	2.6	95	94	80-120	1	15	N2
Sulfate	mg/L	160	100	100	256	255	96	95	80-120	1	15	

SAMPLE DUPLICATE: 3564157

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	89.0	82.3	8	15	
Fluoride	mg/L	0.35	0.36	3	15	N2
Sulfate	mg/L	242	221	9	15	

SAMPLE DUPLICATE: 3564160

Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	34.9	33.8	3	15	
Fluoride	mg/L	0.25	0.22	13	15	N2
Sulfate	mg/L	160	152	5	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-1		Lab ID: 60455908001	Collected: 06/27/24 13:36	Received: 06/29/24 06:47	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	-0.203 ± 0.548 (1.18) C:NA T:84%		pCi/L	07/15/24 15:11	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.879 ± 0.492 (0.895) C:75% T:83%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-2		Lab ID: 60455908002	Collected: 06/27/24 10:34	Received: 06/29/24 06:47	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	-0.407 ± 0.862 (1.73) C:NA T:92%		pCi/L	07/15/24 15:11	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	1.01 ± 0.595 (1.12) C:74% T:75%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-3		Lab ID: 60455908003	Collected: 06/27/24 12:20	Received: 06/29/24 06:47	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	0.770 ± 0.466 (0.511) C:NA T:87%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.740 ± 0.455 (0.853) C:78% T:82%		pCi/L	07/12/24 14:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-4		Lab ID: 60455908004	Collected: 06/27/24 15:13	Received: 06/29/24 06:47	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	0.823 ± 0.718 (1.09) C:NA T:85%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.514 ± 0.462 (0.938) C:74% T:75%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-5		Lab ID: 60455908005	Collected: 06/27/24 13:32	Received: 06/29/24 06:47	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	-0.695 ± 0.672 (1.52) C:NA T:87%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.241 ± 0.289 (0.607) C:83% T:88%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-6		Lab ID: 60455908006	Collected: 06/27/24 16:52	Received: 06/29/24 06:47	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	0.424 ± 0.619 (1.06) C:NA T:95%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.520 ± 0.373 (0.713) C:78% T:81%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-7		Lab ID: 60455908007	Collected: 06/27/24 16:32	Received: 06/29/24 06:47	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	-0.532 ± 0.806 (1.66) C:NA T:92%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.873 ± 0.429 (0.732) C:81% T:83%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MW-8		Lab ID: 60455908008	Collected: 06/28/24 13:55	Received: 06/29/24 06:47	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	0.203 ± 0.848 (1.55) C:NA T:88%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.385 ± 0.403 (0.836) C:77% T:77%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-BMW-1		Lab ID: 60455908009	Collected: 06/28/24 09:15	Received: 06/29/24 06:47	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	0.879 ± 0.616 (0.812) C:NA T:88%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.793 ± 0.534 (1.05) C:78% T:80%		pCi/L	07/12/24 15:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-BMW-2		Lab ID: 60455908010	Collected: 06/27/24 12:17	Received: 06/29/24 06:47	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	0.0692 ± 0.930 (1.73) C:NA T:91%		pCi/L	07/15/24 15:23	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.857 ± 0.517 (0.981) C:75% T:85%		pCi/L	07/12/24 15:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-DUP-1		Lab ID: 60455908011	Collected: 06/27/24 00:00	Received: 06/29/24 06:47	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	0.000 ± 0.358 (0.776) C:NA T:90%		pCi/L	07/15/24 15:36	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.539 ± 0.455 (0.922) C:79% T:82%		pCi/L	07/12/24 15:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-FB-1		Lab ID: 60455908012	Collected: 06/27/24 13:32	Received: 06/29/24 06:47	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	-0.329 ± 0.466 (1.09) C:NA T:93%		pCi/L	07/15/24 15:36	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.368 ± 0.393 (0.821) C:81% T:88%		pCi/L	07/12/24 15:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MS-1		Lab ID: 60455908013	Collected: 06/27/24 12:20	Received: 06/29/24 06:47	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	99.45 %REC ± NA (NA) C:NA T:NA		pCi/L	07/15/24 15:36	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	82.34 %REC ± NA (NA) C:NA T:NA		pCi/L	07/12/24 14:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

Sample: M-MSD-1		Lab ID: 60455908014	Collected: 06/27/24 12:20	Received: 06/29/24 06:47	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	90.97 %REC 8.91RPD ± NA (NA) C:NA T:NA		pCi/L	07/15/24 15:36	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	70.97 %REC 14.84RPD ± NA (NA) C:NA T:NA		pCi/L	07/12/24 14:59	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	680084	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:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012, 60455908013, 60455908014		

METHOD BLANK:	3311258	Matrix:	Water
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Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012, 60455908013, 60455908014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.225 ± 0.271 (0.413) C:NA T:92%	pCi/L	07/15/24 15:11	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60455908

QC Batch:	680085	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:	60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012, 60455908013, 60455908014		

METHOD BLANK:	3311259	Matrix:	Water
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Associated Lab Samples: 60455908001, 60455908002, 60455908003, 60455908004, 60455908005, 60455908006, 60455908007, 60455908008, 60455908009, 60455908010, 60455908011, 60455908012, 60455908013, 60455908014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.560 ± 0.434 (0.861) C:78% T:82%	pCi/L	07/12/24 14:59	

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QUALIFIERS

Project: AMEREN MEC

Pace Project No.: 60455908

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.

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.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC

Pace Project No.: 60455908

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60455908001	M-MW-1	EPA 200.7	900929	EPA 200.7	901014
60455908002	M-MW-2	EPA 200.7	900929	EPA 200.7	901014
60455908003	M-MW-3	EPA 200.7	900929	EPA 200.7	901014
60455908004	M-MW-4	EPA 200.7	900929	EPA 200.7	901014
60455908005	M-MW-5	EPA 200.7	900929	EPA 200.7	901014
60455908006	M-MW-6	EPA 200.7	900929	EPA 200.7	901014
60455908007	M-MW-7	EPA 200.7	900929	EPA 200.7	901014
60455908008	M-MW-8	EPA 200.7	900929	EPA 200.7	901014
60455908009	M-BMW-1	EPA 200.7	900929	EPA 200.7	901014
60455908010	M-BMW-2	EPA 200.7	900929	EPA 200.7	901014
60455908011	M-DUP-1	EPA 200.7	900929	EPA 200.7	901014
60455908012	M-FB-1	EPA 200.7	900929	EPA 200.7	901014
60455908001	M-MW-1	EPA 200.8	900525	EPA 200.8	900673
60455908002	M-MW-2	EPA 200.8	900525	EPA 200.8	900673
60455908003	M-MW-3	EPA 200.8	900525	EPA 200.8	900673
60455908004	M-MW-4	EPA 200.8	900525	EPA 200.8	900673
60455908005	M-MW-5	EPA 200.8	900525	EPA 200.8	900673
60455908006	M-MW-6	EPA 200.8	900525	EPA 200.8	900673
60455908007	M-MW-7	EPA 200.8	900525	EPA 200.8	900673
60455908008	M-MW-8	EPA 200.8	900525	EPA 200.8	900673
60455908009	M-BMW-1	EPA 200.8	900525	EPA 200.8	900673
60455908010	M-BMW-2	EPA 200.8	900525	EPA 200.8	900673
60455908011	M-DUP-1	EPA 200.8	900525	EPA 200.8	900673
60455908012	M-FB-1	EPA 200.8	900525	EPA 200.8	900673
60455908001	M-MW-1	EPA 7470	900351	EPA 7470	900505
60455908002	M-MW-2	EPA 7470	900351	EPA 7470	900505
60455908003	M-MW-3	EPA 7470	900351	EPA 7470	900505
60455908004	M-MW-4	EPA 7470	900351	EPA 7470	900505
60455908005	M-MW-5	EPA 7470	900351	EPA 7470	900505
60455908006	M-MW-6	EPA 7470	900351	EPA 7470	900505
60455908007	M-MW-7	EPA 7470	900351	EPA 7470	900505
60455908008	M-MW-8	EPA 7470	900351	EPA 7470	900505
60455908009	M-BMW-1	EPA 7470	900351	EPA 7470	900505
60455908010	M-BMW-2	EPA 7470	900351	EPA 7470	900505
60455908011	M-DUP-1	EPA 7470	900351	EPA 7470	900505
60455908012	M-FB-1	EPA 7470	900351	EPA 7470	900505
60455908001	M-MW-1	EPA 903.1	680084		
60455908002	M-MW-2	EPA 903.1	680084		
60455908003	M-MW-3	EPA 903.1	680084		
60455908004	M-MW-4	EPA 903.1	680084		
60455908005	M-MW-5	EPA 903.1	680084		
60455908006	M-MW-6	EPA 903.1	680084		
60455908007	M-MW-7	EPA 903.1	680084		
60455908008	M-MW-8	EPA 903.1	680084		
60455908009	M-BMW-1	EPA 903.1	680084		
60455908010	M-BMW-2	EPA 903.1	680084		
60455908011	M-DUP-1	EPA 903.1	680084		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60455908

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60455908012	M-FB-1	EPA 903.1	680084		
60455908013	M-MS-1	EPA 903.1	680084		
60455908014	M-MSD-1	EPA 903.1	680084		
60455908001	M-MW-1	EPA 904.0	680085		
60455908002	M-MW-2	EPA 904.0	680085		
60455908003	M-MW-3	EPA 904.0	680085		
60455908004	M-MW-4	EPA 904.0	680085		
60455908005	M-MW-5	EPA 904.0	680085		
60455908006	M-MW-6	EPA 904.0	680085		
60455908007	M-MW-7	EPA 904.0	680085		
60455908008	M-MW-8	EPA 904.0	680085		
60455908009	M-BMW-1	EPA 904.0	680085		
60455908010	M-BMW-2	EPA 904.0	680085		
60455908011	M-DUP-1	EPA 904.0	680085		
60455908012	M-FB-1	EPA 904.0	680085		
60455908013	M-MS-1	EPA 904.0	680085		
60455908014	M-MSD-1	EPA 904.0	680085		
60455908001	M-MW-1	SM 2320B	900449		
60455908002	M-MW-2	SM 2320B	900449		
60455908003	M-MW-3	SM 2320B	900449		
60455908004	M-MW-4	SM 2320B	900449		
60455908005	M-MW-5	SM 2320B	900449		
60455908006	M-MW-6	SM 2320B	900449		
60455908007	M-MW-7	SM 2320B	900449		
60455908008	M-MW-8	SM 2320B	900599		
60455908009	M-BMW-1	SM 2320B	900599		
60455908010	M-BMW-2	SM 2320B	900449		
60455908011	M-DUP-1	SM 2320B	900449		
60455908012	M-FB-1	SM 2320B	900449		
60455908001	M-MW-1	SM 2540C	900335		
60455908002	M-MW-2	SM 2540C	900335		
60455908003	M-MW-3	SM 2540C	900335		
60455908004	M-MW-4	SM 2540C	900335		
60455908005	M-MW-5	SM 2540C	900335		
60455908006	M-MW-6	SM 2540C	900335		
60455908007	M-MW-7	SM 2540C	900335		
60455908008	M-MW-8	SM 2540C	900438		
60455908009	M-BMW-1	SM 2540C	900438		
60455908010	M-BMW-2	SM 2540C	900335		
60455908011	M-DUP-1	SM 2540C	900335		
60455908012	M-FB-1	SM 2540C	900335		
60455908001	M-MW-1	SM 3500-Fe B#4	902600		
60455908002	M-MW-2	SM 3500-Fe B#4	902600		
60455908003	M-MW-3	SM 3500-Fe B#4	902600		
60455908004	M-MW-4	SM 3500-Fe B#4	902600		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC

Pace Project No.: 60455908

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60455908005	M-MW-5	SM 3500-Fe B#4	902600		
60455908006	M-MW-6	SM 3500-Fe B#4	902600		
60455908007	M-MW-7	SM 3500-Fe B#4	902600		
60455908008	M-MW-8	SM 3500-Fe B#4	902600		
60455908009	M-BMW-1	SM 3500-Fe B#4	902600		
60455908010	M-BMW-2	SM 3500-Fe B#4	902600		
60455908011	M-DUP-1	SM 3500-Fe B#4	902600		
60455908012	M-FB-1	SM 3500-Fe B#4	902600		
60455908001	M-MW-1	SM 3500-Fe B#4	900728		
60455908002	M-MW-2	SM 3500-Fe B#4	900728		
60455908003	M-MW-3	SM 3500-Fe B#4	900728		
60455908004	M-MW-4	SM 3500-Fe B#4	900728		
60455908005	M-MW-5	SM 3500-Fe B#4	900728		
60455908006	M-MW-6	SM 3500-Fe B#4	900728		
60455908007	M-MW-7	SM 3500-Fe B#4	900728		
60455908008	M-MW-8	SM 3500-Fe B#4	900729		
60455908009	M-BMW-1	SM 3500-Fe B#4	900728		
60455908010	M-BMW-2	SM 3500-Fe B#4	900728		
60455908011	M-DUP-1	SM 3500-Fe B#4	900728		
60455908012	M-FB-1	SM 3500-Fe B#4	900728		
60455908001	M-MW-1	SM 4500-S-2 D	900459		
60455908002	M-MW-2	SM 4500-S-2 D	900459		
60455908003	M-MW-3	SM 4500-S-2 D	900459		
60455908004	M-MW-4	SM 4500-S-2 D	900459		
60455908005	M-MW-5	SM 4500-S-2 D	900459		
60455908006	M-MW-6	SM 4500-S-2 D	900459		
60455908007	M-MW-7	SM 4500-S-2 D	900459		
60455908008	M-MW-8	SM 4500-S-2 D	900567		
60455908009	M-BMW-1	SM 4500-S-2 D	900567		
60455908010	M-BMW-2	SM 4500-S-2 D	900459		
60455908011	M-DUP-1	SM 4500-S-2 D	900459		
60455908012	M-FB-1	SM 4500-S-2 D	900459		
60455908001	M-MW-1	EPA 300.0	900392		
60455908002	M-MW-2	EPA 300.0	900392		
60455908003	M-MW-3	EPA 300.0	900392		
60455908004	M-MW-4	EPA 300.0	900392		
60455908005	M-MW-5	EPA 300.0	900392		
60455908006	M-MW-6	EPA 300.0	900392		
60455908007	M-MW-7	EPA 300.0	900392		
60455908008	M-MW-8	EPA 300.0	900392		
60455908009	M-BMW-1	EPA 300.0	900392		
60455908010	M-BMW-2	EPA 300.0	900392		
60455908011	M-DUP-1	EPA 300.0	900392		
60455908012	M-FB-1	EPA 300.0	900392		

REPORT OF LABORATORY ANALYSIS

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WO# : 60455908



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

Client Name: Racksmith Geo

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: W Blue ☐ None ☐

Cooler Temperature (°C): As-read 4/6.9/6.5 Corr. Factor 0.0 Corrected 1.4/0.9/0.5/3.0
 Temperature should be above freezing to 6°C 3.0/23.5/26.2/25.8 23.5/26.2/25.8

Date and initials of person examining contents:
prbt pr7/1/ky

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: <u>WT</u>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒ 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
Pace Analytical Kansas
9608 Loiret Blvd., Lenexa, KS 66219

Company Name: Rocksmith Geoeengineering, LLC.
Street Address: 2320 Creve Coeur Mill Road, Maryland Heights, MO 63043

Customer Project #: COC# 13
Project Name: AMEREN MEC

Site Collection Info/Facility ID (as applicable):

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Contact/Report To: Mark Haddock
Phone #: 314-974-6578
E-Mail: mark.haddock@rocksmithgeo.com
Cc E-Mail:

Invoice To: Mark Haddock
Invoice E-Mail: mark.haddock@rocksmithgeo.com
Purchase Order # (if applicable):
Quote #:

Time Zone Collected: [] AK [] PT [] MT [] CT [] ET Missouri
Data Deliverables:
[] Level II [] Level III [] Level IV
[] EQUIS
[] Other
Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No
Rush (Pre-approval required):
[] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other
Date Results Requested:
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), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), BioSolid (BS), Other (OT)

Customer Sample ID	Matrix *	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine	
		Date	Time	Date	Time		Results	Units
M-MW-1	WT			6/27/24	1536	6		
M-MW-2	WT			6/27/24	1034	6		
M-MW-3	WT			6/27/24	1220	6		
M-MW-4	WT			6/27/24	1513	6		
M-MW-5	WT			6/27/24	1322	6		
M-MW-6	WT			6/27/24	1652	6		
M-MW-7	WT			6/27/24	1432	6		
M-MW-8	WT			6/28/24	1355	6		
M-BMW-1	WT			6/28/24	0915	6		
M-BMW-2	WT			6/27/24	1217	6		

Additional Instructions from Pace*:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7: Ba, Be, Co, Pb, Li, Mo & 200.8 Metals - Sb, As, Cd, Cr, Se, Ti - 7470 Hg

Collected By: John Rasmussen
Signature:

Relinquished by/Company: (Signature) Paul Rocksmith
Relinquished by/Company: (Signature)
Relinquished by/Company: (Signature)
Relinquished by/Company: (Signature)

Received by/Company: (Signature) John Rasmussen
Received by/Company: (Signature)
Received by/Company: (Signature)
Received by/Company: (Signature)



LAB USE ONLY - Affix Workorder/Login Label Here

60455900

60455906

Scan QR Code for instructions

6-7-164

Specify Container Size **
*** Container Types: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other
Identify Container Preservative Type***
*** 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

Analysis Requested
TDS / Alkalinity
Ferrous Iron / Ferric Iron
Sulfide
Appendix IV Metals (200.7/200.8/7470)
Radium 226 & Radium 228
Chloride/Fluoride/Sulfate
Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15852
Prelog / Bottle Ord. ID: EZ 3086939
Preservation non-conformance identified for sample

Customer Remarks / Special Conditions / Possible Hazards:		Thermometer ID: 7299		Correction Factor (°C): 0.0		Obs. Temp. (°C)		Corrected Temp. (°C)		On Ice:	
7		7299		0.0							

Tracking Number:
Delivered by: [] In-Person [] Courier
[] FedEx [] UPS [] Other
Page: of

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

806551009

Specify Container Size **	Identify Container Preservative Type ***	Analysis Requested
** Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL, (7) Encore, (8) TerraCore, (9) 30mL, (10) Other	*** Preservative Types: (1) None, (2) HNO ₃ , (3) H ₂ SO ₄ , (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO ₄ , (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other	

[illegible][illegible]

Collected By:

John Kasmussen

Stichting

Coolers:

Thermometer ID:

Correction Factor (°C):

Date/Time: / /

Received by Company: (Signature) 

Date/Time: 6/28/24-600

Received by company: (Signature)

	Date/Time:
--	------------

Received by/Company: (Signature)

Date/Time:

Received by/Company: (Signature)

and acceptance of the Data® Terms and (

conditions found at <https://www.nceelabs.com/>

[illegible]

Glass			Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1C	I Wipe/Swab	
DG9H	40mL HCl amber vial	WGFU	4oz clear soil jar	BP1N	120mL Coliform Na Thiosulfate	
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	Ziploc Bag	
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	Air Filter	
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	Air Cassettes	
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	Terracore Kit	
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	Summa Can	
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S		
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U		
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	Matrix	
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3C		
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F		WT Water
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N		SL Solid
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U		NAL Non-aqueous Liquid
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	OL OIL	
		AG5U	100mL unpres amber glass	BP3Z	WP Wipe	
				BP4U	DW Drinking Water	
				BP4N		
				BP4S		
				WPDU		

Work Order Number:

4/11/12
9655naaf
80655shog

2/2

DC# Title: ENV-FRM4-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: 12/22/2021 | Issued by: Lenexa
Client:

Rocksmith Geo

3086939

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		1	2	1				1			
2																			1		1	1	1				1			
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

(Only for RAD)

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 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 unres 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			
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 unpreserved plastic			

Work Order Number:

60455908
60455906

2/1/24

Internal Transfer Chain of Custody



☐ Rush Multiplier ☒ X
☐ Samples Pre-Logged into eCOC
Workorder Name: AMEREN MEC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Owner Received Date: 6/29/2024 Results Requested By: 7/23/2024

Report To: Subcontract To: Requested Analysis

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										LAB USE ONLY
						HNO3										
1	M-MW-1	PS	6/27/2024 13:36	60455908001	Water	2										001
2	M-MW-2	PS	6/27/2024 10:34	60455908002	Water	2										002
3	M-MW-3	RQS	6/27/2024 12:20	60455908003	Water	2										MS/MSD 003
4	M-MW-4	PS	6/27/2024 15:13	60455908004	Water	2										004
5	M-MW-5	PS	6/27/2024 13:32	60455908005	Water	2										005
6	M-MW-6	PS	6/27/2024 16:52	60455908006	Water	2										006
7	M-MW-7	PS	6/27/2024 16:32	60455908007	Water	2										007
8	M-MW-8	PS	6/28/2024 13:55	60455908008	Water	2										008
9	M-BMW-1	PS	6/28/2024 09:15	60455908009	Water	2										009
10	M-BMW-2	PS	6/27/2024 12:17	60455908010	Water	2										010
11	M-DUP-1	PS	6/27/2024 00:00	60455908011	Water	2										011
12	M-FB-1	PS	6/27/2024 13:32	60455908012	Water	2										012
13	M-MS-1	PS	6/27/2024 12:20	60455908013	Water	2										013
14	M-MSD-1	PS	6/27/2024 12:20	60455908014	Water	2										014

WO#: 30696824

30696824

Transfers		Released By	Date/Time	Received By	Date/Time	Comments	
1				<i>Hydro</i>	7/12/24 9:30	KS Sample location: RECEIVING	
2						Note: Sample 003 is parent sample for 013/014 MS/MSD.	
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.

W0# : 30696824

PM: MAR

Due Date: 07/24/24

CLIENT: PACE_60_LEKS

DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-
Greensburg

Effective Date: 01/04/2024

Client Name: Pace - KS

WO#: **30696824**

PM: MAR Due Date: 07/24/24
CLIENT: PACE_60_LEKS

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other
Tracking Number: 71462381 2535

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

Examined By: PS 7/2/24
Labeled By: PS 7/2/24
Tempered By: _____

Comments:	Yes	No	NA	pH paper Lot# <u>1002931</u>	D.P.D. Residual Chlorine Lot # _____
Chain of Custody Present	☒	☐	☐	1.	
Chain of Custody Filled Out: -Were client corrections present on GOC	☒	☐	☐	2.	
Chain of Custody Relinquished <u>PS 7/2/24</u>	☒	☐	☐	3.	
Sampler Name & Signature on COC:	☒	☐	☐	4.	
Sample Labels match COC: -Includes date/time/ID	☒	☐	☐	5.	
Matrix: <u>WT</u>					
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: -Pace Containers Used	☒	☐	☐	10.	
Containers Intact:	☒	☐	☐	11.	
Orthophosphate field filtered:	☐	☐	☒	12.	
Hex Cr Aqueous samples field filtered:	☐	☐	☒	13.	
Organic Samples checked for dichlorination	☐	☐	☒	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.	
All containers meet method preservation requirements:	☒	☐	☐	Initial when completed <u>PS</u>	Date/Time of Preservation _____
				Lot# of added Preservative _____	
8260C/D: Headspace in VOA Vials (> 6mm)	☐	☐	☒	17.	
624.1: Headspace in VOA Vials (0mm)	☐	☐	☒	18.	
Radon: Headspace in RAD Vials (0mm)	☐	☐	☒	19.	
Trip Blank Present:	☐	☐	☒	Trip blank custody seal present? YES or NO	
Rad Samples Screened <.05 mrem/hr.	☒	☐	☐	Initial when completed <u>PS</u>	Date: <u>7/2/24</u> Survey Meter SN: <u>25014380</u>
Comments: *COC says that 003 is RQS sample type, which should be PS COC says that 03/04 are PS sample type, which should be RQS.					



Memorandum

August 7, 2024

To: Project File
Rocksmith Geoengineering, LLC

Project Number: 23010-24

CC: Mark Haddock, Jeffrey Ingram

From: Jack Rasmussen

Email: Jack.Rasmussen@Rocksmithgeo.com

RE: **Data Validation Summary, Meramec Energy Center – MEC – Data Package 60455908**

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 Name: Ameren MEC
 Reviewer: J. Rasmussen

Project Manager: J. Ingram
 Project Number: 23010-24
 Validation Date: 08/07/2024

Laboratory: Pace Analytical

SDG #: 60455908

Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 7470 (Mercury); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);

Matrix: ☐ Air ☐ Soil/Sed. ☒ Water ☐ Waste ☐ EPA 903.1/904.0 (Radium 226+228); SM 3500-Fe B#4 (Ferrous and Ferric Iron)

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?	☒	☐	☐	<u>06/27/24 - 06/28/24</u>
b) Sampling team indicated?	☒	☐	☐	<u>JSI/JTR/JTA</u>
c) Sample location noted?	☒	☐	☐	<u></u>
d) Sample depth indicated (Soils)?	☐	☐	☒	<u></u>
e) Sample type indicated (grab/composite)?	☒	☐	☐	<u>Grab</u>
f) Field QC noted?	☒	☐	☐	<u>See Notes.</u>
g) Field parameters collected (note types)?	☒	☐	☐	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	☒	☐	☐	<u></u>
i) Notations of unacceptable field conditions/performance from field logs or field notes?	☐	☒	☐	<u></u>
j) Does the laboratory narrative indicate deficiencies?	☐	☐	☒	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☒	☐	☐	See Notes
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-DUP-1 collected @ M-MW-4
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)?	☒	☐	☐	

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:

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:

3564719: chromium (0.48J), associated with samples -001 through -012. All sample detected below RL, qualify as non-detect (U) at RL.

Field Blanks:

M-FB-1 @ M-MW-5: boron (9.0J), chromium (0.42J), ferric iron (0.0011J).

Boron > RL and 10x blank, no qualification necessary. Chromium < RL, report at RL and qualify as non-detect (U).

Ferric iron > RL and 10x blank, no qualification necessary.

Duplicates:

M-DUP-1 @ M-MW-4: field duplicate RPD exceeds control limit (20%) for sulfide, detected in DUP and non-detect in original sample, results qualified as estimates.

Lab duplicate max RPD: 200.7 metals, ferrous iron, sulfide: 20%; alkalinity, TDS: 10%; chloride, fluoride, sulfate: 15%.

MS/MSD:

3564475/3564476: MS recovery low for sulfide, MSD and RPD within control limits. Associated with sample -003, no qualification necessary.

3564906/3564907: MS/MSD recoveries low for sulfide, associated with unrelated sample, no qualification necessary.

3566208/3566209: MS/MSD recoveries low for calcium, RPD within control limits. Associated with sample -003, result qualified as estimate.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-1	Iron, Ferrous	0.35	J	Analyzed outside of hold time
M-MW-2	"	26.1	J	"
M-MW-3	"	13.5	J	"
M-MW-4	"	2.0	J	"
M-MW-5	"	0.36	J	"
M-MW-6	"	1.4	J	"
M-MW-7	"	0.041	UJ	"
M-MW-8	"	0.64	J	"
M-BMW-1	"	0.041	UJ	"
M-BMW-2	"	0.43	J	"
M-DUP-1	"	2.4	J	"
M-FB-1	"	0.041	UJ	"
M-MW-1	Chromium	1.0	U	Detected in method blank, result < RL
M-MW-2	"	1.0	U	"
M-MW-3	"	1.0	U	"
M-MW-4	"	1.0	U	"
M-MW-5	"	1.0	U	"
M-MW-6	"	1.0	U	"
M-MW-7	"	1.0	U	"
M-MW-8	"	1.0	U	"
M-BMW-1	"	1.0	U	"
M-BMW-2	"	1.0	U	"
M-DUP-1	"	1.0	U	"
M-FB-1	"	1.0	U	"
M-MW-5	Chromium	1.0	U	Detected in field blank, result < RL
M-MW-4	Sulfide	0.016	UJ	Detected in field duplicate, non-detect in original sample
M-DUP-1	"	0.022	J	"
M-MW-3	Calcium	114000	J-	MS/MSD recoveries low

Data Qualification:

Signature: _____

Page 5 of 5



July 24, 2024

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

RE: Project: AMEREN MEC-CA
Pace Project No.: 60455906

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between June 29, 2024 and July 02, 2024. 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.
Lisa Meyer, Ameren
Grant Morey, Rocksmith Geoengineering, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

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

Arkansas Certification #: 88-00679

Colorado Division of Oil and Public Safety

Illinois Certification #: 2000302023-6

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60455906001	M-MW-11S	Water	06/28/24 13:25	06/29/24 06:47
60455906002	M-MW-11D	Water	06/28/24 14:28	06/29/24 06:47
60455906003	M-TP-1	Water	06/27/24 15:12	06/29/24 06:47
60455906004	M-MW-9	Water	06/27/24 14:33	06/29/24 06:47
60455906005	M-MW-10	Water	06/28/24 11:42	06/29/24 06:47
60455906006	M-CA-DUP-1	Water	06/28/24 00:00	06/29/24 06:47
60455906007	M-CA-FB-1	Water	06/28/24 14:15	06/29/24 06:47
60455906008	M-CA-MS-1	Water	06/28/24 11:42	06/29/24 06:47
60455906009	M-CA-MSD-1	Water	06/28/24 11:42	06/29/24 06:47
60455906010	M-TP-2	Water	07/01/24 14:04	07/02/24 06:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60455906001	M-MW-11S	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60455906002	M-MW-11D	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60455906003	M-TP-1	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60455906004	M-MW-9	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60455906005	M-MW-10	EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	14	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
60455906006	M-CA-DUP-1	EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
60455906007	M-CA-FB-1	EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60455906008	M-CA-MS-1	SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60455906009	M-CA-MSD-1	EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		EPA 200.7	JXD	13	PASI-K
60455906010	M-TP-2	EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	ECF	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-11S Lab ID: 60455906001 Collected: 06/28/24 13:25 Received: 06/29/24 06:47 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	673	ug/L	5.0	0.64	1	07/08/24 09:33	07/12/24 10:18	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/12/24 10:18	7440-41-7	
Boron	2340	ug/L	100	6.4	1	07/08/24 09:33	07/12/24 10:18	7440-42-8	
Calcium	220000	ug/L	200	26.9	1	07/08/24 09:33	07/12/24 10:18	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/12/24 10:18	7440-48-4	
Iron	51600	ug/L	50.0	9.1	1	07/08/24 09:33	07/12/24 10:18	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/12/24 10:18	7439-92-1	
Lithium	31.6	ug/L	10.0	3.7	1	07/08/24 09:33	07/12/24 10:18	7439-93-2	
Magnesium	63400	ug/L	50.0	20.1	1	07/08/24 09:33	07/12/24 10:18	7439-95-4	
Manganese	1680	ug/L	5.0	0.39	1	07/08/24 09:33	07/12/24 10:18	7439-96-5	
Molybdenum	4.2J	ug/L	20.0	1.0	1	07/08/24 09:33	07/12/24 10:18	7439-98-7	
Potassium	7560	ug/L	500	69.7	1	07/08/24 09:33	07/12/24 10:18	7440-09-7	
Sodium	25400	ug/L	500	115	1	07/08/24 09:33	07/12/24 10:18	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	07/05/24 08:44	07/08/24 12:41	7440-36-0	
Arsenic	1.6	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 12:41	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 12:41	7440-43-9	
Chromium	0.53J	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 12:41	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 12:41	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 12:41	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	07/02/24 11:00	07/02/24 15:44	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	823	mg/L	20.0	10.5	1		07/03/24 13:08		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	890	mg/L	20.0	20.0	1		07/02/24 10:58		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	50.1	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	1.5	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-11S		Lab ID: 60455906001		Collected: 06/28/24 13:25		Received: 06/29/24 06:47		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	0.051	mg/L	0.050	0.016	1		07/03/24 11:20	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	18.2	mg/L	1.0	0.53	1		07/02/24 14:29	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		07/02/24 14:29	16984-48-8	N2
Sulfate	106	mg/L	20.0	11.0	20		07/02/24 14:43	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-11D Lab ID: 60455906002 Collected: 06/28/24 14:28 Received: 06/29/24 06:47 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	86.4	ug/L	5.0	0.64	1	07/08/24 09:33	07/12/24 10:20	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/12/24 10:20	7440-41-7	
Boron	10800	ug/L	100	6.4	1	07/08/24 09:33	07/12/24 10:20	7440-42-8	
Calcium	238000	ug/L	200	26.9	1	07/08/24 09:33	07/12/24 10:20	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/12/24 10:20	7440-48-4	
Iron	20300	ug/L	50.0	9.1	1	07/08/24 09:33	07/12/24 10:20	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/12/24 10:20	7439-92-1	
Lithium	44.1	ug/L	10.0	3.7	1	07/08/24 09:33	07/12/24 10:20	7439-93-2	
Magnesium	58600	ug/L	50.0	20.1	1	07/08/24 09:33	07/12/24 10:20	7439-95-4	
Manganese	658	ug/L	5.0	0.39	1	07/08/24 09:33	07/12/24 10:20	7439-96-5	
Molybdenum	307	ug/L	20.0	1.0	1	07/08/24 09:33	07/12/24 10:20	7439-98-7	
Potassium	5910	ug/L	500	69.7	1	07/08/24 09:33	07/12/24 10:20	7440-09-7	
Sodium	37400	ug/L	500	115	1	07/08/24 09:33	07/12/24 10:20	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	07/05/24 08:44	07/08/24 12:43	7440-36-0	
Arsenic	11.4	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 12:43	7440-38-2	
Cadmium	0.10J	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 12:43	7440-43-9	
Chromium	0.55J	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 12:43	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 12:43	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 12:43	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	07/02/24 11:00	07/02/24 15:46	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	401	mg/L	20.0	10.5	1		07/03/24 13:19		
2540C Total Dissolved Solids Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	1160	mg/L	13.3	13.3	1		07/02/24 10:58		
Iron, Ferric (Calculation) Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferric	19.7	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferrous	0.61	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-11D		Lab ID: 60455906002		Collected: 06/28/24 14:28		Received: 06/29/24 06:47		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	0.023J	mg/L	0.050	0.016	1		07/03/24 11:20	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	40.6	mg/L	20.0	10.5	20		07/02/24 15:10	16887-00-6	
Fluoride	0.36	mg/L	0.20	0.12	1		07/02/24 14:56	16984-48-8	N2
Sulfate	504	mg/L	100	55.0	100		07/02/24 15:24	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-TP-1 Lab ID: 60455906003 Collected: 06/27/24 15:12 Received: 06/29/24 06:47 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	346	ug/L	5.0	0.64	1	07/08/24 09:33	07/12/24 10:21	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/12/24 10:21	7440-41-7	
Boron	330	ug/L	100	6.4	1	07/08/24 09:33	07/12/24 10:21	7440-42-8	
Calcium	73900	ug/L	200	26.9	1	07/08/24 09:33	07/12/24 10:21	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/12/24 10:21	7440-48-4	
Iron	4240	ug/L	50.0	9.1	1	07/08/24 09:33	07/12/24 10:21	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/12/24 10:21	7439-92-1	
Lithium	10.7	ug/L	10.0	3.7	1	07/08/24 09:33	07/12/24 10:21	7439-93-2	
Magnesium	29800	ug/L	50.0	20.1	1	07/08/24 09:33	07/12/24 10:21	7439-95-4	
Manganese	80.7	ug/L	5.0	0.39	1	07/08/24 09:33	07/12/24 10:21	7439-96-5	
Molybdenum	1.0J	ug/L	20.0	1.0	1	07/08/24 09:33	07/12/24 10:21	7439-98-7	
Potassium	3110	ug/L	500	69.7	1	07/08/24 09:33	07/12/24 10:21	7440-09-7	
Sodium	40800	ug/L	500	115	1	07/08/24 09:33	07/12/24 10:21	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	07/05/24 08:44	07/08/24 12:46	7440-36-0	
Arsenic	23.7	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 12:46	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 12:46	7440-43-9	
Chromium	0.48J	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 12:46	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 12:46	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 12:46	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	07/02/24 11:00	07/02/24 15:48	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	405	mg/L	20.0	10.5	1		07/02/24 12:26		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	350	mg/L	10.0	10.0	1		07/01/24 14:50		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	3.8	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.45	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-TP-1		Lab ID: 60455906003		Collected: 06/27/24 15:12		Received: 06/29/24 06:47		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	0.13	mg/L	0.050	0.016	1		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	14.4	mg/L	1.0	0.53	1		07/02/24 16:06	16887-00-6	
Fluoride	0.25	mg/L	0.20	0.12	1		07/02/24 16:06	16984-48-8	N2
Sulfate	<0.55	mg/L	1.0	0.55	1		07/02/24 16:06	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-9 Lab ID: 60455906004 Collected: 06/27/24 14:33 Received: 06/29/24 06:47 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	274	ug/L	5.0	0.64	1	07/08/24 09:33	07/12/24 10:28	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/12/24 10:28	7440-41-7	
Boron	8180	ug/L	100	6.4	1	07/08/24 09:33	07/12/24 10:28	7440-42-8	
Calcium	172000	ug/L	200	26.9	1	07/08/24 09:33	07/12/24 10:28	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/12/24 10:28	7440-48-4	
Iron	23000	ug/L	50.0	9.1	1	07/08/24 09:33	07/12/24 10:28	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/12/24 10:28	7439-92-1	
Lithium	19.0	ug/L	10.0	3.7	1	07/08/24 09:33	07/12/24 10:28	7439-93-2	
Magnesium	51600	ug/L	50.0	20.1	1	07/08/24 09:33	07/12/24 10:28	7439-95-4	
Manganese	598	ug/L	5.0	0.39	1	07/08/24 09:33	07/12/24 10:28	7439-96-5	
Molybdenum	34.0	ug/L	20.0	1.0	1	07/08/24 09:33	07/12/24 10:28	7439-98-7	
Potassium	5020	ug/L	500	69.7	1	07/08/24 09:33	07/12/24 10:28	7440-09-7	
Sodium	44000	ug/L	500	115	1	07/08/24 09:33	07/12/24 10:28	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	07/05/24 08:44	07/08/24 12:48	7440-36-0	
Arsenic	17.7	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 12:48	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 12:48	7440-43-9	
Chromium	0.57J	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 12:48	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 12:48	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 12:48	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	07/02/24 11:00	07/02/24 15:51	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	339	mg/L	20.0	10.5	1		07/02/24 12:32		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	897	mg/L	13.3	13.3	1		07/01/24 14:50		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	22.0	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.95	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-9		Lab ID: 60455906004		Collected: 06/27/24 14:33		Received: 06/29/24 06:47		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		07/02/24 12:05	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	37.7	mg/L	20.0	10.5	20		07/02/24 16:47	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		07/02/24 16:33	16984-48-8	N2
Sulfate	399	mg/L	20.0	11.0	20		07/02/24 16:47	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-10 Lab ID: 60455906005 Collected: 06/28/24 11:42 Received: 06/29/24 06:47 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	80.6	ug/L	5.0	0.64	1	07/08/24 09:33	07/12/24 10:30	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/12/24 10:30	7440-41-7	
Boron	2560	ug/L	100	6.4	1	07/08/24 09:33	07/12/24 10:30	7440-42-8	
Calcium	167000	ug/L	200	26.9	1	07/08/24 09:33	07/12/24 10:30	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/12/24 10:30	7440-48-4	
Iron	10200	ug/L	50.0	9.1	1	07/08/24 09:33	07/12/24 10:30	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/12/24 10:30	7439-92-1	
Lithium	31.6	ug/L	10.0	3.7	1	07/08/24 09:33	07/12/24 10:30	7439-93-2	
Magnesium	40000	ug/L	50.0	20.1	1	07/08/24 09:33	07/12/24 10:30	7439-95-4	
Manganese	518	ug/L	5.0	0.39	1	07/08/24 09:33	07/12/24 10:30	7439-96-5	
Molybdenum	13.8J	ug/L	20.0	1.0	1	07/08/24 09:33	07/12/24 10:30	7439-98-7	
Potassium	7570	ug/L	500	69.7	1	07/08/24 09:33	07/12/24 10:30	7440-09-7	
Sodium	67700	ug/L	500	115	1	07/08/24 09:33	07/12/24 10:30	7440-23-5	
Hardness, Total(SM 2340B)	581000	ug/L	500	150	1	07/08/24 09:33	07/12/24 10:30		
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	07/05/24 08:44	07/08/24 12:53	7440-36-0	
Arsenic	10.1	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 12:53	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 12:53	7440-43-9	
Chromium	0.46J	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 12:53	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 12:53	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 12:53	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	07/02/24 11:00	07/02/24 15:53	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	403	mg/L	20.0	10.5	1		07/03/24 13:25		
2540C Total Dissolved Solids Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	867	mg/L	13.3	13.3	1		07/02/24 10:58		
Iron, Ferric (Calculation) Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferric	9.6	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferrous	0.59	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-10		Lab ID: 60455906005		Collected: 06/28/24 11:42		Received: 06/29/24 06:47		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		07/03/24 11:20	18496-25-8	M1
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	89.0	mg/L	20.0	10.5	20		07/02/24 18:10	16887-00-6	
Fluoride	0.35	mg/L	0.20	0.12	1		07/02/24 17:15	16984-48-8	N2
Sulfate	242	mg/L	20.0	11.0	20		07/02/24 18:10	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-DUP-1 Lab ID: 60455906006 Collected: 06/28/24 00:00 Received: 06/29/24 06:47 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	677	ug/L	5.0	0.64	1	07/08/24 09:33	07/12/24 10:35	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/12/24 10:35	7440-41-7	
Boron	2340	ug/L	100	6.4	1	07/08/24 09:33	07/12/24 10:35	7440-42-8	
Calcium	222000	ug/L	200	26.9	1	07/08/24 09:33	07/12/24 10:35	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/12/24 10:35	7440-48-4	
Iron	51900	ug/L	50.0	9.1	1	07/08/24 09:33	07/12/24 10:35	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/12/24 10:35	7439-92-1	
Lithium	31.5	ug/L	10.0	3.7	1	07/08/24 09:33	07/12/24 10:35	7439-93-2	
Magnesium	63900	ug/L	50.0	20.1	1	07/08/24 09:33	07/12/24 10:35	7439-95-4	
Manganese	1680	ug/L	5.0	0.39	1	07/08/24 09:33	07/12/24 10:35	7439-96-5	
Molybdenum	4.5J	ug/L	20.0	1.0	1	07/08/24 09:33	07/12/24 10:35	7439-98-7	
Potassium	7620	ug/L	500	69.7	1	07/08/24 09:33	07/12/24 10:35	7440-09-7	
Sodium	25600	ug/L	500	115	1	07/08/24 09:33	07/12/24 10:35	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	07/05/24 08:44	07/08/24 13:00	7440-36-0	
Arsenic	1.5	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 13:00	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 13:00	7440-43-9	
Chromium	0.56J	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 13:00	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 13:00	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 13:00	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	07/02/24 11:00	07/02/24 16:03	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	803	mg/L	20.0	10.5	1		07/03/24 13:38		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	920	mg/L	13.3	13.3	1		07/02/24 10:58		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	50.3	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	1.5	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-DUP-1		Lab ID: 60455906006		Collected: 06/28/24 00:00		Received: 06/29/24 06:47		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	0.045J	mg/L	0.050	0.016	1		07/03/24 11:20	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	17.3	mg/L	1.0	0.53	1		07/02/24 20:59	16887-00-6	
Fluoride	0.26	mg/L	0.20	0.12	1		07/02/24 20:59	16984-48-8	N2
Sulfate	111	mg/L	20.0	11.0	20		07/02/24 21:13	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-FB-1 Lab ID: 60455906007 Collected: 06/28/24 14:15 Received: 06/29/24 06:47 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	07/08/24 09:33	07/12/24 10:37	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/12/24 10:37	7440-41-7	
Boron	6.9J	ug/L	100	6.4	1	07/08/24 09:33	07/12/24 10:37	7440-42-8	
Calcium	<26.9	ug/L	200	26.9	1	07/08/24 09:33	07/12/24 10:37	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/12/24 10:37	7440-48-4	
Iron	<9.1	ug/L	50.0	9.1	1	07/08/24 09:33	07/12/24 10:37	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/12/24 10:37	7439-92-1	
Lithium	<3.7	ug/L	10.0	3.7	1	07/08/24 09:33	07/12/24 10:37	7439-93-2	
Magnesium	<20.1	ug/L	50.0	20.1	1	07/08/24 09:33	07/12/24 10:37	7439-95-4	
Manganese	<0.39	ug/L	5.0	0.39	1	07/08/24 09:33	07/12/24 10:37	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	07/08/24 09:33	07/12/24 10:37	7439-98-7	
Potassium	<69.7	ug/L	500	69.7	1	07/08/24 09:33	07/12/24 10:37	7440-09-7	
Sodium	<115	ug/L	500	115	1	07/08/24 09:33	07/12/24 10:37	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	07/05/24 08:44	07/08/24 13:03	7440-36-0	
Arsenic	<0.13	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 13:03	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 13:03	7440-43-9	
Chromium	0.46J	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 13:03	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 13:03	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 13:03	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	07/02/24 11:00	07/02/24 16:10	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	<10.5	mg/L	20.0	10.5	1		07/03/24 14:02		
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		07/02/24 10:58		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0018J	mg/L	0.050		1		07/22/24 00:00	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		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-FB-1		Lab ID: 60455906007		Collected: 06/28/24 14:15		Received: 06/29/24 06:47		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		07/03/24 11:20	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		07/02/24 22:08	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		07/02/24 22:08	16984-48-8	N2
Sulfate	<0.55	mg/L	1.0	0.55	1		07/02/24 22:08	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-TP-2 Lab ID: 60455906010 Collected: 07/01/24 14:04 Received: 07/02/24 06:00 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	50.5	ug/L	5.0	0.64	1	07/08/24 09:33	07/11/24 11:09	7440-39-3	
Beryllium	<0.12	ug/L	1.0	0.12	1	07/08/24 09:33	07/11/24 11:09	7440-41-7	
Boron	2580	ug/L	100	6.4	1	07/08/24 09:33	07/11/24 11:09	7440-42-8	
Calcium	203000	ug/L	200	26.9	1	07/08/24 09:33	07/11/24 11:09	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	07/08/24 09:33	07/11/24 11:09	7440-48-4	
Iron	16500	ug/L	50.0	9.1	1	07/08/24 09:33	07/11/24 11:09	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	07/08/24 09:33	07/11/24 11:09	7439-92-1	
Lithium	43.8	ug/L	10.0	3.7	1	07/08/24 09:33	07/11/24 11:09	7439-93-2	
Magnesium	51100	ug/L	50.0	20.1	1	07/08/24 09:33	07/11/24 11:09	7439-95-4	
Manganese	571	ug/L	5.0	0.39	1	07/08/24 09:33	07/11/24 11:09	7439-96-5	
Molybdenum	12.9J	ug/L	20.0	1.0	1	07/08/24 09:33	07/11/24 11:09	7439-98-7	
Potassium	8220	ug/L	500	69.7	1	07/08/24 09:33	07/11/24 11:09	7440-09-7	
Sodium	145000	ug/L	500	115	1	07/08/24 09:33	07/11/24 11:09	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	07/05/24 08:44	07/08/24 12:38	7440-36-0	
Arsenic	4.7	ug/L	1.0	0.13	1	07/05/24 08:44	07/08/24 12:38	7440-38-2	
Cadmium	<0.050	ug/L	0.50	0.050	1	07/05/24 08:44	07/08/24 12:38	7440-43-9	
Chromium	4.8	ug/L	1.0	0.30	1	07/05/24 08:44	07/08/24 12:38	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	07/05/24 08:44	07/08/24 12:38	7782-49-2	
Thallium	<0.14	ug/L	1.0	0.14	1	07/05/24 08:44	07/08/24 12:38	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	07/10/24 13:40	07/10/24 17:30	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	408	mg/L	20.0	10.5	1		07/03/24 14:56		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1210	mg/L	20.0	20.0	1		07/03/24 10:51		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	15.9	mg/L	0.050		1		07/22/24 00:00	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.52	mg/L	0.20	0.041	1		07/05/24 14:15	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-TP-2		Lab ID: 60455906010		Collected: 07/01/24 14:04		Received: 07/02/24 06:00		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		07/03/24 11:20	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	162	mg/L	20.0	10.5	20		07/08/24 17:41	16887-00-6	
Fluoride	0.20J	mg/L	0.20	0.12	1		07/08/24 17:27	16984-48-8	N2
Sulfate	449	mg/L	50.0	27.5	50		07/08/24 17:55	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch:	900351	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007

METHOD BLANK: 3564032 Matrix: Water

Associated Lab Samples: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	07/02/24 15:32	

LABORATORY CONTROL SAMPLE: 3564033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.8	116	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564034 3564035

Parameter	Units	60455906005 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	5.3	5.4	106	107	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564036 3564037

Parameter	Units	60455908003 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	4.8	4.7	96	94	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.

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

QC Batch:	901200	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906010

METHOD BLANK: 3566989 Matrix: Water
Associated Lab Samples: 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	07/10/24 16:30	

LABORATORY CONTROL SAMPLE: 3566990

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3566991 3566992

Parameter	Units	60455924003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.8	4.7	95	93	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.

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch: 900818

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: 60455906010

METHOD BLANK: 3565793

Matrix: Water

Associated Lab Samples: 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	07/11/24 10:48	
Beryllium	ug/L	<0.12	1.0	0.12	07/11/24 10:48	
Boron	ug/L	<6.4	100	6.4	07/11/24 10:48	
Calcium	ug/L	<26.9	200	26.9	07/11/24 10:48	
Cobalt	ug/L	<1.2	5.0	1.2	07/11/24 10:48	
Iron	ug/L	<9.1	50.0	9.1	07/11/24 10:48	
Lead	ug/L	<3.8	10.0	3.8	07/11/24 10:48	
Lithium	ug/L	<3.7	10.0	3.7	07/11/24 10:48	
Magnesium	ug/L	<20.1	50.0	20.1	07/11/24 10:48	
Manganese	ug/L	<0.39	5.0	0.39	07/11/24 10:48	
Molybdenum	ug/L	<1.0	20.0	1.0	07/11/24 10:48	
Potassium	ug/L	<69.7	500	69.7	07/11/24 10:48	
Sodium	ug/L	<115	500	115	07/11/24 10:48	

LABORATORY CONTROL SAMPLE: 3565794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	965	96	85-115	
Beryllium	ug/L	1000	947	95	85-115	
Boron	ug/L	1000	907	91	85-115	
Calcium	ug/L	10000	9930	99	85-115	
Cobalt	ug/L	1000	995	100	85-115	
Iron	ug/L	10000	10000	100	85-115	
Lead	ug/L	1000	1000	100	85-115	
Lithium	ug/L	1000	975	97	85-115	
Magnesium	ug/L	10000	9700	97	85-115	
Manganese	ug/L	1000	971	97	85-115	
Molybdenum	ug/L	1000	958	96	85-115	
Potassium	ug/L	10000	9640	96	85-115	
Sodium	ug/L	10000	9850	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3565795

3565796

Parameter	Units	60456197001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	9.7	1000	1000	958	972	95	96	70-130	1	20	
Beryllium	ug/L	ND	1000	1000	963	982	96	98	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			3565795	3565796								
		60456197001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Boron	ug/L	ND	1000	1000	982	1000	90	92	70-130	2	20	
Calcium	ug/L	6550	10000	10000	16300	16600	98	101	70-130	2	20	
Cobalt	ug/L	153	1000	1000	1130	1150	98	100	70-130	2	20	
Iron	ug/L	ND	10000	10000	10000	10100	100	101	70-130	1	20	
Lead	ug/L	ND	1000	1000	964	983	96	98	70-130	2	20	
Lithium	ug/L	ND	1000	1000	975	999	97	99	70-130	2	20	
Magnesium	ug/L	6030	10000	10000	15500	15700	95	97	70-130	2	20	
Manganese	ug/L	6.0	1000	1000	952	974	95	97	70-130	2	20	
Molybdenum	ug/L	ND	1000	1000	953	972	95	97	70-130	2	20	
Potassium	ug/L	5290	10000	10000	15000	15500	97	102	70-130	3	20	
Sodium	ug/L	237000	10000	10000	242000	250000	56	129	70-130	3	20	M1

MATRIX SPIKE SAMPLE: 3565797							
Parameter	Units	60456023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	ND	1000	1030	93	70-130	
Beryllium	ug/L	ND	1000	990	99	70-130	
Boron	ug/L	40500	1000	41700	127	70-130	
Calcium	ug/L	455000	10000	466000	114	70-130	
Cobalt	ug/L	ND	1000	972	96	70-130	
Iron	ug/L	3940	10000	14100	101	70-130	
Lead	ug/L	ND	1000	953	94	70-130	
Lithium	ug/L	825	1000	1820	100	70-130	
Magnesium	ug/L	1110000	10000	1130000	195	70-130	M1
Manganese	ug/L	ND	1000	1110	94	70-130	
Molybdenum	ug/L	ND	1000	935J	93	70-130	
Potassium	ug/L	301000	10000	309000	76	70-130	
Sodium	ug/L	37100000	10000	37500000	3560	70-130	M1

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch:	900856	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: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007			

METHOD BLANK:	3566044	Matrix:	Water
Associated Lab Samples: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	07/12/24 09:47	
Beryllium	ug/L	<0.12	1.0	0.12	07/12/24 09:47	
Boron	ug/L	<6.4	100	6.4	07/12/24 09:47	
Calcium	ug/L	<26.9	200	26.9	07/12/24 09:47	
Cobalt	ug/L	<1.2	5.0	1.2	07/12/24 09:47	
Hardness, Total(SM 2340B)	ug/L	<150	500	150	07/12/24 09:47	
Iron	ug/L	<9.1	50.0	9.1	07/12/24 09:47	
Lead	ug/L	<3.8	10.0	3.8	07/12/24 09:47	
Lithium	ug/L	<3.7	10.0	3.7	07/12/24 09:47	
Magnesium	ug/L	<20.1	50.0	20.1	07/12/24 09:47	
Manganese	ug/L	<0.39	5.0	0.39	07/12/24 09:47	
Molybdenum	ug/L	<1.0	20.0	1.0	07/12/24 09:47	
Potassium	ug/L	<69.7	500	69.7	07/12/24 09:47	
Sodium	ug/L	<115	500	115	07/12/24 09:47	

LABORATORY CONTROL SAMPLE: 3566045

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	980	98	85-115	
Beryllium	ug/L	1000	972	97	85-115	
Boron	ug/L	1000	937	94	85-115	
Calcium	ug/L	10000	10100	101	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Hardness, Total(SM 2340B)	ug/L	66200	66500	101	85-115	
Iron	ug/L	10000	9930	99	85-115	
Lead	ug/L	1000	1020	102	85-115	
Lithium	ug/L	1000	1010	101	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Molybdenum	ug/L	1000	992	99	85-115	
Potassium	ug/L	10000	9910	99	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE SAMPLE: 3566046

Parameter	Units	60456132001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	136	1000	1130	100	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

MATRIX SPIKE SAMPLE:		3566046					
Parameter	Units	60456132001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Beryllium	ug/L	<1.0	1000	995	100	70-130	
Boron	ug/L	560	1000	1520	96	70-130	
Calcium	ug/L	117000	10000	127000	98	70-130	
Cobalt	ug/L	<5.0	1000	1020	102	70-130	
Hardness, Total(SM 2340B)	ug/L	477000	66200	542000	99	70-130	
Iron	ug/L	879	10000	11100	102	70-130	
Lead	ug/L	<10.0	1000	985	98	70-130	
Lithium	ug/L	28.5	1000	1030	101	70-130	
Magnesium	ug/L	44700	10000	54600	99	70-130	
Manganese	ug/L	251	1000	1260	101	70-130	
Molybdenum	ug/L	<20.0	1000	1050	103	70-130	
Potassium	ug/L	12700	10000	22800	100	70-130	
Sodium	ug/L	133000	10000	142000	99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			3566047		3566048							
Parameter	Units	60455906005	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike	Spike								
Barium	ug/L	80.6	1000	1000	1060	1050	98	97	70-130	0	20	
Beryllium	ug/L	<0.12	1000	1000	996	980	100	98	70-130	2	20	
Boron	ug/L	2560	1000	1000	3570	3500	101	95	70-130	2	20	
Calcium	ug/L	167000	10000	10000	179000	176000	121	90	70-130	2	20	
Cobalt	ug/L	<1.2	1000	1000	1010	991	100	99	70-130	1	20	
Hardness, Total(SM 2340B)	ug/L	581000	66200	66200	654000	642000	110	93	70-130	2	20	
Iron	ug/L	10200	10000	10000	20400	20100	101	99	70-130	1	20	
Lead	ug/L	<3.8	1000	1000	979	975	98	97	70-130	0	20	
Lithium	ug/L	31.6	1000	1000	1040	1030	100	100	70-130	0	20	
Magnesium	ug/L	40000	10000	10000	50300	49500	103	94	70-130	2	20	
Manganese	ug/L	518	1000	1000	1530	1500	101	98	70-130	2	20	
Molybdenum	ug/L	13.8J	1000	1000	1040	1020	102	101	70-130	2	20	
Potassium	ug/L	7570	10000	10000	17900	17600	103	100	70-130	2	20	
Sodium	ug/L	67700	10000	10000	78700	77300	110	96	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch:	900523	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007, 60455906010		

METHOD BLANK:	3564709	Matrix:	Water
Associated Lab Samples:	60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007, 60455906010		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	07/08/24 12:34	
Arsenic	ug/L	<0.13	1.0	0.13	07/08/24 12:34	
Cadmium	ug/L	<0.050	0.50	0.050	07/08/24 12:34	
Chromium	ug/L	0.30J	1.0	0.30	07/08/24 12:34	
Selenium	ug/L	<0.18	1.0	0.18	07/08/24 12:34	
Thallium	ug/L	<0.14	1.0	0.14	07/08/24 12:34	

LABORATORY CONTROL SAMPLE: 3564710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.8	97	85-115	
Arsenic	ug/L	40	39.1	98	85-115	
Cadmium	ug/L	40	39.8	99	85-115	
Chromium	ug/L	40	40.1	100	85-115	
Selenium	ug/L	40	39.5	99	85-115	
Thallium	ug/L	40	38.6	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564711 3564712

Parameter	Units	60455906005	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result										
Antimony	ug/L	<0.12	40	40	38.6	38.6	96	96	70-130	0	20	
Arsenic	ug/L	10.1	40	40	49.6	49.4	99	98	70-130	0	20	
Cadmium	ug/L	<0.050	40	40	37.4	37.7	93	94	70-130	1	20	
Chromium	ug/L	0.46J	40	40	41.4	41.4	102	102	70-130	0	20	
Selenium	ug/L	<0.18	40	40	37.1	37.2	92	93	70-130	0	20	
Thallium	ug/L	<0.14	40	40	41.4	41.2	103	103	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

QC Batch:	900449	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906003, 60455906004

METHOD BLANK: 3564416 Matrix: Water
Associated Lab Samples: 60455906003, 60455906004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	07/02/24 12:00	

LABORATORY CONTROL SAMPLE: 3564417

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	510	102	90-110	

SAMPLE DUPLICATE: 3564418

Parameter	Units	60455814003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	508	490	3	10	

SAMPLE DUPLICATE: 3564419

Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	349	352	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

QC Batch: 900599 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60455906001, 60455906002, 60455906005, 60455906006, 60455906007, 60455906010

METHOD BLANK: 3565061 Matrix: Water
Associated Lab Samples: 60455906001, 60455906002, 60455906005, 60455906006, 60455906007, 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	07/03/24 12:37	

LABORATORY CONTROL SAMPLE: 3565062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	499	100	90-110	

SAMPLE DUPLICATE: 3565063

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	403	416	3	10	

SAMPLE DUPLICATE: 3565064

Parameter	Units	60455993001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	92.8	98.8	6	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

QC Batch:	900335	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906003, 60455906004

METHOD BLANK: 3563993 Matrix: Water
Associated Lab Samples: 60455906003, 60455906004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	07/01/24 14:50	

LABORATORY CONTROL SAMPLE: 3563994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1050	105	80-120	

SAMPLE DUPLICATE: 3563995

Parameter	Units	60455791001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	508	527	4	10	

SAMPLE DUPLICATE: 3563996

Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	605	609	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

QC Batch:	900438	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906001, 60455906002, 60455906005, 60455906006, 60455906007

METHOD BLANK: 3564275 Matrix: Water
Associated Lab Samples: 60455906001, 60455906002, 60455906005, 60455906006, 60455906007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	07/02/24 10:56	

LABORATORY CONTROL SAMPLE: 3564276

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1060	106	80-120	

SAMPLE DUPLICATE: 3564277

Parameter	Units	60455912001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1170	1190	1	10	

SAMPLE DUPLICATE: 3564278

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	867	865	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

QC Batch:	900578	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906010

METHOD BLANK: 3564924 Matrix: Water

Associated Lab Samples: 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	07/03/24 10:50	

LABORATORY CONTROL SAMPLE: 3564925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1040	104	80-120	

SAMPLE DUPLICATE: 3564926

Parameter	Units	60455993001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	927	911	2	10	

SAMPLE DUPLICATE: 3564927

Parameter	Units	60455995002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4600	5340	15	10 D6	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

QC Batch: 900728 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: 60455906003, 60455906004, 60455906005, 60455906006

METHOD BLANK: 3565561 Matrix: Water
Associated Lab Samples: 60455906003, 60455906004, 60455906005, 60455906006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	07/05/24 14:15	H6

LABORATORY CONTROL SAMPLE: 3565562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	100	90-110	H6

SAMPLE DUPLICATE: 3565563

Parameter	Units	60454265010 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.29	0.29	0	20	H6

SAMPLE DUPLICATE: 3565564

Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	13.5	13.4	1	20	H6

SAMPLE DUPLICATE: 3565565

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.59	0.61	2	20	H6

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch: 900729

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: 60455906001, 60455906002, 60455906007, 60455906010

METHOD BLANK: 3565566

Matrix: Water

Associated Lab Samples: 60455906001, 60455906002, 60455906007, 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	07/05/24 14:15	H6

LABORATORY CONTROL SAMPLE: 3565567

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	99	90-110	H6

SAMPLE DUPLICATE: 3565568

Parameter	Units	60455906001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.5	1.5	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch: 900459

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906003, 60455906004

METHOD BLANK: 3564466

Matrix: Water

Associated Lab Samples: 60455906003, 60455906004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	07/02/24 12:05	

LABORATORY CONTROL SAMPLE: 3564467

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.47	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564468 3564469

Parameter	Units	60455906003 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	0.13	0.5	0.5	0.54	0.54	82	82	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564475 3564476

Parameter	Units	60455908003 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	<0.016	0.5	0.5	0.37	0.40	72	78	75-125	7	20	M1

SAMPLE DUPLICATE: 3564473

Parameter	Units	60455906003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.13	0.12	8	20	

SAMPLE DUPLICATE: 3564477

Parameter	Units	60455908003 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.: 60455906

SAMPLE DUPLICATE: 3564478

Parameter	Units	60455906004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.018J	<0.016		20	

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REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch: 900567

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60455906001, 60455906002, 60455906005, 60455906006, 60455906007, 60455906010

METHOD BLANK: 3564901

Matrix: Water

Associated Lab Samples: 60455906001, 60455906002, 60455906005, 60455906006, 60455906007, 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	07/03/24 11:20	

LABORATORY CONTROL SAMPLE: 3564902

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.45	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564903 3564904

Parameter	Units	60455906001 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	0.051	0.5	0.5	0.48	0.44	86	79	75-125	8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564906 3564907

Parameter	Units	60455906005 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	<0.016	0.5	0.5	0.29	0.29	56	55	75-125	2	20	M1

SAMPLE DUPLICATE: 3564908

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3564910

Parameter	Units	60455906001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.051	0.058	13	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60455906

SAMPLE DUPLICATE: 3564911

Parameter	Units	60455906002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.023J	0.016J		20	

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REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch:	900392	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: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007

METHOD BLANK: 3564153

Matrix: Water

Associated Lab Samples: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/02/24 09:26	
Fluoride	mg/L	<0.12	0.20	0.12	07/02/24 09:26	N2
Sulfate	mg/L	<0.55	1.0	0.55	07/02/24 09:26	

METHOD BLANK: 3565693

Matrix: Water

Associated Lab Samples: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/03/24 14:26	
Fluoride	mg/L	<0.12	0.20	0.12	07/03/24 14:26	N2
Sulfate	mg/L	<0.55	1.0	0.55	07/03/24 14:26	

LABORATORY CONTROL SAMPLE: 3564154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	90	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	N2
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3565694

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	2.5	101	90-110	N2
Sulfate	mg/L	5	4.8	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564155 3564156

Parameter	Units	60455906005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	89.0	100	100	179	171	90	82	80-120	5	15	
Fluoride	mg/L	0.35	2.5	2.5	3.1	3.0	108	108	80-120	0	15	N2
Sulfate	mg/L	242	100	100	339	331	98	90	80-120	2	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564158 3564159												
Parameter	Units	60455908003	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike	Spike								Result
Chloride	mg/L	34.9	25	25	57.5	58.3	90	94	80-120	1	15	
Fluoride	mg/L	0.25	2.5	2.5	2.6	2.6	95	94	80-120	1	15 N2	
Sulfate	mg/L	160	100	100	256	255	96	95	80-120	1	15	

SAMPLE DUPLICATE: 3564157

Parameter	Units	60455906005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	89.0	82.3	8	15	
Fluoride	mg/L	0.35	0.36	3	15	N2
Sulfate	mg/L	242	221	9	15	

SAMPLE DUPLICATE: 3564160

Parameter	Units	60455908003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	34.9	33.8	3	15	
Fluoride	mg/L	0.25	0.22	13	15	N2
Sulfate	mg/L	160	152	5	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch: 900805

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: 60455906010

METHOD BLANK: 3565761

Matrix: Water

Associated Lab Samples: 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/08/24 09:15	
Fluoride	mg/L	<0.12	0.20	0.12	07/08/24 09:15	N2
Sulfate	mg/L	<0.55	1.0	0.55	07/08/24 09:15	

METHOD BLANK: 3568100

Matrix: Water

Associated Lab Samples: 60455906010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/10/24 08:58	
Fluoride	mg/L	<0.12	0.20	0.12	07/10/24 08:58	N2
Sulfate	mg/L	<0.55	1.0	0.55	07/10/24 08:58	

LABORATORY CONTROL SAMPLE: 3568101

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	2.4	94	90-110	N2
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3565763

3565764

Parameter	Units	60456063001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1670	1000	1000	2510	2790	85	113	80-120	11	15	
Fluoride	mg/L	69.6	500	500	462	497	79	85	80-120	7	15	M1,N2
Sulfate	mg/L	ND	1000	1000	1100	1180	98	106	80-120	7	15	

MATRIX SPIKE SAMPLE: 3565765

Parameter	Units	60455951001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	208	100	303	95	80-120	
Fluoride	mg/L	<2.5	50	43.0	86	80-120	N2
Sulfate	mg/L	34.1	100	131	97	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-11S		Lab ID: 60455906001	Collected: 06/28/24 13:25	Received: 06/29/24 06:47	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	0.711 ± 0.680 (1.08) C:NA T:89%		pCi/L	07/19/24 13:48	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	1.01 ± 0.471 (0.809) C:81% T:89%		pCi/L	07/15/24 15:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-11D		Lab ID: 60455906002	Collected: 06/28/24 14:28	Received: 06/29/24 06:47	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	0.479 ± 0.671 (1.14) C:NA T:96%		pCi/L	07/19/24 13:48	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.172 ± 0.389 (0.861) C:82% T:84%		pCi/L	07/15/24 15:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-TP-1 **Lab ID: 60455906003** Collected: 06/27/24 15:12 Received: 06/29/24 06:47 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	-0.0515 ± 0.544 (1.07) C:NA T:89%	pCi/L	07/19/24 13:48	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.532 ± 0.366 (0.705) C:79% T:94%	pCi/L	07/15/24 15:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-9		Lab ID: 60455906004	Collected: 06/27/24 14:33	Received: 06/29/24 06:47	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	0.166 ± 0.447 (0.829) C:NA T:90%		pCi/L	07/19/24 14:01	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	1.12 ± 0.486 (0.805) C:85% T:85%		pCi/L	07/15/24 15:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-MW-10		Lab ID: 60455906005	Collected: 06/28/24 11:42	Received: 06/29/24 06:47	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	0.257 ± 0.395 (0.680) C:NA T:87%		pCi/L	07/19/24 14:01	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.785 ± 0.427 (0.757) C:79% T:84%		pCi/L	07/15/24 15:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-DUP-1		Lab ID: 60455906006	Collected: 06/28/24 00:00	Received: 06/29/24 06:47	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	0.525 ± 0.508 (0.788) C:NA T:94%		pCi/L	07/19/24 15:19	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	1.05 ± 0.439 (0.684) C:79% T:86%		pCi/L	07/15/24 15:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-FB-1		Lab ID: 60455906007	Collected: 06/28/24 14:15	Received: 06/29/24 06:47	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	-0.103 ± 0.351 (0.777) C:NA T:93%		pCi/L	07/19/24 14:01	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.615 ± 0.449 (0.885) C:78% T:89%		pCi/L	07/15/24 15:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-MS-1		Lab ID: 60455906008	Collected: 06/28/24 11:42	Received: 06/29/24 06:47	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	92.88 %REC ± NA (NA) C:NA T:NA		pCi/L	07/19/24 14:01	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	83.56 %REC ± NA (NA) C:NA T:NA		pCi/L	07/15/24 15:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-CA-MSD-1		Lab ID: 60455906009		Collected: 06/28/24 11:42	Received: 06/29/24 06:47	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	119.93 %REC 25.42RPD ± NA (NA) C:NA T:NA		pCi/L	07/19/24 14:01	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	87.22 %REC 4.29RPD ± NA (NA) C:NA T:NA		pCi/L	07/15/24 15:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Sample: M-TP-2		Lab ID: 60455906010	Collected: 07/01/24 14:04	Received: 07/02/24 06:00	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC) Carr Trac		Units	Analyzed	CAS No.	Qual
Radium-226	Pace Analytical Services - Greensburg			pCi/L	07/18/24 14:39	13982-63-3	
	EPA 903.1	0.243 ± 0.414 (0.730) C:NA T:93%					
Radium-228	Pace Analytical Services - Greensburg			pCi/L	07/16/24 15:30	15262-20-1	
	EPA 904.0	0.204 ± 0.357 (0.781) C:70% T:86%					
Total Radium	Pace Analytical Services - Greensburg			pCi/L	07/19/24 15:41	7440-14-4	
	Total Radium Calculation	0.447 ± 0.771 (1.51)					

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch:	680086	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:	60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007, 60455906008, 60455906009		

METHOD BLANK:	3311262	Matrix:	Water
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Associated Lab Samples: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007, 60455906008, 60455906009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.649 ± 0.391 (0.718) C:78% T:89%	pCi/L	07/15/24 15:28	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch:	680087	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:	60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007, 60455906008, 60455906009		

METHOD BLANK:	3311265	Matrix:	Water
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Associated Lab Samples: 60455906001, 60455906002, 60455906003, 60455906004, 60455906005, 60455906006, 60455906007, 60455906008, 60455906009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0392 ± 0.179 (0.288) C:NA T:91%	pCi/L	07/19/24 13:48	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60455906

QC Batch: 681511

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: 60455906010

METHOD BLANK: 3318478

Matrix: Water

Associated Lab Samples: 60455906010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.144 ± 0.283 (0.517) C:NA T:92%	pCi/L	07/18/24 14:26	

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.: 60455906

QC Batch: 681512

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: 60455906010

METHOD BLANK: 3318485

Matrix: Water

Associated Lab Samples: 60455906010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.255 ± 0.362 (0.777) C:81% T:87%	pCi/L	07/16/24 15:28	

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.: 60455906

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.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60455906001	M-MW-11S	EPA 200.7	900856	EPA 200.7	900918
60455906002	M-MW-11D	EPA 200.7	900856	EPA 200.7	900918
60455906003	M-TP-1	EPA 200.7	900856	EPA 200.7	900918
60455906004	M-MW-9	EPA 200.7	900856	EPA 200.7	900918
60455906005	M-MW-10	EPA 200.7	900856	EPA 200.7	900918
60455906006	M-CA-DUP-1	EPA 200.7	900856	EPA 200.7	900918
60455906007	M-CA-FB-1	EPA 200.7	900856	EPA 200.7	900918
60455906010	M-TP-2	EPA 200.7	900818	EPA 200.7	900917
60455906001	M-MW-11S	EPA 200.8	900523	EPA 200.8	900742
60455906002	M-MW-11D	EPA 200.8	900523	EPA 200.8	900742
60455906003	M-TP-1	EPA 200.8	900523	EPA 200.8	900742
60455906004	M-MW-9	EPA 200.8	900523	EPA 200.8	900742
60455906005	M-MW-10	EPA 200.8	900523	EPA 200.8	900742
60455906006	M-CA-DUP-1	EPA 200.8	900523	EPA 200.8	900742
60455906007	M-CA-FB-1	EPA 200.8	900523	EPA 200.8	900742
60455906010	M-TP-2	EPA 200.8	900523	EPA 200.8	900742
60455906001	M-MW-11S	EPA 7470	900351	EPA 7470	900505
60455906002	M-MW-11D	EPA 7470	900351	EPA 7470	900505
60455906003	M-TP-1	EPA 7470	900351	EPA 7470	900505
60455906004	M-MW-9	EPA 7470	900351	EPA 7470	900505
60455906005	M-MW-10	EPA 7470	900351	EPA 7470	900505
60455906006	M-CA-DUP-1	EPA 7470	900351	EPA 7470	900505
60455906007	M-CA-FB-1	EPA 7470	900351	EPA 7470	900505
60455906010	M-TP-2	EPA 7470	901200	EPA 7470	901280
60455906001	M-MW-11S	EPA 903.1	680087		
60455906002	M-MW-11D	EPA 903.1	680087		
60455906003	M-TP-1	EPA 903.1	680087		
60455906004	M-MW-9	EPA 903.1	680087		
60455906005	M-MW-10	EPA 903.1	680087		
60455906006	M-CA-DUP-1	EPA 903.1	680087		
60455906007	M-CA-FB-1	EPA 903.1	680087		
60455906008	M-CA-MS-1	EPA 903.1	680087		
60455906009	M-CA-MSD-1	EPA 903.1	680087		
60455906010	M-TP-2	EPA 903.1	681511		
60455906001	M-MW-11S	EPA 904.0	680086		
60455906002	M-MW-11D	EPA 904.0	680086		
60455906003	M-TP-1	EPA 904.0	680086		
60455906004	M-MW-9	EPA 904.0	680086		
60455906005	M-MW-10	EPA 904.0	680086		
60455906006	M-CA-DUP-1	EPA 904.0	680086		
60455906007	M-CA-FB-1	EPA 904.0	680086		
60455906008	M-CA-MS-1	EPA 904.0	680086		
60455906009	M-CA-MSD-1	EPA 904.0	680086		
60455906010	M-TP-2	EPA 904.0	681512		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60455906010	M-TP-2	Total Radium Calculation	683820		
60455906001	M-MW-11S	SM 2320B	900599		
60455906002	M-MW-11D	SM 2320B	900599		
60455906003	M-TP-1	SM 2320B	900449		
60455906004	M-MW-9	SM 2320B	900449		
60455906005	M-MW-10	SM 2320B	900599		
60455906006	M-CA-DUP-1	SM 2320B	900599		
60455906007	M-CA-FB-1	SM 2320B	900599		
60455906010	M-TP-2	SM 2320B	900599		
60455906001	M-MW-11S	SM 2540C	900438		
60455906002	M-MW-11D	SM 2540C	900438		
60455906003	M-TP-1	SM 2540C	900335		
60455906004	M-MW-9	SM 2540C	900335		
60455906005	M-MW-10	SM 2540C	900438		
60455906006	M-CA-DUP-1	SM 2540C	900438		
60455906007	M-CA-FB-1	SM 2540C	900438		
60455906010	M-TP-2	SM 2540C	900578		
60455906001	M-MW-11S	SM 3500-Fe B#4	902600		
60455906002	M-MW-11D	SM 3500-Fe B#4	902600		
60455906003	M-TP-1	SM 3500-Fe B#4	902600		
60455906004	M-MW-9	SM 3500-Fe B#4	902600		
60455906005	M-MW-10	SM 3500-Fe B#4	902600		
60455906006	M-CA-DUP-1	SM 3500-Fe B#4	902600		
60455906007	M-CA-FB-1	SM 3500-Fe B#4	902600		
60455906010	M-TP-2	SM 3500-Fe B#4	902600		
60455906001	M-MW-11S	SM 3500-Fe B#4	900729		
60455906002	M-MW-11D	SM 3500-Fe B#4	900729		
60455906003	M-TP-1	SM 3500-Fe B#4	900728		
60455906004	M-MW-9	SM 3500-Fe B#4	900728		
60455906005	M-MW-10	SM 3500-Fe B#4	900728		
60455906006	M-CA-DUP-1	SM 3500-Fe B#4	900728		
60455906007	M-CA-FB-1	SM 3500-Fe B#4	900729		
60455906010	M-TP-2	SM 3500-Fe B#4	900729		
60455906001	M-MW-11S	SM 4500-S-2 D	900567		
60455906002	M-MW-11D	SM 4500-S-2 D	900567		
60455906003	M-TP-1	SM 4500-S-2 D	900459		
60455906004	M-MW-9	SM 4500-S-2 D	900459		
60455906005	M-MW-10	SM 4500-S-2 D	900567		
60455906006	M-CA-DUP-1	SM 4500-S-2 D	900567		
60455906007	M-CA-FB-1	SM 4500-S-2 D	900567		
60455906010	M-TP-2	SM 4500-S-2 D	900567		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA

Pace Project No.: 60455906

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60455906001	M-MW-11S	EPA 300.0	900392		
60455906002	M-MW-11D	EPA 300.0	900392		
60455906003	M-TP-1	EPA 300.0	900392		
60455906004	M-MW-9	EPA 300.0	900392		
60455906005	M-MW-10	EPA 300.0	900392		
60455906006	M-CA-DUP-1	EPA 300.0	900392		
60455906007	M-CA-FB-1	EPA 300.0	900392		
60455906010	M-TP-2	EPA 300.0	900805		

REPORT OF LABORATORY ANALYSIS

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WO#: 60455906



DC#_Title: ENV-FRM-LENE-0009_Sample C

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Rocksmitz GeoCourier: 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: None Blue ☐ None ☒Cooler Temperature (°C): As-read 0.4/0.9 Corr. Factor 0.0 Corrected 0.4/0.9/1.4Date and initials of person
examining contents:Temperature should be above freezing to 6°C 1.4/23.5/25.823.5/25.8pv 7/1/24Chain of Custody present: ☒ Yes ☐ No ☐ N/AChain of Custody relinquished: ☒ Yes ☐ No ☐ N/ASamples arrived within holding time: ☒ Yes ☐ No ☐ N/AShort Hold Time analyses (<72hr): ☐ Yes ☒ No ☐ N/ARush Turn Around Time requested: ☐ Yes ☒ No ☐ N/ASufficient volume: ☒ Yes ☐ No ☐ N/ACorrect containers used: ☒ Yes ☐ No ☐ N/APace containers used: ☒ Yes ☐ No ☐ N/AContainers intact: ☒ Yes ☐ No ☐ N/AUnpreserved 5035A / TX1005/1006 soils frozen in 48hrs? ☐ Yes ☐ No ☒ N/AFiltered volume received for dissolved tests? ☐ Yes ☐ No ☒ N/ASample labels match COC: Date / time / ID / analyses ☒ Yes ☐ No ☐ N/ASamples contain multiple phases? Matrix: WT ☐ Yes ☒ No ☐ N/AContainers requiring pH preservation in compliance? ☒ Yes ☐ No ☐ N/A(HNO₃, H₂SO₄, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide)

(Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)

LOT#: 67187/606203

Cyanide water sample checks:

Lead acetate strip turns dark? (Record only) ☐ Yes ☐ NoPotassium iodide test strip turns blue/purple? (Preserve) ☐ Yes ☐ NoTrip Blank present: ☐ Yes ☐ No ☒ N/AHeadspace in VOA vials (>6mm): ☐ Yes ☐ No ☒ N/ASamples from USDA Regulated Area: State: ☐ Yes ☐ No ☒ N/AAdditional 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: _____

CHAIN-OF-CUSTODY Analytical Request Document
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: Rocksmith Geoeengineering, LLC.
Street Address: 2320 Creve Coeur Mill Road, Maryland Heights, MO 63043

Customer Project #: COC# 14
Project Name: AMEREN MEC-CA

Site Collection Info/Facility ID (as applicable):

Contact/Report To: Mark Haddock
Phone #: 314-974-6578
E-Mail: mark.haddock@rocksmithgeo.com
Cc E-Mail:

Invoice To: Mark Haddock
Invoice E-Mail: mark.haddock@rocksmithgeo.com
Purchase Order # (if applicable):
Quote #:

Time Zone Collected: [] AK [] PT [] MT [] CT [] ET [] No
Data Deliverables: Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [] Yes [] No

[] Level II [] Level III [] Level IV
[] EQUIS

Date Requested: [] Same Day [] 1 Day [] 2 Day [] 3 Day [] Yes [] No
Field Filtered (if applicable): [] Yes [] No

Rush (Pre-approval required):

DW PWSD # or WV Permit # as applicable:

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), Surface Water (SW) Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID

Matrix *	Comp / Grab	Composite Start Date	Time	Collected or Composite End Date	Time	# Cont.	Res. Results	Units
M-MW-11S	WT			6/28	1325	6		
M-MW-11D	WT			6/28	1428	6		
M-TP-1	WT			6/27	1512	6		
M-TP-2	WT							
M-MW-9	WT			6/27	1433	6		
M-MW-10	WT			6/28	1142	6		
M-CA-DUP-1	WT			6/28		6		
M-CA-FB-1	WT			6/28	1415	6		
M-CA-MS-1	WT			6/28	1142	6		
M-CA-MSD-1	WT			6/28	1142	6		

Additional Instructions from Pace*:

*App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B

**App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo & 200.8 Metals - Sb, As, Cd, Cr, Se, Ti + 7470 Hg

Collected By: John Rasmussen

(Printed Name)

Signature:

Relinquished by/Company: (Signature) *John Rasmussen*
Date/Time: 6/18/14-1600

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Relinquished by/Company: (Signature)

Received by/Company: (Signature) *John Rasmussen*

Received by/Company: (Signature)

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Rocks, Smith Geo

Profile EZ

3086945

Site:

Notes

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JG5U	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other
1	WT																		1	1	1	2	1				1			
2																			1	1	1	1	1				1			
3																			1	1	1	1	1				1			
4																			1	1	1	1	1				1			
5																			1	1	1	1	1				1			
6																			1	1	1	1	1				1			
7																			1	1	1	1	1				1			
8																			1	1	1	1	1				1			
9																			1	1	1	1	1				1			
10																			1	1	1	1	1				1			
11																			1	1	1	1	1				1			
12																			1	1	1	1	1				1			

(DA/4 109 RAD)

Container Codes

Glass		Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1C	1L NaOH plastic
DG9H	40mL HCl amber vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic
DG9Q	40mL TSP amber vial	JG5U	4oz unpreserved amber wide	BP1U	1L unpreserved plastic
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NaOH plastic
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic
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
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
BG3H	250mL HCl Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate
				BP4U	125mL unpreserved plastic
				BP4N	125mL HNO3 plastic
				BP4S	125mL H2SO4 plastic
				WPDU	16oz unpreserved plastic

Work Order Number:

60455906
60455906

8/7/124

WO#: 60455906



DC#_Title: ENV-FRM-LENE-0009_Sample Co

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Rocksmith GeoenyCourier: 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 1.7 Corr. Factor 0.0 Corrected 1.7Date and initials of person
examining contents:pu 7/12/24

Temperature should be above freezing to 6°C

Chain of Custody present: ☒ Yes ☐ No ☐ N/AChain of Custody relinquished: ☒ Yes ☐ No ☐ N/ASamples arrived within holding time: ☒ Yes ☐ No ☐ N/AShort Hold Time analyses (<72hr): ☐ Yes ☒ No ☐ N/ARush Turn Around Time requested: ☐ Yes ☒ No ☐ N/ASufficient volume: ☒ Yes ☐ No ☐ N/ACorrect containers used: ☒ Yes ☐ No ☐ N/APace containers used: ☒ Yes ☐ No ☐ N/AContainers intact: ☒ Yes ☐ No ☐ N/AUnpreserved 5035A / TX1005/1006 soils frozen in 48hrs? ☐ Yes ☐ No ☒ N/AFiltered volume received for dissolved tests? ☐ Yes ☐ No ☒ N/ASample labels match COC: Date / time / ID / analyses ☒ Yes ☐ No ☐ N/ASamples contain multiple phases? Matrix: WT ☐ Yes ☒ No ☐ N/AContainers requiring pH preservation in compliance? ☒ Yes ☐ No ☐ N/A(HNO₃, H₂SO₄, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide)

(Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)

LOT#: 67187/606203

Cyanide water sample checks:

Lead acetate strip turns dark? (Record only) ☐ Yes ☐ NoPotassium iodide test strip turns blue/purple? (Preserve) ☐ Yes ☐ NoTrip Blank present: ☐ Yes ☐ No ☒ N/AHeadspace in VOA vials (>6mm): ☐ Yes ☐ No ☒ N/ASamples from USDA Regulated Area: State: ☐ Yes ☐ No ☒ N/AAdditional 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: _____

only print what you log.

DC# Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: 12/22/2021 | Issued by: Lenexa
Client:

Doernsmitz Goveny

Profile/EZ # BPM = RAD

Notes Append to 60455906

Site:

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JG1U	WG1U	WG2U	WG3U	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1																																	
2																																	
3																																	
4	5																1		1	2				1									
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Internal Transfer Chain of Custody



☐ Rush Multiplier ☒ X
☐ Samples Pre-Logged into eCOC
Workorder: 60455906 Workorder Name: AMEREN MEC-CA

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No
Owner Received Date: 6/29/2024 Results Requested By: 7/23/2024

Report To: Subcontract To: Requested Analysis

Jamie Church
Pace Analytical Kansas
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
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										LAB USE ONLY
						HNO3										
1	M-MW-11S	PS	6/28/2024 13:25	60455906001	Water	2										001
2	M-MW-11D	PS	6/28/2024 14:28	60455906002	Water	2										002
3	M-TP-1	PS	6/27/2024 15:12	60455906003	Water	2										003
4	M-MW-9	PS	6/27/2024 14:33	60455906004	Water	2										004
5	M-MW-10	RQS	6/28/2024 11:42	60455906005	Water	2										MS/MSD 005
6	M-CA-DUP-1	PS	6/28/2024 00:00	60455906006	Water	2										006
7	M-CA-FB-1	PS	6/28/2024 14:15	60455906007	Water	2										007
8	M-CA-MS-1	PS	6/28/2024 11:42	60455906008	Water	2										008
9	M-CA-MSD-1	PS	6/28/2024 11:42	60455906009	Water	2										009

Transfers	Released By	Date/Time	Received By	Date/Time	Cooler Temperature on Receipt °C		Custody Seal	Y or N	Received on Ice	Y or N	Samples Intact	Y or N
1			<i>Kypura</i>	7/2/24 930								
2												
3												
KS Sample location: RECEIVING												
Note: Sample 005 is parent sample for 008/009 MS/MSD.												

***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#: 30696906



30696906



DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-
Greensburg

Effective Date: 01/04/2024

WO#: 30696906

PM: MAR Due Date: 07/24/24
CLIENT: PACE_60_LEKS

Client Name: Pace-KS

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 714623812513

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals Intact: ☐ Yes ☒ No
Thermometer Used: Type of Ice: Wet Blue None

Examined By: PS 7/12/24
Labeled By: PS 7/12/24
Temped By:

Cooler Temperature: Observed Temp °C Correction Factor: °C Final Temp: °C
Temp should be above freezing to 6°C

Comments:	Yes	No	NA	pH paper Lot#	D.P.D. Residual Chlorine Lot #
Chain of Custody Present	☒	☐	☐	1002931	
Chain of Custody Filled Out:	☒	☐	☐		
-Were client corrections present on GOC	☐	☒	☐		
Chain of Custody Relinquished PS 7/12/24	☒	☐	☐		
Sampler Name & Signature on COC:	☒	☐	☐		
Sample Labels match COC:	☒	☐	☐		
-Includes date/time/ID					
Matrix: WT					
Samples Arrived within Hold Time:	☒	☐	☐		
Short Hold Time Analysis (<72hr remaining):	☐	☒	☐		
Rush Turn Around Time Requested:	☐	☒	☐		
Sufficient Volume:	☒	☐	☐		
Correct Containers Used:	☒	☐	☐		
-Pace Containers Used	☒	☐	☐		
Containers Intact:	☒	☐	☐		
Orthophosphate field filtered:	☐	☐	☒		
Hex Cr Aqueous samples field filtered:	☐	☐	☒		
Organic Samples checked for dichlorination	☐	☐	☒		
Filtered volume received for dissolved tests:	☐	☐	☒		
All containers checked for preservation:	☒	☐	☐		
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix					
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)	☐	☐	☒		
624.1: Headspace in VOA Vials (0mm)	☐	☐	☒		
Radon: Headspace in RAD Vials (0mm)	☐	☐	☒		
Trip Blank Present:	☐	☐	☒		Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	☒	☐	☐	Initial when completed PS	Date: 7/12/24 Survey Meter SN: 25014380
Comments: * COC says that 005 is RAS sample type, which should be PS. COC says that 008/009 is PS sample type, which should be RAS.					

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.
Qualtrax ID: 55680



Memorandum

August 7, 2024

To: Project File
Rocksmith Geoengineering, LLC

Project Number: 23010-24

CC: Mark Haddock, Jeffrey Ingram

From: Jack Rasmussen

Email: Jack.Rasmussen@Rocksmithgeo.com

RE: **Data Validation Summary, Meramec Energy Center – MEC-CA – Data Package 60455906**

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 Name: Ameren MEC-CA
 Reviewer: J. Rasmussen

Project Manager: J. Ingram
 Project Number: 23010-24
 Validation Date: 8/7/2024

Laboratory: Pace Analytical

SDG #: 60455906

Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 7470 (Mercury); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions); SM 4500-S-2-D (Sulfide)

Matrix: ☐ Air ☐ Soil/Sed. ☒ Water ☐ Waste ☐ EPA 903.1/904.0 (Radium 226+228); SM 3500-Fe B#4 (Ferrous+Ferric Iron)

Sample Names M-MW-11S, M-MW-11D, M-TP-1, M-MW-9, M-MW-10, M-CA-DUP-1, M-CA-FB-1, M-CA-MS-1, M-CA-MSD-1, M-TP-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?	☒	☐	☐	<u>06/27/24-06/28/24; 07/01/24</u>
b) Sampling team indicated?	☒	☐	☐	<u>JTR/ANT</u>
c) Sample location noted?	☒	☐	☐	<u></u>
d) Sample depth indicated (Soils)?	☐	☐	☒	<u></u>
e) Sample type indicated (grab/composite)?	☒	☐	☐	<u>Grab</u>
f) Field QC noted?	☒	☐	☐	<u>See Notes</u>
g) Field parameters collected (note types)?	☒	☐	☐	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	☒	☐	☐	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☒	☐	<u></u>
j) Does the laboratory narrative indicate deficiencies?	☐	☐	☒	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☒	☐	☐	See Notes
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-11S
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:

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:

3564709: Chromium (0.30J), associated with samples, -001 through -007 and -010. Results for samples -001 through -007 detected < RL, qualified as non-detect (U) at RL. Sample -010 result > RL and 10x blank, no qualification necessary.

Field Blank:

M-CA-FB-1 @ M-MW-11D: boron (6.9J), chromium (0.46J), ferric iron (0.0018J). Boron > RL and 10x blank, no qualification necessary. Chromium detected < RL, qualified as non-detect (U) at RL. Ferric iron > RL and 10x blank, no qualification necessary.

Duplicates:

M-CA-DUP-1 @ M-MW-11S: fluoride detected in field duplicate, non-detect in original sample: results qualified as estimates.

Lab duplicate max RPD: 10%: alkalinity, TDS; 15%: chloride, fluoride, sulfate; 20%: ferrous iron, sulfide.

3564927: Lab DUP RPD exceeds control limits for TDS, associated with unrelated sample, no qualification necessary.

MS/MSD:

3565795/3565796: MS recovery low for sodium, MSD and RPD within control limits, associated with unrelated sample, no qualification necessary.

3565797: MS recovery high for magnesium, sodium. Associated with unrelated sample, no qualification necessary.

3564475/3564476: MS recovery low for sulfide, MSD and RPD within control limits, associated with unrelated sample, no qualification necessary.

3564906/3564907: MS/MSD recovery low for sulfide, RPD within control limits, associated with sample -005.

Results qualified as estimates.

3565763/3565764: MS recovery low for fluoride, MSD and RPD in control limits: no qualification necessary.

Data Qualification:

Page 4 of 5

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

[illegible]

Signature: _____

Date: 8/7/2024



August 15, 2024

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

RE: Project: AMEREN MEC - VERIFICATION
Pace Project No.: 60457841

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on August 02, 2024. 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,

A handwritten signature in cursive script, reading "Jamie Church".

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

Enclosures

cc: Jeffrey Ingram, Rocksmith Geoengineering, LLC.
Lisa Meyer, Ameren
Grant Morey, Rocksmith Geoengineering, LLC.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Arkansas Certification #: 88-00679

Illinois Certification #: 2000302023-6

Colorado Division of Oil and Public Safety

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60457841001	M-MW-2	Water	08/01/24 09:20	08/02/24 06:45
60457841002	M-MW-3	Water	08/01/24 10:59	08/02/24 06:45
60457841003	M-DUP-1	Water	08/01/24 00:00	08/02/24 06:45
60457841004	M-FB-1	Water	08/01/24 10:03	08/02/24 06:45

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60457841001	M-MW-2	EPA 300.0	PL	1	PASI-K
60457841002	M-MW-3	EPA 300.0	PL	1	PASI-K
60457841003	M-DUP-1	EPA 300.0	PL	1	PASI-K
60457841004	M-FB-1	EPA 300.0	PL	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

Sample: M-MW-2		Lab ID: 60457841001		Collected: 08/01/24 09:20		Received: 08/02/24 06:45		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Sulfate	201	mg/L	20.0	11.0	20		08/13/24 12:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC - VERIFICATION
Pace Project No.: 60457841

Sample: M-MW-3		Lab ID: 60457841002		Collected: 08/01/24 10:59		Received: 08/02/24 06:45		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Sulfate	162	mg/L	20.0	11.0	20		08/13/24 14:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS



ANALYTICAL RESULTS

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

Sample: M-DUP-1		Lab ID: 60457841003	Collected: 08/01/24 00:00	Received: 08/02/24 06:45	Matrix: Water				
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Sulfate	161	mg/L	20.0	11.0	20		08/13/24 14:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

Sample: M-FB-1		Lab ID: 60457841004		Collected: 08/01/24 10:03		Received: 08/02/24 06:45		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Sulfate	<0.55	mg/L	1.0	0.55	1		08/14/24 15:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

QC Batch:	904328	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: 60457841001, 60457841002, 60457841003, 60457841004

METHOD BLANK: 3578850 Matrix: Water

Associated Lab Samples: 60457841001, 60457841002, 60457841003, 60457841004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	<0.55	1.0	0.55	08/12/24 13:54	

METHOD BLANK: 3582985 Matrix: Water

Associated Lab Samples: 60457841001, 60457841002, 60457841003, 60457841004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	<0.55	1.0	0.55	08/14/24 09:31	

LABORATORY CONTROL SAMPLE: 3578851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 3582986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3578855 3578856

Parameter	Units	60457837002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	79.5	250	250	309	312	92	93	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3578858 3578859

Parameter	Units	60457841001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	201	100	100	291	289	90	89	80-120	1	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.

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QUALITY CONTROL DATA

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

SAMPLE DUPLICATE: 3578857

Parameter	Units	60457837002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	79.5	76.2	4	15	

SAMPLE DUPLICATE: 3578860

Parameter	Units	60457841001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	201	187	7	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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QUALIFIERS

Project: AMEREN MEC - VERIFICATION

Pace Project No.: 60457841

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC - VERIFICATION
Pace Project No.: 60457841

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60457841001	M-MW-2	EPA 300.0	904328		
60457841002	M-MW-3	EPA 300.0	904328		
60457841003	M-DUP-1	EPA 300.0	904328		
60457841004	M-FB-1	EPA 300.0	904328		

REPORT OF LABORATORY ANALYSIS

WO#: 60457841



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

Client Name: Rocksmita GeoengCourier: 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 1.1 Corr. Factor 0.0 Corrected 1.1

Date and initials of person examining contents:

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: <u>WT</u>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#:	☐ 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: _____

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 Geoeengineering, LLC**
 Address: **5233 Roanoke Drive**
St. Charles, MO 63304
 Email To: **mark.haddock@rocksmithgeo.com**
 Phone: **314-974-5678** Fax:
 Requested Due Date/TAT: **Standard**

Section B

Required Project Information:

Report To: **Mark Haddock**
 Copy To: **Jeffery Ingram, Grant Morey**
 Purchase Order No.: **COC #8**
 Project Name: **Ameren MEC - Verification Sampling**
 Project Number: **COC#8**

Section C

Invoice Information:

Attention:
 Company Name: **Rocksmith**
 Address:
 Pace Quote Reference:
 Pace Project Manager: **Jamie Church**
 Pace Profile #: **15856, line 1**

Page: **1** of **1**

REGULATORY AGENCY

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

Site Location

STATE: **MO**

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information		Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	MATRIX	CODE	DRINKING WATER	WASTE WATER			PRODUCT	SOIL/SOLID	Oil	WT			WW	P	SL	OL	WP	AR	OT	TS				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ SO ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
1	SAMPLE ID (A-Z, 0-9 / -)				WT	G				DATE	TIME	DATE	TIME		1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
John Haddock / Jeffery Ingram / Grant Morey	John Haddock		8-1-24		1230		Grant Morey		8/1		0645		Y Y Y	

								Temp in °C		Received on Ice (Y/N)		Custody Sealed Cooler (Y/N)		Samples Intact (Y/N)	
SAMPLER NAME AND SIGNATURE															
PRINT Name of SAMPLER: Grant Morey															
SIGNATURE of SAMPLER: [Signature]														DATE Signed (MM/DD/YYYY): 08/01/24	

*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.

Rocksmith Geong

Client:

Profile/EZ #

1-95851

Site:

Notes

[illegible]

Container Codes

[illegible]

Work Order Number:

17615009



Memorandum

August 16, 2024

To: Project File
Rocksmith Geoengineering, LLC

Project Number: 23009-24

CC: Mark Haddock, Jeffrey Ingram

From: Jack Rasmussen

Email: jack.rasmussen@rocksmithgeo.com

RE: **Data Validation Summary, Meramec Energy Center – MEC – Data Package 60457841**

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

- none

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering

Project Manager: J. Ingram

Project Name: Ameren MEC - Verification

Project Number: 23010-24

Reviewer: J. Rasmussen

Validation Date: 08/16/2024

Laboratory: Pace Analytical

SDG #: 60457841

Analytical Method (type and no.): EPA 300.0 (Anions)

Matrix: ☐ Air ☐ Soil/Sed. ☒ Water ☐ Waste ☐ _____

Sample Names M-MW-2 M-MW-3, M-DUP-1, M-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?	☒	☐	☐	<u>08/01/2024</u>
b) Sampling team indicated?	☒	☐	☐	<u>JTR</u>
c) Sample location noted?	☒	☐	☐	<u></u>
d) Sample depth indicated (Soils)?	☐	☐	☒	<u></u>
e) Sample type indicated (grab/composite)?	☒	☐	☐	<u>Grab</u>
f) Field QC noted?	☒	☐	☐	<u>See Notes.</u>
g) Field parameters collected (note types)?	☒	☐	☐	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	☒	☐	☐	<u></u>
i) Notations of unacceptable field conditions/performance from field logs or field notes?	☐	☒	☐	<u></u>
j) Does the laboratory narrative indicate deficiencies?	☐	☐	☒	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

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-FB-1 @ M-MW-3
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-DUP-1 collected @ M-MW-3
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	All RPD's within control limits
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	
d) Were lab dup. precision criteria met (note RPD)?	☒	☐	☐	

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?	☒	☐	☐	
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
b) Was MSD accuracy criteria met?	☒	☐	☐	
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
c) Were MS/MSD precision criteria met?	☒	☐	☐	

Comments/Notes:

Dilutions noted for sulfate in several samples, no qualification necessary.

Data Qualification:

[illegible]

Date: 08/16/2024



December 10, 2024

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

RE: Project: AMEREN MEC
Pace Project No.: 60461974

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between October 05, 2024 and November 08, 2024. 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.
Lisa Meyer, Ameren
Grant Morey, Rocksmith Geoengineering, LLC.
Austin Nieman, Ameren



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MEC

Pace Project No.: 60461974

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

Arkansas Certification #: 88-00679

Colorado Division of Oil and Public Safety

Illinois Certification #: 2000302023-6

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN MEC

Pace Project No.: 60461974

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60461974001	M-MW-3	Water	10/03/24 15:01	10/05/24 07:00
60461974002	M-MW-5	Water	10/03/24 16:14	10/05/24 07:00
60461974003	M-MW-6	Water	10/04/24 14:39	10/05/24 07:00
60461974004	M-MW-7	Water	10/07/24 09:10	10/09/24 14:50
60461974005	M-BMW-1	Water	10/07/24 10:50	10/09/24 14:50
60461974006	M-MW-1	Water	10/07/24 12:48	10/09/24 14:50
60461974007	M-BMW-2	Water	10/07/24 11:32	10/09/24 14:50
60461974008	M-MW-4	Water	10/08/24 10:49	10/09/24 14:50
60461974009	M-MW-2	Water	10/08/24 09:10	10/09/24 14:50
60461974010	M-FB-1	Water	10/08/24 09:25	10/09/24 14:50
60461974011	M-DUP-1	Water	10/08/24 08:00	10/09/24 14:50
60461974012	M-MS-1	Water	10/08/24 10:49	10/09/24 14:50
60461974013	M-MSD-1	Water	10/08/24 10:49	10/09/24 14:50
60461974014	M-MW-8	Water	11/07/24 13:52	11/08/24 05:58

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC

Pace Project No.: 60461974

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60461974001	M-MW-3	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461974002	M-MW-5	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461974003	M-MW-6	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461974004	M-MW-7	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461974005	M-BMW-1	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461974006	M-MW-1	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC

Pace Project No.: 60461974

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60461974007	M-BMW-2	EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
60461974008	M-MW-4	SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
60461974009	M-MW-2	EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60461974010	M-FB-1	SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461974011	M-DUP-1	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC

Pace Project No.: 60461974

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60461974012	M-MS-1	SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60461974013	M-MSD-1	EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		EPA 200.7	ARMN	11	PASI-K
60461974014	M-MW-8	EPA 200.8	MLD	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	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.: 60461974

Sample: M-MW-3 Lab ID: 60461974001 Collected: 10/03/24 15:01 Received: 10/05/24 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									
Barium	168	ug/L	5.0	0.64	1	10/08/24 16:08	10/10/24 19:09	7440-39-3	
Boron	2280	ug/L	100	6.4	1	10/08/24 16:08	10/10/24 19:09	7440-42-8	
Calcium	109000	ug/L	200	26.9	1	10/08/24 16:08	10/10/24 19:09	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/08/24 16:08	10/10/24 19:09	7440-48-4	
Iron	30800	ug/L	50.0	9.1	1	10/08/24 16:08	10/10/24 19:09	7439-89-6	
Lithium	3.8J	ug/L	10.0	3.7	1	10/08/24 16:08	10/10/24 19:09	7439-93-2	
Magnesium	33300	ug/L	50.0	20.1	1	10/08/24 16:08	10/10/24 19:09	7439-95-4	
Manganese	2460	ug/L	5.0	0.39	1	10/08/24 16:08	10/10/24 19:09	7439-96-5	
Molybdenum	1.9J	ug/L	20.0	1.0	1	10/08/24 16:08	10/10/24 19:09	7439-98-7	
Potassium	3230	ug/L	500	69.7	1	10/08/24 16:08	10/10/24 19:09	7440-09-7	
Sodium	41400	ug/L	500	115	1	10/08/24 16:08	10/10/24 19:09	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	6.9	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:38	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/31/24 09:50	11/15/24 13:36	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:38	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	329	mg/L	80.0	42.0	4		10/16/24 14:08		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	613	mg/L	13.3	13.3	1		10/09/24 11:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	40.9	mg/L	5.0	2.6	5		10/23/24 17:43	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/23/24 16:46	16984-48-8	
Sulfate	174	mg/L	20.0	11.0	20		10/23/24 18:01	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-5 Lab ID: 60461974002 Collected: 10/03/24 16:14 Received: 10/05/24 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									
Barium	210	ug/L	5.0	0.64	1	10/08/24 16:08	10/10/24 19:11	7440-39-3	
Boron	5090	ug/L	100	6.4	1	10/08/24 16:08	10/10/24 19:11	7440-42-8	
Calcium	150000	ug/L	200	26.9	1	10/08/24 16:08	10/10/24 19:11	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/08/24 16:08	10/10/24 19:11	7440-48-4	
Iron	13400	ug/L	50.0	9.1	1	10/08/24 16:08	10/10/24 19:11	7439-89-6	
Lithium	15.2	ug/L	10.0	3.7	1	10/08/24 16:08	10/10/24 19:11	7439-93-2	
Magnesium	51300	ug/L	50.0	20.1	1	10/08/24 16:08	10/10/24 19:11	7439-95-4	
Manganese	383	ug/L	5.0	0.39	1	10/08/24 16:08	10/10/24 19:11	7439-96-5	
Molybdenum	60.0	ug/L	20.0	1.0	1	10/08/24 16:08	10/10/24 19:11	7439-98-7	
Potassium	4870	ug/L	500	69.7	1	10/08/24 16:08	10/10/24 19:11	7440-09-7	
Sodium	46300	ug/L	500	115	1	10/08/24 16:08	10/10/24 19:11	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	18.9	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:43	7440-38-2	
Chromium	0.35J	ug/L	1.0	0.30	1	10/30/24 09:36	11/15/24 13:57	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:43	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	357	mg/L	80.0	42.0	4		10/16/24 14:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	832	mg/L	13.3	13.3	1		10/09/24 11:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	55.9	mg/L	10.0	5.3	10		10/23/24 18:39	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/23/24 18:20	16984-48-8	
Sulfate	295	mg/L	20.0	11.0	20		10/23/24 18:58	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-6 Lab ID: 60461974003 Collected: 10/04/24 14:39 Received: 10/05/24 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									
Barium	50.1	ug/L	5.0	0.64	1	10/08/24 16:08	10/10/24 19:13	7440-39-3	
Boron	8960	ug/L	100	6.4	1	10/08/24 16:08	10/10/24 19:13	7440-42-8	
Calcium	352000	ug/L	200	26.9	1	10/08/24 16:08	10/10/24 19:13	7440-70-2	
Cobalt	8.5	ug/L	5.0	1.2	1	10/08/24 16:08	10/10/24 19:13	7440-48-4	
Iron	4740	ug/L	50.0	9.1	1	10/08/24 16:08	10/10/24 19:13	7439-89-6	
Lithium	124	ug/L	10.0	3.7	1	10/08/24 16:08	10/10/24 19:13	7439-93-2	
Magnesium	29700	ug/L	50.0	20.1	1	10/08/24 16:08	10/10/24 19:13	7439-95-4	
Manganese	1190	ug/L	5.0	0.39	1	10/08/24 16:08	10/10/24 19:13	7439-96-5	
Molybdenum	96.7	ug/L	20.0	1.0	1	10/08/24 16:08	10/10/24 19:13	7439-98-7	
Potassium	14400	ug/L	500	69.7	1	10/08/24 16:08	10/10/24 19:13	7440-09-7	
Sodium	16300	ug/L	500	115	1	10/08/24 16:08	10/10/24 19:13	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.4	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:46	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:36	11/15/24 13:59	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:46	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	576	mg/L	80.0	42.0	4		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1250	mg/L	20.0	20.0	1		10/09/24 11:16		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	18.5	mg/L	1.0	0.53	1		10/23/24 19:17	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/23/24 19:17	16984-48-8	
Sulfate	491	mg/L	50.0	27.5	50		10/23/24 19:35	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-7 Lab ID: 60461974004 Collected: 10/07/24 09:10 Received: 10/09/24 14:50 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	34.4	ug/L	5.0	0.64	1	10/15/24 09:41	10/21/24 12:15	7440-39-3	
Boron	10900	ug/L	100	6.4	1	10/15/24 09:41	10/21/24 12:15	7440-42-8	
Calcium	263000	ug/L	200	26.9	1	10/15/24 09:41	10/21/24 12:15	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/15/24 09:41	10/21/24 12:15	7440-48-4	
Iron	<9.1	ug/L	50.0	9.1	1	10/15/24 09:41	10/21/24 12:15	7439-89-6	
Lithium	41.0	ug/L	10.0	3.7	1	10/15/24 09:41	10/21/24 12:15	7439-93-2	
Magnesium	24400	ug/L	50.0	20.1	1	10/15/24 09:41	10/21/24 12:15	7439-95-4	
Manganese	0.51J	ug/L	5.0	0.39	1	10/15/24 09:41	10/21/24 12:15	7439-96-5	
Molybdenum	296	ug/L	20.0	1.0	1	10/15/24 09:41	10/21/24 12:15	7439-98-7	
Potassium	16000	ug/L	500	69.7	1	10/15/24 09:41	10/21/24 12:15	7440-09-7	
Sodium	72000	ug/L	500	115	1	10/15/24 09:41	10/21/24 12:15	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	3.4	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:48	7440-38-2	
Chromium	0.31J	ug/L	1.0	0.30	1	10/30/24 09:36	11/15/24 14:02	7440-47-3	
Selenium	31.2	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:48	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	492	mg/L	20.0	10.5	1		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1100	mg/L	20.0	20.0	1		10/14/24 11:20		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	37.0	mg/L	10.0	5.3	10		10/18/24 15:35	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 15:21	16984-48-8	
Sulfate	379	mg/L	200	110	200		10/18/24 15:49	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-BMW-1 Lab ID: 60461974005 Collected: 10/07/24 10:50 Received: 10/09/24 14:50 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	192	ug/L	5.0	0.64	1	10/15/24 09:41	10/21/24 12:16	7440-39-3	
Boron	106	ug/L	100	6.4	1	10/15/24 09:41	10/21/24 12:16	7440-42-8	
Calcium	115000	ug/L	200	26.9	1	10/15/24 09:41	10/21/24 12:16	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/15/24 09:41	10/21/24 12:16	7440-48-4	
Iron	328	ug/L	50.0	9.1	1	10/15/24 09:41	10/21/24 12:16	7439-89-6	
Lithium	11.8	ug/L	10.0	3.7	1	10/15/24 09:41	10/21/24 12:16	7439-93-2	
Magnesium	30700	ug/L	50.0	20.1	1	10/15/24 09:41	10/21/24 12:16	7439-95-4	
Manganese	294	ug/L	5.0	0.39	1	10/15/24 09:41	10/21/24 12:16	7439-96-5	
Molybdenum	3.93	ug/L	20.0	1.0	1	10/15/24 09:41	10/21/24 12:16	7439-98-7	
Potassium	2470	ug/L	500	69.7	1	10/15/24 09:41	10/21/24 12:16	7440-09-7	
Sodium	49400	ug/L	500	115	1	10/15/24 09:41	10/21/24 12:16	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	3.0	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:50	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:36	11/15/24 14:07	7440-47-3	
Selenium	1.5	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:50	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	326	mg/L	20.0	10.5	1		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	569	mg/L	13.3	13.3	1		10/14/24 11:20		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	105	mg/L	10.0	5.3	10		10/18/24 16:58	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 16:45	16984-48-8	
Sulfate	53.1	mg/L	10.0	5.5	10		10/18/24 16:58	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-1 Lab ID: 60461974006 Collected: 10/07/24 12:48 Received: 10/09/24 14:50 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	364	ug/L	5.0	0.64	1	10/15/24 09:41	10/21/24 12:23	7440-39-3	
Boron	46.7J	ug/L	100	6.4	1	10/15/24 09:41	10/21/24 12:23	7440-42-8	
Calcium	139000	ug/L	200	26.9	1	10/15/24 09:41	10/21/24 12:23	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/15/24 09:41	10/21/24 12:23	7440-48-4	
Iron	15600	ug/L	50.0	9.1	1	10/15/24 09:41	10/21/24 12:23	7439-89-6	
Lithium	<3.7	ug/L	10.0	3.7	1	10/15/24 09:41	10/21/24 12:23	7439-93-2	
Magnesium	44900	ug/L	50.0	20.1	1	10/15/24 09:41	10/21/24 12:23	7439-95-4	
Manganese	1910	ug/L	5.0	0.39	1	10/15/24 09:41	10/21/24 12:23	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	10/15/24 09:41	10/21/24 12:23	7439-98-7	
Potassium	1630	ug/L	500	69.7	1	10/15/24 09:41	10/21/24 12:23	7440-09-7	
Sodium	29800	ug/L	500	115	1	10/15/24 09:41	10/21/24 12:23	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.80J	ug/L	1.0	0.13	1	10/23/24 10:40	10/29/24 10:45	7440-38-2	
Chromium	0.37J	ug/L	1.0	0.30	1	10/30/24 09:36	11/15/24 14:09	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:40	10/29/24 10:45	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	446	mg/L	40.0	21.0	2		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	660	mg/L	13.3	13.3	1		10/14/24 11:21		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	48.5	mg/L	10.0	5.3	10		10/18/24 17:53	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 17:12	16984-48-8	
Sulfate	118	mg/L	10.0	5.5	10		10/18/24 17:53	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-BMW-2 Lab ID: 60461974007 Collected: 10/07/24 11:32 Received: 10/09/24 14:50 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	557	ug/L	5.0	0.64	1	10/15/24 09:41	10/21/24 12:25	7440-39-3	
Boron	63.9J	ug/L	100	6.4	1	10/15/24 09:41	10/21/24 12:25	7440-42-8	
Calcium	114000	ug/L	200	26.9	1	10/15/24 09:41	10/21/24 12:25	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/15/24 09:41	10/21/24 12:25	7440-48-4	
Iron	16000	ug/L	50.0	9.1	1	10/15/24 09:41	10/21/24 12:25	7439-89-6	
Lithium	6.8J	ug/L	10.0	3.7	1	10/15/24 09:41	10/21/24 12:25	7439-93-2	
Magnesium	37200	ug/L	50.0	20.1	1	10/15/24 09:41	10/21/24 12:25	7439-95-4	
Manganese	4200	ug/L	5.0	0.39	1	10/15/24 09:41	10/21/24 12:25	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	10/15/24 09:41	10/21/24 12:25	7439-98-7	
Potassium	1470	ug/L	500	69.7	1	10/15/24 09:41	10/21/24 12:25	7440-09-7	
Sodium	24200	ug/L	500	115	1	10/15/24 09:41	10/21/24 12:25	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.9	ug/L	1.0	0.13	1	10/23/24 10:40	10/29/24 10:47	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:36	11/15/24 14:11	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:40	10/29/24 10:47	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	474	mg/L	80.0	42.0	4		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	523	mg/L	13.3	13.3	1		10/14/24 11:21		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	17.9	mg/L	1.0	0.53	1		10/18/24 18:07	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 18:07	16984-48-8	
Sulfate	51.2	mg/L	5.0	2.8	5		10/18/24 18:21	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60461974

Sample: M-MW-4 Lab ID: 60461974008 Collected: 10/08/24 10:49 Received: 10/09/24 14:50 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	144	ug/L	5.0	0.64	1	10/15/24 09:41	10/21/24 12:27	7440-39-3	M1,P6
Boron	10900	ug/L	100	6.4	1	10/15/24 09:41	10/21/24 12:27	7440-42-8	
Calcium	185000	ug/L	200	26.9	1	10/15/24 09:41	10/21/24 12:27	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/15/24 09:41	10/21/24 12:27	7440-48-4	
Iron	27500	ug/L	50.0	9.1	1	10/15/24 09:41	10/21/24 12:27	7439-89-6	
Lithium	24.7	ug/L	10.0	3.7	1	10/15/24 09:41	10/21/24 12:27	7439-93-2	
Magnesium	47600	ug/L	50.0	20.1	1	10/15/24 09:41	10/21/24 12:27	7439-95-4	
Manganese	1060	ug/L	5.0	0.39	1	10/15/24 09:41	10/21/24 12:27	7439-96-5	
Molybdenum	63.7	ug/L	20.0	1.0	1	10/15/24 09:41	10/21/24 12:27	7439-98-7	
Potassium	6780	ug/L	500	69.7	1	10/15/24 09:41	10/21/24 12:27	7440-09-7	
Sodium	50700	ug/L	500	115	1	10/15/24 09:41	10/21/24 12:27	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	15.5	ug/L	1.0	0.13	1	10/23/24 10:40	10/29/24 10:52	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:21	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:40	10/29/24 10:52	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	343	mg/L	40.0	21.0	2		10/21/24 16:55		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1010	mg/L	20.0	20.0	1		10/15/24 11:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	37.3	mg/L	5.0	2.6	5		10/18/24 18:49	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 18:35	16984-48-8	
Sulfate	430	mg/L	100	55.0	100		10/18/24 19:03	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60461974

Sample: M-MW-2 Lab ID: 60461974009 Collected: 10/08/24 09:10 Received: 10/09/24 14:50 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	261	ug/L	5.0	0.64	1	10/15/24 09:41	10/21/24 12:32	7440-39-3	
Boron	2020	ug/L	100	6.4	1	10/15/24 09:41	10/21/24 12:32	7440-42-8	
Calcium	102000	ug/L	200	26.9	1	10/15/24 09:41	10/21/24 12:32	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/15/24 09:41	10/21/24 12:32	7440-48-4	
Iron	49300	ug/L	50.0	9.1	1	10/15/24 09:41	10/21/24 12:32	7439-89-6	
Lithium	5.4J	ug/L	10.0	3.7	1	10/15/24 09:41	10/21/24 12:32	7439-93-2	
Magnesium	34800	ug/L	50.0	20.1	1	10/15/24 09:41	10/21/24 12:32	7439-95-4	
Manganese	5160	ug/L	5.0	0.39	1	10/15/24 09:41	10/21/24 12:32	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	10/15/24 09:41	10/21/24 12:32	7439-98-7	
Potassium	2320	ug/L	500	69.7	1	10/15/24 09:41	10/21/24 12:32	7440-09-7	
Sodium	40100	ug/L	500	115	1	10/15/24 09:41	10/21/24 12:32	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	10/23/24 10:40	10/29/24 11:02	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:30	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:40	10/29/24 11:02	7782-49-2	
2320B Alkalinity Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	288	mg/L	40.0	21.0	2		10/21/24 17:16		
2540C Total Dissolved Solids Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	627	mg/L	13.3	13.3	1		10/15/24 11:16		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	30.2	mg/L	10.0	5.3	10		10/18/24 19:30	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 19:17	16984-48-8	
Sulfate	193	mg/L	10.0	5.5	10		10/18/24 19:30	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60461974

Sample: M-FB-1 Lab ID: 60461974010 Collected: 10/08/24 09:25 Received: 10/09/24 14:50 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	10/22/24 08:57	10/27/24 06:17	7440-39-3	B
Boron	9.4J	ug/L	100	6.4	1	10/22/24 08:57	10/27/24 06:17	7440-42-8	
Calcium	<26.9	ug/L	200	26.9	1	10/22/24 08:57	10/27/24 06:17	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/22/24 08:57	10/27/24 06:17	7440-48-4	
Iron	<9.1	ug/L	50.0	9.1	1	10/22/24 08:57	10/27/24 06:17	7439-89-6	
Lithium	<3.7	ug/L	10.0	3.7	1	10/22/24 08:57	10/27/24 06:17	7439-93-2	
Magnesium	<20.1	ug/L	50.0	20.1	1	10/22/24 08:57	10/27/24 06:17	7439-95-4	
Manganese	<0.39	ug/L	5.0	0.39	1	10/22/24 08:57	10/27/24 06:17	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	10/22/24 08:57	10/27/24 06:17	7439-98-7	
Potassium	<69.7	ug/L	500	69.7	1	10/22/24 08:57	10/27/24 06:17	7440-09-7	
Sodium	<115	ug/L	500	115	1	10/22/24 08:57	10/27/24 06:17	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	10/23/24 10:40	10/29/24 11:04	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:32	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:40	10/29/24 11:04	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		10/21/24 17:21		
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		10/15/24 11:16		
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		10/18/24 19:44	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 19:44	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		10/18/24 19:44	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-DUP-1 Lab ID: 60461974011 Collected: 10/08/24 08:00 Received: 10/09/24 14:50 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	150	ug/L	5.0	0.64	1	10/22/24 08:57	10/27/24 06:22	7440-39-3	
Boron	11200	ug/L	100	6.4	1	10/22/24 08:57	10/27/24 06:22	7440-42-8	
Calcium	191000	ug/L	200	26.9	1	10/22/24 08:57	10/27/24 06:22	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/22/24 08:57	10/27/24 06:22	7440-48-4	
Iron	28200	ug/L	50.0	9.1	1	10/22/24 08:57	10/27/24 06:22	7439-89-6	
Lithium	25.5	ug/L	10.0	3.7	1	10/22/24 08:57	10/27/24 06:22	7439-93-2	
Magnesium	49200	ug/L	50.0	20.1	1	10/22/24 08:57	10/27/24 06:22	7439-95-4	
Manganese	1100	ug/L	5.0	0.39	1	10/22/24 08:57	10/27/24 06:22	7439-96-5	
Molybdenum	67.5	ug/L	20.0	1.0	1	10/22/24 08:57	10/27/24 06:22	7439-98-7	
Potassium	6940	ug/L	500	69.7	1	10/22/24 08:57	10/27/24 06:22	7440-09-7	
Sodium	52100	ug/L	500	115	1	10/22/24 08:57	10/27/24 06:22	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	14.8	ug/L	1.0	0.13	1	10/23/24 10:40	10/29/24 11:06	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:34	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:40	10/29/24 11:06	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	341	mg/L	40.0	21.0	2		10/21/24 17:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1030	mg/L	13.3	13.3	1		10/15/24 11:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	45.8	mg/L	20.0	10.5	20		10/18/24 20:40	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 19:58	16984-48-8	
Sulfate	407	mg/L	50.0	27.5	50		10/18/24 20:54	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-8 Lab ID: 60461974014 Collected: 11/07/24 13:52 Received: 11/08/24 05:58 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	120	ug/L	5.0	0.64	1	11/11/24 11:40	11/27/24 15:17	7440-39-3	
Boron	10600	ug/L	100	6.4	1	11/11/24 11:40	11/27/24 15:17	7440-42-8	
Calcium	171000	ug/L	200	26.9	1	11/11/24 11:40	11/27/24 15:17	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	11/11/24 11:40	11/27/24 15:17	7440-48-4	
Iron	7970	ug/L	50.0	9.1	1	11/11/24 11:40	11/27/24 15:17	7439-89-6	
Lithium	28.0	ug/L	10.0	3.7	1	11/11/24 11:40	11/27/24 15:17	7439-93-2	
Magnesium	33500	ug/L	50.0	20.1	1	11/11/24 11:40	11/27/24 15:17	7439-95-4	
Manganese	2110	ug/L	5.0	0.39	1	11/11/24 11:40	11/27/24 15:17	7439-96-5	
Molybdenum	248	ug/L	20.0	1.0	1	11/11/24 11:40	11/27/24 15:17	7439-98-7	
Potassium	6980	ug/L	500	69.7	1	11/11/24 11:40	11/27/24 15:17	7440-09-7	
Sodium	32400	ug/L	500	115	1	11/11/24 11:40	11/27/24 15:17	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	5.4	ug/L	1.0	0.13	1	11/14/24 09:46	12/03/24 11:14	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	11/14/24 09:46	12/03/24 11:14	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/14/24 09:46	12/03/24 11:14	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	185	mg/L	20.0	10.5	1		11/18/24 13:05		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	908	mg/L	13.3	13.3	1		11/11/24 15:51		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	26.3	mg/L	5.0	2.6	5		11/27/24 00:07	16887-00-6	
Fluoride	0.31	mg/L	0.20	0.12	1		11/26/24 23:54	16984-48-8	
Sulfate	445	mg/L	100	55.0	100		11/27/24 00:20	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 911808

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: 60461974001, 60461974002, 60461974003

METHOD BLANK: 3609393

Matrix: Water

Associated Lab Samples: 60461974001, 60461974002, 60461974003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	10/10/24 18:39	
Boron	ug/L	<6.4	100	6.4	10/10/24 18:39	
Calcium	ug/L	<26.9	200	26.9	10/10/24 18:39	
Cobalt	ug/L	<1.2	5.0	1.2	10/10/24 18:39	
Iron	ug/L	<9.1	50.0	9.1	10/10/24 18:39	
Lithium	ug/L	<3.7	10.0	3.7	10/10/24 18:39	
Magnesium	ug/L	<20.1	50.0	20.1	10/10/24 18:39	
Manganese	ug/L	<0.39	5.0	0.39	10/10/24 18:39	
Molybdenum	ug/L	<1.0	20.0	1.0	10/10/24 18:39	
Potassium	ug/L	<69.7	500	69.7	10/10/24 18:39	
Sodium	ug/L	<115	500	115	10/10/24 18:39	

LABORATORY CONTROL SAMPLE: 3609394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Boron	ug/L	1000	951	95	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lithium	ug/L	1000	1030	103	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	988	99	85-115	
Molybdenum	ug/L	1000	984	98	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3609395

3609396

Parameter	Units	60461975001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	644	1000	1000	1640	1610	100	97	70-130	2	20	
Boron	ug/L	679	1000	1000	1620	1580	94	90	70-130	2	20	
Calcium	ug/L	262000	10000	10000	270000	263000	80	8	70-130	3	20 M1	
Cobalt	ug/L	<1.2	1000	1000	979	959	98	96	70-130	2	20	
Iron	ug/L	38500	10000	10000	48400	46800	99	83	70-130	3	20	
Lithium	ug/L	16.9	1000	1000	1060	1040	104	103	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3609395 3609396												
Parameter	Units	60461975001	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Magnesium	ug/L	63600	10000	10000	72800	71100	92	76	70-130	2	20	
Manganese	ug/L	2140	1000	1000	3090	2990	95	85	70-130	3	20	
Molybdenum	ug/L	<1.0	1000	1000	987	969	99	97	70-130	2	20	
Potassium	ug/L	8110	10000	10000	18500	18000	104	99	70-130	3	20	
Sodium	ug/L	20500	10000	10000	30500	29800	100	92	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 912546

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: 60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009

METHOD BLANK: 3612755

Matrix: Water

Associated Lab Samples: 60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	10/21/24 12:06	
Boron	ug/L	<6.4	100	6.4	10/21/24 12:06	
Calcium	ug/L	<26.9	200	26.9	10/21/24 12:06	
Cobalt	ug/L	<1.2	5.0	1.2	10/21/24 12:06	
Iron	ug/L	<9.1	50.0	9.1	10/21/24 12:06	
Lithium	ug/L	<3.7	10.0	3.7	10/21/24 12:06	
Magnesium	ug/L	<20.1	50.0	20.1	10/21/24 12:06	
Manganese	ug/L	<0.39	5.0	0.39	10/21/24 12:06	
Molybdenum	ug/L	<1.0	20.0	1.0	10/21/24 12:06	
Potassium	ug/L	<69.7	500	69.7	10/21/24 12:06	
Sodium	ug/L	<115	500	115	10/21/24 12:06	

LABORATORY CONTROL SAMPLE: 3612756

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	993	99	85-115	
Calcium	ug/L	10000	10600	106	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10600	106	85-115	
Lithium	ug/L	1000	1040	104	85-115	
Magnesium	ug/L	10000	10400	104	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	10300	103	85-115	
Sodium	ug/L	10000	10500	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3612757 3612758

Parameter	Units	60461974008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	144	1000	1000	1130	1130	98	99	70-130	0	20	
Boron	ug/L	10900	1000	1000	11700	11700	71	71	70-130	0	20	
Calcium	ug/L	185000	10000	10000	190000	191000	48	60	70-130	1	20 M1	
Cobalt	ug/L	<1.2	1000	1000	956	970	96	97	70-130	1	20	
Iron	ug/L	27500	10000	10000	37100	37000	95	95	70-130	0	20	
Lithium	ug/L	24.7	1000	1000	1030	1040	101	101	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3612757 3612758												
Parameter	Units	60461974008	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Magnesium	ug/L	47600	10000	10000	56000	56500	84	89	70-130	1	20	
Manganese	ug/L	1060	1000	1000	1980	2000	91	94	70-130	1	20	
Molybdenum	ug/L	63.7	1000	1000	1040	1050	97	98	70-130	1	20	
Potassium	ug/L	6780	10000	10000	16600	16900	98	102	70-130	2	20	
Sodium	ug/L	50700	10000	10000	59300	59700	86	90	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 913418

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: 60461974010, 60461974011

METHOD BLANK: 3616229

Matrix: Water

Associated Lab Samples: 60461974010, 60461974011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	10/27/24 06:13	
Boron	ug/L	9.6J	100	6.4	10/27/24 06:13	
Calcium	ug/L	<26.9	200	26.9	10/27/24 06:13	
Cobalt	ug/L	<1.2	5.0	1.2	10/27/24 06:13	
Iron	ug/L	<9.1	50.0	9.1	10/27/24 06:13	
Lithium	ug/L	<3.7	10.0	3.7	10/27/24 06:13	
Magnesium	ug/L	<20.1	50.0	20.1	10/27/24 06:13	
Manganese	ug/L	<0.39	5.0	0.39	10/27/24 06:13	
Molybdenum	ug/L	<1.0	20.0	1.0	10/27/24 06:13	
Potassium	ug/L	<69.7	500	69.7	10/27/24 06:13	
Sodium	ug/L	<115	500	115	10/27/24 06:13	

LABORATORY CONTROL SAMPLE: 3616230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	987	99	85-115	
Calcium	ug/L	10000	10500	105	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10500	105	85-115	
Lithium	ug/L	1000	1060	106	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10300	103	85-115	
Sodium	ug/L	10000	10500	105	85-115	

MATRIX SPIKE SAMPLE: 3616233

Parameter	Units	60462249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	5.8	1000	1020	101	70-130	
Boron	ug/L	1290	1000	2260	98	70-130	
Calcium	ug/L	3980	10000	14200	102	70-130	
Cobalt	ug/L	ND	1000	974	97	70-130	
Iron	ug/L	ND	10000	10400	104	70-130	
Lithium	ug/L	50.8	1000	1090	104	70-130	
Magnesium	ug/L	1350	10000	11000	97	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

MATRIX SPIKE SAMPLE:		3616233					
Parameter	Units	60462249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	6.0	1000	969	96	70-130	
Molybdenum	ug/L	ND	1000	992	99	70-130	
Potassium	ug/L	7200	10000	17500	103	70-130	
Sodium	ug/L	1020000	10000	1040000	114	70-130 E	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		3616234			3616235							
Parameter	Units	60461974010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	<0.64	2000	2000	2030	2060	101	103	70-130	2	20	
Boron	ug/L	9.4J	2000	2000	1960	1990	97	99	70-130	2	20	
Calcium	ug/L	<26.9	20000	20000	20600	21000	103	105	70-130	2	20	
Cobalt	ug/L	<1.2	2000	2000	2040	2070	102	104	70-130	1	20	
Iron	ug/L	<9.1	20000	20000	20600	21100	103	105	70-130	2	20	
Lithium	ug/L	<3.7	2000	2000	2070	2110	104	106	70-130	2	20	
Magnesium	ug/L	<20.1	20000	20000	20100	20500	101	103	70-130	2	20	
Manganese	ug/L	<0.39	2000	2000	2010	2030	100	101	70-130	1	20	
Molybdenum	ug/L	<1.0	2000	2000	2030	2060	102	103	70-130	1	20	
Potassium	ug/L	<69.7	20000	20000	20300	20600	101	103	70-130	1	20	
Sodium	ug/L	<115	20000	20000	20600	21000	103	105	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 915896

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: 60461974014

METHOD BLANK: 3626529

Matrix: Water

Associated Lab Samples: 60461974014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/27/24 15:08	
Boron	ug/L	<6.4	100	6.4	11/27/24 15:08	
Calcium	ug/L	<26.9	200	26.9	11/27/24 15:08	
Cobalt	ug/L	<1.2	5.0	1.2	11/27/24 15:08	
Iron	ug/L	<9.1	50.0	9.1	11/27/24 15:08	
Lithium	ug/L	<3.7	10.0	3.7	11/27/24 15:08	
Magnesium	ug/L	<20.1	50.0	20.1	11/27/24 15:08	
Manganese	ug/L	<0.39	5.0	0.39	11/27/24 15:08	
Molybdenum	ug/L	<1.0	20.0	1.0	11/27/24 15:08	
Potassium	ug/L	<69.7	500	69.7	11/27/24 15:08	
Sodium	ug/L	<115	500	115	11/27/24 15:08	

LABORATORY CONTROL SAMPLE: 3626530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	985	98	85-115	
Boron	ug/L	1000	913	91	85-115	
Calcium	ug/L	10000	9810	98	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lithium	ug/L	1000	988	99	85-115	
Magnesium	ug/L	10000	9380	94	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Molybdenum	ug/L	1000	997	100	85-115	
Potassium	ug/L	10000	9500	95	85-115	
Sodium	ug/L	10000	9750	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626531

3626532

Parameter	Units	60464293002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	<0.64	1000	1000	1150	1140	115	114	70-130	1	20	
Boron	ug/L	<6.4	1000	1000	1340	1340	134	134	70-130	0	20	M1
Calcium	ug/L	<26.9	10000	10000	130000	132000	1300	1320	70-130	2	20	M1
Cobalt	ug/L	<1.2	1000	1000	1050	1040	105	104	70-130	0	20	
Iron	ug/L	16.5J	10000	10000	10600	10400	106	104	70-130	2	20	
Lithium	ug/L	<3.7	1000	1000	1060	1060	106	106	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626531 3626532												
Parameter	Units	60464293002	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Magnesium	ug/L	<20.1	10000	10000	40100	40500	401	405	70-130	1	20	M1
Manganese	ug/L	<0.39	1000	1000	1050	1050	105	105	70-130	0	20	
Molybdenum	ug/L	<1.0	1000	1000	1050	1060	105	106	70-130	0	20	
Potassium	ug/L	<69.7	10000	10000	12800	13000	128	130	70-130	1	20	
Sodium	ug/L	<115	10000	10000	29000	29000	290	290	70-130	0	20	M1

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	913605	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974001, 60461974002, 60461974003, 60461974004, 60461974005

METHOD BLANK: 3616853 Matrix: Water
Associated Lab Samples: 60461974001, 60461974002, 60461974003, 60461974004, 60461974005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	10/25/24 14:45	
Selenium	ug/L	<0.18	1.0	0.18	10/25/24 14:45	

LABORATORY CONTROL SAMPLE: 3616854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	39.9	100	85-115	
Selenium	ug/L	40	40.3	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3616855 3616856

Parameter	Units	60461975001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	1.0	40	40	38.8	39.1	95	95	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.1	36.9	93	92	70-130	1	20	

MATRIX SPIKE SAMPLE: 3616857

Parameter	Units	60461975006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	16.7	40	55.6	97	70-130	
Selenium	ug/L	<0.18	40	36.9	92	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	913615	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011

METHOD BLANK: 3616899 Matrix: Water
Associated Lab Samples: 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	10/29/24 10:41	
Selenium	ug/L	<0.18	1.0	0.18	10/29/24 10:41	

LABORATORY CONTROL SAMPLE: 3616900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	39.1	98	85-115	
Selenium	ug/L	40	40.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3616901 3616902

Parameter	Units	60461974008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	15.5	40	40	56.7	57.1	103	104	70-130	1	20	
Selenium	ug/L	<0.18	40	40	40.1	41.3	100	103	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	914437	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974002, 60461974003, 60461974004, 60461974005, 60461974006, 60461974007

METHOD BLANK: 3620414 Matrix: Water
Associated Lab Samples: 60461974002, 60461974003, 60461974004, 60461974005, 60461974006, 60461974007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	11/15/24 13:44	

LABORATORY CONTROL SAMPLE: 3620415

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	40.2	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3620416 3620417

Parameter	Units	60461975001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<0.30	40	40	39.0	39.3	97	98	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	914438	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974008, 60461974009, 60461974010, 60461974011

METHOD BLANK: 3620421 Matrix: Water
Associated Lab Samples: 60461974008, 60461974009, 60461974010, 60461974011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	11/15/24 14:16	

LABORATORY CONTROL SAMPLE: 3620422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	40.4	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3620423 3620424

Parameter	Units	60461974008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<0.30	40	40	39.1	38.8	97	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 914558

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974001

METHOD BLANK: 3620908

Matrix: Water

Associated Lab Samples: 60461974001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	11/15/24 13:32	

LABORATORY CONTROL SAMPLE: 3620909

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	39.6	99	85-115	

SAMPLE DUPLICATE: 3621157

Parameter	Units	60461974001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium	ug/L	<0.30	0.33J		20	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch:	916315	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974014

METHOD BLANK: 3627841 Matrix: Water

Associated Lab Samples: 60461974014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	12/03/24 11:10	
Chromium	ug/L	<0.30	1.0	0.30	12/03/24 11:10	
Selenium	ug/L	<0.18	1.0	0.18	12/03/24 11:10	

LABORATORY CONTROL SAMPLE: 3627842

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	39.0	98	85-115	
Chromium	ug/L	40	40.5	101	85-115	
Selenium	ug/L	40	40.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627846 3627847

Parameter	Units	60461974014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	5.4	40	40	45.8	45.4	101	100	70-130	1	20	
Chromium	ug/L	<0.30	40	40	38.4	38.6	96	96	70-130	0	20	
Selenium	ug/L	<0.18	40	40	38.6	38.3	96	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	912787	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974001, 60461974002

METHOD BLANK: 3613738 Matrix: Water

Associated Lab Samples: 60461974001, 60461974002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	10/16/24 12:25	

LABORATORY CONTROL SAMPLE: 3613739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	487	97	90-110	

SAMPLE DUPLICATE: 3613740

Parameter	Units	60461893008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	210	198	6	10	

SAMPLE DUPLICATE: 3613741

Parameter	Units	60461970011 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	473	461	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	912788	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974003, 60461974004, 60461974005, 60461974006, 60461974007

METHOD BLANK: 3613744 Matrix: Water
Associated Lab Samples: 60461974003, 60461974004, 60461974005, 60461974006, 60461974007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	10/16/24 15:03	

LABORATORY CONTROL SAMPLE: 3613745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	486	97	90-110	

SAMPLE DUPLICATE: 3613746

Parameter	Units	60461975001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	1010	1940	63	10	D6

SAMPLE DUPLICATE: 3613747

Parameter	Units	60462042004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	426	428	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	913308	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974008, 60461974009, 60461974010, 60461974011

METHOD BLANK: 3615996 Matrix: Water
Associated Lab Samples: 60461974008, 60461974009, 60461974010, 60461974011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	10/21/24 16:46	

LABORATORY CONTROL SAMPLE: 3615997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	501	100	90-110	

SAMPLE DUPLICATE: 3615998

Parameter	Units	60461974008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	343	349	2	10	

SAMPLE DUPLICATE: 3615999

Parameter	Units	60462335002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	110	107	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 916772

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974014

METHOD BLANK: 3630090

Matrix: Water

Associated Lab Samples: 60461974014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	11/18/24 11:46	

LABORATORY CONTROL SAMPLE: 3630091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3630092

Parameter	Units	60464022001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	142	143	0	10	

SAMPLE DUPLICATE: 3630093

Parameter	Units	60464294002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	423	437	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	911950	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974001, 60461974002, 60461974003

METHOD BLANK: 3609850 Matrix: Water
Associated Lab Samples: 60461974001, 60461974002, 60461974003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/09/24 11:12	

LABORATORY CONTROL SAMPLE: 3609851

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

SAMPLE DUPLICATE: 3609852

Parameter	Units	60461970011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1840	1740	6	10	

SAMPLE DUPLICATE: 3609853

Parameter	Units	60461975001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	940	942	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60461974

QC Batch:	912467	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974004, 60461974005, 60461974006, 60461974007

METHOD BLANK: 3612491 Matrix: Water
Associated Lab Samples: 60461974004, 60461974005, 60461974006, 60461974007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/14/24 11:20	

LABORATORY CONTROL SAMPLE: 3612492

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

SAMPLE DUPLICATE: 3612493

Parameter	Units	60462202001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	451	455	1	10	

SAMPLE DUPLICATE: 3612494

Parameter	Units	60462335009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	228	224	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch:	912632	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974008, 60461974009, 60461974010

METHOD BLANK: 3613129 Matrix: Water

Associated Lab Samples: 60461974008, 60461974009, 60461974010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/15/24 11:12	

LABORATORY CONTROL SAMPLE: 3613130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	972	97	80-120	

SAMPLE DUPLICATE: 3613131

Parameter	Units	60462146005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3310	3420	3	10	

SAMPLE DUPLICATE: 3613132

Parameter	Units	60461974008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1010	1000	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 912634

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974011

METHOD BLANK: 3613135

Matrix: Water

Associated Lab Samples: 60461974011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/15/24 11:17	

LABORATORY CONTROL SAMPLE: 3613136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1000	100	80-120	

SAMPLE DUPLICATE: 3613137

Parameter	Units	60461974011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1030	1020	1	10	

SAMPLE DUPLICATE: 3613138

Parameter	Units	60462335002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1000	988	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 915880

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60461974014

METHOD BLANK: 3626408

Matrix: Water

Associated Lab Samples: 60461974014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/24 15:48	

LABORATORY CONTROL SAMPLE: 3626409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 3626410

Parameter	Units	60463806003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2140	2220	4	10	

SAMPLE DUPLICATE: 3626411

Parameter	Units	60464112003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	763	748	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch:	913021	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:	60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011		

METHOD BLANK:	3614909	Matrix:	Water
Associated Lab Samples:	60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	10/17/24 23:14	
Fluoride	mg/L	<0.12	0.20	0.12	10/17/24 23:14	
Sulfate	mg/L	<0.55	1.0	0.55	10/17/24 23:14	

LABORATORY CONTROL SAMPLE: 3614910						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3614911 3614912												
Parameter	Units	60462202001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	29.4	100	100	116	112	86	82	80-120	3	15	
Fluoride	mg/L	0.15J	2.5	2.5	3.4	3.7	129	141	80-120	8	15	M1
Sulfate	mg/L	94.4	100	100	196	192	102	97	80-120	2	15	

MATRIX SPIKE SAMPLE: 3614913							
Parameter	Units	60462202002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	31.0	50	77.5	93	80-120	
Fluoride	mg/L	0.21	2.5	2.6	95	80-120	
Sulfate	mg/L	175	1000	1330	116	80-120	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 913246

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: 60461974001, 60461974002, 60461974003

METHOD BLANK: 3615846

Matrix: Water

Associated Lab Samples: 60461974001, 60461974002, 60461974003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	10/23/24 10:09	
Fluoride	mg/L	<0.12	0.20	0.12	10/23/24 10:09	
Sulfate	mg/L	<0.55	1.0	0.55	10/23/24 10:09	

LABORATORY CONTROL SAMPLE: 3615847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	5.4	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3615848

3615849

Parameter	Units	60462335012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.9	5	5	6.2	6.8	87	99	80-120	9	15	
Fluoride	mg/L	0.42	2.5	2.5	2.8	3.1	95	107	80-120	10	15	
Sulfate	mg/L	140	100	100	244	244	104	104	80-120	0	15	

MATRIX SPIKE SAMPLE: 3615850

Parameter	Units	60462335013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.4	5	7.1	114	80-120	
Fluoride	mg/L	0.37	2.5	3.2	114	80-120	
Sulfate	mg/L	126	100	234	107	80-120	

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QUALITY CONTROL DATA

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch:	917520	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: 60461974014

METHOD BLANK: 3633761 Matrix: Water

Associated Lab Samples: 60461974014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/26/24 10:00	
Fluoride	mg/L	<0.12	0.20	0.12	11/26/24 10:00	
Sulfate	mg/L	<0.55	1.0	0.55	11/26/24 10:00	

LABORATORY CONTROL SAMPLE: 3633762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	110	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3633763 3633764

Parameter	Units	60464713006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	60.5	5	5	58.2	57.5	-47	-60	80-120	1	15	E,M1
Fluoride	mg/L	ND	2.5	2.5	2.9	2.5	114	102	80-120	11	15	
Sulfate	mg/L	6.3	5	5	12.2	11.6	117	106	80-120	5	15	

MATRIX SPIKE SAMPLE: 3633765

Parameter	Units	60464713015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	77.6	25	89.2	47	80-120	1e,M1
Fluoride	mg/L	ND	12.5	7.9	62	80-120	1e,M1
Sulfate	mg/L	7.4	25	33.2	103	80-120	1e

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-3		Lab ID: 60461974001	Collected: 10/03/24 15:01	Received: 10/05/24 07:00	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	0.385 ± 0.785 (1.40) C:NA T:86%		pCi/L	10/28/24 14:04	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.444 ± 0.343 (0.669) C:83% T:85%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-5		Lab ID: 60461974002	Collected: 10/03/24 16:14	Received: 10/05/24 07:00	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	0.482 ± 0.692 (1.15) C:NA T:89%		pCi/L	10/28/24 14:04	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.334 ± 0.382 (0.800) C:75% T:86%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-6		Lab ID: 60461974003	Collected: 10/04/24 14:39	Received: 10/05/24 07:00	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	-0.204 ± 0.580 (1.23) C:NA T:88%		pCi/L	10/28/24 14:04	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.582 ± 0.391 (0.745) C:74% T:93%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-7		Lab ID: 60461974004	Collected: 10/07/24 09:10	Received: 10/09/24 14:50	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	-0.0635 ± 0.670 (1.31) C:NA T:97%		pCi/L	10/28/24 14:04	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.727 ± 0.473 (0.917) C:85% T:87%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-BMW-1		Lab ID: 60461974005	Collected: 10/07/24 10:50	Received: 10/09/24 14:50	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	-0.0658 ± 0.591 (1.19) C:NA T:89%		pCi/L	10/28/24 14:04	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.649 ± 0.444 (0.866) C:88% T:85%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-1		Lab ID: 60461974006	Collected: 10/07/24 12:48	Received: 10/09/24 14:50	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	0.228 ± 0.855 (1.57) C:NA T:88%		pCi/L	10/28/24 14:04	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.915 ± 0.518 (0.957) C:82% T:81%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-BMW-2		Lab ID: 60461974007	Collected: 10/07/24 11:32	Received: 10/09/24 14:50	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	-0.266 ± 0.452 (1.05) C:NA T:90%		pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.532 ± 0.432 (0.864) C:84% T:88%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-4 Lab ID: 60461974008 Collected: 10/08/24 10:49 Received: 10/09/24 14:50 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	0.156 ± 0.511 (0.945) C:NA T:88%	pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.355 ± 0.386 (0.806) C:85% T:83%	pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-2		Lab ID: 60461974009	Collected: 10/08/24 09:10	Received: 10/09/24 14:50	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	0.143 ± 0.796 (1.49) C:NA T:87%		pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.385 ± 0.403 (0.836) C:77% T:83%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-FB-1		Lab ID: 60461974010	Collected: 10/08/24 09:25	Received: 10/09/24 14:50	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	-0.892 ± 0.856 (1.86) C:NA T:90%		pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	-0.225 ± 0.320 (0.791) C:83% T:85%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-DUP-1		Lab ID: 60461974011	Collected: 10/08/24 08:00	Received: 10/09/24 14:50	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	0.000 ± 0.590 (1.16) C:NA T:90%		pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.193 ± 0.379 (0.834) C:87% T:83%		pCi/L	10/24/24 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MS-1		Lab ID: 60461974012	Collected: 10/08/24 10:49	Received: 10/09/24 14:50	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	123.93 %REC ± NA (NA) C:NA T:NA		pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	76.58 %REC ± NA (NA) C:NA T:NA		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MSD-1		Lab ID: 60461974013		Collected: 10/08/24 10:49	Received: 10/09/24 14:50	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	102.28 %REC 19.14RPD ± NA (NA) C:NA T:NA		pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg								
Radium-228		EPA 904.0	79.88 %REC 4.23RPD ± NA (NA) C:NA T:NA		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

Sample: M-MW-8

Lab ID: 60461974014

Collected: 11/07/24 13:52

Received: 11/08/24 05:58

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	0.000 ± 0.425 (0.860) C:NA T:91%	pCi/L	12/04/24 14:45	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.359 ± 0.390 (0.810) C:73% T:76%	pCi/L	12/02/24 15:48	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch:	703894	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:	60461974001, 60461974002, 60461974003, 60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011, 60461974012, 60461974013		

METHOD BLANK:	3427732	Matrix:	Water
Associated Lab Samples:	60461974001, 60461974002, 60461974003, 60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011, 60461974012, 60461974013		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.319 ± 0.258 (0.144) C:NA T:93%	pCi/L	10/28/24 14:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 709873

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: 60461974014

METHOD BLANK: 3456813

Matrix: Water

Associated Lab Samples: 60461974014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.327 (0.662) C:NA T:93%	pCi/L	12/04/24 14:10	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch:	703899	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:	60461974001, 60461974002, 60461974003, 60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011, 60461974012, 60461974013		

METHOD BLANK:	3427738	Matrix:	Water
Associated Lab Samples:	60461974001, 60461974002, 60461974003, 60461974004, 60461974005, 60461974006, 60461974007, 60461974008, 60461974009, 60461974010, 60461974011, 60461974012, 60461974013		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.414 ± 0.374 (0.760) C:87% T:84%	pCi/L	10/24/24 15:39	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC

Pace Project No.: 60461974

QC Batch: 709874

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: 60461974014

METHOD BLANK: 3456817

Matrix: Water

Associated Lab Samples: 60461974014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.216 ± 0.268 (0.565) C:86% T:90%	pCi/L	12/02/24 15:47	

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.: 60461974

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	Bracketing continuing calibration data is not available due to instrument error
B	Analyte was detected in the associated method blank.
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.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60461974

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60461974001	M-MW-3	EPA 200.7	911808	EPA 200.7	911867
60461974002	M-MW-5	EPA 200.7	911808	EPA 200.7	911867
60461974003	M-MW-6	EPA 200.7	911808	EPA 200.7	911867
60461974004	M-MW-7	EPA 200.7	912546	EPA 200.7	912659
60461974005	M-BMW-1	EPA 200.7	912546	EPA 200.7	912659
60461974006	M-MW-1	EPA 200.7	912546	EPA 200.7	912659
60461974007	M-BMW-2	EPA 200.7	912546	EPA 200.7	912659
60461974008	M-MW-4	EPA 200.7	912546	EPA 200.7	912659
60461974009	M-MW-2	EPA 200.7	912546	EPA 200.7	912659
60461974010	M-FB-1	EPA 200.7	913418	EPA 200.7	913503
60461974011	M-DUP-1	EPA 200.7	913418	EPA 200.7	913503
60461974014	M-MW-8	EPA 200.7	915896	EPA 200.7	915912
60461974001	M-MW-3	EPA 200.8	913605	EPA 200.8	913681
60461974001	M-MW-3	EPA 200.8	914558	EPA 200.8	914682
60461974002	M-MW-5	EPA 200.8	913605	EPA 200.8	913681
60461974002	M-MW-5	EPA 200.8	914437	EPA 200.8	914524
60461974003	M-MW-6	EPA 200.8	913605	EPA 200.8	913681
60461974003	M-MW-6	EPA 200.8	914437	EPA 200.8	914524
60461974004	M-MW-7	EPA 200.8	913605	EPA 200.8	913681
60461974004	M-MW-7	EPA 200.8	914437	EPA 200.8	914524
60461974005	M-BMW-1	EPA 200.8	913605	EPA 200.8	913681
60461974005	M-BMW-1	EPA 200.8	914437	EPA 200.8	914524
60461974006	M-MW-1	EPA 200.8	913615	EPA 200.8	913692
60461974006	M-MW-1	EPA 200.8	914437	EPA 200.8	914524
60461974007	M-BMW-2	EPA 200.8	913615	EPA 200.8	913692
60461974007	M-BMW-2	EPA 200.8	914437	EPA 200.8	914524
60461974008	M-MW-4	EPA 200.8	913615	EPA 200.8	913692
60461974008	M-MW-4	EPA 200.8	914438	EPA 200.8	914516
60461974009	M-MW-2	EPA 200.8	913615	EPA 200.8	913692
60461974009	M-MW-2	EPA 200.8	914438	EPA 200.8	914516
60461974010	M-FB-1	EPA 200.8	913615	EPA 200.8	913692
60461974010	M-FB-1	EPA 200.8	914438	EPA 200.8	914516
60461974011	M-DUP-1	EPA 200.8	913615	EPA 200.8	913692
60461974011	M-DUP-1	EPA 200.8	914438	EPA 200.8	914516
60461974014	M-MW-8	EPA 200.8	916315	EPA 200.8	916420

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60461974

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60461974001	M-MW-3	EPA 903.1	703894		
60461974002	M-MW-5	EPA 903.1	703894		
60461974003	M-MW-6	EPA 903.1	703894		
60461974004	M-MW-7	EPA 903.1	703894		
60461974005	M-BMW-1	EPA 903.1	703894		
60461974006	M-MW-1	EPA 903.1	703894		
60461974007	M-BMW-2	EPA 903.1	703894		
60461974008	M-MW-4	EPA 903.1	703894		
60461974009	M-MW-2	EPA 903.1	703894		
60461974010	M-FB-1	EPA 903.1	703894		
60461974011	M-DUP-1	EPA 903.1	703894		
60461974012	M-MS-1	EPA 903.1	703894		
60461974013	M-MSD-1	EPA 903.1	703894		
60461974014	M-MW-8	EPA 903.1	709873		
60461974001	M-MW-3	EPA 904.0	703899		
60461974002	M-MW-5	EPA 904.0	703899		
60461974003	M-MW-6	EPA 904.0	703899		
60461974004	M-MW-7	EPA 904.0	703899		
60461974005	M-BMW-1	EPA 904.0	703899		
60461974006	M-MW-1	EPA 904.0	703899		
60461974007	M-BMW-2	EPA 904.0	703899		
60461974008	M-MW-4	EPA 904.0	703899		
60461974009	M-MW-2	EPA 904.0	703899		
60461974010	M-FB-1	EPA 904.0	703899		
60461974011	M-DUP-1	EPA 904.0	703899		
60461974012	M-MS-1	EPA 904.0	703899		
60461974013	M-MSD-1	EPA 904.0	703899		
60461974014	M-MW-8	EPA 904.0	709874		
60461974001	M-MW-3	SM 2320B	912787		
60461974002	M-MW-5	SM 2320B	912787		
60461974003	M-MW-6	SM 2320B	912788		
60461974004	M-MW-7	SM 2320B	912788		
60461974005	M-BMW-1	SM 2320B	912788		
60461974006	M-MW-1	SM 2320B	912788		
60461974007	M-BMW-2	SM 2320B	912788		
60461974008	M-MW-4	SM 2320B	913308		
60461974009	M-MW-2	SM 2320B	913308		
60461974010	M-FB-1	SM 2320B	913308		
60461974011	M-DUP-1	SM 2320B	913308		
60461974014	M-MW-8	SM 2320B	916772		
60461974001	M-MW-3	SM 2540C	911950		
60461974002	M-MW-5	SM 2540C	911950		
60461974003	M-MW-6	SM 2540C	911950		
60461974004	M-MW-7	SM 2540C	912467		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC

Pace Project No.: 60461974

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60461974005	M-BMW-1	SM 2540C	912467		
60461974006	M-MW-1	SM 2540C	912467		
60461974007	M-BMW-2	SM 2540C	912467		
60461974008	M-MW-4	SM 2540C	912632		
60461974009	M-MW-2	SM 2540C	912632		
60461974010	M-FB-1	SM 2540C	912632		
60461974011	M-DUP-1	SM 2540C	912634		
60461974014	M-MW-8	SM 2540C	915880		
60461974001	M-MW-3	EPA 300.0	913246		
60461974002	M-MW-5	EPA 300.0	913246		
60461974003	M-MW-6	EPA 300.0	913246		
60461974004	M-MW-7	EPA 300.0	913021		
60461974005	M-BMW-1	EPA 300.0	913021		
60461974006	M-MW-1	EPA 300.0	913021		
60461974007	M-BMW-2	EPA 300.0	913021		
60461974008	M-MW-4	EPA 300.0	913021		
60461974009	M-MW-2	EPA 300.0	913021		
60461974010	M-FB-1	EPA 300.0	913021		
60461974011	M-DUP-1	EPA 300.0	913021		
60461974014	M-MW-8	EPA 300.0	917520		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

WO#: 60461974



DC#_Title: ENV-FRM-LENE-0009_Sample Con

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Rocksmith GeoengCourier: 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 1.0/20.2 Corr. Factor -0.1 Corrected 0.9/20.1Date and initials of person
examining contents:

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	Date and initials of person examining contents: <u>10/17/24</u>
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	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Sample labels match COC: Date / time / ID / analyses	☒ Yes ☐ No ☐ N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	☒ Yes ☐ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: <u>EE727</u>	☒ Yes ☐ No ☐ N/A	
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: _____

20461974

[illegible]

WO#: 60461974



DC#_Title: ENV-FRM-LENE-0009_Sample (

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name:

Rocksmith GreenCourier: 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: _____ Type of Ice: Wet Blue ☐ None ☐Cooler Temperature (°C): As-read 4.1/15.1 Corr. Factor -0.1 Corrected 4.0/15.0

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 1.5/14.21.4/14.110/10/24

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	Container ID for M-BMW-7
Sufficient volume:	☒ Yes ☐ No ☐ N/A	is M-BMW-1.
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: <u>LT</u>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒ 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:

Client:

Rocksmith Geoeng

Profile/EZ #

Follow Container sheet.

Site:

Notes

Append to 60461974

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	BP3B	BP3Z	WPDU	ZPLC	Other
1	WT																													
2																														
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	BP1B	1L NaOH plastic	I	Wipe/Swab		
DG9H	40mL HCl amber vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic	SP5T	120mL Collform 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 unres amber glass	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes		
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2B	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 unres 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	BP3B	250mL NaOH plastic				
BG1U	1liter unres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered				
BG3H	250mL HCL Clear glass	AG2U	500mL unres amber glass	BP3N	250mL HNO3 plastic				
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 unpreserved plastic				

Work Order Number:

60461974

only print what you log.

WO#: 60461974



DC#_Title: ENV-FRM-LENE-0009_Samp

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name:

Rocksmith

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: 7248 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 2.1 Corr. Factor -0.1 Corrected

Date and initials of person examining contents:

AF 7/1/8

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: <i>wt</i>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒ 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:

Client: Rocksmitly

Profile/EZ #

Append to 60461A-A

Site: Ameren MEC

Notes

Only print what you just logged

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	BP3B	BP3Z	WPDU	ZPLC	Other
1	wt																		1			2								
2																														
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	BP1B	1L NaOH plastic	I	Wipe/Swab	
DG9H	40mL HCl amber vial	WGKU	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	BP2B	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			
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic			Matrix
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 unpreserved plastic			

Work Order Number:

60461A74



State Of Origin: MO ☒ Yes ☐ No

Requested Analysis

Subcontract To

Pace Analytical Pittsburgh
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
Phone (724)850-5600

Preserved Containers

WO#: 30726578



30726578

Transfers		Released By	Date/Time	Received By	Date/Time	Comments	
1		Carmen June	10/15/18:00	<i>[Signature]</i>	10/16/24:00	KS sample location: 60-R01-S4B	
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# : 30726578

PM: MAR Due Date: 10/28/24
CLIENT : PACE_60_LEKS

DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-
Greensburg

Effective Date: 01/04/2024

W0#: 30726578

PM: MAR Due Date: 10/28/24

CLIENT: PACE_60_LEKS

Client Name: Pace-KS

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Ot.

Tracking Number: 403364514948

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

Examined By: PS 10/16/24

Labeled By: PS 10/16/24

Temped By: _____

pH paper Lot# 1001041

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 GOC	☒	☐	☐	3.
Chain of Custody Relinquished	☒	☐	☐	4.
Sampler Name & Signature on COC:	☒	☐	☐	5.
Sample Labels match COC:	☒	☐	☐	
-Includes date/time/ID	☒	☐	☐	
Matrix: <u>WT</u>	☒	☐	☐	
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 dichlorination	☒	☐	☐	14.
Filtered volume received for dissolved tests:	☒	☐	☐	15.
All containers checked for preservation:	☒	☐	☐	16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix	☒	☐	☐	
All containers meet method preservation requirements:	☒	☐	☐	
8260C/D: Headspace in VOA Vials (> 6mm)	☒	☐	☐	17.
624.1: Headspace in VOA Vials (0mm)	☒	☐	☐	18.
Radon: Headspace in RAD Vials (0mm)	☒	☐	☐	19.
Trip Blank Present:	☒	☐	☐	
Rad Samples Screened <.05 mrem/hr.	☒	☐	☐	
Comments:				

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.

Qualtrax ID: 55680

Page 1 of 1



Memorandum

December 11, 2024

To: Project File
Rocksmith Geoengineering, LLC

Project Number: 23010-24

CC: Mark Haddock, Jeffrey Ingram

From: Grant Morey

Email: grant.morey@rocksmithgeo.com

RE: **Data Validation Summary, Meramec Energy Center – MEC – Data Package 60461974**

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

Project Number: 23010-24

Reviewer: G. Morey

Validation Date: 12/11/2024

Laboratory: Pace Analytical

SDG #: 60461974

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-3, M-MW-5, M-MW-6, M-MW-7, M-BMW-1, M-MW-1, M-BMW-2, M-MW-4, M-MW-2, M-FB-1, M-DUP-1, M-MS-1, M-MSD-1, M-MW-8

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?	☒	☐	☐	<u>10/03/2024 - 10/08/2024 & 11/07/2024</u>
b) Sampling team indicated?	☒	☐	☐	<u>JTR/JDQ</u>
c) Sample location noted?	☒	☐	☐	<u></u>
d) Sample depth indicated (Soils)?	☐	☐	☒	<u></u>
e) Sample type indicated (grab/composite)?	☒	☐	☐	<u>Grab</u>
f) Field QC noted?	☒	☐	☐	<u>See Notes.</u>
g) Field parameters collected (note types)?	☒	☐	☐	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	☒	☐	☐	<u></u>
i) Notations of unacceptable field conditions/performance from field logs or field notes?	☐	☒	☐	<u></u>
j) Does the laboratory narrative indicate deficiencies?	☐	☐	☒	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☒	☐	☐	See Notes
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-DUP-1 collected @ M-MW-4
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:

General:

Alkalinity, chloride and/or sulfate were diluted in many samples; no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks:

3616229: boron (9.6J), associated with samples -010 and -011. -010 detected below RL, qualify as non-detect (U) at RL. -011 detected above RL and > 10x blank, no qualification necessary.

3427732: radium-228 (0.319), associated with samples -001 through -013. All results are non-detect, no qualification necessary.

Field Blank:

M-FB-1 @ M-MW-2: boron (9.4J). Boron > RL and 10x blank, no qualification necessary.

Duplicates:

M-DUP-1 @ M-MW-4: field duplicate RPD exceeds control limit (20%) for chloride (20.4%), results qualified as estimates.

3613746: Lab duplicate RPD exceeds control limit for alkalinity, associated with unrelated sample, no qualification necessary.

Lab duplicate max RPD: alkalinity, TDS: 10%.

MS/MSD:

3609395/3609396: MSD recovery low for calcium, MS recovery and RPD within control limits. Associated with unrelated sample, no qualification necessary.

3612757/3612758: MS/MSD recoveries low for calcium, RPD within control limits. Associated with sample -008, result qualified as estimate.

3626531/3626532: MS/MSD recoveries high for boron, calcium, magnesium, and sodium, RPD's within control limits. Associated with unrelated sample, no qualification necessary.

3614911/3614912: MS/MSD recoveries high for fluoride, RPD within control limits. Associated with unrelated sample, no qualification necessary.

3633763/3633764: MS/MSD recoveries low for chloride, RPD within control limit. Associated with unrelated sample, no qualification necessary.

3633765: MS recoveries low for chloride and fluoride. Associated with unrelated sample, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

[illegible]

Data Qualification:

[illegible]

Grant Morey

12/11/2024



December 10, 2024

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

RE: Project: AMEREN MEC-CA
Pace Project No.: 60461975

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between October 05, 2024 and November 08, 2024. 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.
Lisa Meyer, Ameren
Grant Morey, Rocksmith Geoengineering, LLC.
Austin Nieman, Ameren



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

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

Arkansas Certification #: 88-00679

Colorado Division of Oil and Public Safety

Illinois Certification #: 2000302023-6

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

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SAMPLE SUMMARY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60461975001	M-MW-11S	Water	10/04/24 09:38	10/05/24 07:00
60461975002	M-CA-MS-1	Water	10/04/24 09:38	10/05/24 07:00
60461975003	M-CA-MSD-1	Water	10/04/24 09:38	10/05/24 07:00
60461975004	M-MW-11D	Water	10/04/24 12:30	10/05/24 07:00
60461975005	M-TP-1	Water	10/08/24 09:25	10/09/24 14:50
60461975006	M-MW-9	Water	10/07/24 14:06	10/09/24 14:50
60461975007	M-MW-10	Water	10/07/24 12:50	10/09/24 14:50
60461975008	M-CA-DUP-1	Water	10/08/24 08:00	10/09/24 14:50
60461975009	M-CA-FB-1	Water	10/08/24 09:40	10/09/24 14:50
60461975015	M-TP-2	Water	11/07/24 10:05	11/08/24 05:58

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60461975001	M-MW-11S	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461975002	M-CA-MS-1	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60461975003	M-CA-MSD-1	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60461975004	M-MW-11D	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	MLD	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461975005	M-TP-1	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
60461975006	M-MW-9	EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
60461975007	M-MW-10	EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SR1	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60461975008	M-CA-DUP-1	SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
60461975009	M-CA-FB-1	EPA 300.0	AAA	3	PASI-K
		EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60461975015	M-TP-2	EPA 200.7	ARMN	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-11S			Lab ID: 60461975001		Collected: 10/04/24 09:38		Received: 10/05/24 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										
Barium	644	ug/L	5.0	0.64	1	10/08/24 16:08	10/10/24 19:14	7440-39-3	M1,P6	
Boron	679	ug/L	100	6.4	1	10/08/24 16:08	10/10/24 19:14	7440-42-8		
Calcium	262000	ug/L	200	26.9	1	10/08/24 16:08	10/10/24 19:14	7440-70-2		
Cobalt	<1.2	ug/L	5.0	1.2	1	10/08/24 16:08	10/10/24 19:14	7440-48-4		
Iron	38500	ug/L	50.0	9.1	1	10/08/24 16:08	10/10/24 19:14	7439-89-6		
Lithium	16.9	ug/L	10.0	3.7	1	10/08/24 16:08	10/10/24 19:14	7439-93-2		
Magnesium	63600	ug/L	50.0	20.1	1	10/08/24 16:08	10/10/24 19:14	7439-95-4		
Manganese	2140	ug/L	5.0	0.39	1	10/08/24 16:08	10/10/24 19:14	7439-96-5		
Molybdenum	<1.0	ug/L	20.0	1.0	1	10/08/24 16:08	10/10/24 19:14	7439-98-7		
Potassium	8110	ug/L	500	69.7	1	10/08/24 16:08	10/10/24 19:14	7440-09-7		
Sodium	20500	ug/L	500	115	1	10/08/24 16:08	10/10/24 19:14	7440-23-5		
200.8 MET ICPMS										
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8										
Pace Analytical Services - Kansas City										
Arsenic	1.0	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:13	7440-38-2		
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:36	11/15/24 13:48	7440-47-3		
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:13	7782-49-2		
2320B Alkalinity										
Analytical Method: SM 2320B										
Pace Analytical Services - Kansas City										
Alkalinity, Total as CaCO3	1010	mg/L	80.0	42.0	4		10/16/24 15:03		D6	
2540C Total Dissolved Solids										
Analytical Method: SM 2540C										
Pace Analytical Services - Kansas City										
Total Dissolved Solids	940	mg/L	20.0	20.0	1		10/09/24 11:16			
300.0 IC Anions 28 Days										
Analytical Method: EPA 300.0										
Pace Analytical Services - Kansas City										
Chloride	15.2	mg/L	1.0	0.53	1		10/23/24 21:29	16887-00-6		
Fluoride	0.27	mg/L	0.20	0.12	1		10/23/24 21:29	16984-48-8		
Sulfate	2.6	mg/L	1.0	0.55	1		10/23/24 21:29	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-11D Lab ID: 60461975004 Collected: 10/04/24 12:30 Received: 10/05/24 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									
Barium	125	ug/L	5.0	0.64	1	10/08/24 16:08	10/10/24 19:25	7440-39-3	
Boron	10300	ug/L	100	6.4	1	10/08/24 16:08	10/10/24 19:25	7440-42-8	
Calcium	231000	ug/L	200	26.9	1	10/08/24 16:08	10/10/24 19:25	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/08/24 16:08	10/10/24 19:25	7440-48-4	
Iron	21800	ug/L	50.0	9.1	1	10/08/24 16:08	10/10/24 19:25	7439-89-6	
Lithium	44.8	ug/L	10.0	3.7	1	10/08/24 16:08	10/10/24 19:25	7439-93-2	
Magnesium	58400	ug/L	50.0	20.1	1	10/08/24 16:08	10/10/24 19:25	7439-95-4	
Manganese	750	ug/L	5.0	0.39	1	10/08/24 16:08	10/10/24 19:25	7439-96-5	
Molybdenum	265	ug/L	20.0	1.0	1	10/08/24 16:08	10/10/24 19:25	7439-98-7	
Potassium	6890	ug/L	500	69.7	1	10/08/24 16:08	10/10/24 19:25	7440-09-7	
Sodium	42900	ug/L	500	115	1	10/08/24 16:08	10/10/24 19:25	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	12.9	ug/L	1.0	0.13	1	11/27/24 14:30	12/03/24 12:55	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	12/06/24 09:35	12/06/24 17:32	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/24 14:30	12/03/24 12:55	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	496	mg/L	80.0	42.0	4		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1160	mg/L	20.0	20.0	1		10/09/24 11:16		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	87.6J	mg/L	100	52.7	100		10/23/24 22:06	16887-00-6	
Fluoride	<12.4	mg/L	20.0	12.4	100		10/23/24 22:06	16984-48-8	
Sulfate	453	mg/L	100	55.0	100		10/23/24 22:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-TP-1 Lab ID: 60461975005 Collected: 10/08/24 09:25 Received: 10/09/24 14:50 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	349	ug/L	5.0	0.64	1	10/22/24 08:57	10/27/24 06:26	7440-39-3	
Boron	335	ug/L	100	6.4	1	10/22/24 08:57	10/27/24 06:26	7440-42-8	
Calcium	76600	ug/L	200	26.9	1	10/22/24 08:57	10/27/24 06:26	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/22/24 08:57	10/27/24 06:26	7440-48-4	
Iron	3710	ug/L	50.0	9.1	1	10/22/24 08:57	10/27/24 06:26	7439-89-6	
Lithium	10.7	ug/L	10.0	3.7	1	10/22/24 08:57	10/27/24 06:26	7439-93-2	
Magnesium	30600	ug/L	50.0	20.1	1	10/22/24 08:57	10/27/24 06:26	7439-95-4	
Manganese	65.8	ug/L	5.0	0.39	1	10/22/24 08:57	10/27/24 06:26	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	10/22/24 08:57	10/27/24 06:26	7439-98-7	
Potassium	3150	ug/L	500	69.7	1	10/22/24 08:57	10/27/24 06:26	7440-09-7	
Sodium	41700	ug/L	500	115	1	10/22/24 08:57	10/27/24 06:26	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	22.6	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:22	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:36	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:22	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	392	mg/L	20.0	10.5	1		10/21/24 17:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	414	mg/L	10.0	10.0	1		10/15/24 11:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	14.6	mg/L	1.0	0.53	1		10/18/24 21:21	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 21:21	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		10/18/24 21:21	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-9 Lab ID: 60461975006 Collected: 10/07/24 14:06 Received: 10/09/24 14:50 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	236	ug/L	5.0	0.64	1	10/22/24 08:57	10/27/24 06:28	7440-39-3	
Boron	7800	ug/L	100	6.4	1	10/22/24 08:57	10/27/24 06:28	7440-42-8	
Calcium	167000	ug/L	200	26.9	1	10/22/24 08:57	10/27/24 06:28	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/22/24 08:57	10/27/24 06:28	7440-48-4	
Iron	19400	ug/L	50.0	9.1	1	10/22/24 08:57	10/27/24 06:28	7439-89-6	
Lithium	17.6	ug/L	10.0	3.7	1	10/22/24 08:57	10/27/24 06:28	7439-93-2	
Magnesium	51000	ug/L	50.0	20.1	1	10/22/24 08:57	10/27/24 06:28	7439-95-4	
Manganese	465	ug/L	5.0	0.39	1	10/22/24 08:57	10/27/24 06:28	7439-96-5	
Molybdenum	45.3	ug/L	20.0	1.0	1	10/22/24 08:57	10/27/24 06:28	7439-98-7	
Potassium	5250	ug/L	500	69.7	1	10/22/24 08:57	10/27/24 06:28	7440-09-7	
Sodium	45900	ug/L	500	115	1	10/22/24 08:57	10/27/24 06:28	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	16.7	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:24	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:42	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:24	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO ₃	93.8	mg/L	20.0	10.5	1		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	899	mg/L	13.3	13.3	1		10/14/24 11:21		
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		10/18/24 22:03	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 21:49	16984-48-8	
Sulfate	283	mg/L	20.0	11.0	20		10/18/24 22:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-10 Lab ID: 60461975007 Collected: 10/07/24 12:50 Received: 10/09/24 14:50 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	72.2	ug/L	5.0	0.64	1	10/22/24 08:57	10/27/24 06:35	7440-39-3	
Boron	2000	ug/L	100	6.4	1	10/22/24 08:57	10/27/24 06:35	7440-42-8	
Calcium	262000	ug/L	200	26.9	1	10/22/24 08:57	10/27/24 06:35	7440-70-2	
Cobalt	5.8	ug/L	5.0	1.2	1	10/22/24 08:57	10/27/24 06:35	7440-48-4	
Iron	2990	ug/L	50.0	9.1	1	10/22/24 08:57	10/27/24 06:35	7439-89-6	
Lithium	43.3	ug/L	10.0	3.7	1	10/22/24 08:57	10/27/24 06:35	7439-93-2	
Magnesium	64700	ug/L	50.0	20.1	1	10/22/24 08:57	10/27/24 06:35	7439-95-4	
Manganese	780	ug/L	5.0	0.39	1	10/22/24 08:57	10/27/24 06:35	7439-96-5	
Molybdenum	7.3J	ug/L	20.0	1.0	1	10/22/24 08:57	10/27/24 06:35	7439-98-7	
Potassium	9400	ug/L	500	69.7	1	10/22/24 08:57	10/27/24 06:35	7440-09-7	
Sodium	88400	ug/L	500	115	1	10/22/24 08:57	10/27/24 06:35	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	10/23/24 10:25	10/25/24 15:32	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:44	7440-47-3	
Selenium	0.32J	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:32	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	2140	mg/L	80.0	42.0	4		10/16/24 15:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1270	mg/L	40.0	40.0	1		10/14/24 11:21		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	77.3	mg/L	20.0	10.5	20		10/18/24 14:39	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 14:27	16984-48-8	
Sulfate	415	mg/L	50.0	27.5	50		10/18/24 14:52	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-CA-DUP-1 Lab ID: 60461975008 Collected: 10/08/24 08:00 Received: 10/09/24 14:50 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	340	ug/L	5.0	0.64	1	10/22/24 08:57	10/27/24 06:37	7440-39-3	
Boron	321	ug/L	100	6.4	1	10/22/24 08:57	10/27/24 06:37	7440-42-8	
Calcium	74500	ug/L	200	26.9	1	10/22/24 08:57	10/27/24 06:37	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/22/24 08:57	10/27/24 06:37	7440-48-4	
Iron	3510	ug/L	50.0	9.1	1	10/22/24 08:57	10/27/24 06:37	7439-89-6	
Lithium	11.1	ug/L	10.0	3.7	1	10/22/24 08:57	10/27/24 06:37	7439-93-2	
Magnesium	29700	ug/L	50.0	20.1	1	10/22/24 08:57	10/27/24 06:37	7439-95-4	
Manganese	63.5	ug/L	5.0	0.39	1	10/22/24 08:57	10/27/24 06:37	7439-96-5	
Molybdenum	1.1J	ug/L	20.0	1.0	1	10/22/24 08:57	10/27/24 06:37	7439-98-7	
Potassium	3070	ug/L	500	69.7	1	10/22/24 08:57	10/27/24 06:37	7440-09-7	
Sodium	41500	ug/L	500	115	1	10/22/24 08:57	10/27/24 06:37	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	22.9	ug/L	1.0	0.13	1	10/23/24 10:25	10/25/24 15:34	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:46	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:34	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	403	mg/L	20.0	10.5	1		10/21/24 17:35		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	414	mg/L	10.0	10.0	1		10/15/24 11:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	15.5	mg/L	1.0	0.53	1		10/18/24 16:48	16887-00-6	
Fluoride	0.22	mg/L	0.20	0.12	1		10/18/24 16:48	16984-48-8	
Sulfate	0.56J	mg/L	1.0	0.55	1		10/18/24 16:48	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-CA-FB-1									
Lab ID: 60461975009									
Collected: 10/08/24 09:40									
Received: 10/09/24 14:50									
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	10/22/24 08:57	10/27/24 06:44	7440-39-3	B
Boron	10.8J	ug/L	100	6.4	1	10/22/24 08:57	10/27/24 06:44	7440-42-8	
Calcium	<26.9	ug/L	200	26.9	1	10/22/24 08:57	10/27/24 06:44	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	10/22/24 08:57	10/27/24 06:44	7440-48-4	
Iron	<9.1	ug/L	50.0	9.1	1	10/22/24 08:57	10/27/24 06:44	7439-89-6	
Lithium	<3.7	ug/L	10.0	3.7	1	10/22/24 08:57	10/27/24 06:44	7439-93-2	
Magnesium	<20.1	ug/L	50.0	20.1	1	10/22/24 08:57	10/27/24 06:44	7439-95-4	
Manganese	<0.39	ug/L	5.0	0.39	1	10/22/24 08:57	10/27/24 06:44	7439-96-5	
Molybdenum	<1.0	ug/L	20.0	1.0	1	10/22/24 08:57	10/27/24 06:44	7439-98-7	
Potassium	<69.7	ug/L	500	69.7	1	10/22/24 08:57	10/27/24 06:44	7440-09-7	
Sodium	247J	ug/L	500	115	1	10/22/24 08:57	10/27/24 06:44	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	10/23/24 10:25	10/25/24 15:36	7440-38-2	
Chromium	<0.30	ug/L	1.0	0.30	1	10/30/24 09:18	11/15/24 14:48	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	10/23/24 10:25	10/25/24 15:36	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		10/21/24 17:41		
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		10/15/24 11:18		
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		10/18/24 17:26	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		10/18/24 17:26	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		10/18/24 17:26	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-TP-2 Lab ID: 60461975015 Collected: 11/07/24 10:05 Received: 11/08/24 05:58 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	65.4	ug/L	5.0	0.64	1	11/11/24 10:32	11/22/24 10:55	7440-39-3	
Boron	3120	ug/L	100	6.4	1	11/11/24 10:32	11/22/24 10:55	7440-42-8	
Calcium	235000	ug/L	200	26.9	1	11/11/24 10:32	11/22/24 10:55	7440-70-2	
Cobalt	<1.2	ug/L	5.0	1.2	1	11/11/24 10:32	11/22/24 10:55	7440-48-4	
Iron	18500	ug/L	50.0	9.1	1	11/11/24 10:32	11/22/24 10:55	7439-89-6	
Lithium	41.5	ug/L	10.0	3.7	1	11/11/24 10:32	11/22/24 10:55	7439-93-2	
Magnesium	58500	ug/L	50.0	20.1	1	11/11/24 10:32	11/22/24 10:55	7439-95-4	
Manganese	676	ug/L	5.0	0.39	1	11/11/24 10:32	11/22/24 10:55	7439-96-5	
Molybdenum	17.5J	ug/L	20.0	1.0	1	11/11/24 10:32	11/22/24 10:55	7439-98-7	
Potassium	8600	ug/L	500	69.7	1	11/11/24 10:32	11/22/24 10:55	7440-09-7	
Sodium	168000	ug/L	500	115	1	11/11/24 10:32	11/22/24 10:55	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	4.8	ug/L	1.0	0.13	1	11/12/24 09:36	11/20/24 19:00	7440-38-2	
Chromium	0.43J	ug/L	1.0	0.30	1	11/12/24 09:36	11/20/24 19:00	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/12/24 09:36	11/20/24 19:00	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	394	mg/L	40.0	21.0	2		11/18/24 13:11		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1520	mg/L	40.0	40.0	1		11/11/24 15:51		
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		11/27/24 00:46	16887-00-6	
Fluoride	0.32	mg/L	0.20	0.12	1		11/27/24 00:33	16984-48-8	
Sulfate	532	mg/L	50.0	27.5	50		11/27/24 00:59	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 911808

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: 60461975001, 60461975004

METHOD BLANK: 3609393

Matrix: Water

Associated Lab Samples: 60461975001, 60461975004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	10/10/24 18:39	
Boron	ug/L	<6.4	100	6.4	10/10/24 18:39	
Calcium	ug/L	<26.9	200	26.9	10/10/24 18:39	
Cobalt	ug/L	<1.2	5.0	1.2	10/10/24 18:39	
Iron	ug/L	<9.1	50.0	9.1	10/10/24 18:39	
Lithium	ug/L	<3.7	10.0	3.7	10/10/24 18:39	
Magnesium	ug/L	<20.1	50.0	20.1	10/10/24 18:39	
Manganese	ug/L	<0.39	5.0	0.39	10/10/24 18:39	
Molybdenum	ug/L	<1.0	20.0	1.0	10/10/24 18:39	
Potassium	ug/L	<69.7	500	69.7	10/10/24 18:39	
Sodium	ug/L	<115	500	115	10/10/24 18:39	

LABORATORY CONTROL SAMPLE: 3609394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Boron	ug/L	1000	951	95	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lithium	ug/L	1000	1030	103	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	988	99	85-115	
Molybdenum	ug/L	1000	984	98	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3609395 3609396

Parameter	Units	60461975001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	644	1000	1000	1640	1610	100	97	70-130	2	20	
Boron	ug/L	679	1000	1000	1620	1580	94	90	70-130	2	20	
Calcium	ug/L	262000	10000	10000	270000	263000	80	8	70-130	3	20 M1	
Cobalt	ug/L	<1.2	1000	1000	979	959	98	96	70-130	2	20	
Iron	ug/L	38500	10000	10000	48400	46800	99	83	70-130	3	20	
Lithium	ug/L	16.9	1000	1000	1060	1040	104	103	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3609395 3609396												
Parameter	Units	60461975001	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
Magnesium	ug/L	63600	10000	10000	72800	71100	92	76	70-130	2	20	
Manganese	ug/L	2140	1000	1000	3090	2990	95	85	70-130	3	20	
Molybdenum	ug/L	<1.0	1000	1000	987	969	99	97	70-130	2	20	
Potassium	ug/L	8110	10000	10000	18500	18000	104	99	70-130	3	20	
Sodium	ug/L	20500	10000	10000	30500	29800	100	92	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch:	913418	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: 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

METHOD BLANK: 3616229

Matrix: Water

Associated Lab Samples: 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	10/27/24 06:13	
Boron	ug/L	9.6J	100	6.4	10/27/24 06:13	
Calcium	ug/L	<26.9	200	26.9	10/27/24 06:13	
Cobalt	ug/L	<1.2	5.0	1.2	10/27/24 06:13	
Iron	ug/L	<9.1	50.0	9.1	10/27/24 06:13	
Lithium	ug/L	<3.7	10.0	3.7	10/27/24 06:13	
Magnesium	ug/L	<20.1	50.0	20.1	10/27/24 06:13	
Manganese	ug/L	<0.39	5.0	0.39	10/27/24 06:13	
Molybdenum	ug/L	<1.0	20.0	1.0	10/27/24 06:13	
Potassium	ug/L	<69.7	500	69.7	10/27/24 06:13	
Sodium	ug/L	<115	500	115	10/27/24 06:13	

LABORATORY CONTROL SAMPLE: 3616230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	987	99	85-115	
Calcium	ug/L	10000	10500	105	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10500	105	85-115	
Lithium	ug/L	1000	1060	106	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10300	103	85-115	
Sodium	ug/L	10000	10500	105	85-115	

MATRIX SPIKE SAMPLE: 3616233

Parameter	Units	60462249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	5.8	1000	1020	101	70-130	
Boron	ug/L	1290	1000	2260	98	70-130	
Calcium	ug/L	3980	10000	14200	102	70-130	
Cobalt	ug/L	ND	1000	974	97	70-130	
Iron	ug/L	ND	10000	10400	104	70-130	
Lithium	ug/L	50.8	1000	1090	104	70-130	
Magnesium	ug/L	1350	10000	11000	97	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

MATRIX SPIKE SAMPLE:		3616233					
Parameter	Units	60462249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	6.0	1000	969	96	70-130	
Molybdenum	ug/L	ND	1000	992	99	70-130	
Potassium	ug/L	7200	10000	17500	103	70-130	
Sodium	ug/L	1020000	10000	1040000	114	70-130 E	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			3616234		3616235							
		60461974010	MS Spike	MSD Spike								
Parameter	Units	Result	Conc.	Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	<0.64	2000	2000	2030	2060	101	103	70-130	2	20	
Boron	ug/L	9.4J	2000	2000	1960	1990	97	99	70-130	2	20	
Calcium	ug/L	<26.9	20000	20000	20600	21000	103	105	70-130	2	20	
Cobalt	ug/L	<1.2	2000	2000	2040	2070	102	104	70-130	1	20	
Iron	ug/L	<9.1	20000	20000	20600	21100	103	105	70-130	2	20	
Lithium	ug/L	<3.7	2000	2000	2070	2110	104	106	70-130	2	20	
Magnesium	ug/L	<20.1	20000	20000	20100	20500	101	103	70-130	2	20	
Manganese	ug/L	<0.39	2000	2000	2010	2030	100	101	70-130	1	20	
Molybdenum	ug/L	<1.0	2000	2000	2030	2060	102	103	70-130	1	20	
Potassium	ug/L	<69.7	20000	20000	20300	20600	101	103	70-130	1	20	
Sodium	ug/L	<115	20000	20000	20600	21000	103	105	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 915872

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: 60461975015

METHOD BLANK: 3626370

Matrix: Water

Associated Lab Samples: 60461975015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/22/24 10:23	
Boron	ug/L	<6.4	100	6.4	11/22/24 10:23	
Calcium	ug/L	225	200	26.9	11/22/24 11:32	P8
Cobalt	ug/L	<1.2	5.0	1.2	11/22/24 10:23	
Iron	ug/L	84.8	50.0	9.1	11/22/24 11:32	P8
Lithium	ug/L	<3.7	10.0	3.7	11/22/24 10:23	
Magnesium	ug/L	<20.1	50.0	20.1	11/22/24 10:23	
Manganese	ug/L	0.75J	5.0	0.39	11/22/24 10:23	
Molybdenum	ug/L	<1.0	20.0	1.0	11/22/24 10:23	
Potassium	ug/L	<69.7	500	69.7	11/22/24 10:23	
Sodium	ug/L	<115	500	115	11/22/24 10:23	

LABORATORY CONTROL SAMPLE: 3626371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	948	95	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Cobalt	ug/L	1000	1070	107	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lithium	ug/L	1000	1010	101	85-115	
Magnesium	ug/L	10000	9770	98	85-115	
Manganese	ug/L	1000	1040	104	85-115	
Molybdenum	ug/L	1000	1030	103	85-115	
Potassium	ug/L	10000	9800	98	85-115	
Sodium	ug/L	10000	9990	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626372

3626373

Parameter	Units	60464178002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	22.6	1000	1000	1060	1050	104	103	70-130	1	20	
Boron	ug/L	13.6J	1000	1000	979	973	96	96	70-130	1	20	
Calcium	ug/L	13600	10000	10000	24100	23800	105	102	70-130	1	20	
Cobalt	ug/L	<1.2	1000	1000	1110	1060	111	106	70-130	5	20	
Iron	ug/L	1020	10000	10000	12000	11500	110	105	70-130	4	20	
Lithium	ug/L	<3.7	1000	1000	1020	1010	102	101	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626372 3626373											
Parameter	Units	60464178002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD
			Spike Conc.	Spike Conc.							
Magnesium	ug/L	7300	10000	10000	17300	17200	100	99	70-130	0	20
Manganese	ug/L	42.4	1000	1000	1120	1080	108	104	70-130	3	20
Molybdenum	ug/L	<1.0	1000	1000	1070	1020	107	102	70-130	4	20
Potassium	ug/L	1070	10000	10000	11100	11100	100	100	70-130	0	20
Sodium	ug/L	687	10000	10000	10700	10600	100	99	70-130	1	20

MATRIX SPIKE SAMPLE: 3626374							
Parameter	Units	60464236001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	31.5	1000	1060	102	70-130	
Boron	ug/L	ND	1000	1050	96	70-130	
Calcium	ug/L	32600	10000	42900	93	70-130	
Cobalt	ug/L	ND	1000	1050	105	70-130	
Iron	ug/L	342	10000	10500	99	70-130	
Lithium	ug/L	18.0	1000	1040	102	70-130	
Magnesium	ug/L	9710	10000	19300	93	70-130	
Manganese	ug/L	74.1	1000	1100	102	70-130	
Molybdenum	ug/L	ND	1000	1050	103	70-130	
Potassium	ug/L	116000	10000	130000	92	70-130	
Sodium	ug/L	486000	10000	500000	7	70-130	M1

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	913605	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975001, 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

METHOD BLANK: 3616853 Matrix: Water
Associated Lab Samples: 60461975001, 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	10/25/24 14:45	
Selenium	ug/L	<0.18	1.0	0.18	10/25/24 14:45	

LABORATORY CONTROL SAMPLE: 3616854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	39.9	100	85-115	
Selenium	ug/L	40	40.3	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3616855 3616856

Parameter	Units	60461975001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	1.0	40	40	38.8	39.1	95	95	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.1	36.9	93	92	70-130	1	20	

MATRIX SPIKE SAMPLE: 3616857

Parameter	Units	60461975006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	16.7	40	55.6	97	70-130	
Selenium	ug/L	<0.18	40	36.9	92	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	914437	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975001

METHOD BLANK: 3620414 Matrix: Water
Associated Lab Samples: 60461975001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	11/15/24 13:44	

LABORATORY CONTROL SAMPLE: 3620415

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	40.2	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3620416 3620417

Parameter	Units	60461975001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<0.30	40	40	39.0	39.3	97	98	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	914438	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

METHOD BLANK: 3620421 Matrix: Water
Associated Lab Samples: 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	11/15/24 14:16	

LABORATORY CONTROL SAMPLE: 3620422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	40.4	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3620423 3620424

Parameter	Units	60461974008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<0.30	40	40	39.1	38.8	97	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 916045

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975015

METHOD BLANK: 3626821

Matrix: Water

Associated Lab Samples: 60461975015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	11/20/24 18:54	
Chromium	ug/L	<0.30	1.0	0.30	11/20/24 18:54	
Selenium	ug/L	<0.18	1.0	0.18	11/20/24 18:54	

LABORATORY CONTROL SAMPLE: 3626822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	40.5	101	85-115	
Chromium	ug/L	40	39.5	99	85-115	
Selenium	ug/L	40	42.0	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626823 3626824

Parameter	Units	60464235003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.0016 mg/L	40	40	41.9	41.4	101	99	70-130	1	20	
Chromium	ug/L	ND	40	40	39.8	39.8	97	97	70-130	0	20	
Selenium	ug/L	ND	40	40	39.4	38.9	97	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	916805	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975004

METHOD BLANK: 3630181 Matrix: Water
Associated Lab Samples: 60461975004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	12/03/24 12:50	
Selenium	ug/L	<0.18	1.0	0.18	12/03/24 12:50	

LABORATORY CONTROL SAMPLE: 3630182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	37.3	93	85-115	
Selenium	ug/L	40	39.3	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3630183 3630184

Parameter	Units	60461975004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	12.9	40	40	49.8	51.2	92	96	70-130	3	20	
Selenium	ug/L	<0.18	40	40	36.8	37.6	92	94	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	918671	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975004

METHOD BLANK: 3638173 Matrix: Water
Associated Lab Samples: 60461975004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	12/06/24 17:27	

LABORATORY CONTROL SAMPLE: 3638174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	38.0	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3638175 3638176

Parameter	Units	60461975004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<0.30	40	40	36.5	38.4	91	96	70-130	5	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	912788	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975001, 60461975004, 60461975006, 60461975007

METHOD BLANK: 3613744 Matrix: Water
Associated Lab Samples: 60461975001, 60461975004, 60461975006, 60461975007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	10/16/24 15:03	

LABORATORY CONTROL SAMPLE: 3613745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	486	97	90-110	

SAMPLE DUPLICATE: 3613746

Parameter	Units	60461975001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	1010	1940	63	10 D6	

SAMPLE DUPLICATE: 3613747

Parameter	Units	60462042004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	426	428	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	913308	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975005, 60461975008, 60461975009

METHOD BLANK: 3615996 Matrix: Water
Associated Lab Samples: 60461975005, 60461975008, 60461975009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	10/21/24 16:46	

LABORATORY CONTROL SAMPLE: 3615997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	501	100	90-110	

SAMPLE DUPLICATE: 3615998

Parameter	Units	60461974008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	343	349	2	10	

SAMPLE DUPLICATE: 3615999

Parameter	Units	60462335002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	110	107	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 916772

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975015

METHOD BLANK: 3630090

Matrix: Water

Associated Lab Samples: 60461975015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<10.5	20.0	10.5	11/18/24 11:46	

LABORATORY CONTROL SAMPLE: 3630091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3630092

Parameter	Units	60464022001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	142	143	0	10	

SAMPLE DUPLICATE: 3630093

Parameter	Units	60464294002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	423	437	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	911950	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975001, 60461975004

METHOD BLANK: 3609850 Matrix: Water
Associated Lab Samples: 60461975001, 60461975004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/09/24 11:12	

LABORATORY CONTROL SAMPLE: 3609851

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

SAMPLE DUPLICATE: 3609852

Parameter	Units	60461970011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1840	1740	6	10	

SAMPLE DUPLICATE: 3609853

Parameter	Units	60461975001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	940	942	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	912467	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975006, 60461975007

METHOD BLANK: 3612491 Matrix: Water
Associated Lab Samples: 60461975006, 60461975007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/14/24 11:20	

LABORATORY CONTROL SAMPLE: 3612492

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

SAMPLE DUPLICATE: 3612493

Parameter	Units	60462202001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	451	455	1	10	

SAMPLE DUPLICATE: 3612494

Parameter	Units	60462335009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	228	224	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	912634	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975005, 60461975008, 60461975009

METHOD BLANK: 3613135 Matrix: Water
Associated Lab Samples: 60461975005, 60461975008, 60461975009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/15/24 11:17	

LABORATORY CONTROL SAMPLE: 3613136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1000	100	80-120	

SAMPLE DUPLICATE: 3613137

Parameter	Units	60461974011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1030	1020	1	10	

SAMPLE DUPLICATE: 3613138

Parameter	Units	60462335002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1000	988	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	915880	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60461975015

METHOD BLANK: 3626408 Matrix: Water
Associated Lab Samples: 60461975015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/24 15:48	

LABORATORY CONTROL SAMPLE: 3626409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 3626410

Parameter	Units	60463806003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2140	2220	4	10	

SAMPLE DUPLICATE: 3626411

Parameter	Units	60464112003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	763	748	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 913021

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: 60461975005, 60461975006

METHOD BLANK: 3614909

Matrix: Water

Associated Lab Samples: 60461975005, 60461975006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	10/17/24 23:14	
Fluoride	mg/L	<0.12	0.20	0.12	10/17/24 23:14	
Sulfate	mg/L	<0.55	1.0	0.55	10/17/24 23:14	

LABORATORY CONTROL SAMPLE: 3614910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3614911 3614912

Parameter	Units	60462202001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	29.4	100	100	116	112	86	82	80-120	3	15	
Fluoride	mg/L	0.15J	2.5	2.5	3.4	3.7	129	141	80-120	8	15	M1
Sulfate	mg/L	94.4	100	100	196	192	102	97	80-120	2	15	

MATRIX SPIKE SAMPLE: 3614913

Parameter	Units	60462202002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	31.0	50	77.5	93	80-120	
Fluoride	mg/L	0.21	2.5	2.6	95	80-120	
Sulfate	mg/L	175	1000	1330	116	80-120	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch:	913031	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: 60461975007, 60461975008, 60461975009

METHOD BLANK: 3614924 Matrix: Water

Associated Lab Samples: 60461975007, 60461975008, 60461975009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	10/18/24 14:01	
Fluoride	mg/L	<0.12	0.20	0.12	10/18/24 14:01	
Sulfate	mg/L	<0.55	1.0	0.55	10/18/24 14:01	

LABORATORY CONTROL SAMPLE: 3614925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Fluoride	mg/L	2.5	2.3	94	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3614926 3614927

Parameter	Units	60461975007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	77.3	100	100	171	170	94	93	80-120	1	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.0	2.8	120	113	80-120	6	15	
Sulfate	mg/L	415	250	250	665	657	100	97	80-120	1	15	

MATRIX SPIKE SAMPLE: 3614928

Parameter	Units	60461975008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15.5	5	20.6	103	80-120	
Fluoride	mg/L	0.22	2.5	2.9	107	80-120	
Sulfate	mg/L	0.56J	5	5.6	101	80-120	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	913246	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: 60461975001, 60461975004

METHOD BLANK: 3615846 Matrix: Water

Associated Lab Samples: 60461975001, 60461975004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	10/23/24 10:09	
Fluoride	mg/L	<0.12	0.20	0.12	10/23/24 10:09	
Sulfate	mg/L	<0.55	1.0	0.55	10/23/24 10:09	

LABORATORY CONTROL SAMPLE: 3615847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	5.4	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3615848 3615849

Parameter	Units	60462335012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.9	5	5	6.2	6.8	87	99	80-120	9	15	
Fluoride	mg/L	0.42	2.5	2.5	2.8	3.1	95	107	80-120	10	15	
Sulfate	mg/L	140	100	100	244	244	104	104	80-120	0	15	

MATRIX SPIKE SAMPLE: 3615850

Parameter	Units	60462335013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.4	5	7.1	114	80-120	
Fluoride	mg/L	0.37	2.5	3.2	114	80-120	
Sulfate	mg/L	126	100	234	107	80-120	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60461975

QC Batch:	917520	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: 60461975015

METHOD BLANK: 3633761 Matrix: Water

Associated Lab Samples: 60461975015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/26/24 10:00	
Fluoride	mg/L	<0.12	0.20	0.12	11/26/24 10:00	
Sulfate	mg/L	<0.55	1.0	0.55	11/26/24 10:00	

LABORATORY CONTROL SAMPLE: 3633762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	110	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3633763 3633764

Parameter	Units	60464713006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	60.5	5	5	58.2	57.5	-47	-60	80-120	1	15	E,M1
Fluoride	mg/L	ND	2.5	2.5	2.9	2.5	114	102	80-120	11	15	
Sulfate	mg/L	6.3	5	5	12.2	11.6	117	106	80-120	5	15	

MATRIX SPIKE SAMPLE: 3633765

Parameter	Units	60464713015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	77.6	25	89.2	47	80-120	1e,M1
Fluoride	mg/L	ND	12.5	7.9	62	80-120	1e,M1
Sulfate	mg/L	7.4	25	33.2	103	80-120	1e

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-11S		Lab ID: 60461975001	Collected: 10/04/24 09:38	Received: 10/05/24 07:00	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	0.981 ± 0.730 (1.07) C:NA T:91%		pCi/L	10/28/24 15:34	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	1.55 ± 0.570 (0.825) C:81% T:84%		pCi/L	10/28/24 14:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-CA-MS-1		Lab ID: 60461975002	Collected: 10/04/24 09:38	Received: 10/05/24 07:00	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	84.79 %REC ± NA (NA) C:NA T:NA		pCi/L	10/28/24 15:34	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	71.19 %REC ± NA (NA) C:NA T:NA		pCi/L	10/28/24 14:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-CA-MSD-1		Lab ID: 60461975003		Collected: 10/04/24 09:38	Received: 10/05/24 07:00	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	83.20 %REC 1.89RPD ± NA (NA) C:NA T:NA		pCi/L	10/28/24 15:34	13982-63-3	
Pace Analytical Services - Greensburg								
Radium-228		EPA 904.0	61.66 %REC 14.36RPD ± NA (NA) C:NA T:NA		pCi/L	10/28/24 14:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-11D		Lab ID: 60461975004	Collected: 10/04/24 12:30	Received: 10/05/24 07:00	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	1.14 ± 1.02 (1.61) C:NA T:90%		pCi/L	10/28/24 14:16	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.939 ± 0.480 (0.851) C:83% T:80%		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-TP-1		Lab ID: 60461975005	Collected: 10/08/24 09:25	Received: 10/09/24 14:50	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	0.338 ± 0.479 (0.811) C:NA T:91%		pCi/L	10/28/24 14:29	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.649 ± 0.491 (0.968) C:68% T:92%		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-9		Lab ID: 60461975006	Collected: 10/07/24 14:06	Received: 10/09/24 14:50	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	0.207 ± 0.730 (1.35) C:NA T:93%		pCi/L	10/28/24 14:29	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.770 ± 0.525 (1.01) C:73% T:74%		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-MW-10		Lab ID: 60461975007	Collected: 10/07/24 12:50	Received: 10/09/24 14:50	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	-0.815 ± 0.622 (1.44) C:NA T:91%		pCi/L	10/28/24 14:29	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	1.06 ± 0.486 (0.815) C:83% T:80%		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-CA-DUP-1		Lab ID: 60461975008	Collected: 10/08/24 08:00	Received: 10/09/24 14:50	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	0.364 ± 0.533 (0.910) C:NA T:96%		pCi/L	10/28/24 14:29	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.158 ± 0.317 (0.699) C:83% T:89%		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-CA-FB-1		Lab ID: 60461975009	Collected: 10/08/24 09:40	Received: 10/09/24 14:50	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	0.130 ± 0.479 (0.920) C:NA T:92%		pCi/L	10/28/24 14:29	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	0.400 ± 0.356 (0.720) C:75% T:96%		pCi/L	10/24/24 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Sample: M-TP-2		Lab ID: 60461975015	Collected: 11/07/24 10:05	Received: 11/08/24 05:58	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	0.245 ± 0.500 (0.889) C:NA T:92%		pCi/L	12/06/24 14:27	13982-63-3	
Pace Analytical Services - Greensburg							
Radium-228	EPA 904.0	1.64 ± 0.625 (0.943) C:74% T:89%		pCi/L	12/04/24 14:37	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch:	703894	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: 60461975004, 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

METHOD BLANK:	3427732	Matrix:	Water
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Associated Lab Samples: 60461975004, 60461975005, 60461975006, 60461975007, 60461975008, 60461975009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.319 ± 0.258 (0.144) C:NA T:93%	pCi/L	10/28/24 14:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 710376

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: 60461975015

METHOD BLANK: 3459429

Matrix: Water

Associated Lab Samples: 60461975015

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.470 ± 0.320 (0.602) C:81% T:91%	pCi/L	12/04/24 14:37	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 710375

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: 60461975015

METHOD BLANK: 3459428

Matrix: Water

Associated Lab Samples: 60461975015

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.036 ± 0.289 (0.567) C:NA T:99%	pCi/L	12/06/24 14:27	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch:	703899	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:	60461975004, 60461975005, 60461975006, 60461975007, 60461975008, 60461975009		

METHOD BLANK:	3427738	Matrix:	Water
Associated Lab Samples:	60461975004, 60461975005, 60461975006, 60461975007, 60461975008, 60461975009		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.414 ± 0.374 (0.760) C:87% T:84%	pCi/L	10/24/24 15:39	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 703906

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: 60461975001, 60461975002, 60461975003

METHOD BLANK: 3427770

Matrix: Water

Associated Lab Samples: 60461975001, 60461975002, 60461975003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.691 ± 0.367 (0.644) C:81% T:87%	pCi/L	10/28/24 14:35	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA

Pace Project No.: 60461975

QC Batch: 703903

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: 60461975001, 60461975002, 60461975003

METHOD BLANK: 3427764

Matrix: Water

Associated Lab Samples: 60461975001, 60461975002, 60461975003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.110 ± 0.251 (0.404) C:NA T:91%	pCi/L	10/28/24 15:34	

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.: 60461975

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	Bracketing continuing calibration data is not available due to instrument error
B	Analyte was detected in the associated method blank.
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.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
P8	Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60461975

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60461975001	M-MW-11S	EPA 200.7	911808	EPA 200.7	911867
60461975004	M-MW-11D	EPA 200.7	911808	EPA 200.7	911867
60461975005	M-TP-1	EPA 200.7	913418	EPA 200.7	913503
60461975006	M-MW-9	EPA 200.7	913418	EPA 200.7	913503
60461975007	M-MW-10	EPA 200.7	913418	EPA 200.7	913503
60461975008	M-CA-DUP-1	EPA 200.7	913418	EPA 200.7	913503
60461975009	M-CA-FB-1	EPA 200.7	913418	EPA 200.7	913503
60461975015	M-TP-2	EPA 200.7	915872	EPA 200.7	915929
60461975001	M-MW-11S	EPA 200.8	913605	EPA 200.8	913681
60461975001	M-MW-11S	EPA 200.8	914437	EPA 200.8	914524
60461975004	M-MW-11D	EPA 200.8	916805	EPA 200.8	918047
60461975004	M-MW-11D	EPA 200.8	918671	EPA 200.8	918703
60461975005	M-TP-1	EPA 200.8	913605	EPA 200.8	913681
60461975005	M-TP-1	EPA 200.8	914438	EPA 200.8	914516
60461975006	M-MW-9	EPA 200.8	913605	EPA 200.8	913681
60461975006	M-MW-9	EPA 200.8	914438	EPA 200.8	914516
60461975007	M-MW-10	EPA 200.8	913605	EPA 200.8	913681
60461975007	M-MW-10	EPA 200.8	914438	EPA 200.8	914516
60461975008	M-CA-DUP-1	EPA 200.8	913605	EPA 200.8	913681
60461975008	M-CA-DUP-1	EPA 200.8	914438	EPA 200.8	914516
60461975009	M-CA-FB-1	EPA 200.8	913605	EPA 200.8	913681
60461975009	M-CA-FB-1	EPA 200.8	914438	EPA 200.8	914516
60461975015	M-TP-2	EPA 200.8	916045	EPA 200.8	916132
60461975001	M-MW-11S	EPA 903.1	703903		
60461975002	M-CA-MS-1	EPA 903.1	703903		
60461975003	M-CA-MSD-1	EPA 903.1	703903		
60461975004	M-MW-11D	EPA 903.1	703894		
60461975005	M-TP-1	EPA 903.1	703894		
60461975006	M-MW-9	EPA 903.1	703894		
60461975007	M-MW-10	EPA 903.1	703894		
60461975008	M-CA-DUP-1	EPA 903.1	703894		
60461975009	M-CA-FB-1	EPA 903.1	703894		
60461975015	M-TP-2	EPA 903.1	710375		
60461975001	M-MW-11S	EPA 904.0	703906		
60461975002	M-CA-MS-1	EPA 904.0	703906		
60461975003	M-CA-MSD-1	EPA 904.0	703906		
60461975004	M-MW-11D	EPA 904.0	703899		
60461975005	M-TP-1	EPA 904.0	703899		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA

Pace Project No.: 60461975

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60461975006	M-MW-9	EPA 904.0	703899		
60461975007	M-MW-10	EPA 904.0	703899		
60461975008	M-CA-DUP-1	EPA 904.0	703899		
60461975009	M-CA-FB-1	EPA 904.0	703899		
60461975015	M-TP-2	EPA 904.0	710376		
60461975001	M-MW-11S	SM 2320B	912788		
60461975004	M-MW-11D	SM 2320B	912788		
60461975005	M-TP-1	SM 2320B	913308		
60461975006	M-MW-9	SM 2320B	912788		
60461975007	M-MW-10	SM 2320B	912788		
60461975008	M-CA-DUP-1	SM 2320B	913308		
60461975009	M-CA-FB-1	SM 2320B	913308		
60461975015	M-TP-2	SM 2320B	916772		
60461975001	M-MW-11S	SM 2540C	911950		
60461975004	M-MW-11D	SM 2540C	911950		
60461975005	M-TP-1	SM 2540C	912634		
60461975006	M-MW-9	SM 2540C	912467		
60461975007	M-MW-10	SM 2540C	912467		
60461975008	M-CA-DUP-1	SM 2540C	912634		
60461975009	M-CA-FB-1	SM 2540C	912634		
60461975015	M-TP-2	SM 2540C	915880		
60461975001	M-MW-11S	EPA 300.0	913246		
60461975004	M-MW-11D	EPA 300.0	913246		
60461975005	M-TP-1	EPA 300.0	913021		
60461975006	M-MW-9	EPA 300.0	913021		
60461975007	M-MW-10	EPA 300.0	913031		
60461975008	M-CA-DUP-1	EPA 300.0	913031		
60461975009	M-CA-FB-1	EPA 300.0	913031		
60461975015	M-TP-2	EPA 300.0	917520		

REPORT OF LABORATORY ANALYSIS

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WO#: 60461975



DC#_Title: ENV-FRM-LENE-0009_Sample Co

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Rocksmith Geovins

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: FL98 Type of Ice: Wet Blue ☐ None ☐

Cooler Temperature (°C): As-read 1.0/20.2 Corr. Factor -0.1 Corrected 0.9/20.1

Date and initials of person examining contents:

1/10/2022 P. Smith

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: <u>WT</u>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒ 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: _____

LAB USE ONLY - Affix Workorder/Login Label Here

Scan QR Code for Instructions

Client: Racksmith & Bevenq

Profile: 3160576

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	JG5U	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3B	BP3Z	WPDU	ZPLC	Other
1	WT																		3			2	3							
2																														
3																														
4																			1											
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

Container Codes

Glass		Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1B	1L NaOH plastic
DG9H	40mL HCl amber vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic
DG9Q	40mL TSP amber vial	JG5U	4oz unpreserved amber wide	BP1U	1L unpreserved plastic
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2B	500mL NaOH plastic
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic
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
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered
BG3H	250mL HCl Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate
				BP4U	125mL unpreserved plastic
				BP4N	125mL HNO3 plastic
				BP4S	125mL H2SO4 plastic
				WPDU	16oz unpreserved plastic

Work Order Number:

60461975



DC#_Title: ENV-FRM-LENE-0009_Samp

Revision: 2

Effective Date: 01/12/2022

WO#: 60461975



60461975

Issued By: Lenead

Client Name: Rocksmitz beoen9Courier: 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 15/4.1 Corr. Factor -0.1 Corrected 14/4.0Date and initials of person
examining contents:Temperature should be above freezing to 6°C 15.1/14.215.0/14.1pv 10/10/24Chain of Custody present: ☐ Yes ☒ No ☐ N/AChain of Custody relinquished: ☐ Yes ☒ No ☐ N/ASamples arrived within holding time: ☒ Yes ☐ No ☐ N/AShort Hold Time analyses (<72hr): ☐ Yes ☒ No ☐ N/ARush Turn Around Time requested: ☐ Yes ☒ No ☐ N/ASufficient volume: ☒ Yes ☐ No ☐ N/ACorrect containers used: ☒ Yes ☐ No ☐ N/APace containers used: ☒ Yes ☐ No ☐ N/AContainers intact: ☒ Yes ☐ No ☐ N/AUnpreserved 5035A / TX1005/1006 soils frozen in 48hrs? ☐ Yes ☐ No ☒ N/AFiltered volume received for dissolved tests? ☐ Yes ☐ No ☒ N/ASample labels match COC: Date / time / ID / analyses ☒ Yes ☐ No ☐ N/ASamples contain multiple phases? Matrix: WT ☐ Yes ☒ No ☐ N/AContainers requiring pH preservation in compliance? ☒ Yes ☐ No ☐ N/A(HNO₃, H₂SO₄, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide)

(Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)

LOT#: 88727

Cyanide water sample checks:

Lead acetate strip turns dark? (Record only) ☐ Yes ☐ NoPotassium iodide test strip turns blue/purple? (Preserve) ☐ Yes ☐ NoTrip Blank present: ☐ Yes ☐ No ☒ N/AHeadspace in VOA vials (>6mm): ☐ Yes ☐ No ☒ N/ASamples from USDA Regulated Area: State: ☐ Yes ☐ No ☒ N/AAdditional 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: _____

Client: Rocksmith Geoeng

Profile/EZ #

Only print what you log.

Site:

Notes

Append to 60461975

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	BP3B	BP3Z	WPDU	ZPLC	Other
1																														
2																														
3	5																		1	6/10/24 +		2	1							
4																														
5	5																													
6	5																													
7	5																													
8	5																													
9																														
10																														
11																														
12																														

Container Codes

Glass			Plastic			Misc.		
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1B	1L NaOH plastic	I	Wipe/Swab	
DG9H	40mL HCl amber 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 unreserved amber wide	BP1U	1L unreserved plastic	AF	Air Filter	
DG9S	40mL H2SO4 amber vial	AG0U	100mL unreserved amber glass	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes	
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2B	500mL NaOH plastic	R	Terracore Kit	
DG9U	40mL amber unreserved	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 unreserved amber glass	BP2U	500mL unreserved plastic			
VG9U	40mL unreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate			
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic			
BG1U	1liter unreserved glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water	
BG3H	250mL HCL Clear glass	AG2U	500mL unreserved amber glass	BP3N	250mL HNO3 plastic	SL	Solid	
BG3U	250mL Unpres Clear glass	AG3U	250mL unreserved amber glass	BP3U	250mL unreserved plastic	NAL	Non-aqueous Liquid	
WGDU	16oz clear soil jar	AG4U	125mL unreserved amber glass	BP3S	250mL H2SO4 plastic	OL	Oil	
		AG5U	100mL unreserved amber glass	BP3Z	250mL NaOH, Zn Acetate	WP	Wipe	
				BP4U	125mL unreserved plastic	DW	Drinking Water	
				BP4N	125mL HNO3 plastic			
				BP4S	125mL H2SO4 plastic			
				WPDU	16oz unreserved plastic			

Work Order Number:

60461975

WO#: 60461975



DC#_Title: ENV-FRM-LENE-0009_Sample C

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name:

RocksmithCourier: 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: 7248 Type of Ice: Wet Blue ☐ None ☐Cooler Temperature (°C): As-read 2.1 Corr. Factor -0.1 Corrected _____Date and initials of person
examining contents:AF 7/1/8

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: <u>WT</u>	☐ Yes ☒ No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒ 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:

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - ATIX Workorder/Login Label Here

52619109

Scan QR Code for instructions

Specify Container Size **	Identify Container Preservative Type ***	Analyst Requested
1 1 3 1	1 3 1	** Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 50mL vial, (7) Encore, (8) TerraCore, (9) 90mL, (10) Other
2 2 2 2	2 2 2	*** Preservative Types: (1) None, (2) HNO ₃ , (3) H ₂ SO ₄ , (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO ₄ , (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeSOH, (11) Other

[illegible]

Customer Remarks / Special Conditions / Possible Hazards:				
# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	On Ice:
	Date/Time:	Tracking Number:		
	Date/Time:	Delivered by: [] In-Person [] Courier		
	Date/Time:	[] FedEx [] UPS [] Other		
	Date/Time:	Page: of		

Company Name: Rocksmith Geoenvironment, LLC.		Contact/Report To: Mark Haddock	
Street Address: 2370 Creve Coeur Mill Road, Maryland Heights, MO 63043		Phone #: 314-974-6578	
		E-Mail: mark.haddock@rocksmithgeo.com	
Customer Project #: COC# 14		Cc E-Mail:	
Project Name: AMEREN MEC-CA		Invoice To: Mark Haddock	
		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:		Reportable [] Yes [] No	
[] Level II [] Level III [] Level IV		DW PWSID # or WW Permit # as applicable:	
[] EQUIS		[] Same Day [] 1 Day [] 2 Day [] 3 Day [] Other	
[] Other		Field Filtered (if applicable): [] Yes [] No	
Date Requested:		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), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)			
Customer Sample ID		Collected or Composite End	
Matrix *		#	
Comp / Grab		Date	
Date		Time	
Res. Chlorine		Results	
Units			
Additional Instructions from Pace*:		Collected By: (Printed Name)	
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B		Signature:	
**App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo & 200.8 Metals - Sb, As, Cd, Cr, Se, Ti +7470 Hg		Received by/Company: (Signature)	
Relinquished by/Company: (Signature)		Received by/Company: (Signature)	
Relinquished by/Company: (Signature)		Received by/Company: (Signature)	
Relinquished by/Company: (Signature)		Received by/Company: (Signature)	
Relinquished by/Company: (Signature)		Received by/Company: (Signature)	

Rocksmith

Client:

Ameron MEC-CH

Site:

Profile/EZ #

Appendix to 60461975

Notes

only print what you just logged

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	BP3B	BP3Z	WPDU	ZPLC	Other
1	WT																					2								
2																														
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	BP1B	1L NaOH plastic	I	Wipe/Swab	
DG9H	40mL HCl amber vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic	SP5T	120mL Collform 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	BP2B	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			
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3B	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 unpreserved plastic			

Work Order Number:

60461975

Internal Transfer Chain of Custody



Workorder: 60461975 Workorder Name: AMEREN MEC-CA State Of Origin: MO Rush Multiplier: ☒ X Samples Pre-Logged into eCOC: ☒ Yes Cert. Needed: ☐ No Owner Received Date: 10/5/2024 Results Requested By: 10/24/2024

Report To: Subcontract To: Requested Analysis: Radium 226 Radium 228 LAB USE ONLY

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															Requested Analysis																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
LAB USE ONLY	Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers										Radium 226	Radium 228																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

Transfers		Released By		Date/Time		Received By		Date/Time		Comments	
1		Carman Jura		10/15/2024		Jura		10/16/2024		KS sample location: 60-R01-S4B	
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#: 30726579

30726579


DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt
Greensburg
Effective Date: 01/04/2024

WO# : 30726579

PM: MAR **Due Date:** 10/28/24
CLIENT: PACE_60_LEKS

Client Name: Pace- KS

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other
Tracking Number: 403364514948

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No **Seals Intact:** ☐ Yes ☒ No
Thermometer Used: _____ **Type of Ice:** Wet Blue None

Examined By: PS 10/16/24
Labeled By: PS 10/16/24
Temped By: _____

Cooler Temperature: Observed Temp _____ °C **Correction Factor:** _____ °C **Final Temp:** _____ °C
 Temp should be above freezing to 6°C

Comments:	Yes	No	NA	pH paper Lot#	D.P.D. Residual Chlorine Lot #
				1001041	
Chain of Custody Present	/			1.	
Chain of Custody Filled Out:	/			2.	
-Were client corrections present on GOC	/			3.	
Chain of Custody Relinquished	/			4.	
Sampler Name & Signature on COC:	/			5.	
Sample Labels match GOC:					
-Includes date/time/ID					
Matrix:					
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	/			11.	
Containers Intact:	/			12.	
Orthophosphate field filtered:			/	13.	
Hex Cr Aqueous samples field filtered:			/	14.	
Organic Samples checked for dichlorination			/	15.	
Filtered volume received for dissolved tests:	/			16.	
All containers checked for preservation:					
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix					
All containers meet method preservation requirements:	/			Initial when completed <u>PS</u>	Date/Time of Preservation
				Lot# of added Preservative	
8260C/D: Headspace in VOA Vials (> 6mm)			/	17.	
624.1: Headspace in VOA Vials (0mm)			/	18.	
Radon: Headspace in RAD Vials (0mm)			/	19.	
Trip Blank Present:			/	Trip blank custody seal present? YES or NO	
Rad Samples Screened <.05 mrem/hr.	/			Initial when completed <u>PS</u>	Date: <u>10/16/24</u> Survey Meter SN: <u>25014380</u>
Comments:					

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.
 Qualtrax ID: 55680

Internal Transfer Chain of Custody



Workorder: 60461975

Workorder Name: AMEREN MEC-CA

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

☐ Rush Multiplier X

☐ Samples Pre-Logged into eCOC

State Of Origin: MO

Cert. Needed: ☐ Yes ☒ No

Owner Received Date: 10/5/2024

Results Requested By: 10/31/2024

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	NO3	Radium 226	Radium 228	LAB USE ONLY
6	M-MW-9	PS	10/7/2024 14:06	60461975006	Water	1		X		PS 11/15/24 005
7	M-MW-10	PS	10/7/2024 12:50	60461975007	Water	1		X		PS 11/15/24 005
8	M-CA-DUP-1	PS	10/8/2024 08:00	60461975008	Water	1		X		PS 11/15/24 005
9										
1	M-TP-2	PS	11/7/2024 10:05	60461975015	Water	2		X		015

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1		11/12 1500	PSFent	11/24 1015	KS sample location: RECEIVING
2					
3					

Cooler Temperature on Receipt <u> </u> °C	Custody Seal Y or <u>N</u>	Received on Ice Y or <u>N</u>	Samples Intact <u>Y</u> 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#: 30735063



30735063

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-
Greensburg

Effective Date: 01/04/2024

WO#: 30735063

Due Date: 12/06/24

Client Name: Pace - KS

Pr:

PM: MAR

CLIENT: PACE_60_LEKS

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 40336452 6530

Initial / Date

Examined By: PS 11/15/24
Labeled By: PS 11/17/24
Temped By: PS 11/17/24

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

Comments:	Yes	No	NA	pH paper Lot# <u>1001041</u>	D.P.D. Residual Chlorine Lot # <u> </u>
Chain of Custody Present	☒	☐	☐	1.	
Chain of Custody Filled Out:	☒	☐	☐	2.	
-Were client corrections present on COC	☒	☐	☐	3.	
Chain of Custody Relinquished	☒	☐	☐	4.	
Sampler Name & Signature on COC:	☒	☐	☐	5.	
Sample Labels match COC:	☒	☐	☐		
-Includes date/time/ID					
Matrix: <u>WT</u>					
Samples Arrived within Hold Time:	☒	☐	☐	6.	
Short Hold Time Analysis (<72hr remaining):	☐	☒	☐	7.	
Rush Turn Around Time Requested:	☐	☒	☐	8.	
Sufficient Volume:	☐	☒	☐	9. <u>see below</u>	
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 dichlorination	☐	☐	☒	14.	
Filtered volume received for dissolved tests:	☐	☐	☒	15.	
All containers checked for preservation:	☒	☐	☐	16.	
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix					
All containers meet method preservation requirements:	☒	☐	☐	Initial when completed <u>PS</u>	Date/Time of Preservation
				Lot# of added Preservative	
8260C/D: Headspace in VOA Vials (> 6mm)	☐	☐	☒	17.	
624.1: Headspace in VOA Vials (0mm)	☐	☐	☒	18.	
Radon: Headspace in RAD Vials (0mm)	☐	☐	☒	19.	
Trip Blank Present:	☐	☐	☒	Trip blank custody seal present? YES or NO	
Rad Samples Screened <.05 mrem/hr.	☒	☐	☐	Initial when completed <u>PS</u>	Date: <u>11/13/24</u> Survey Meter SN: <u>524380</u>
Comments: <u>* Received 2X BPIN for Sample 015.</u>					
<u>Did not receive 006, 007, 008 as listed on COC.</u>					

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.

Qualtrax ID: 55680

Page 1 of 1

Page 68 of 68



Memorandum

December 12, 2024

To: Project File
Rocksmith Geoengineering, LLC

Project Number: 23010-24

CC: Mark Haddock, Jeffrey Ingram

From: Valerie Hurt

Email: valerie.hurt@rocksmithgeo.com

RE: Data Validation Summary, Meramec Energy Center – MEC-CA – Data Package 60461975

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).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
 Project Name: Ameren MEC-CA
 Reviewer: V. Hurt

Project Manager: J. Ingram
 Project Number: 23010-24
 Validation Date: 12/12/2024

Laboratory: Pace Analytical

SDG #: 60461975

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-CA-MS-1, M-CA-MSD-1, M-MW-11D, M-TP-1, M-MW-9, M-MW-10, M-CA-DUP-1, M-CA-FB-1
M-TP-2, M-CA-DUP-1, M-CA-FB-1, M-TP-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?	☒	☐	☐	<u>10/4/24-10/8/24 and 11/7/24</u>
b) Sampling team indicated?	☒	☐	☐	<u>JTR & JDQ</u>
c) Sample location noted?	☒	☐	☐	<u></u>
d) Sample depth indicated (Soils)?	☐	☐	☒	<u></u>
e) Sample type indicated (grab/composite)?	☒	☐	☐	<u>Grab</u>
f) Field QC noted?	☒	☐	☐	<u>See Notes</u>
g) Field parameters collected (note types)?	☒	☐	☐	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	☒	☐	☐	<u></u>
i) Notations of unacceptable field conditions/performance from field logs or field notes?	☐	☒	☐	<u></u>
j) Does the laboratory narrative indicate deficiencies?	☐	☐	☒	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

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-TP-1
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:

Alkalinity, chloride, fluoride, and sulfate diluted in some samples; no qualification necessary.

Method Blanks:

3626370: calcium (225), iron (84.8), associated with sample -015. Both results > 10x blank; no qualification necessary.

3616229: boron (9.6 J) associated with samples -005 through -009. Most results > 10x; no qualification necessary.

-009 detected below the RL, qualify as non-detect (U).

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks Continued:

3427732: radium-226 (0.319) associated with samples -004 through -009. All results are non detect; no qualification necessary.

Field Blank:

M-CA-FB-1 @ M-TP-1: boron (10.8 J). Boron > RL and 10x blank, no qualification necessary.

Duplicates:

M-CA-DUP-1 @ M-TP-1: fluoride and molybdenum detected in duplicate and not in parent sample; results qualified as estimates.

3613746: lab duplicate RPD (63%) exceeds control limit for alkalinity. Associated with sample -001, result qualified as estimate.

Lab duplicate max RPD: alkalinity, TDS: 10%.

MS/MSD:

3609395/3609396: MSD recovery low for calcium, MS recovery and RPD within control limits. Associated with sample -001.

Only one QC indicator does not meet criteria, no qualification necessary.

3626374: MS recovery low for sodium, associated with unrelated sample; no qualification necessary.

3614911/3614912: MS/MSD recovery high for fluoride, associated with an unrelated sample; no qualification necessary.

3633763/3633764: MS/MSD recovery low for chloride associated with an unrelated sample; no qualification necessary.

3633765: MS recovery low for chloride and fluoride associated with an unrelated sample; no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

[illegible]

Data Qualification:

Signature: V-H-A

Page 5 of 5

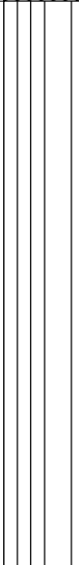
Appendix B

Boring Logs from Direct-Push Drilling Investigation



CLIENT Ameren Missouri
PROJECT NUMBER 23010-24 MNA
DATE STARTED 08-19-2024 COMPLETED 08-19-2024
DRILLING CONTRACTOR Bulldog Drilling
DRILLING METHOD Direct Push (MC-35)/Direct Push (DT-32)
EQUIPMENT Geoprobe 7822DT DRILLER J. Edwards
LOGGED BY J. Rasmussen CHECKED BY J. Ingram

PROJECT NAME MEC MNA Drilling
PROJECT LOCATION Meramec Energy Center
POSITION N: 934869.1 ft E: 864774.4 ft (NAD83, Missouri State Plane East Zone)
GROUND ELEVATION 400.17 ft FINAL DEPTH 60.00 ft
GROUNDWATER LEVELS
▽ AT TIME OF DRILLING: 21.00 ft

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
5		(0.0-8.0) FILL- (CL) SILTY CLAY, medium plasticity fines, trace very fine sane, trace organics (tree and grass roots); dusky brown (5YR 2/2), cohesive, w~PL, stiff.	CL		392.2 8.0	1	DP	3.6 4.0	(0.0-48.0) DT-32 rods, 4 foot runs.
		(5.0) SAA (Same As Above) except, dark gray (N3).				2	DP	2.8 4.0	
10		(8.0-21.5) (ML) CLAYEY SILT, non-platic to low plasticity fines, trace fine sand; dark gray (N2); cohesive, w~PL, firm.				3	DP	4.0 4.0	
		(12.5) SAA except, W>PL; soft.							

NOTES



CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY		
					DEPTH					
15	Direct Push (DT-32)	(15.0) SAA except, yellowish brown (10YR 5/4).	ML				4	DP	3.5 4.0	Water level 21.00 ft bgs, 8/19/2024.
(17.0) SAA except, mottled iron staining (10YR 5/4).						5	DP	4.0 4.0		
20										
(21.5-30.0) (CL) SILTY CLAY, medium plasticity fines; dusky yellowish brown (10YR 5/4) to dark gray (N3), cohesive, w~PL, stiff.		CL		378.7 21.5	6	DP	3.2 4.0			
(24.0) SAA except, homogeneous, trace very fine sand.							7	DP	4.0 4.0	
25										

NOTES



CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
30		(30.0-30.6) (SW) SAND, fine to course sub-rounded sand, some fine sub-rounded gravel; dark yellowish brown (10YR 4/2); non-cohesive, wet, compact. (30.6-32.4) (CL) SILTY CLAY, medium plasticity fines, trace fine sand; dusky yellowish brown (10YR 2/2) to dark gray (N3); cohesive, w~PL, stiff.	SW		370.2	8	DP	$\frac{3.3}{4.0}$	
					30.0				
			CL		369.6				
					30.6				
35		(32.4-34.4) (SW) SAND, fine to course sub-rounded sand, some fine sub-rounded gravel; dark yellowish brown (10YR 4/2); non-cohesive, wet, loose.	SW		367.8	9	DP	$\frac{4.0}{4.0}$	
					32.4				
			CL		365.8				
					34.4				
40		(34.4-36.8) (CL) SILTY CLAY, medium plasticity fines, trace fine sand; dusky yellowish brown (10YR 2/2) to dark gray (N3); cohesive, w~PL, stiff.	CL		363.4	10	DP	$\frac{4.0}{4.0}$	
					36.8				
			SP		362.5				
					37.7				
	(36.8-37.7) (SP) gravelly SAND, fine to course sub-rounded sand; fine to course sub-rounded gravel; dark yellowish brown (10YR 4/2); non-cohesive, wet, loose. (37.7-41.1) (CL) SILTY CLAY, medium plasticity fines, trace fine sands; dusky yellowish brown (10YR 2/2) to dark gray (N3); cohesive, w~PL, stiff.	CL		359.1	11	DP	$\frac{4.0}{4.0}$		
				41.1					
		SW-SC		356.7					

NOTES

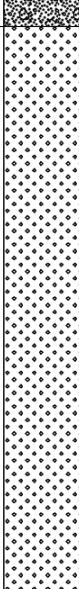


CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY		
					DEPTH					
45	Direct Push (MC-35)	(41.1-43.5) (SW-SC) SAND, fine to course sub-rounded sand, low to medium plasticity fines, trace fine gravel; medium dark gray (N4); non-cohesive, wet, compact.	CL		43.5	12	DP	4.0 4.0	(44.2-44.6) Sample collected for possible laboratory evaluation.	
(43.5-46.6) (CL) SILTY CLAY, low to medium plasticity fines, trace fine sand; medium dark gray (N4); cohesive, w~PL, stiff.		353.6								
50		(46.6-53.0) (SW) gravely SAND, fine to course sub-rounded sand, sub-rounded gravel; dark gray (N3), non-cohesive, wet, compact.	SW		46.6	13	DP	2.0 5.0	(48.0-60.0) Switched to fixed tip system, 5 foot runs	
55		(53.0-60.0) (SW) SAND, fine to medium sub-rounded sand, trace fine gravel; dark gray (N3); non-cohesive, wet, compacted			347.2					
				SW		53.0	14	DP	0.0 2.0	(53.0-55.0) Drop in rods while going down, rock or other obstacle in the way causing blockage of sampler.
						15	DP	5.0 5.0	(57.0-57.5) Sample collected for possible laboratory evaluation.	

NOTES

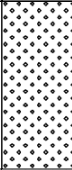


CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

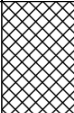
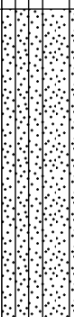
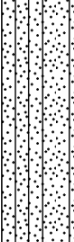
DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
60		(53.0-60.0) (SW) SAND, fine to medium sub-rounded sand, trace fine gravel; dark gray (N3); non-cohesive, wet, compacted			340.2				
65		Borehole terminated at 60.0 feet below ground surface.			60.0				
70									

NOTES



CLIENT Ameren Missouri
PROJECT NUMBER 23010-24 MNA
DATE STARTED 08-19-2024 COMPLETED 08-19-2024
DRILLING CONTRACTOR Bulldog Drilling
DRILLING METHOD Direct Push (MC-35)/Direct Push (DT-32)
EQUIPMENT Geoprobe 7822DT DRILLER J. Edwards
LOGGED BY J. Rasmussen CHECKED BY J. Ingram

PROJECT NAME MEC MNA Drilling
PROJECT LOCATION Meramec Energy Center
POSITION N: 933901.6 ft E: 865144.2 ft (NAD83, Missouri State Plane East Zone)
GROUND ELEVATION 415.26 ft FINAL DEPTH 54.00 ft
GROUNDWATER LEVELS
▽ AT TIME OF DRILLING: 26.20 ft

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
5		(0.0-1.1) FILL; gravel road fill			414.2	1	DP	3.7 4.0	(0.0-44.0) DT-32 rods, 4 foot runs.
		(1.1-8.0) (ML) SILT, non-plastic fines, some very fine sand; olive black (5Y 2/1); non-cohesive, dry, compact.	ML		1.1				
		(4.0) SAA (Same As Above) except, trace organics (tree roots and grass roots).			407.3	2	DP	3.7 4.0	
		10		(8.0-17.6) (ML) sandy SILT, non-plastic fines, fine sand; olive black (5Y 2/1); non-cohesive, dry, compact.	ML		8.0	3	
(11.0) SAA except, wet, soft, laminated iron staining (10R 4/6), trace tree roots.									

NOTES



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Ameren Missouri

PROJECT NAME

MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
15	Direct Push (DT-32)	(13.5) SAA except, olive black (5Y 2/1).	CL		397.7 17.6	4	DP	3.8 4.0	Run #5 - Swelling of clay causes artificial over-recovery of 4.2/4.0. Logged as 100% (4.0 / 4.0)
(17.6-26.6) (CL) SILTY CLAY, low to medium plasticity fines, trace fine sand; dusky yellowish brown (10YR 2/2); cohesive, w~PL, firm.		5		DP		4.0 4.0			
20				6		DP	4.0 4.0	(21.5- 22.0) Sample collected for possible laboratory evaluation.	
25		(24.0) SAA except, stiff; grayish brown (5YR 3/2).		7		DP	4.0 4.0	Water level 26.20 ft bgs, 8/19/2024.	
		(26.6-32.2) (ML) sandy clayey SILT, non-plastic fines, fine sand; dusky yellowish brown (10YR 2/2); cohesive, wet, soft.							

NOTES



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Ameren Missouri

PROJECT NAME

MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE					SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY		
					DEPTH					
30		(26.6-32.2) (ML) sandy clayey SILT, non-plastic fines, fine sand; dusky yellowish brown (10YR 2/2); cohesive, wet, soft.	ML			8	DP	$\frac{4.0}{4.0}$	(36.3-36.8) Provisional lab sample. (38.0-38.5) Sample collected for possible laboratory evaluation.	
35		(32.2-37.0) (SM) SILTY SAND, non-plastic fines, very fine to fine sand; dusky yellowish brown (10YR 4/2); non-cohesive, moist, compact.	SM		383.1 32.2	9	DP	$\frac{3.5}{4.0}$		
		(37.0-39.9) (ML) sandy SILT, non-plastic fines, fine sand; grayish brown (5Y 3/2); non-cohesive, wet, soft.	ML		378.3 37.0	10	DP	$\frac{4.0}{4.0}$		
40		(39.9-54.0) (SW) SAND, fine to course sub-rounded sand, trace non-plastic cohesive fines; dusky yellowish brown (10YR 2/2); non-cohesive, wet, compact.			375.4 39.9	11	DP	$\frac{4.0}{4.0}$		

NOTES



CLIENT

Ameren Missouri

PROJECT NAME

MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
45	Direct Push (MC-35)	(39.9-54.0) (SW) SAND, fine to course sub- rounded sand, trace non-plastic cohesive fines; dusky yellowish brown (10YR 2/2); non-cohesive, wet, compact. (44.0) SAA except, no fines.	SW					(44.0 - 54.0) Switched to fixed ftp system, 5 foot runs	
					12	DP	1.7 5.0	(46.5-47.0) Sample collected for possible laboratory evaluation.	
50						13	DP	5.0 5.0	(49.0-54.0) Sample tube got stuck and had to manually extract material.
55		Borehole terminated at 54.0 feet below ground surface.			361.3 54.0				

NOTES



CLIENT Ameren Missouri
PROJECT NUMBER 23010-24 MNA
DATE STARTED 08-20-2024 COMPLETED 08-20-2024
DRILLING CONTRACTOR Bulldog Drilling
DRILLING METHOD Direct Push (DT-32)/Direct Push (MC-35)
EQUIPMENT Geoprobe 7822DT DRILLER J. Edwards
LOGGED BY J. Rasmussen CHECKED BY J. Ingram

PROJECT NAME MEC MNA Drilling
PROJECT LOCATION Meramec Energy Center
POSITION N: 934334.1 ft E: 866235.9 ft (NAD83, Missouri State Plane East Zone)
GROUND ELEVATION 415.85 ft FINAL DEPTH 53.00 ft
GROUNDWATER LEVELS
▽ AT TIME OF DRILLING: 35.50 ft

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
5		(0.0-1.0) FILL, silty road fill.				1	DP	3.2 4.0	(0.0-48.0) DT-32 rods, 4 foot runs.
		(1-8) (ML) CLAYEY SILT, non-plastic fines; dusky brown (5YR 2/2); cohesive, w~PL, firm.	ML		414.8 1.0				
		(5.0) SAA (Same As Above) except, medium gray to medium dark gray (N5 to N4).			407.8	2	DP	4.0 4.0	
		(8.0-12.0) (ML) sandy SILT, non-plastic to low plasticity fines, fine sand; grayish orange (10YR 7/4); cohesive, w<PL, firm.		ML		8.0	3	DP	
(12.0-16.0) (ML) sandy clayey SILT, non-plastic to low plasticity fines, fine sand; grayish orange (10YR 7/4); cohesive, wet, soft to firm.		403.8 12.0							

NOTES



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Ameren Missouri

PROJECT NAME

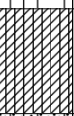
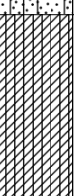
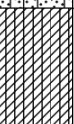
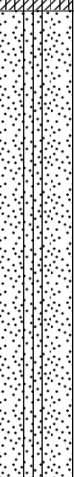
MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
15	Direct Push (DT-32)	(12.0-16.0) (ML) sandy clayey SILT, non-plastic to low plasticity fines, fine sand; grayish orange (10YR 7/4); cohesive, wet, soft to firm.	ML		399.8	4	DP	3.2 4.0	
		(16.0-17.0) (CL) SILTY CLAY, medium to high plasticity, trace fine sand; dark yellowish brown (10YR 4/2); cohesive, w<PL, stiff.	CL		16.0 398.8	5	DP	3.1 4.0	
		(17.0-19.5) (ML) sandy SILT, non-plastic fines, very fine sand; dusky yellowish brown (10YR 2/2); cohesive, w~PL, stiff.	ML		17.0 396.3				
20		(19.5-21.3) (CL) SILTY CLAY, medium to high plasticity fines, trace fine sand; dark yellowish brown (10YR 4/2); cohesive, w~PL, stiff.	CL		19.5 394.5				
		(21.3-22.3) (ML) sandy SILT, non-plastic fines, very fine sand; dusky yellowish brown (10YR 2/2); cohesive, wet, soft.	ML		21.3 393.5				
		(22.3-23.5) (CL) SILTY CLAY, medium to high plasticity, trace fine sand; dark yellowish brown (10YR 4/2); cohesive, w~PL, stiff.	CL		22.3 392.3	7	DP	4.0 4.0	
25		(23.5-40.0) (SP & ML) SAND and SILT, very fine sand, non-plastic fines; dark yellowish brown (10YR 4/2); non-cohesive, moist, compact.			23.5				
		(28.0) SAA except, more silt.							

NOTES

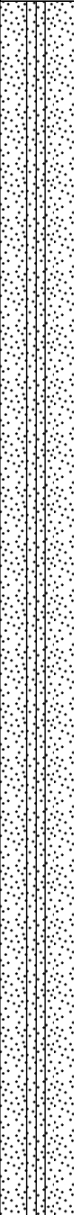


CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
30		(32.0) SAA except, wet, more sand.	SP & ML			8	DP	3.8 4.0	Water level 35.50 ft bgs, 8/20/2024. (37.0-37.5) Sample collected for possible laboratory evaluation.
						9	DP	3.5 4.0	
35						10	DP	3.6 4.0	
40		(40.0-41.5) (SW) SAND, fine to medium grained sand; dark yellowish brown (10YR 4/2); non-cohesive, wet, compact.	SW		375.8 40.0				
		(41.5-46.5) (SW) SAND, fine to medium sub-rounded sand; dusky yellowish brown (10YR 4/2); non-cohesive, wet, compact.			374.3 41.5	11	DP	4.0 4.0	
		(43.0) SAA except, fine to course sand, trace fine gravel.							

NOTES



CLIENT

Ameren Missouri

PROJECT NAME

MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
45	Direct Push (MC-35)	(46.5) SAA except, no gravel.	SW			12	DP	4.0 4.0	(45.0-45.5) Sample collected for possible laboratory evaluation.
50		(48.0-53.0) (SP) SAND, fine sand; dusky yellowish brown (10YR 4/2); non-cohesive, wet, compact.	SP		367.8 48.0	13	DP	3.5 5.0	(48.0 - 53.0) Switched to fix tip system, five foot runs.
55		Boring terminated at 53.0 feet below ground surface.			362.8 53.0				

NOTES



CLIENT Ameren Missouri
PROJECT NUMBER 23010-24 MNA
DATE STARTED 08-21-2024 COMPLETED 08-21-2024
DRILLING CONTRACTOR Bulldog Drilling
DRILLING METHOD Direct Push (DT-32)/Direct Push (MC-35)
EQUIPMENT Geoprobe 7822DT DRILLER J. Edwards
LOGGED BY J. Rasmussen CHECKED BY J. Ingram

PROJECT NAME MEC MNA Drilling
PROJECT LOCATION Meramec Energy Center
POSITION N: 934137.5 ft E: 867150.0 ft (NAD83, Missouri State Plane East Zone)
GROUND ELEVATION 402.52 ft FINAL DEPTH 65.00 ft
GROUNDWATER LEVELS
▽ AT TIME OF DRILLING: 30.70 ft

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE			SAMPLES			REMARKS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE		RECOVERY
					DEPTH				
5		(0.0-1.0) Asphalt.							(0.0-44.0) DT-32 rods, 4 foot runs.
		(1.0-17.0) (CL) SILTY CLAY, medium to high plasticity fines, trace fine sand; medium gray (N5); cohesive, w<PL, stiff.			401.5				
					1.0	1	DP	<u>2.1</u> 4.0	
		(4.0) SAA (Same As Above) except, moderate yellowish brown (10YR 5/4).							
		(6.0) SAA except, more silt.				2	DP	<u>3.8</u> 4.0	
10		(9.5) SAA, medium gray (N5), less silt, trace organics (tree roots).	CL				3	DP	<u>4.0</u> 4.0
		(12.0) SAA, trace organics.							

NOTES



CLIENT

Ameren Missouri

PROJECT NAME

MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY		
					DEPTH					
15	Direct Push (DT-32)					4	DP	4.0 4.0		
					385.5					
		(17.0-18.9) (ML) CLAYEY SILT, non-plastic to low plasticity fines, some fine to very fine sands; moderate yellowish brown (10YR 5/4); cohesive, w>PL, soft.	ML		17.0	5	DP	4.0 4.0		
					383.6					
20		(18.9-28.0) (CL) SILTY CLAY, medium to high plasticity, trace very fine sand; medium gray (N5); cohesive, w~PL, very stiff.	CL		18.9	6	DP	4.0 4.0		
25		(24.0) SAA except, moderate yellowish brown (10YR 5/4).			7	DP	4.0 4.0			
		(28.0-36.0) (CL) SILTY CLAY, medium to high plasticity fines, trace organics; moderate yellowish brown (10YR 5/4); cohesive, w~PL, stiff.			374.5					
					28.0					

NOTES



CLIENT

Ameren Missouri

PROJECT NAME

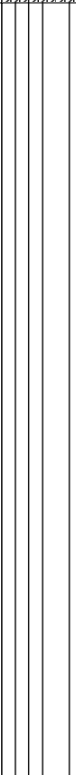
MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
30		(28.0-36.0) (CL) SILTY CLAY, medium to high plasticity fines, trace organics; moderate yellowish brown (10YR 5/4); cohesive, w~PL, stiff.	CL		366.5 36.0	8	DP	4.0 4.0	Water level 30.70 ft bgs, 8/21/2024.
35		(34.3) SAA except, more silty, reddish iron staining around organics.				9	DP	4.0 4.0	
40		(36.0-45.0) (ML) sandy CLAYEY SILT, medium plasticity fines, fine to very fine sand; medium gray (N5); cohesive, wet, soft.	ML		366.5 36.0	10	DP	4.0 4.0	
						11	DP	4.0 4.0	

NOTES

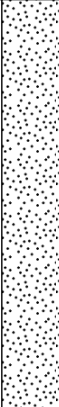


CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY		
					DEPTH					
45	Direct Push (MC-35)	(36.0-45.0) (ML) sandy CLAYEY SILT, medium plasticity fines, fine to very fine sand; medium gray (N5); cohesive, wet, soft.							(44.0-45.0) Lost a foot when pushing down rods to set up for FPS. (45.0-65.0) Switched to fit tip system, 5 foot runs.	
					357.5	12		<u>0.0</u> 1.0		
		(45.0-46.0) (SC) clayey SILTY SAND, fine sand, low plasticity fines; medium gray (N5); non-cohesive, wet, loose.	SC		45.0					
					356.5					
(46.0-49.9) (SP) SAND, fine sand, trace non-plastic fines; brownish gray (5YR 4/1); non-cohesive, wet, compact.		SP		46.0	13	DP	<u>5.0</u> 5.0			
50			(49.9-50.0) (CL) SILTY CLAY, medium to high plasticity, trace fine sand; medium gray (N5); cohesive, w~PL, firm.	CL		352.6 49.9	14	DP		<u>4.8</u> 5.0
		(53.0) SAA except, low to medium plasticity fines.								
55			(55.0-56.5) SILTY SAND, fine to very fine sand, non-plastic fines; brownish gray (5YR 4/1); non-cohesive, wet, compact.	SM		347.5 55.0	15	DP	<u>2.5</u> 5.0	(55.0-56.5) Sample collected for possible laboratory evaluation.
			(56.5-60.0) (CL) SILTY CLAY, low to medium plasticity, some very fine sand; medium gray (N5); cohesive, w~PL, stiff		346.0 56.5	(57.0-57.5) Sample collected for possible laboratory evaluation.				

NOTES

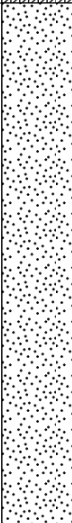


CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
60		(56.5-60.0) (CL) SILTY CLAY, low to medium plasticity, some very fine sand; medium gray (N5); cohesive, w~PL, stiff	CL		342.5	16	DP	5.0 5.0	(64.0-64.5) Sample collected for possible laboratory evaluation.
		(60.0-65.0) (SP) SAND, very fine to fine sand, trace non-plastic fines; brownish gray (5YR 4/1); non-cohesive, wet, compact.	SP		60.0				
65		Boring terminated at 65.0 feet below ground surface.			337.5 65.0				
70									

NOTES



CLIENT Ameren Missouri
PROJECT NUMBER 23010-24 MNA
DATE STARTED 08-20-2024 COMPLETED 08-20-2024
DRILLING CONTRACTOR Bulldog Drilling
DRILLING METHOD Direct Push (MC-35)/Direct Push (DT-32)
EQUIPMENT Geoprobe 7822DT DRILLER J. Edwards
LOGGED BY J. Rasmussen CHECKED BY J. Ingram

PROJECT NAME MEC MNA Drilling
PROJECT LOCATION Meramec Energy Center
POSITION N: 935215.7 ft E: 868013.2 ft (NAD83, Missouri State Plane East Zone)
GROUND ELEVATION 416.23 ft FINAL DEPTH 46.00 ft
GROUNDWATER LEVELS
▽ AT TIME OF DRILLING: 23.20 ft

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
5		(0.0-8.0) (ML & CL) SILT and CLAY, non-plastic fines; medium dark gray (N4); cohesive, w~PL, stiff.	CL & ML		408.2 8.0	1	DP	<u>3.8</u> 4.0	(0.0-36.0) DT-32 rods, 4 foot runs.
		(4.0) SAA (Same As Above) except, more silt than clay, trace organics.				2	DP	<u>4.0</u> 4.0	
10		(8.0-12.0) (ML) sandy CLAYEY SILT, non-plastic to medium plasticity fines, fine sand; medium dark gray (N4); cohesive, w~PL, stiff.	ML		404.2 12.0	3	DP	<u>3.5</u> 4.0	
		(12.0-17.5) (ML) sandy SILT, non-plastic fines, very fine sand; medium dark gray (N4); cohesive, wet, soft.							

NOTES



CLIENT

Ameren Missouri

PROJECT NAME

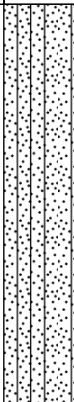
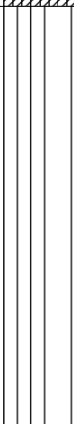
MEC MNA Drilling

PROJECT NUMBER

23010-24 MNA

PROJECT LOCATION

Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
15	Direct Push (DT-32)	(12.0-17.5) (ML) sandy SILT, non-plastic fines, very fine sand; medium dark gray (N4); cohesive, wet, soft.	ML		398.7 17.5	4	DP	4.0 4.0	Water level 23.20 ft bgs, 8/20/2024. (25.0-25.5) Sample collected for possible laboratory evaluation.
								5	
20			CL		392.2 24.0	6	DP	3.4 4.0	
								7	
25			(24.0-30.0) (ML) sandy CLAYEY SILT, non-plastic to medium plasticity fines, fine sand; medium dark gray (N4); cohesive, w~PL, soft.	ML					

NOTES

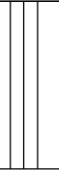


CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
30		(24.0-30.0) (ML) sandy CLAYEY SILT, non-plastic to medium plasticity fines, fine sand; medium dark gray (N4); cohesive, w~PL, soft.			386.2	8	DP	4.0	(29.0-29.5) Sample collected for possible laboratory evaluation.
		30.0			4.0				
35		(30.0-46.0) (SW) SAND, fine to course well graded sub-rounded sand, some fine sub-rounded gravel; dark yellowish orange (10YR 6/6); non-cohesive, wet, compact.	SW			9	DP	1.9 4.0	
40	Direct Push (MC-35)					10	DP	2.3 5.0	

NOTES



CLIENT Ameren Missouri

PROJECT NAME MEC MNA Drilling

PROJECT NUMBER 23010-24 MNA

PROJECT LOCATION Meramec Energy Center

DEPTH (feet)	BORING METHOD	SOIL/ROCK PROFILE				SAMPLES			REMARKS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEVATION	NUMBER	TYPE	RECOVERY	
					DEPTH				
45		(30.0-46.0) (SW) SAND, fine to course well graded sub-rounded sand, some fine sub-rounded gravel; dark yellowish orange (10YR 6/6); non-cohesive, wet, compact.			370.2 46.0	11	DP	4.3 5.0	
50		Boring terminated at 46.0 feet below ground surface.							
55									

NOTES

Appendix C

October-November 2023 Assessment Monitoring Statistical Evaluation



Memorandum

February 27, 2024

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 October-November 2023 sampling event at the Multi-unit Surface Impoundment Network at the Meramec Energy Center located in St. Louis County, Missouri. Included in the memorandum is a 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
 - M-MW-3 at 4.6 and 5.1 micrograms per liter (µg/L) on 3/29/2016 and 5/11/2020, respectively: results are statistically lower than other arsenic results at the same monitoring well. These low results are not consistent with previous or subsequent arsenic results at the well and are outliers.
- Beryllium
 - M-MW-6 at 0.36 J µg/L on 4/3/2018: result is statistically higher than other beryllium results at the same monitoring well. This high result is not consistent with previous or subsequent beryllium results at the well and is an outlier.

An analysis of the outliers removed from the dataset to-date was completed. The following previously identified outliers previously were added back into the dataset prior to the calculation of confidence limits in **Appendix A and Appendix B**:

- Arsenic
 - M-MW-1 at 0.38 J µg/L on 1/6/2017: removed during the statistical evaluation for the April 2023 sampling event because the result was statistically lower than other arsenic results at the same

monitoring well. However, based on subsequent sampling results the low result was confirmed, and the result is no longer an outlier.

- Fluoride
 - M-MW-1 at 0.069 µg/L on 4/4/2018: removed during the statistical evaluation for the May 2018 sampling event because the result was statistically lower than other fluoride results at the same monitoring well. However, based on subsequent sampling results the low result was confirmed, and the result is no longer an outlier.

Based on the results from the confidence interval and trend analysis, no new SSLs were noted. SSLs at MEC as of the October-November 2023 sampling event continue to be:

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

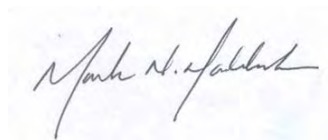
Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

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:

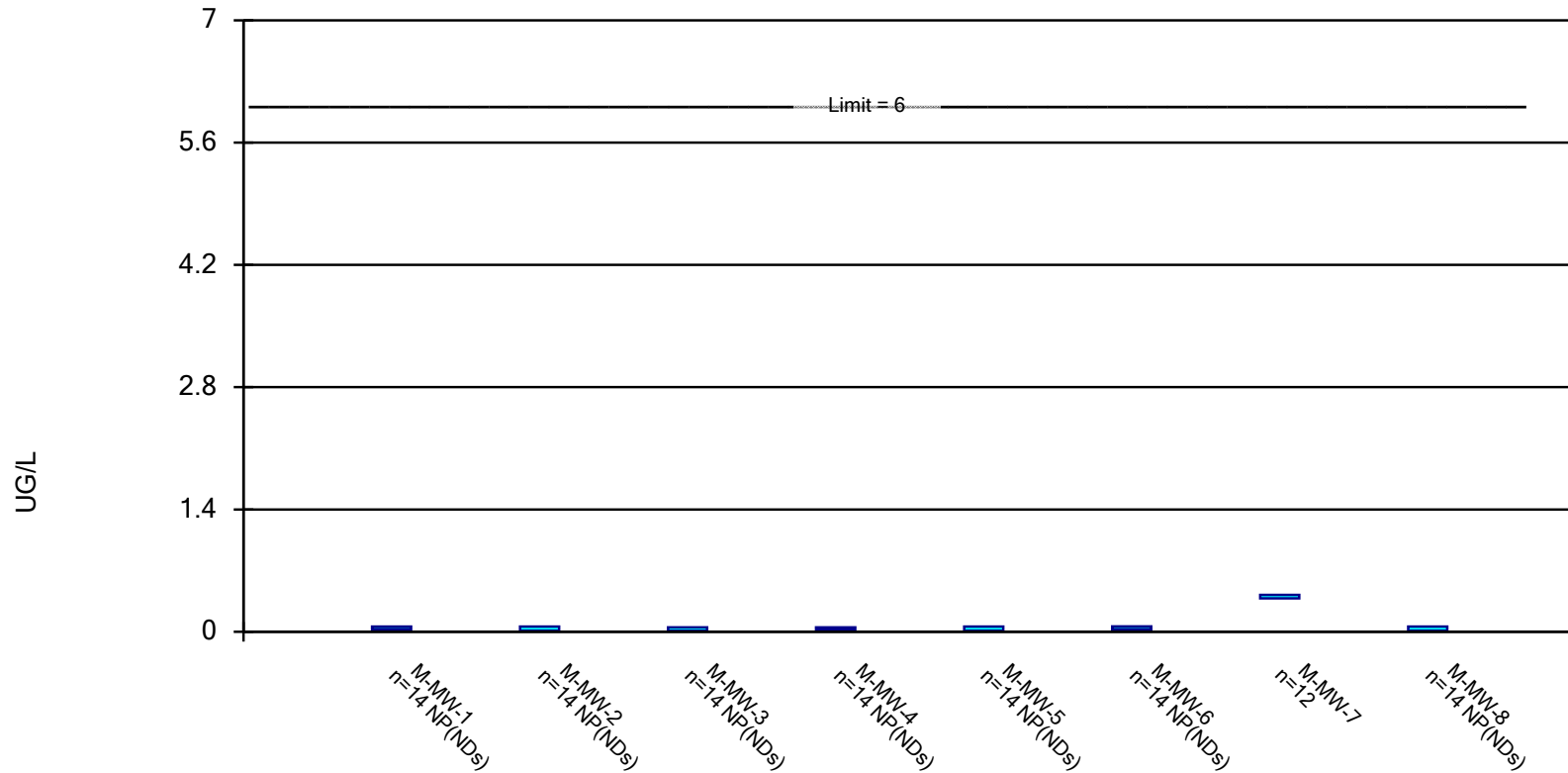
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>.
5. Health Based Groundwater Protection Standards (GWPS) were adopted 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.

Appendix A

Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval

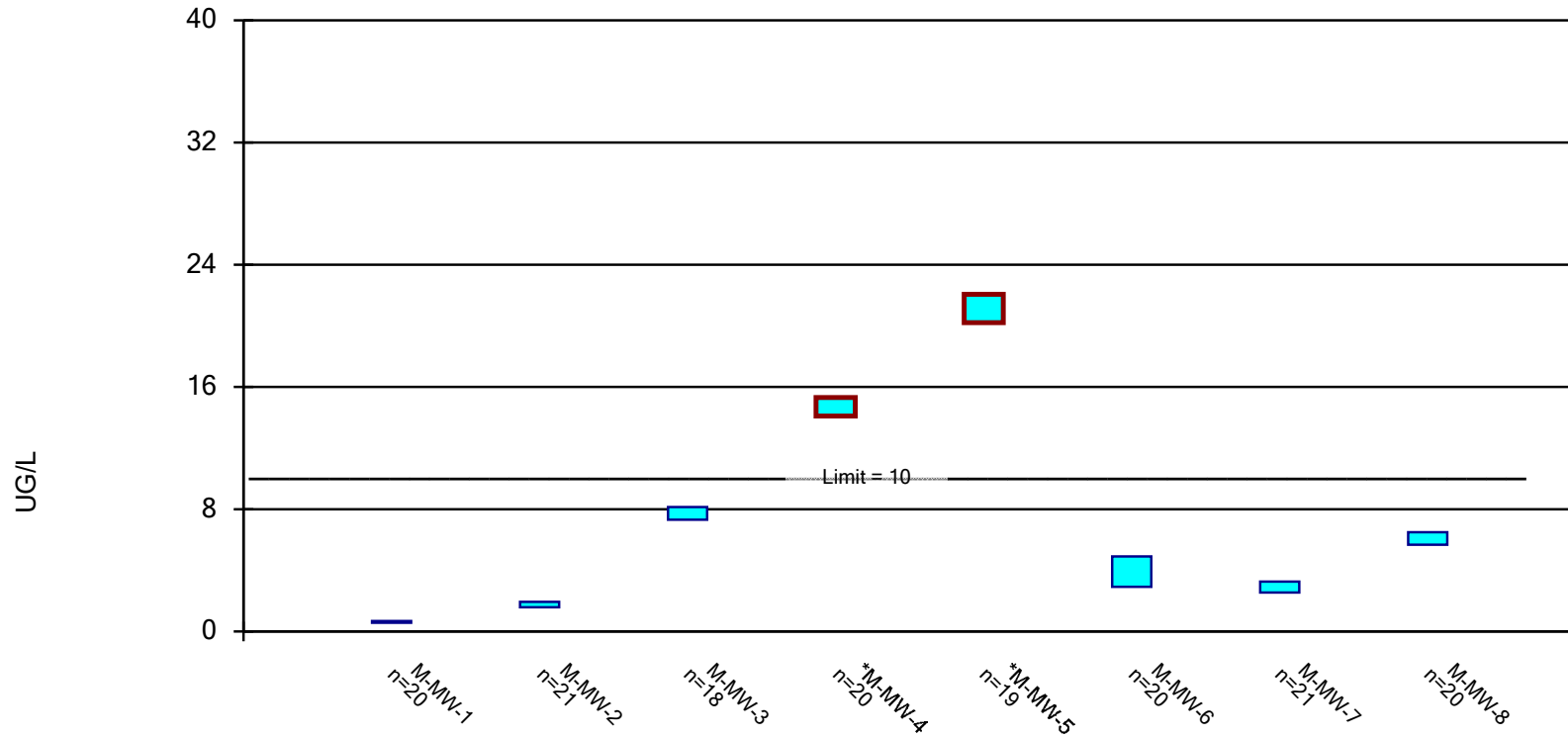
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ANTIMONY, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

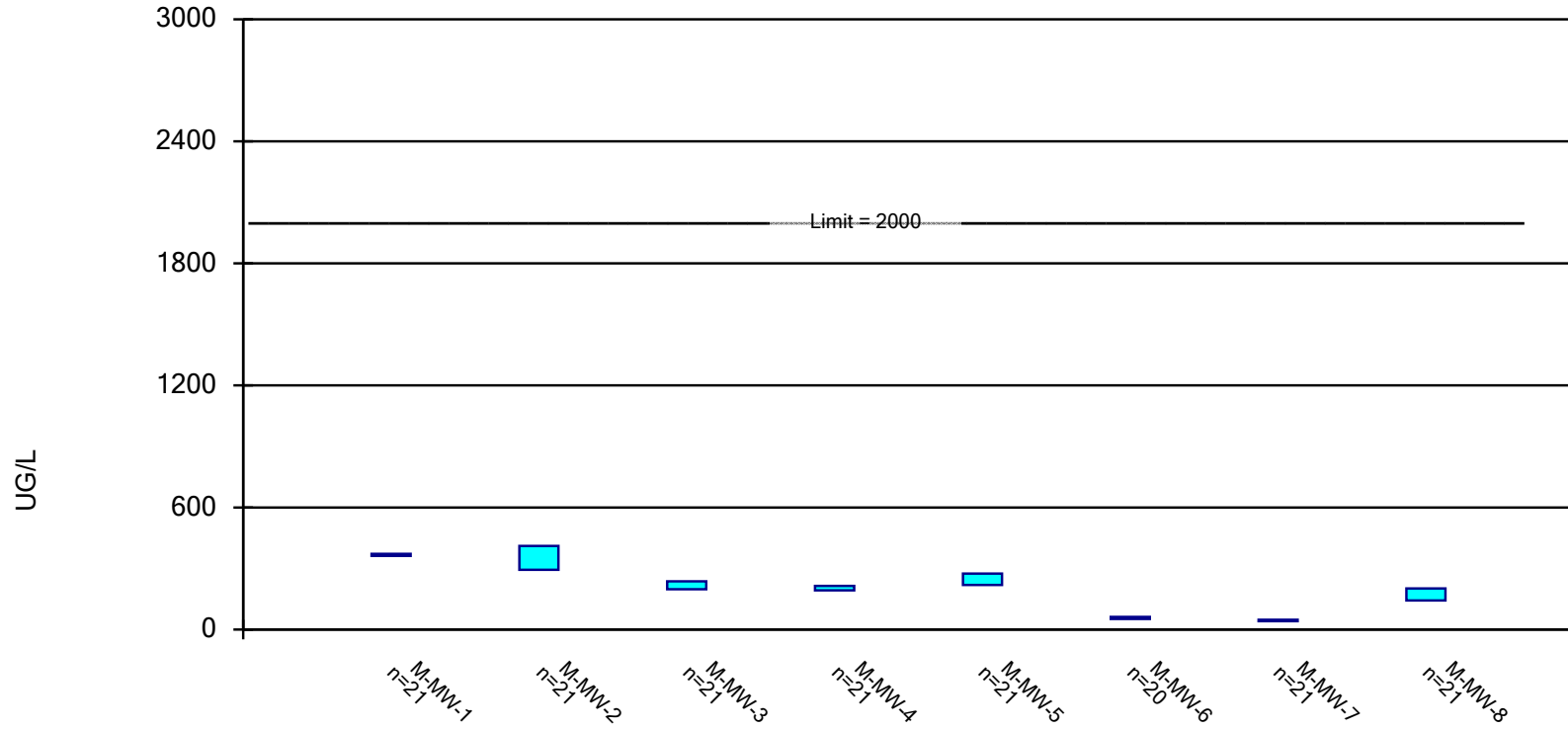
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ARSENIC, TOTAL Analysis Run 2/23/2024 1:42 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.

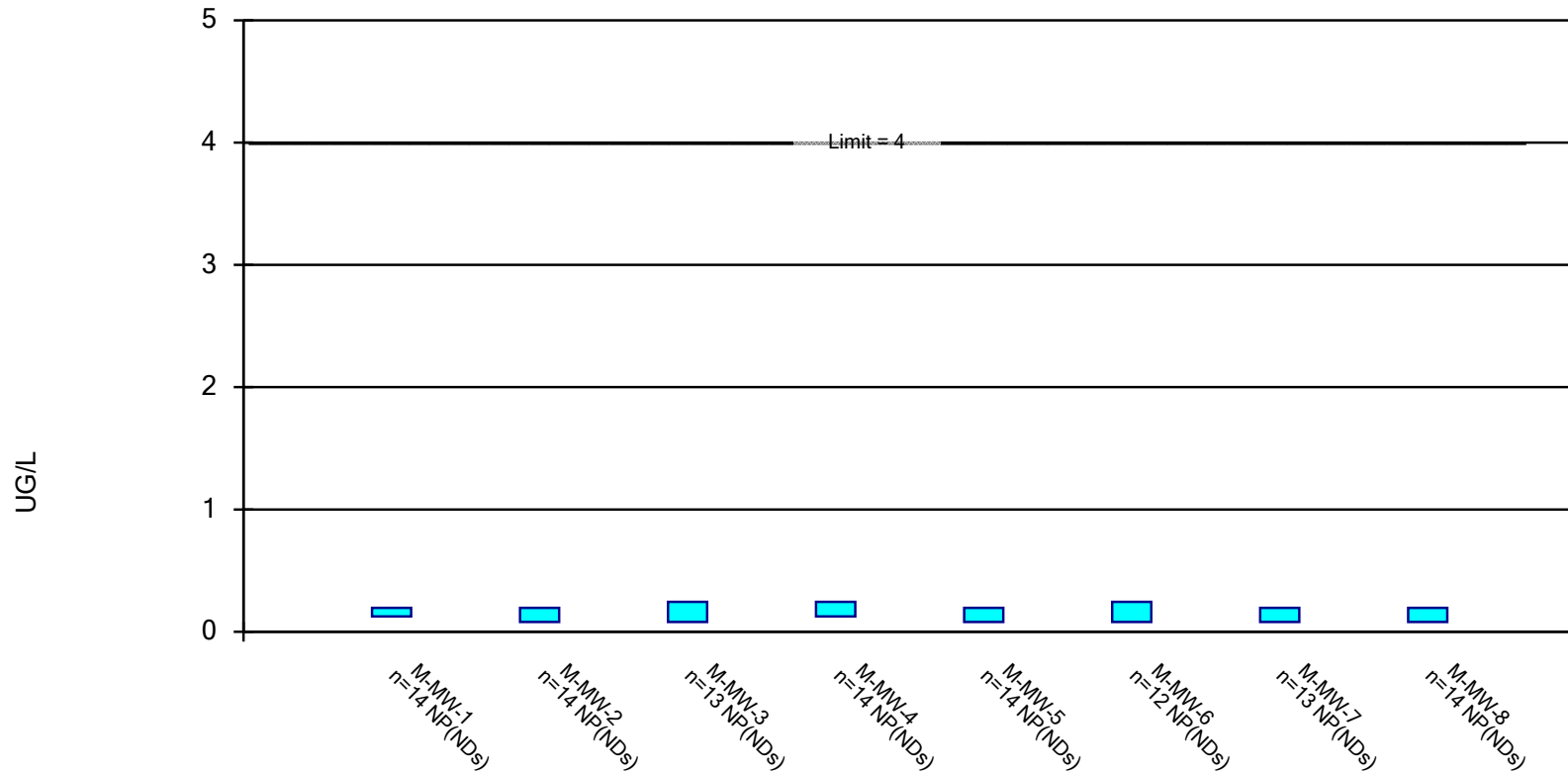


Constituent: BARIUM, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

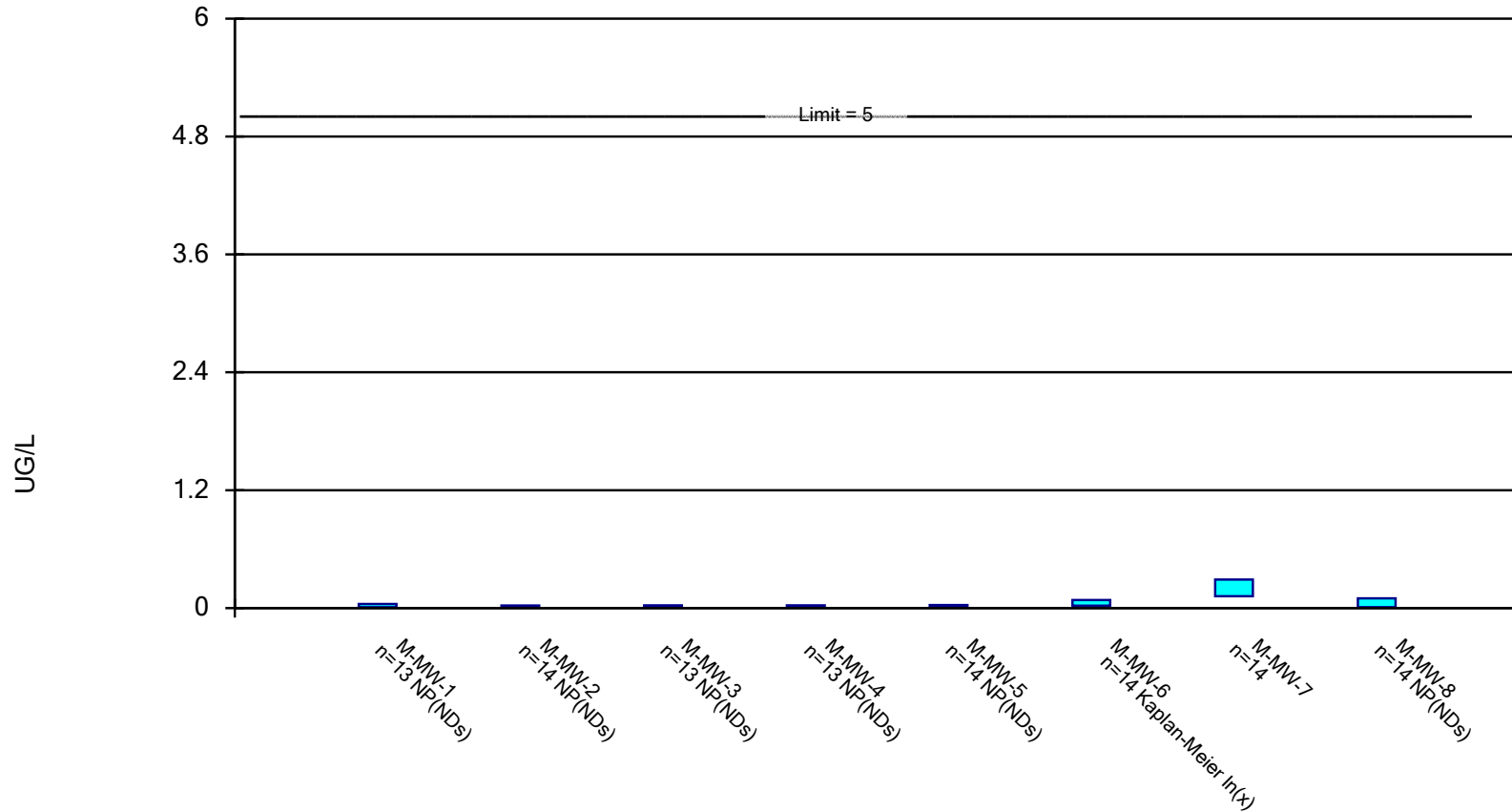
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: BERYLLIUM, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

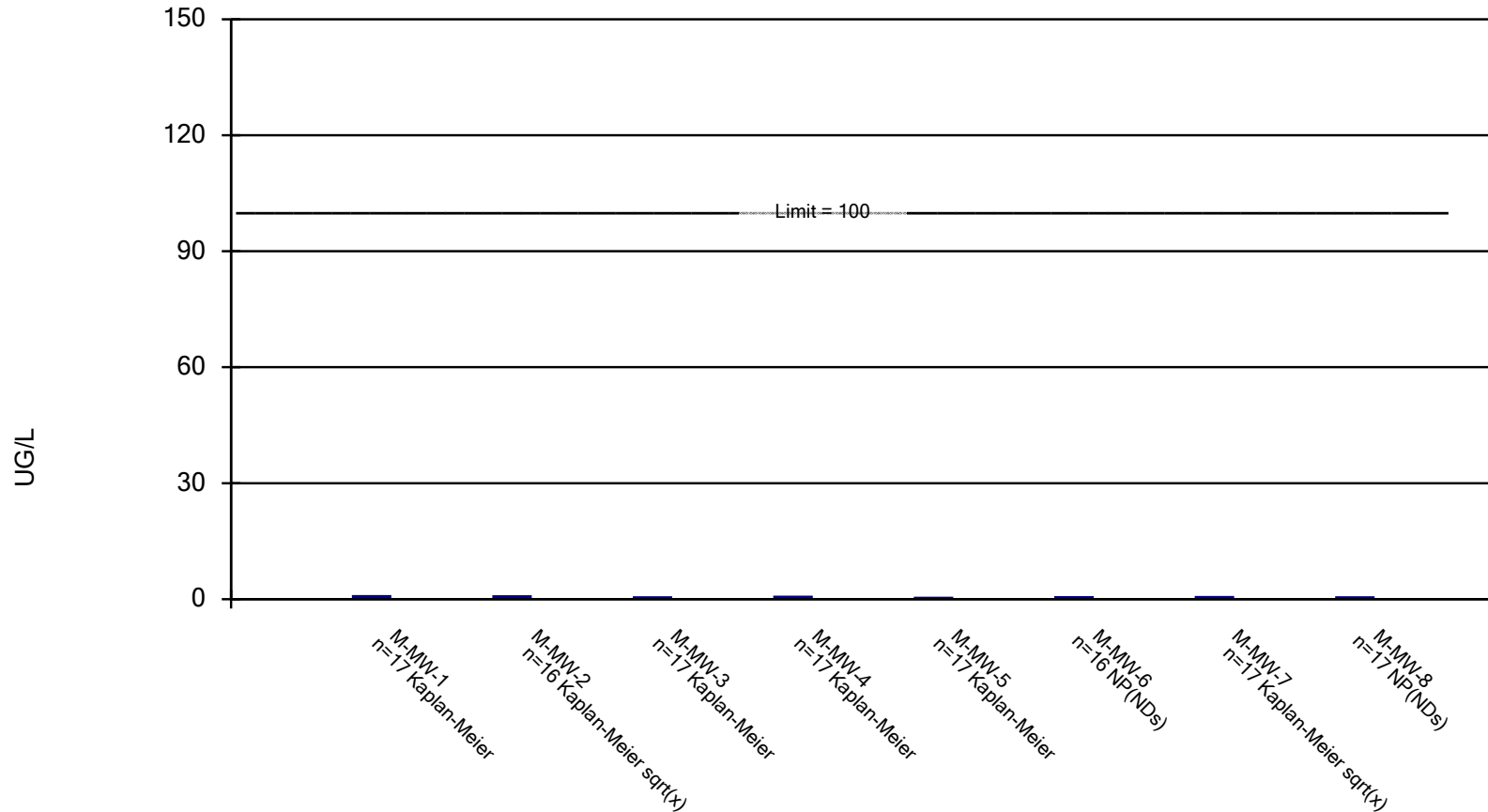
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: CADMIUM, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

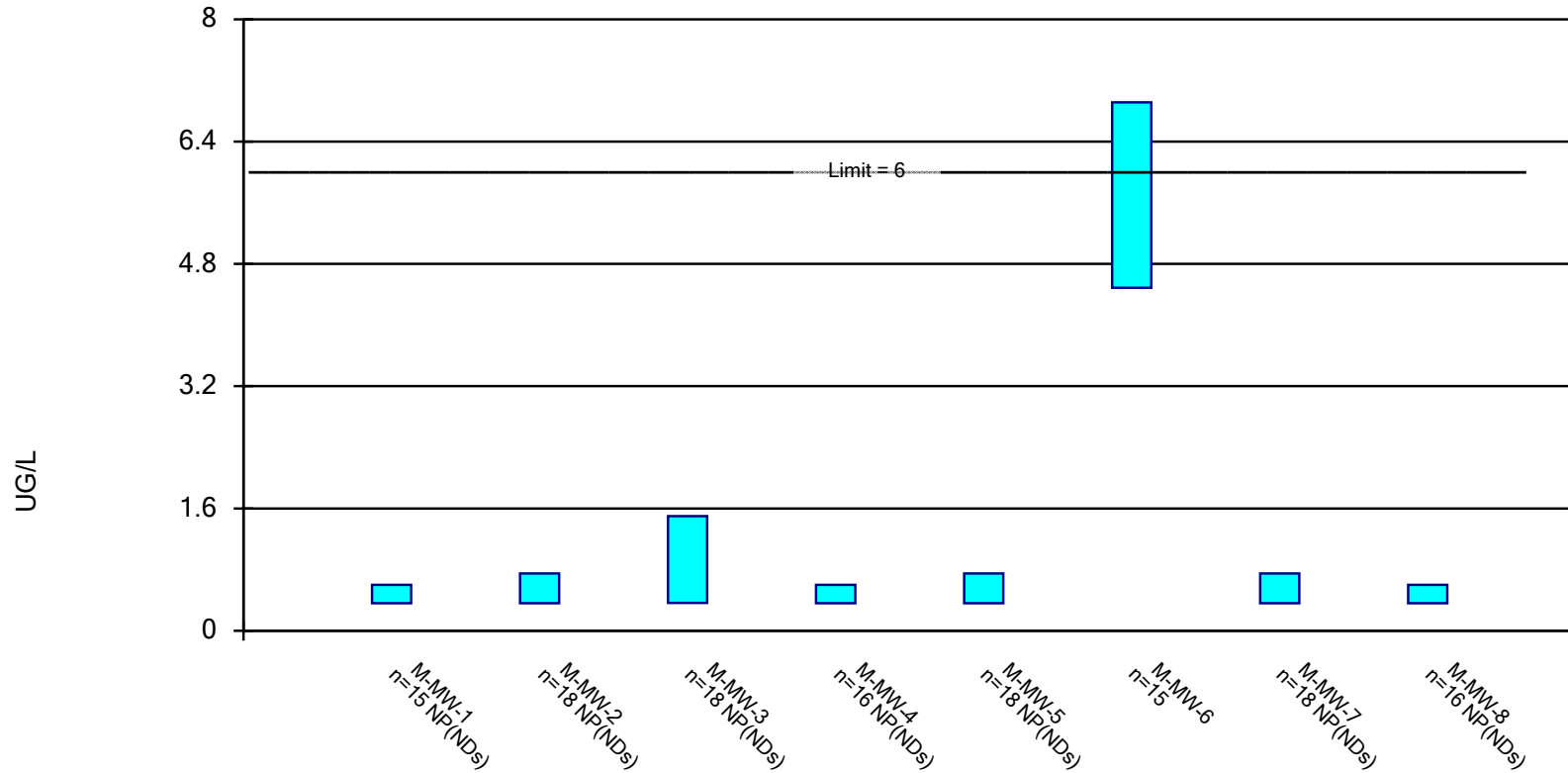
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: CHROMIUM, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

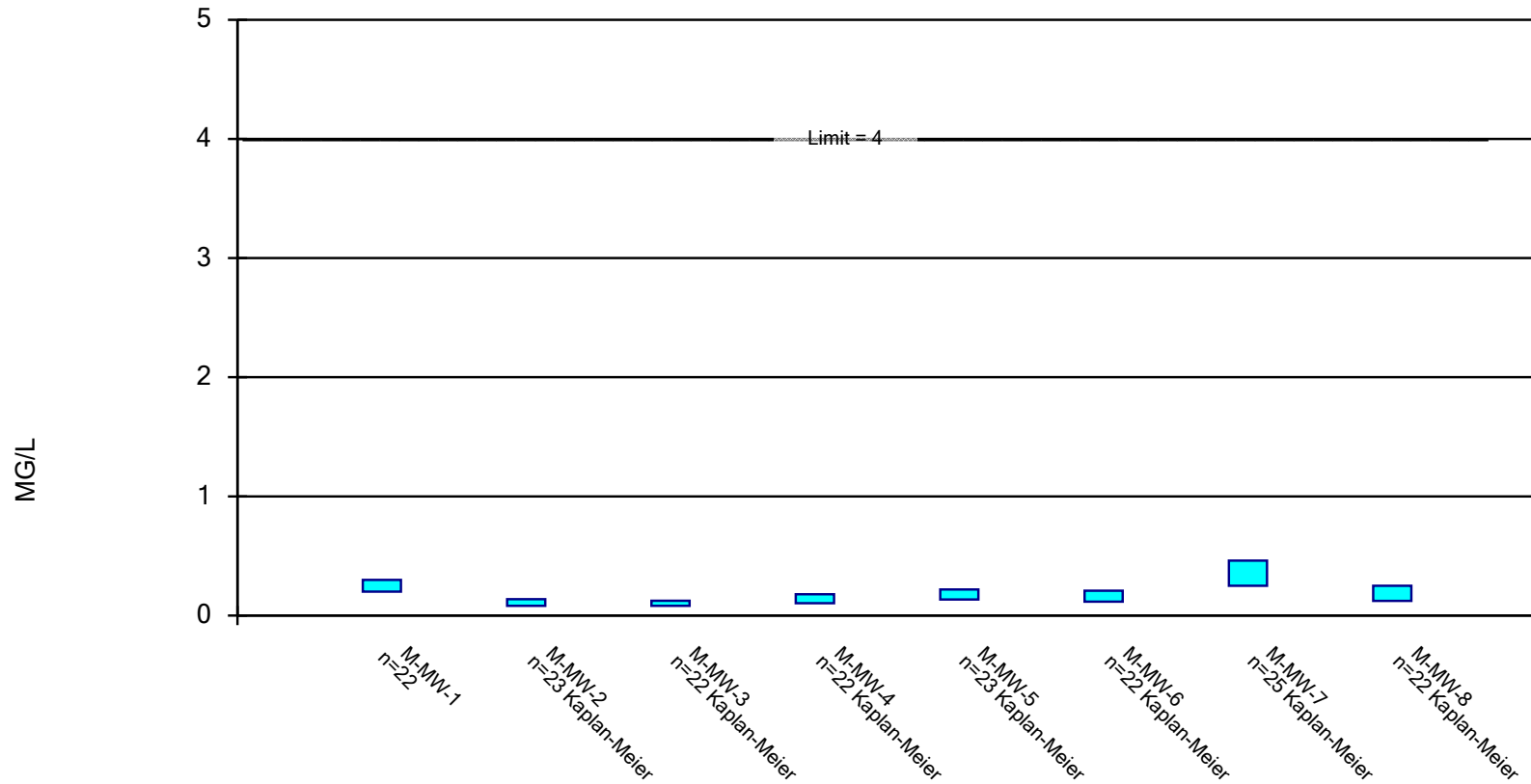
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: COBALT, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

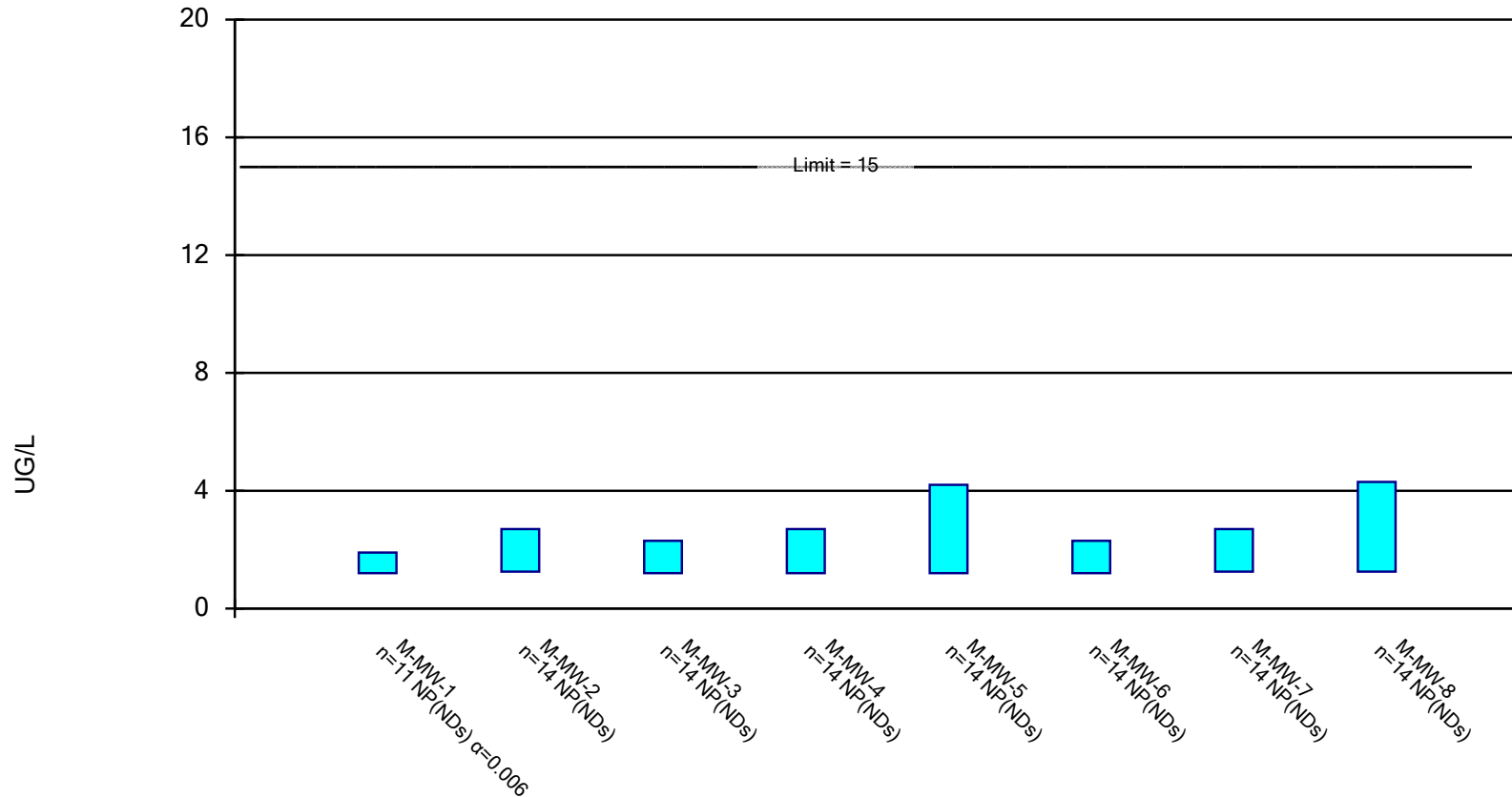
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: FLUORIDE, TOTAL Analysis Run 2/23/2024 1:42 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.

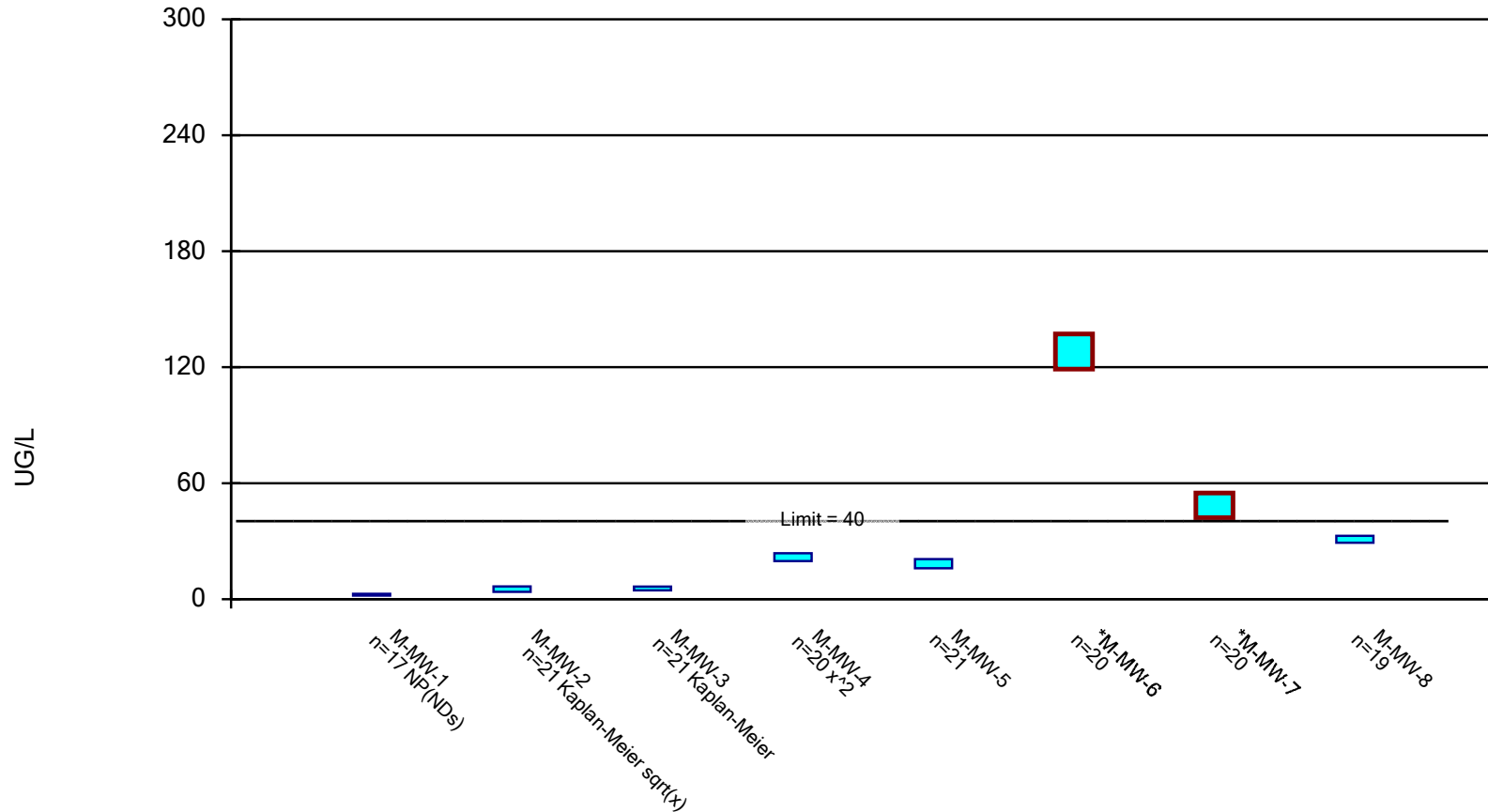


Constituent: LEAD, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

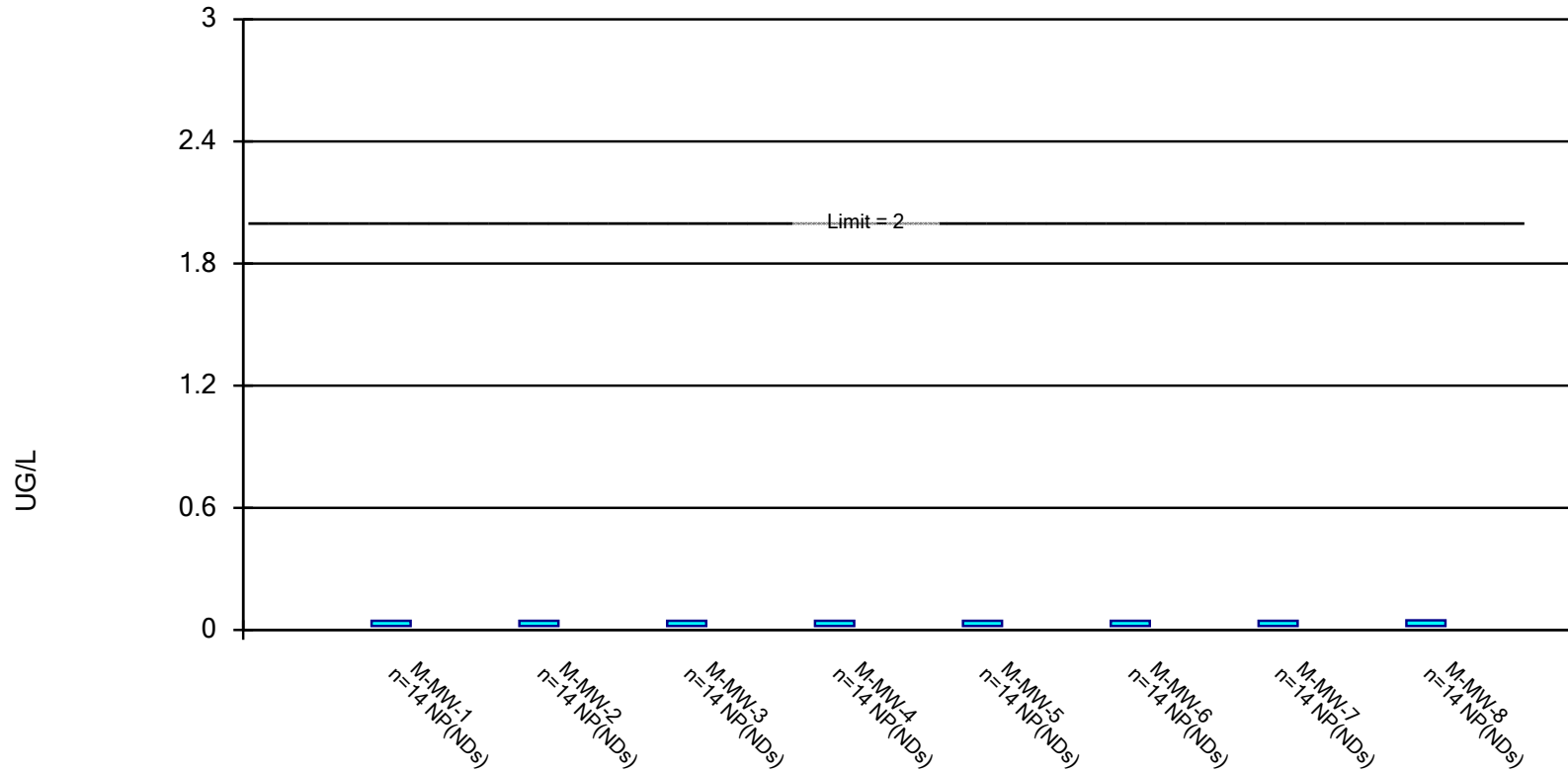
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: LITHIUM, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

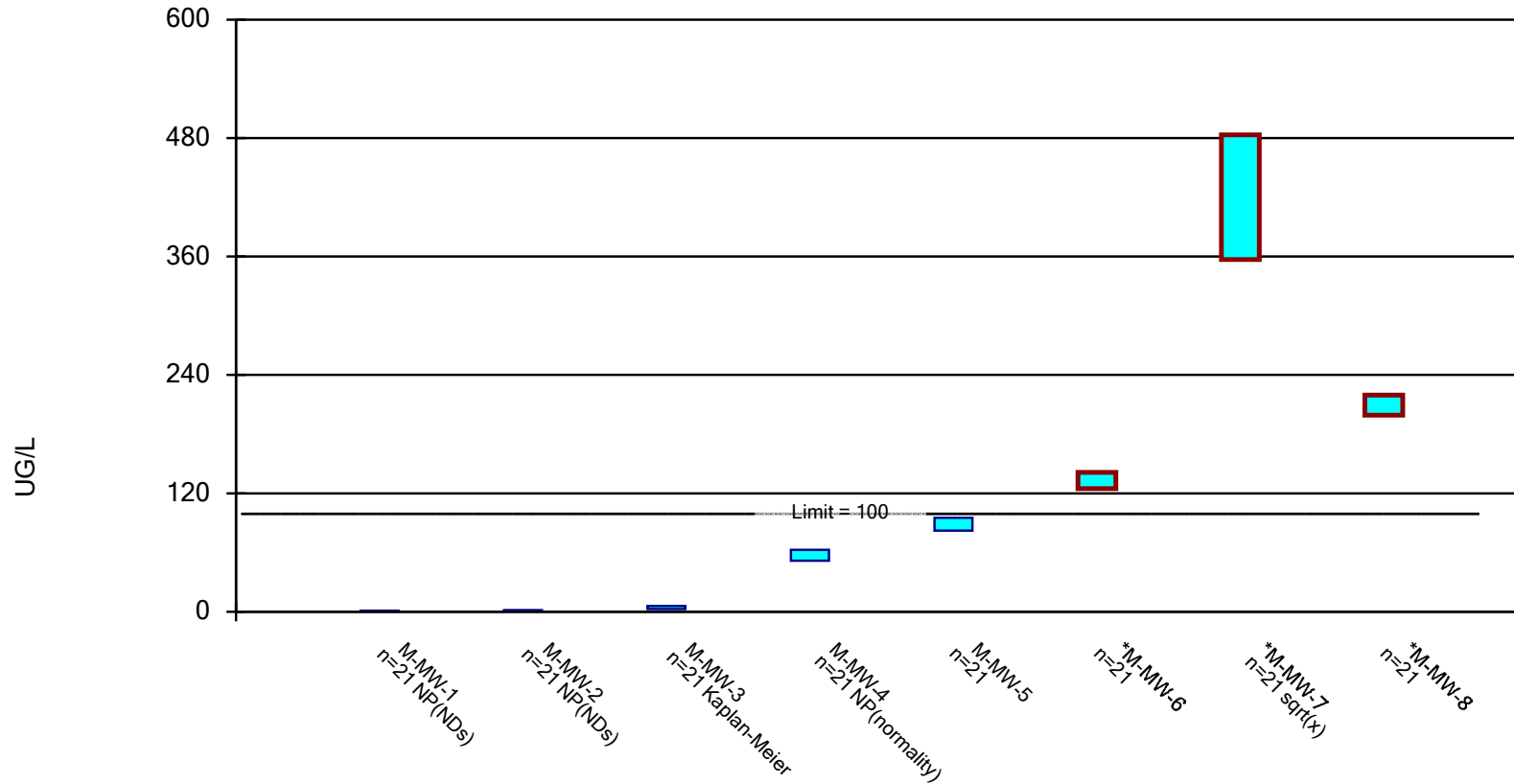
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: MERCURY, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

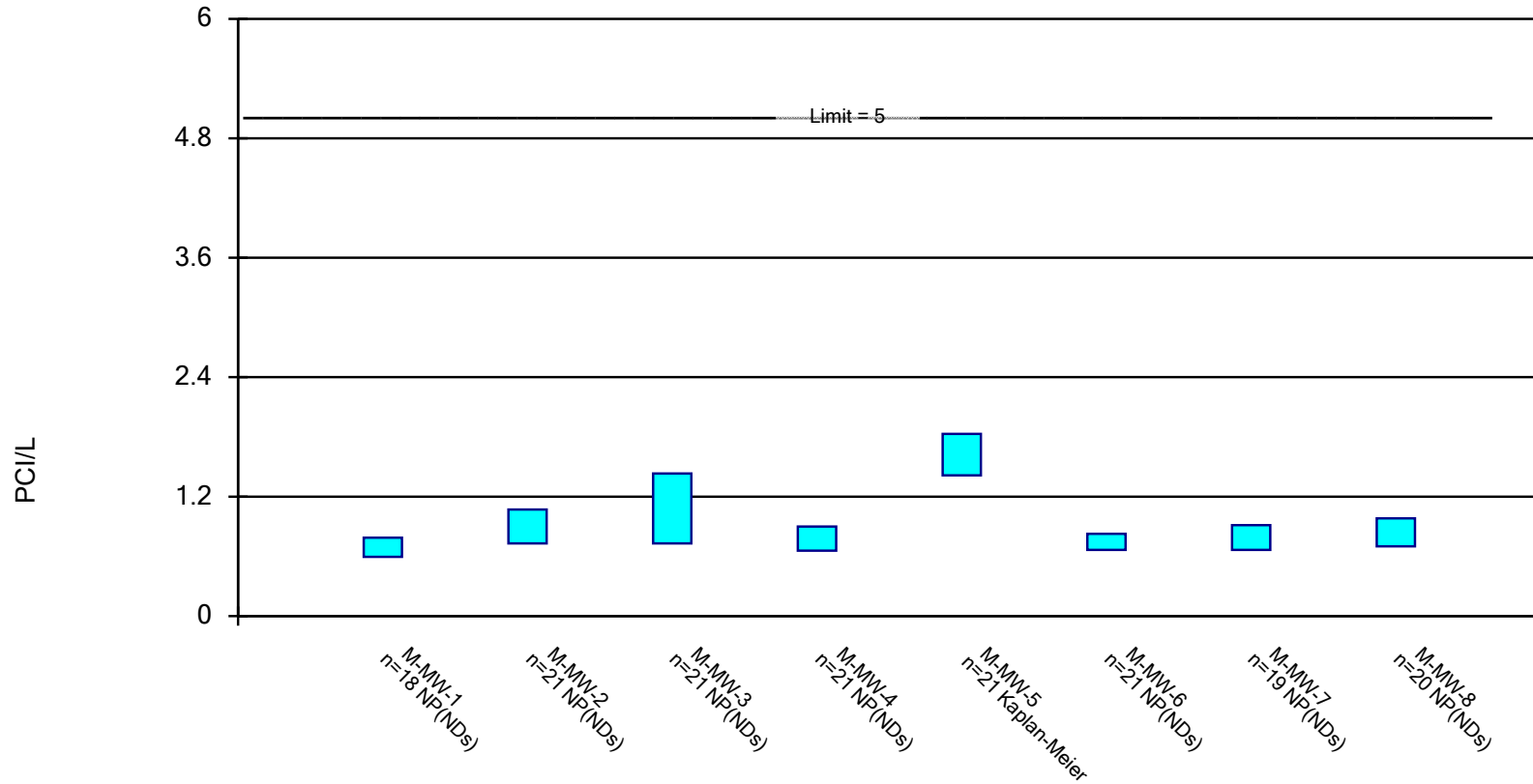
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: MOLYBDENUM, TOTAL Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

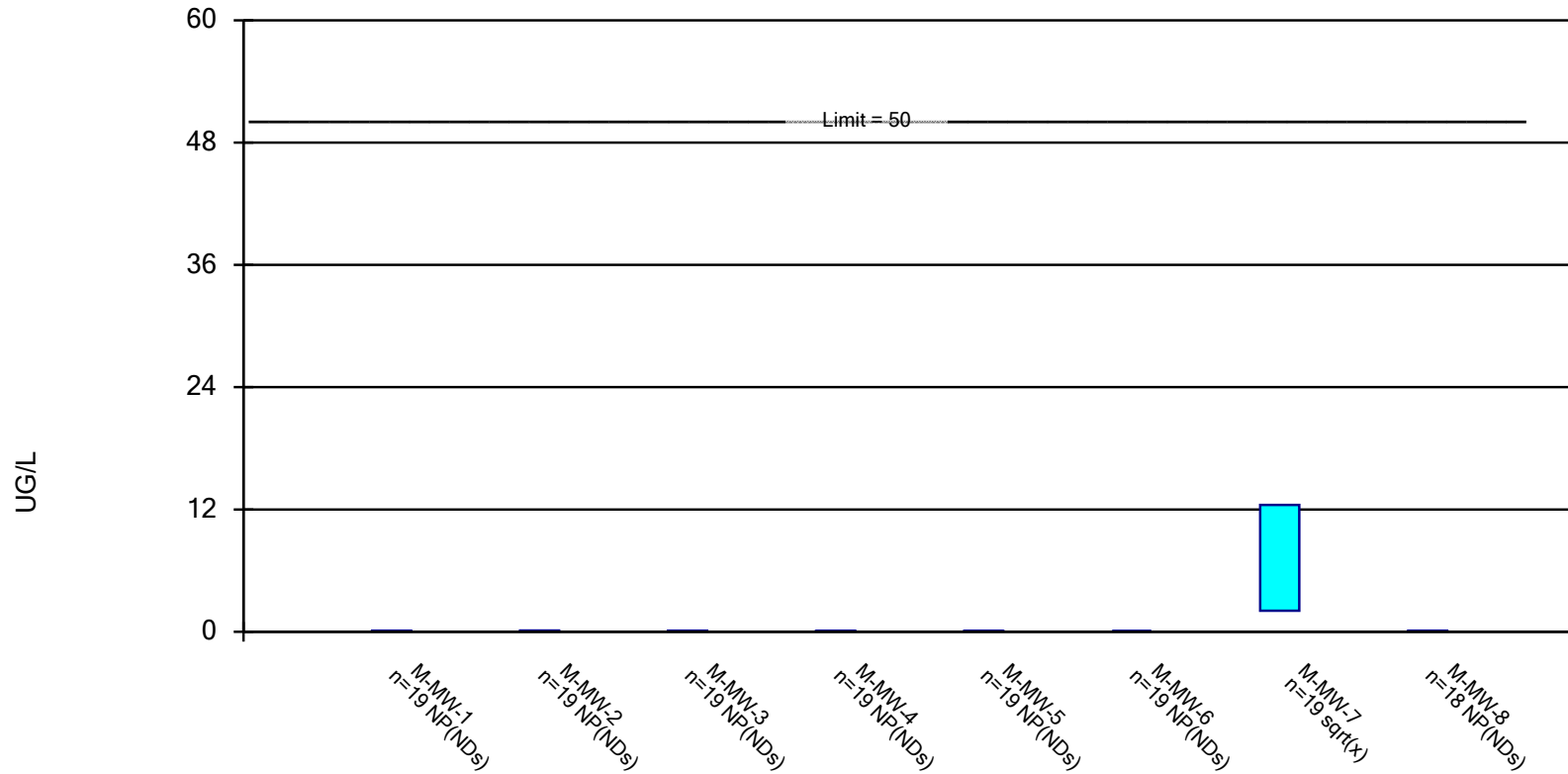
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Radium [226 + 228] Analysis Run 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

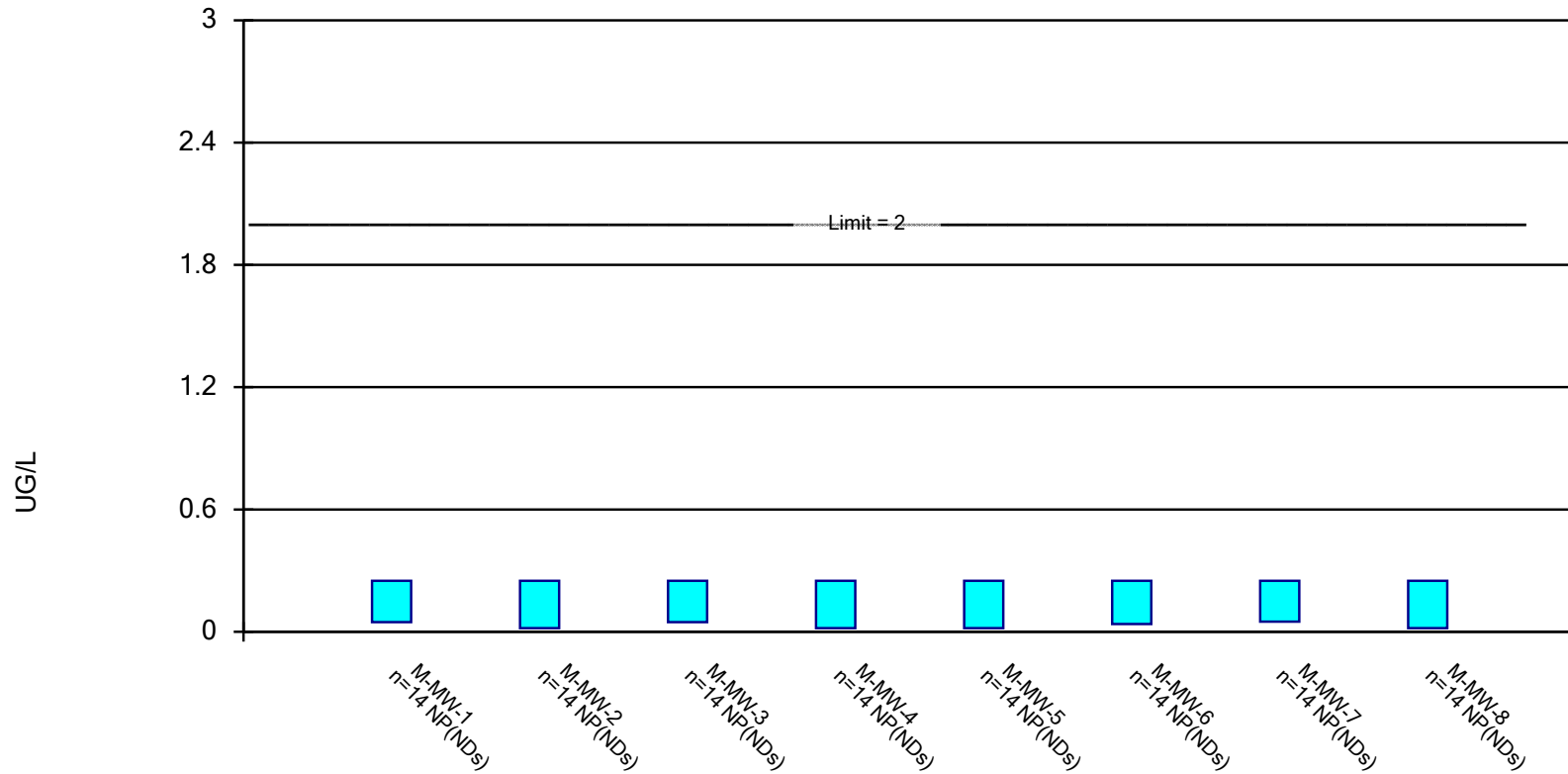
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: SELENIUM, TOTAL Analysis Run 2/23/2024 1:42 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 2/23/2024 1:42 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/23/2024, 1:42 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
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	0.6862	0.5688	10	No	20	5	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	1.93	1.584	10	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	8.139	7.316	10	No	18	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-4	15.31	14.1	10	Yes	20	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-5	22.07	20.21	10	Yes	19	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-6	4.912	2.918	10	No	20	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.261	2.549	10	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-8	6.493	5.677	10	No	20	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	372.1	361.5	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	410.7	293.5	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-3	236.8	198.2	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	214.3	192.5	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-5	275.2	218.6	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	62.19	51.72	2000	No	20	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	48.18	40.9	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-8	201.6	143	2000	No	21	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	12	100	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	0.7473	0.3087	100	No	16	18.75	sqrt(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	0.5169	0.1317	100	No	17	41.18	sqrt(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 2/23/2024, 1:42 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	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	0.2988	0.2002	4	No	22	9.091	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1366	0.08129	4	No	23	34.78	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.1243	0.08187	4	No	22	36.36	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.1783	0.1028	4	No	22	27.27	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.2187	0.1338	4	No	23	21.74	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.2083	0.1167	4	No	22	27.27	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.4606	0.2495	4	No	25	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.2495	0.1222	4	No	22	22.73	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	2.8	1.85	40	No	17	100	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	6.611	3.757	40	No	21	47.62	sqrt(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-3	6.506	4.529	40	No	21	47.62	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-4	23.76	19.74	40	No	20	5	x^2	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-5	20.77	16.03	40	No	21	9.524	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-6	137.2	119	40	Yes	20	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-7	54.89	42.14	40	Yes	20	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-8	32.77	29.23	40	No	19	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	0.45	100	No	21	90.48	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	1.7	0.45	100	No	21	76.19	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	5.941	2.782	100	No	21	23.81	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	62.8	51.7	100	No	21	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	95.19	82.2	100	No	21	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	141.2	124.8	100	Yes	21	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	483.3	356.9	100	Yes	21	0	sqrt(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	219.6	199.2	100	Yes	21	0	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-1	0.788	0.5945	5	No	18	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	1.07	0.7295	5	No	21	80.95	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.433	0.73	5	No	21	52.38	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-4	0.9	0.657	5	No	21	85.71	No	0.01	NP (NDs)

Confidence Interval

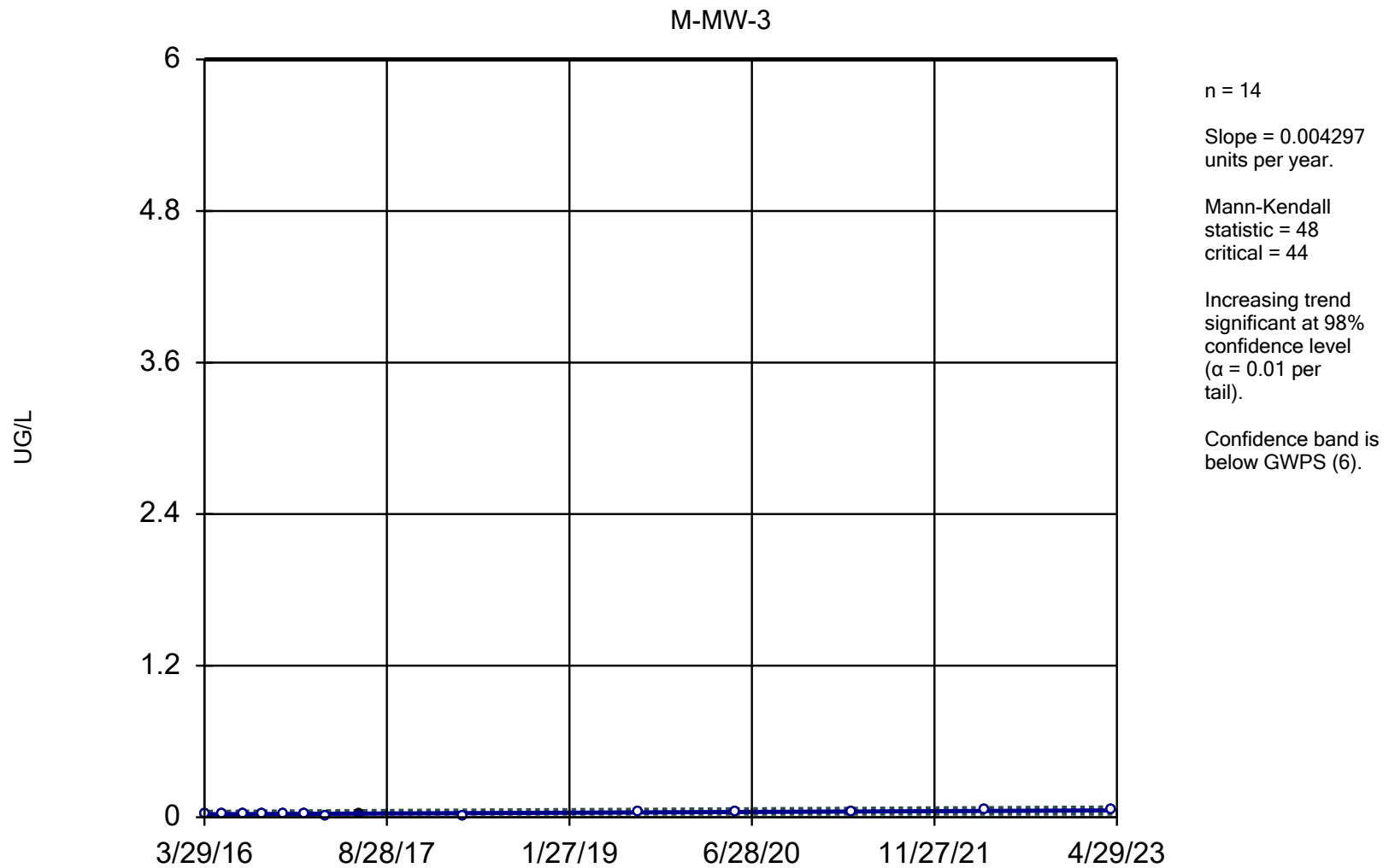
Meramec E.C. Client: Ameren Data: MEC Data Printed 2/23/2024, 1:42 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Radium [226 + 228] (PCI/L)	M-MW-5	1.83	1.413	5	No	21	47.62	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-6	0.827	0.664	5	No	21	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.913	0.6655	5	No	19	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	0.981	0.701	5	No	20	80	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	19	89.47	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	19	89.47	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.089	50	No	19	89.47	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	19	89.47	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	19	94.74	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.087	50	No	19	94.74	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	12.45	2.06	50	No	19	10.53	sqrt(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.088	50	No	18	88.89	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)

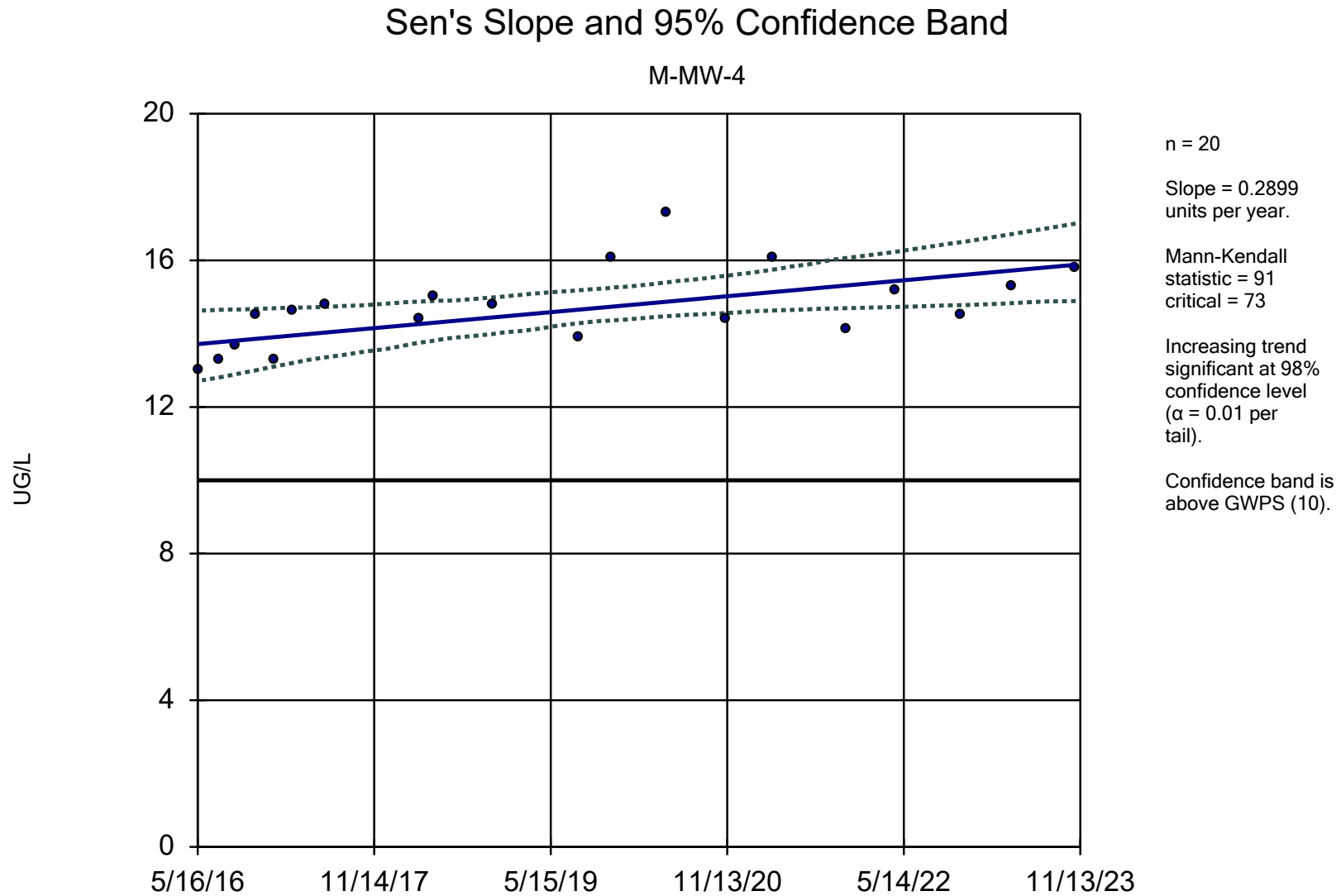
Appendix B

Sanitas Trending Confidence Bands Statistical Output

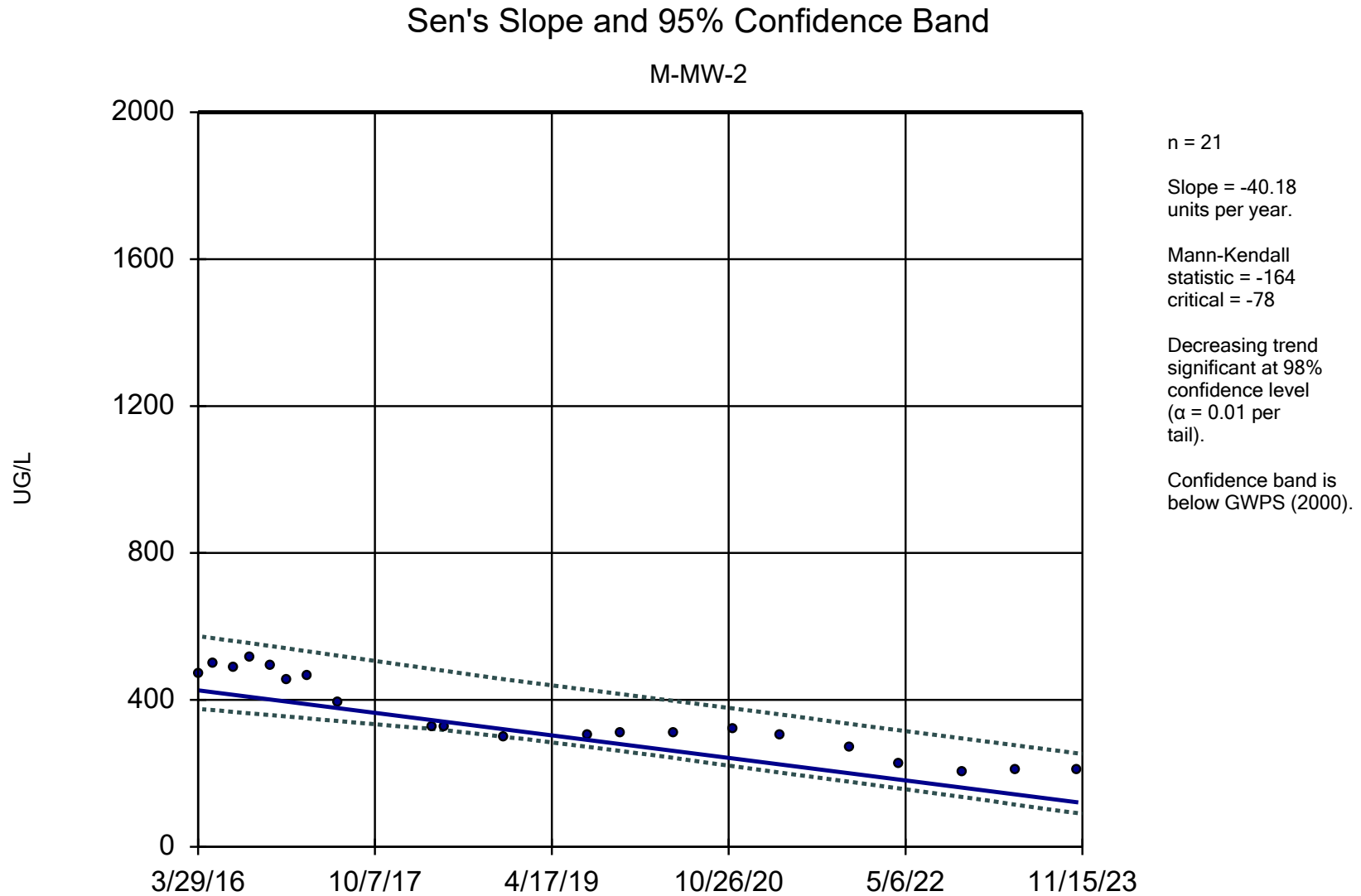
Sen's Slope and 95% Confidence Band



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Meramec E.C. Client: Ameren Data: MEC Data



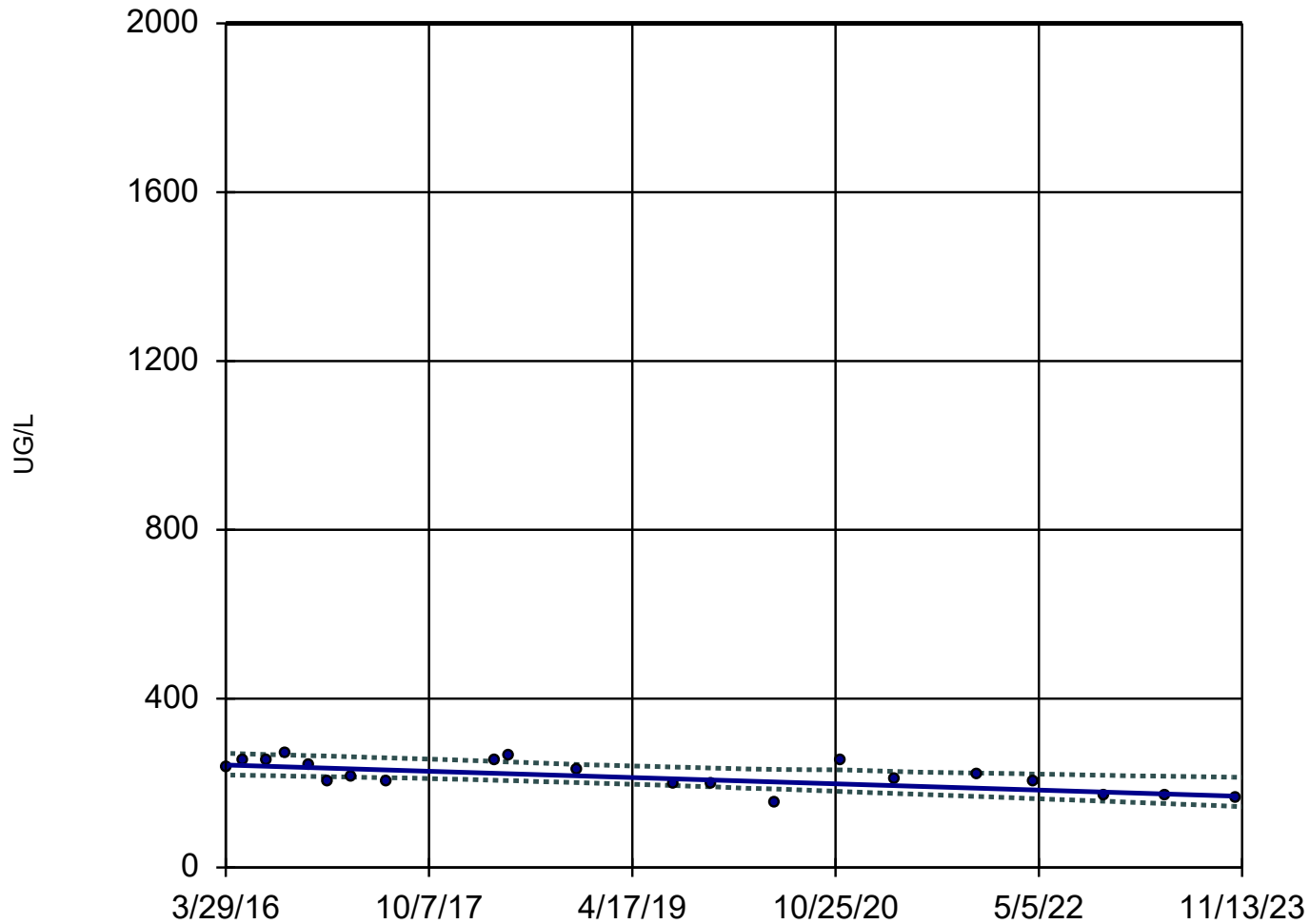
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Meramec E.C. Client: Ameren Data: MEC Data



Constituent: BARIUM, TOTAL Analysis Run 2/23/2024 1:43 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-3



n = 21

Slope = -9.707
units per year.

Mann-Kendall
statistic = -101
critical = -78

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

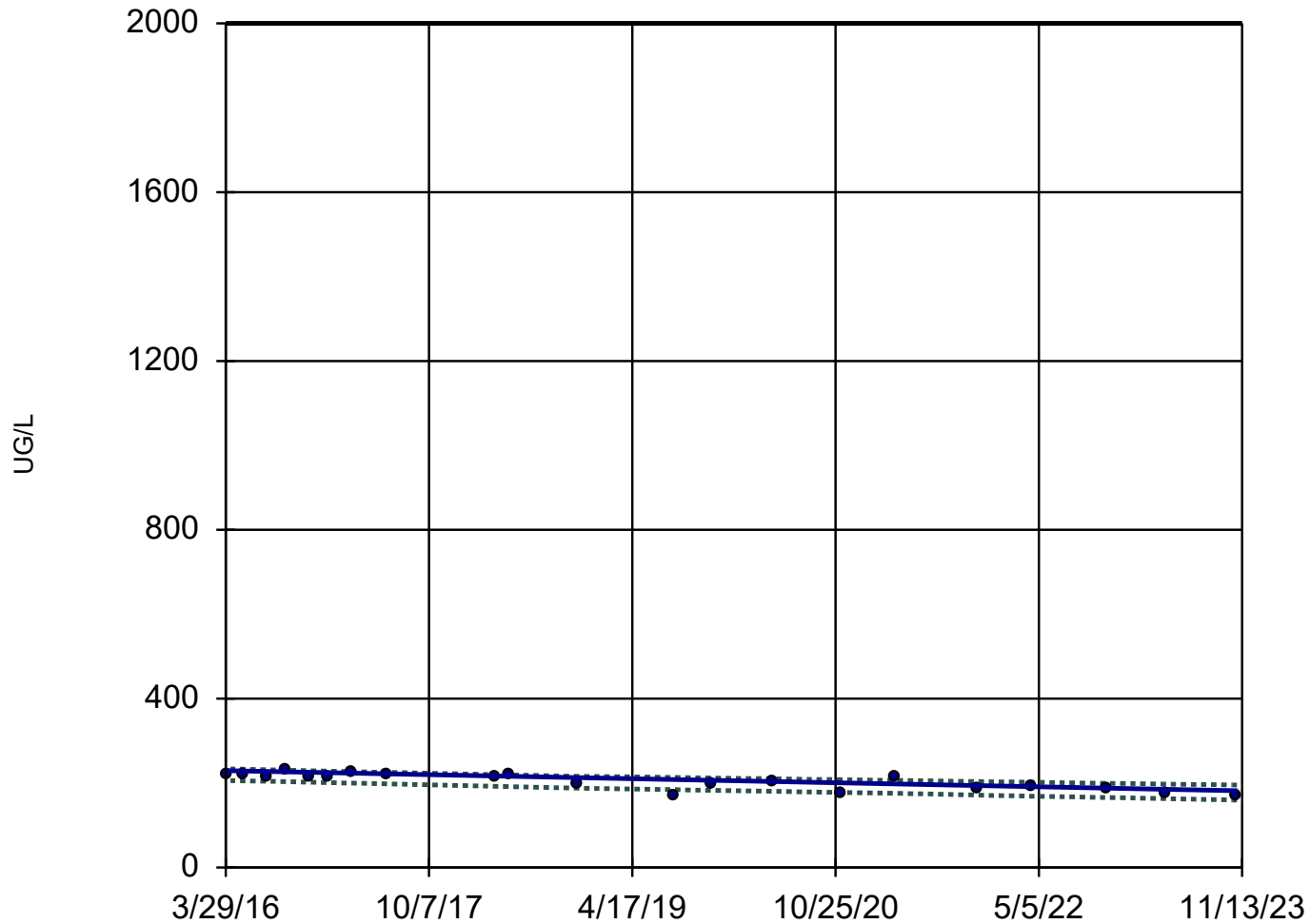
Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/23/2024 1:43 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 21

Slope = -6.273
units per year.

Mann-Kendall
statistic = -128
critical = -78

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

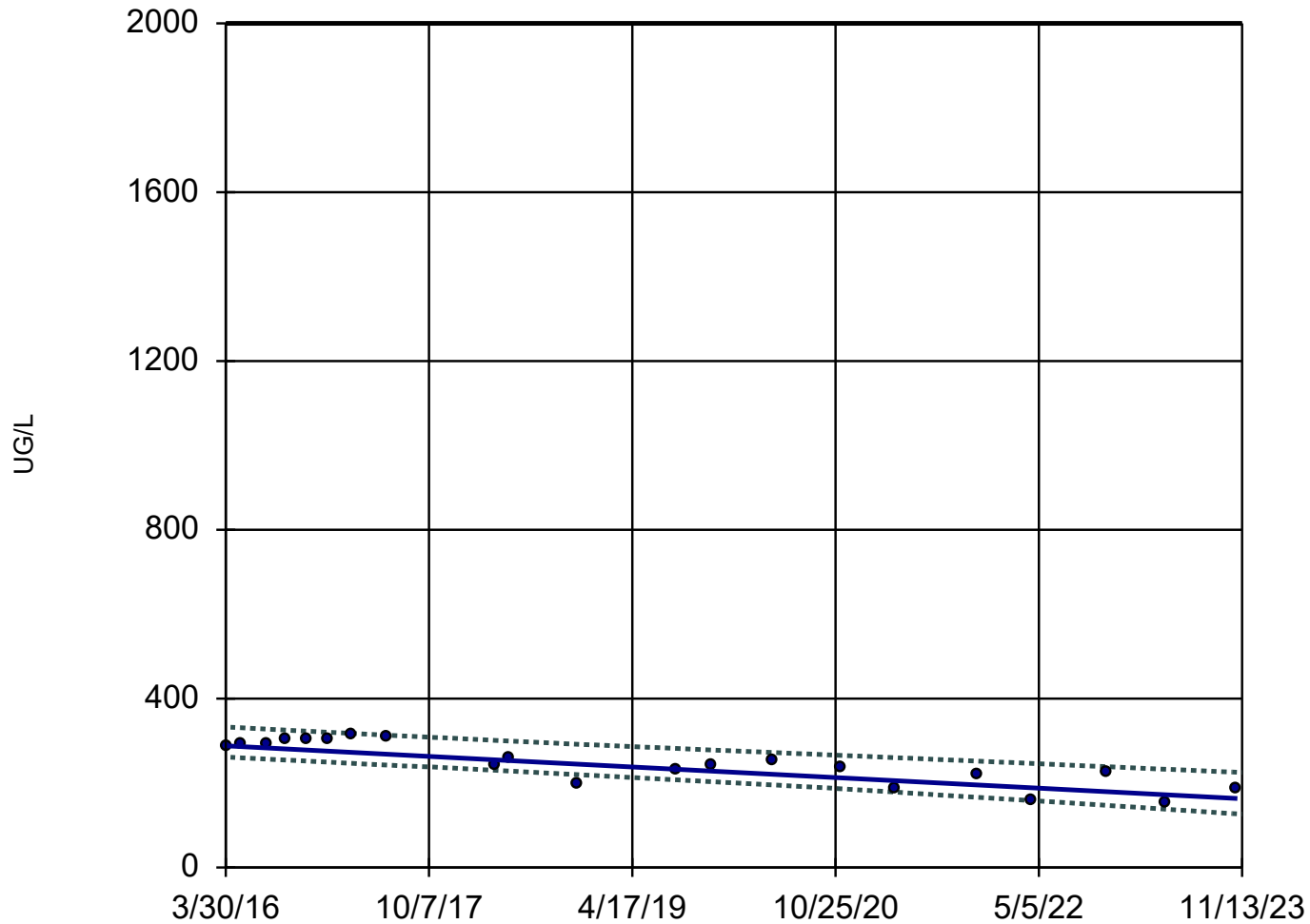
Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/23/2024 1:43 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 21

Slope = -16.44
units per year.

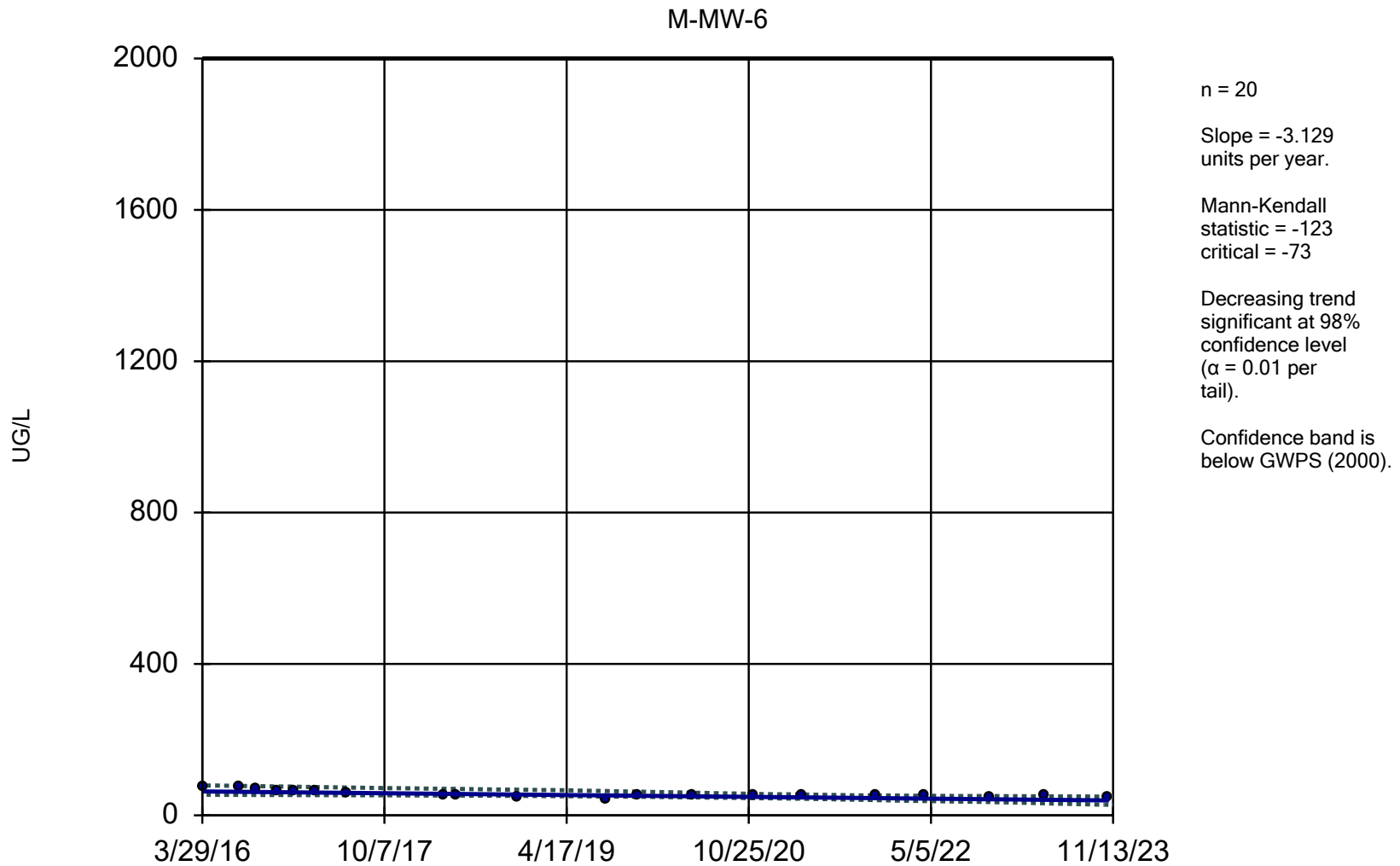
Mann-Kendall
statistic = -121
critical = -78

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/23/2024 1:43 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

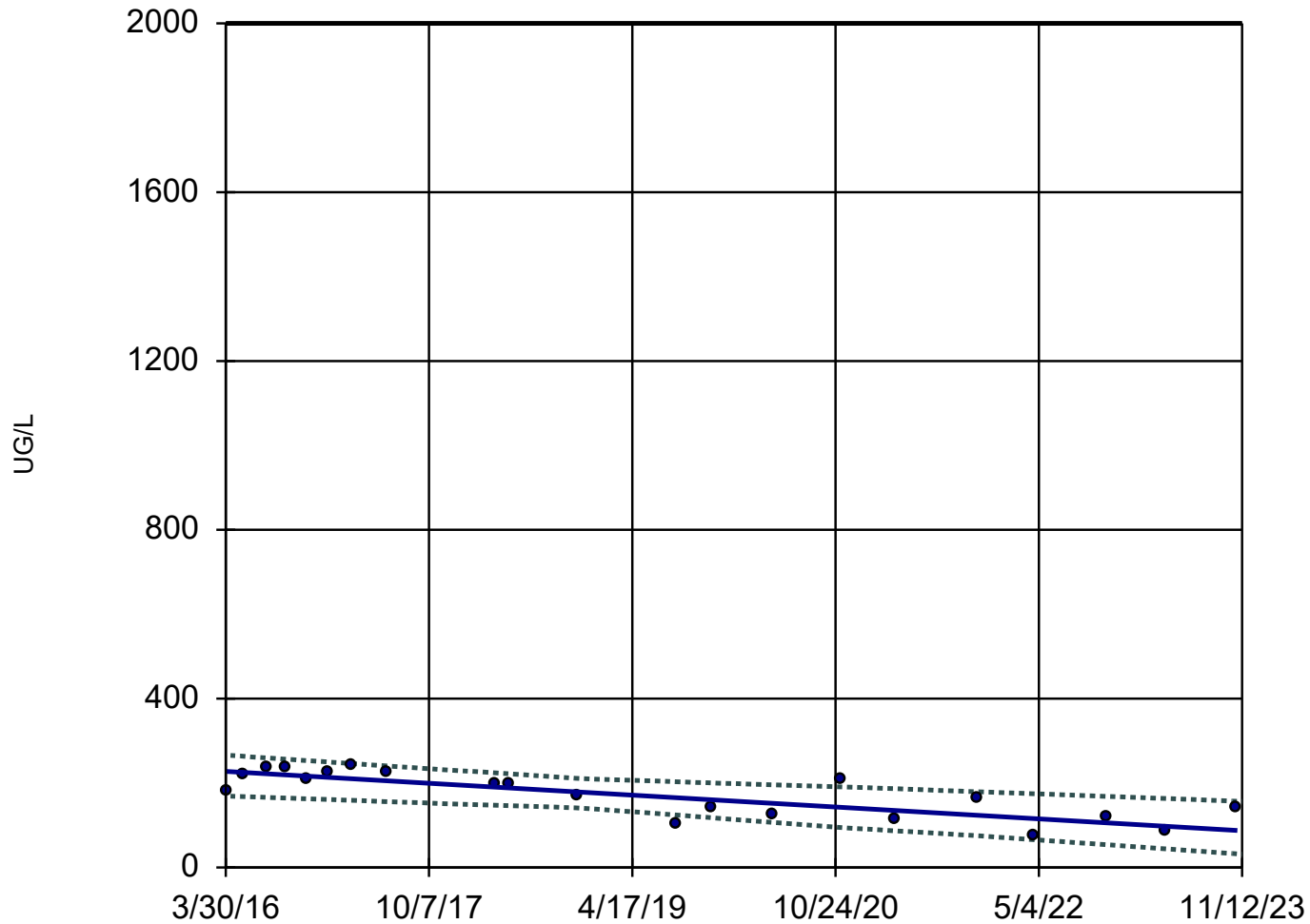
Sen's Slope and 95% Confidence Band



Constituent: BARIUM, TOTAL Analysis Run 2/23/2024 1:43 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-8



n = 21

Slope = -18.45
units per year.

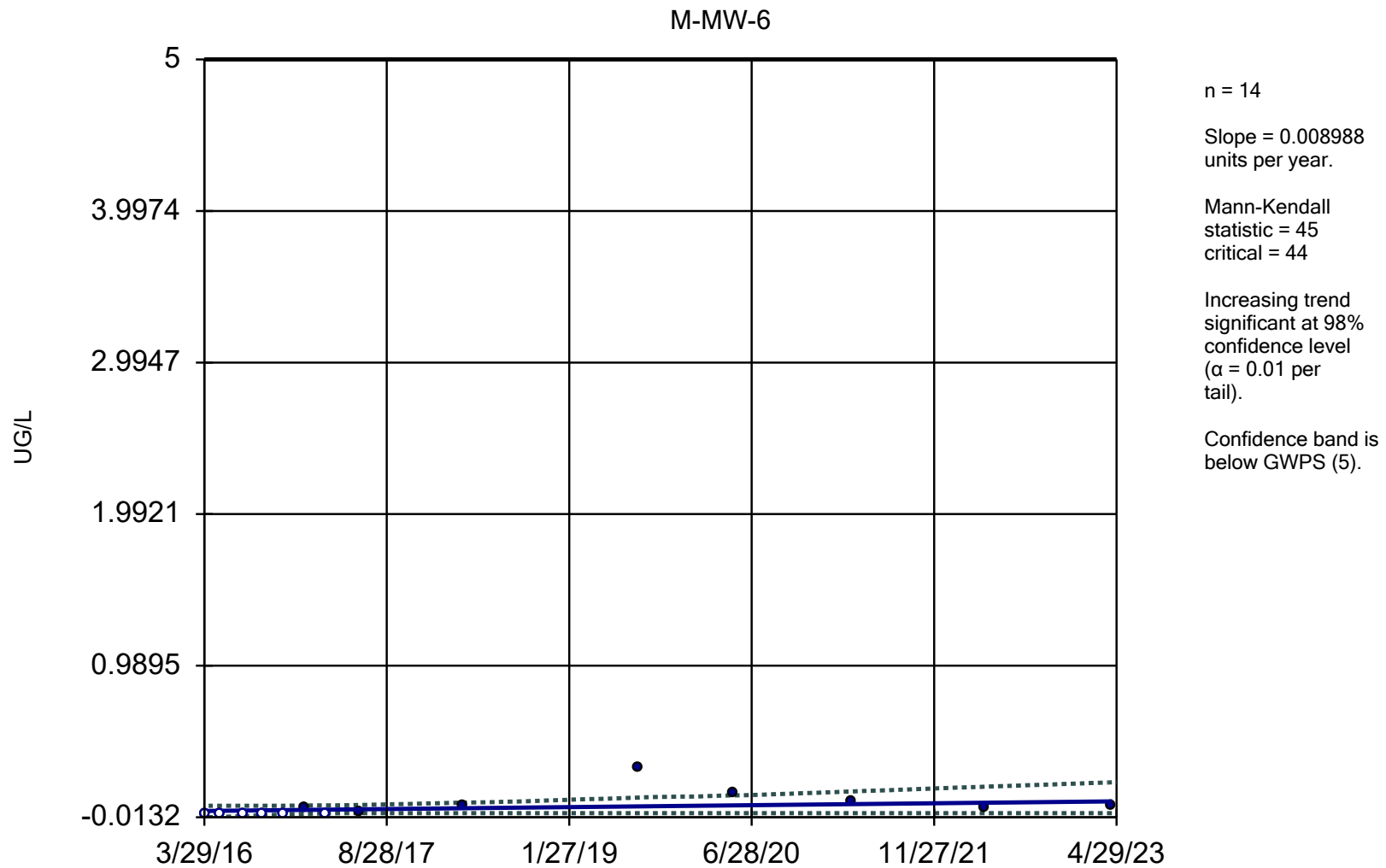
Mann-Kendall
statistic = -120
critical = -78

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band is
below GWPS (2000).

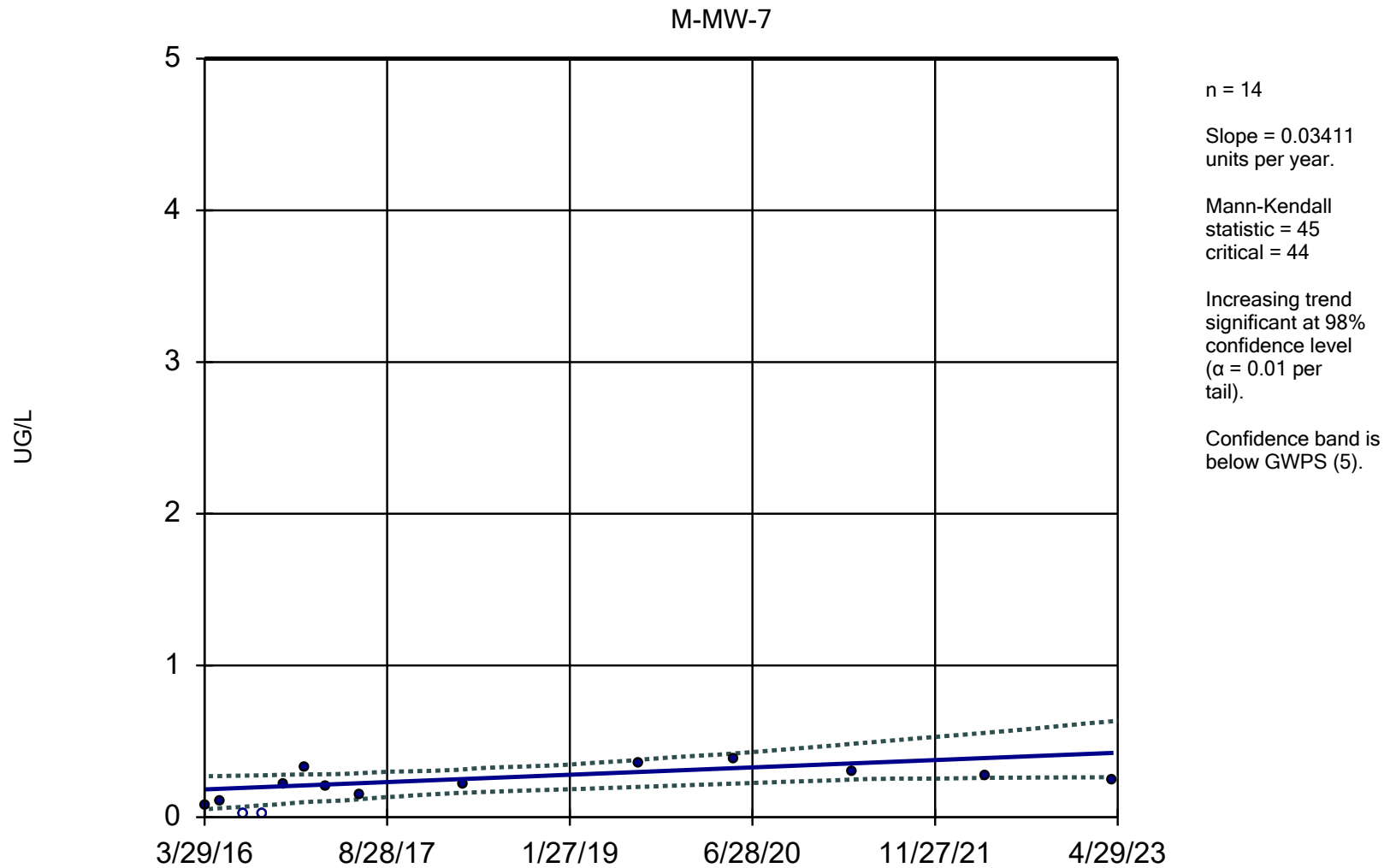
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



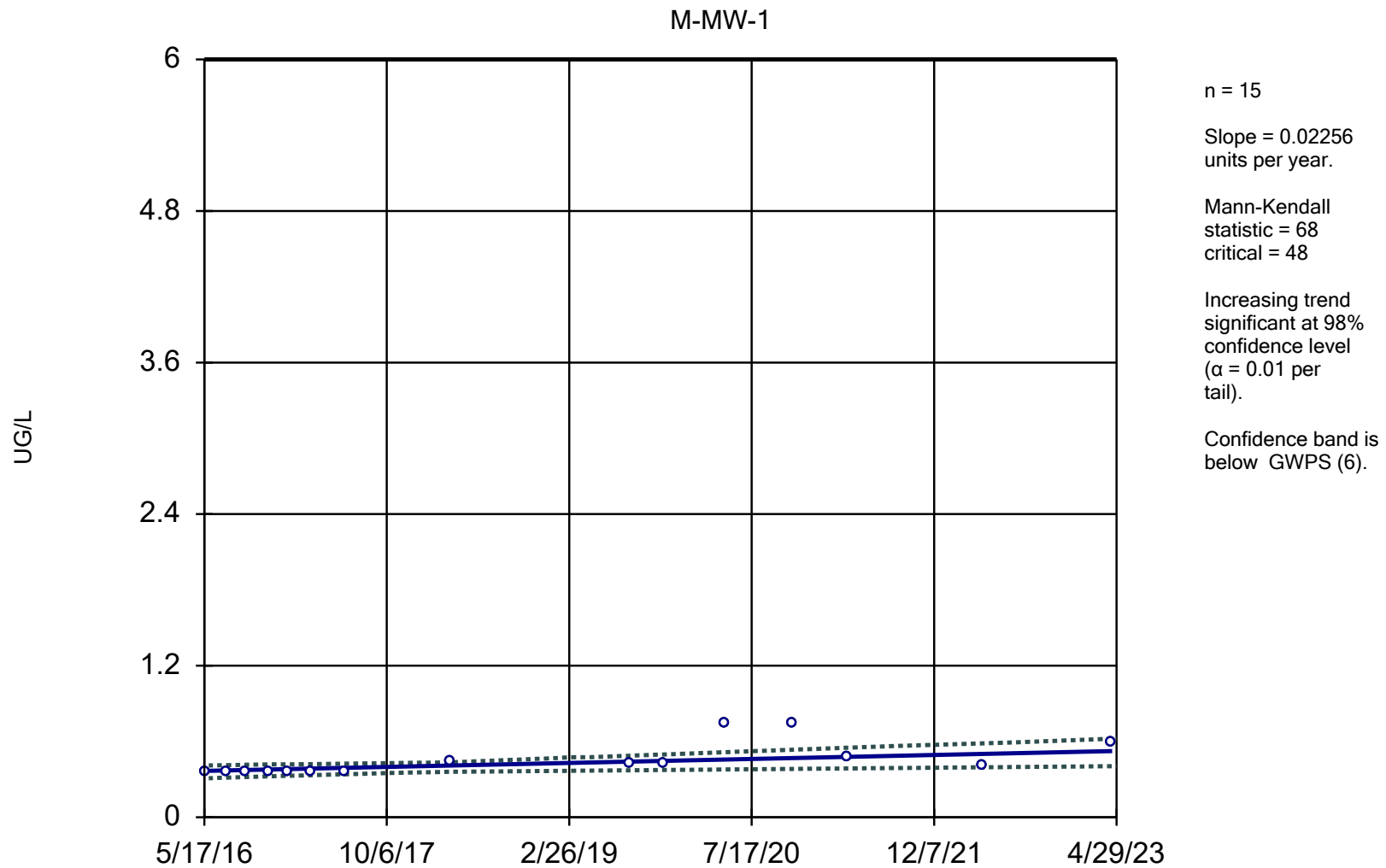
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



Constituent: CADMIUM, TOTAL Analysis Run 2/23/2024 1:44 PM View: Assessment Monitoring
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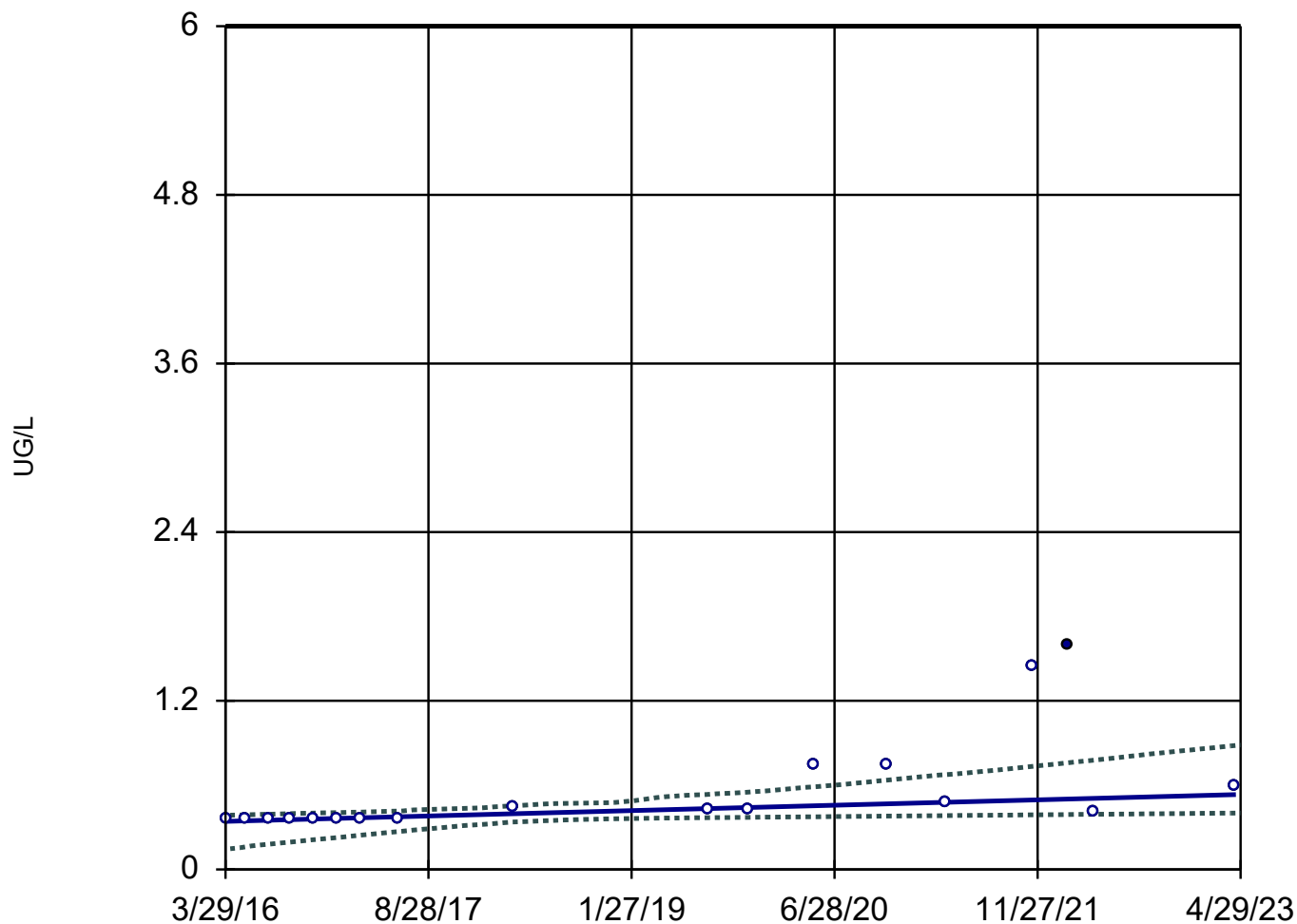
Sen's Slope and 95% Confidence Band



Constituent: COBALT, TOTAL Analysis Run 2/23/2024 1:44 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-2



$n = 18$

Slope = 0.02708
units per year.

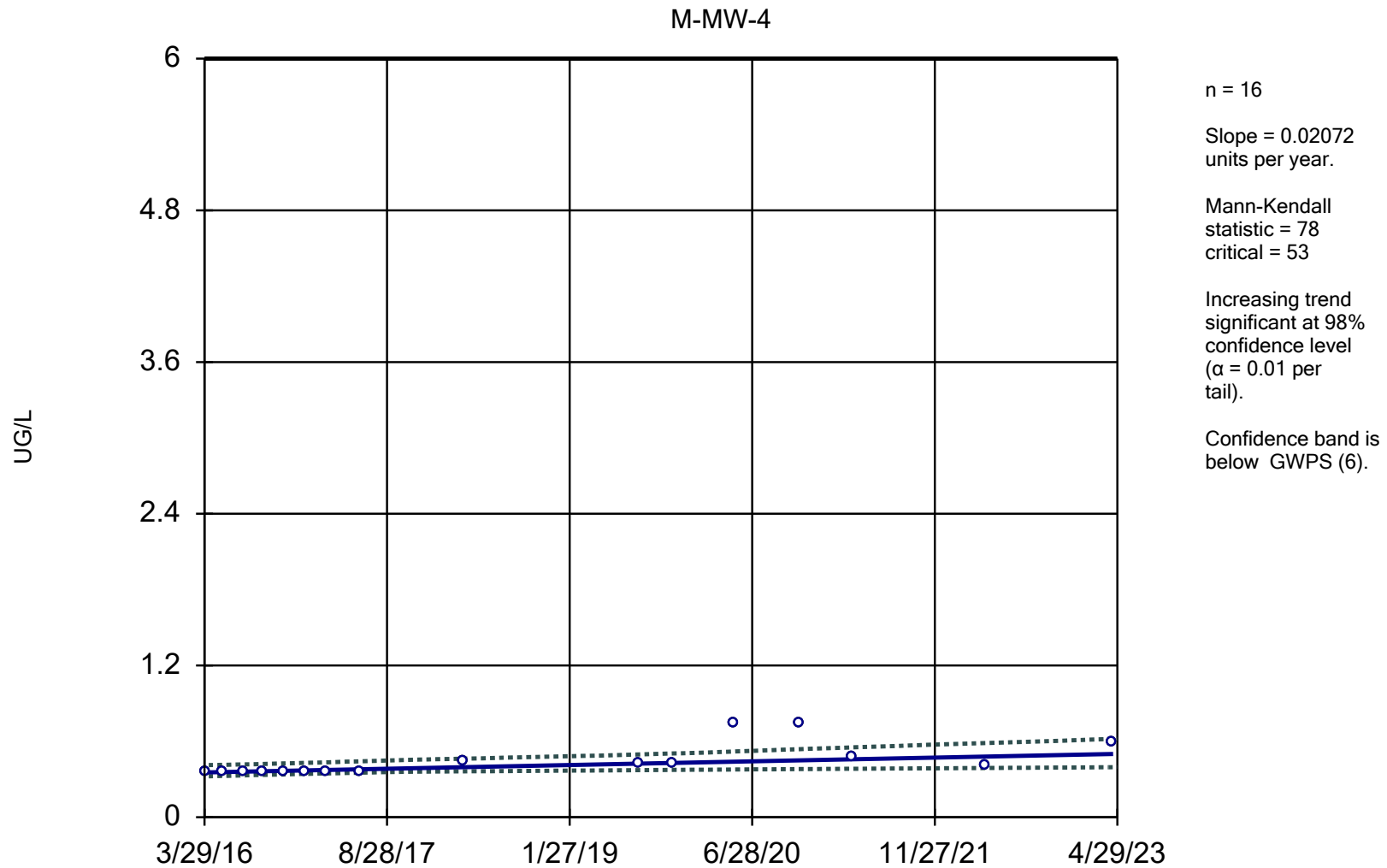
Mann-Kendall
statistic = 103
critical = 63

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band is below GWPS (6).

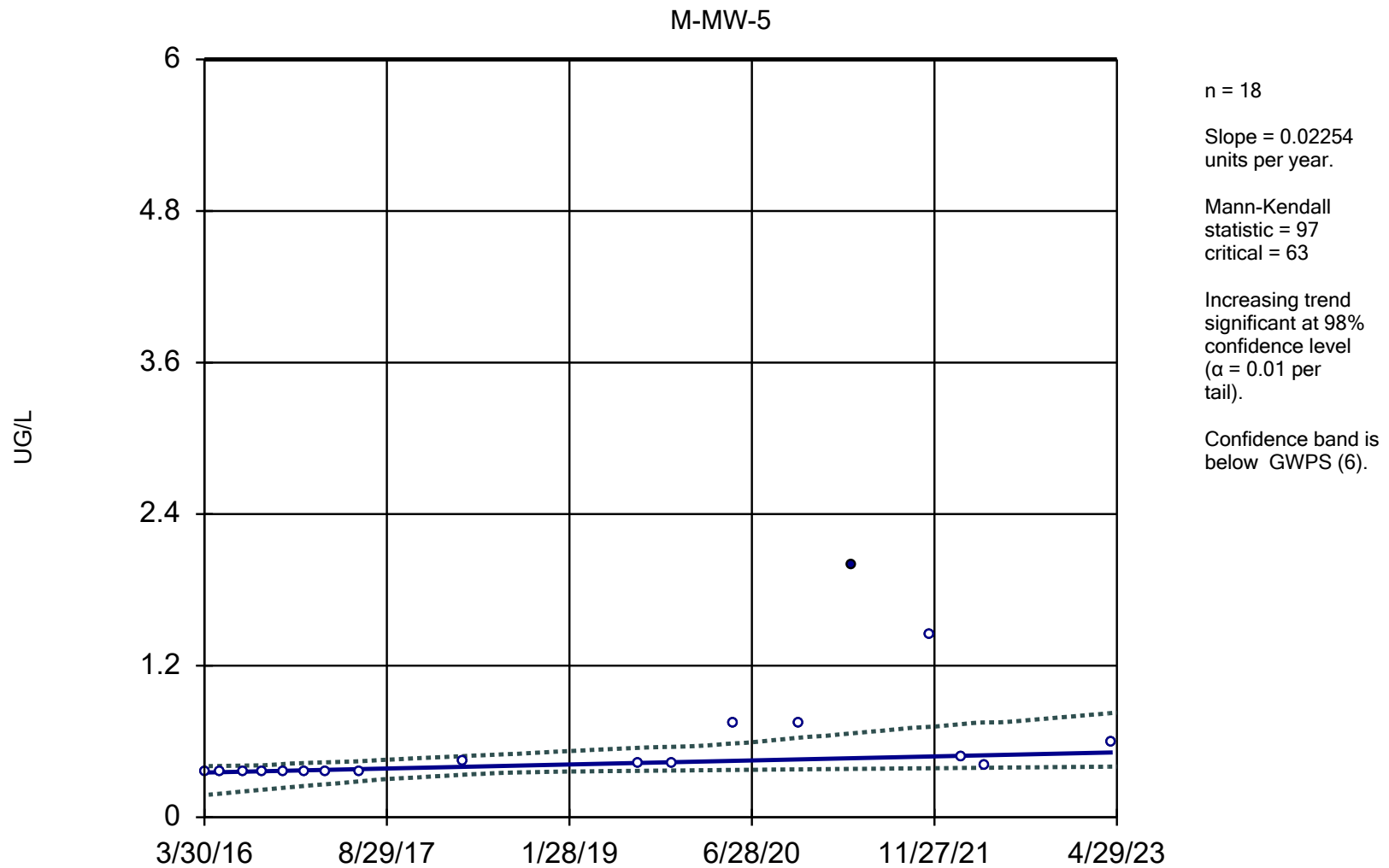
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Sen's Slope and 95% Confidence Band



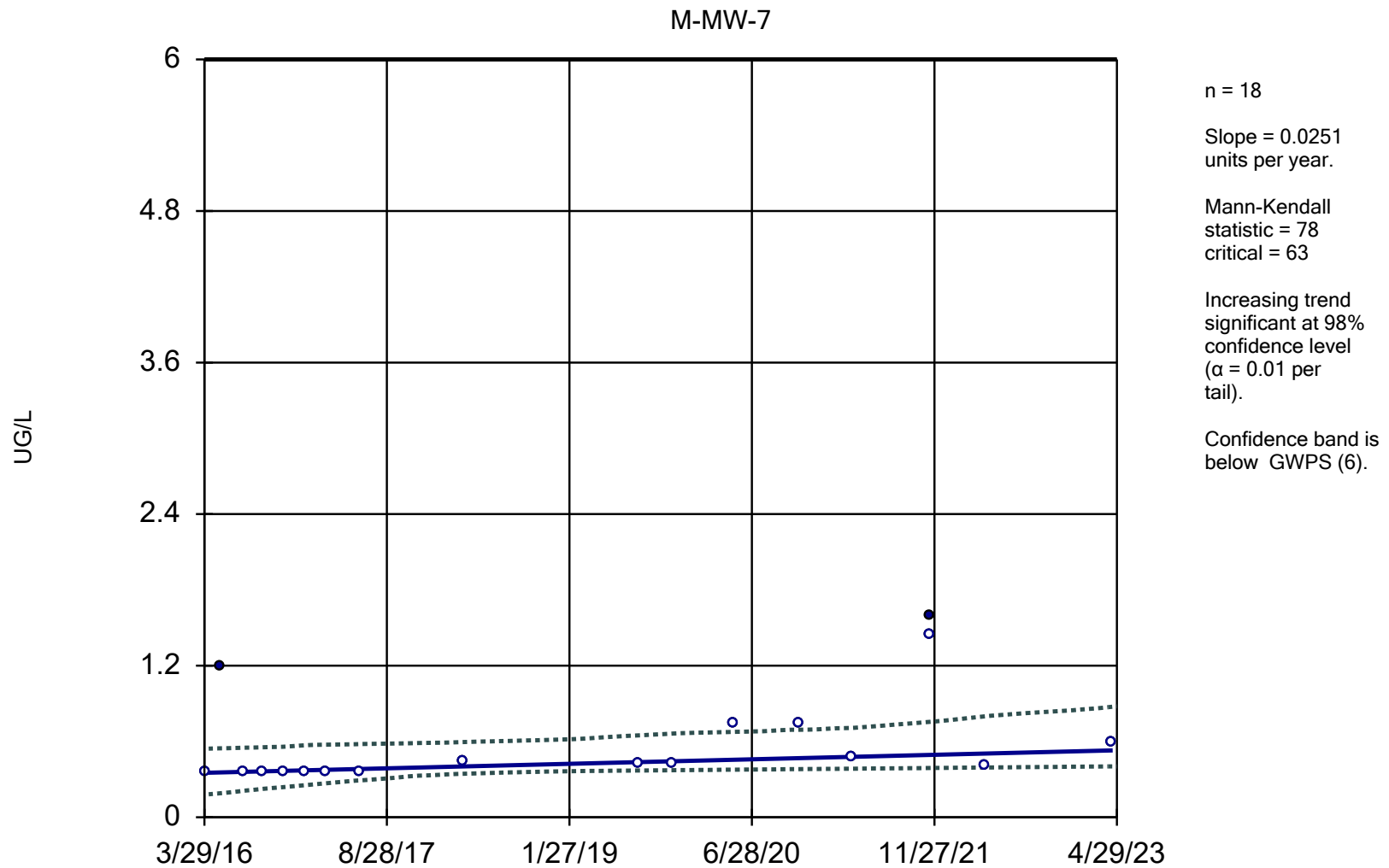
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Sen's Slope and 95% Confidence Band



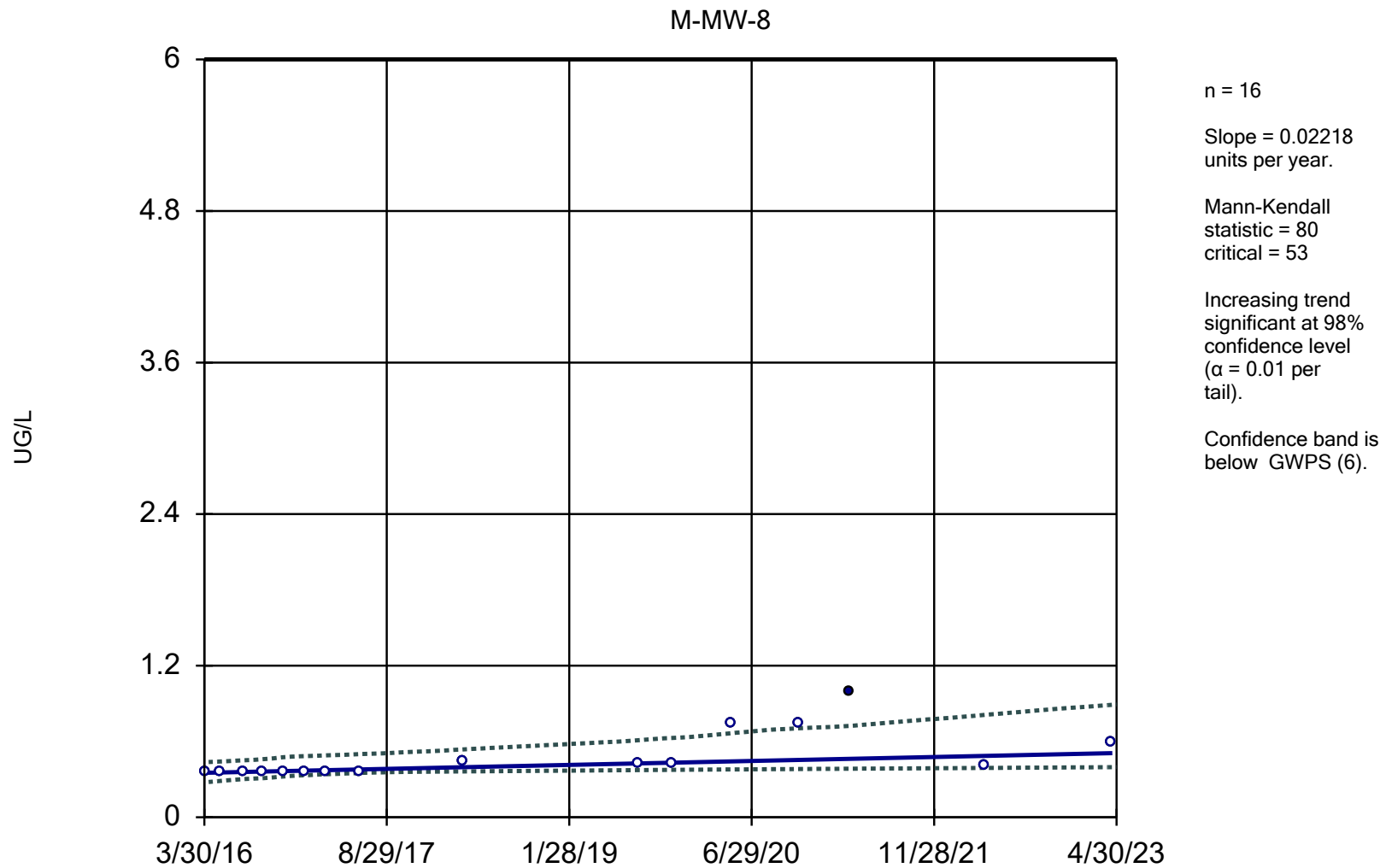
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Sen's Slope and 95% Confidence Band



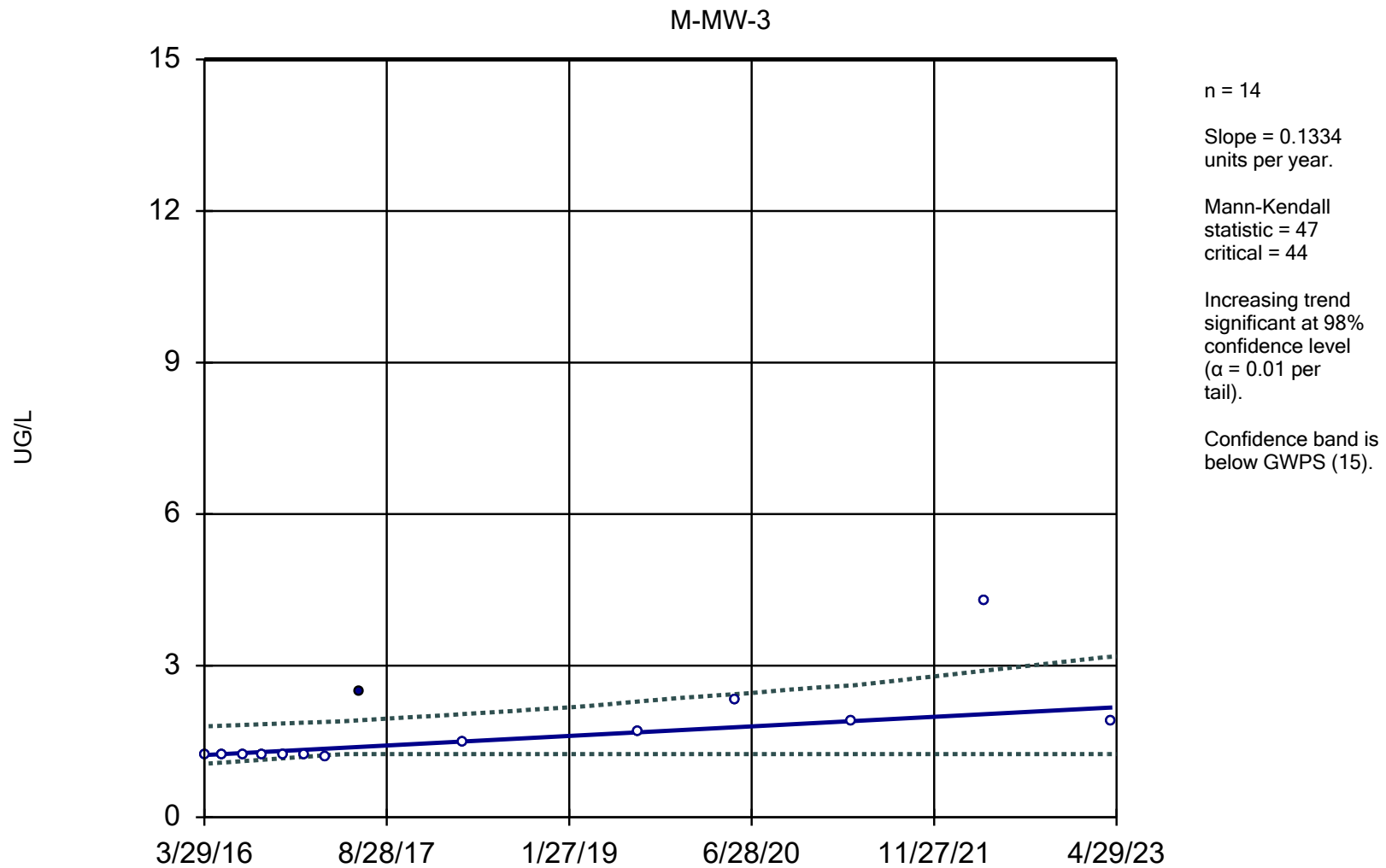
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Sen's Slope and 95% Confidence Band



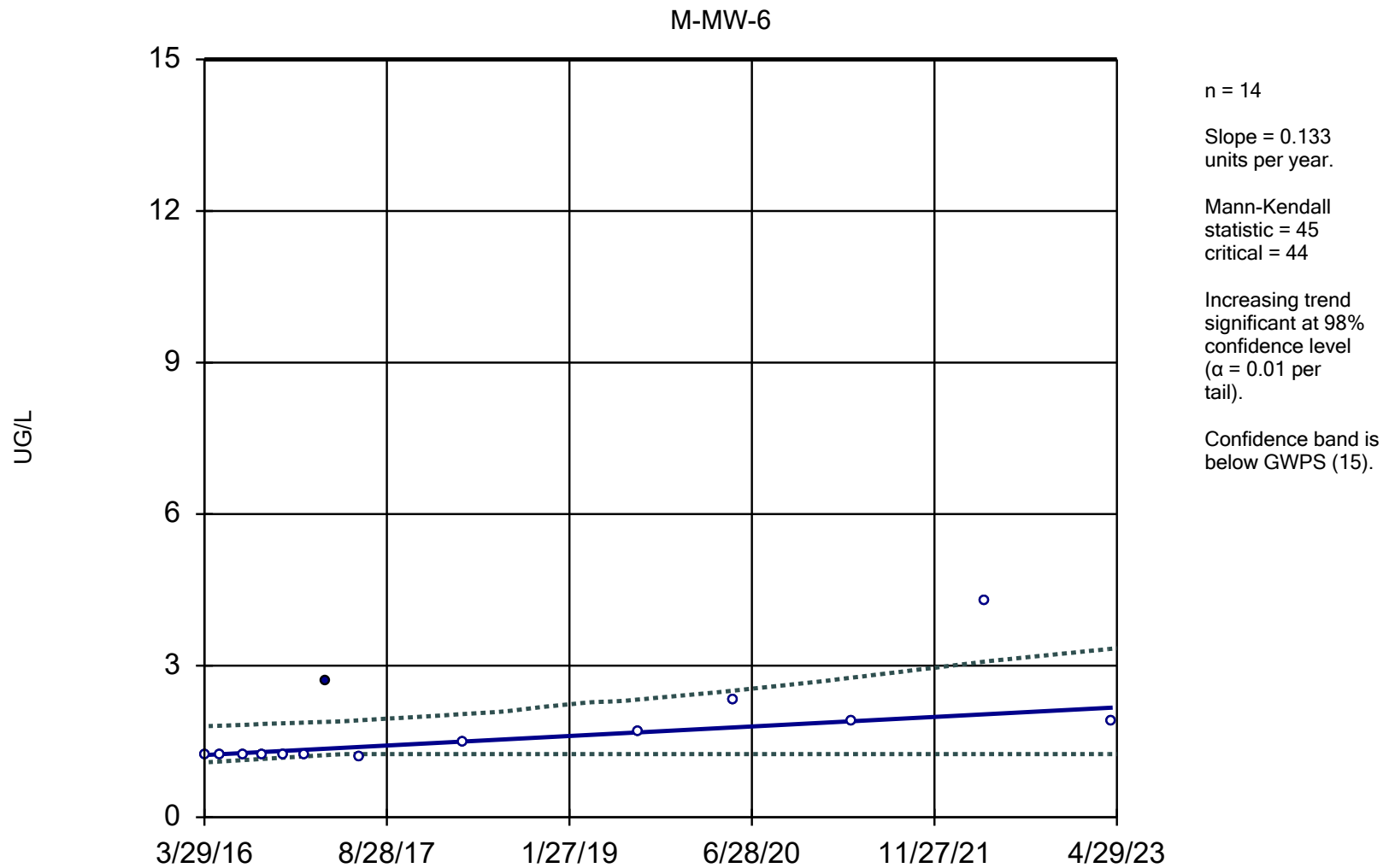
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Sen's Slope and 95% Confidence Band



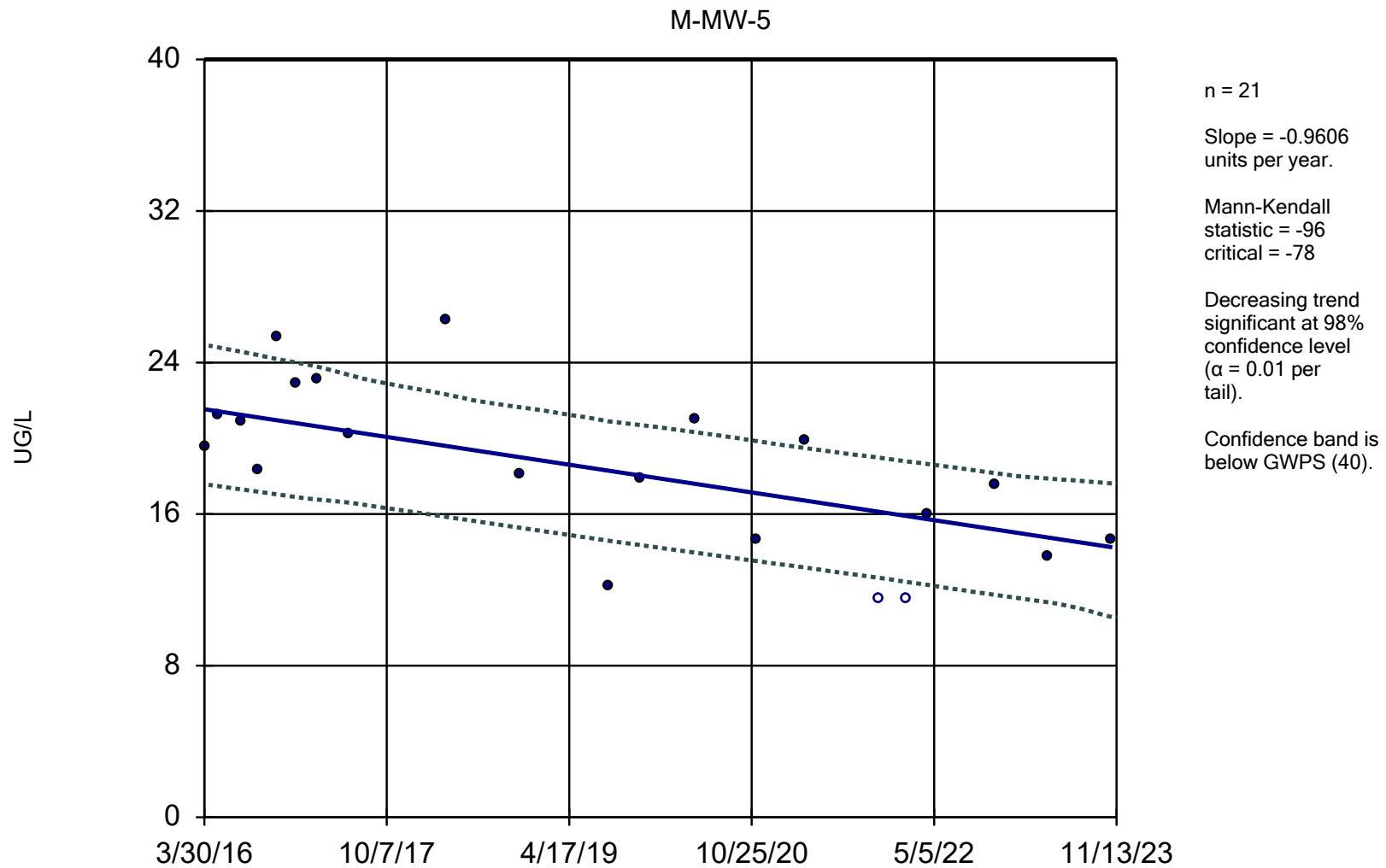
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Sen's Slope and 95% Confidence Band



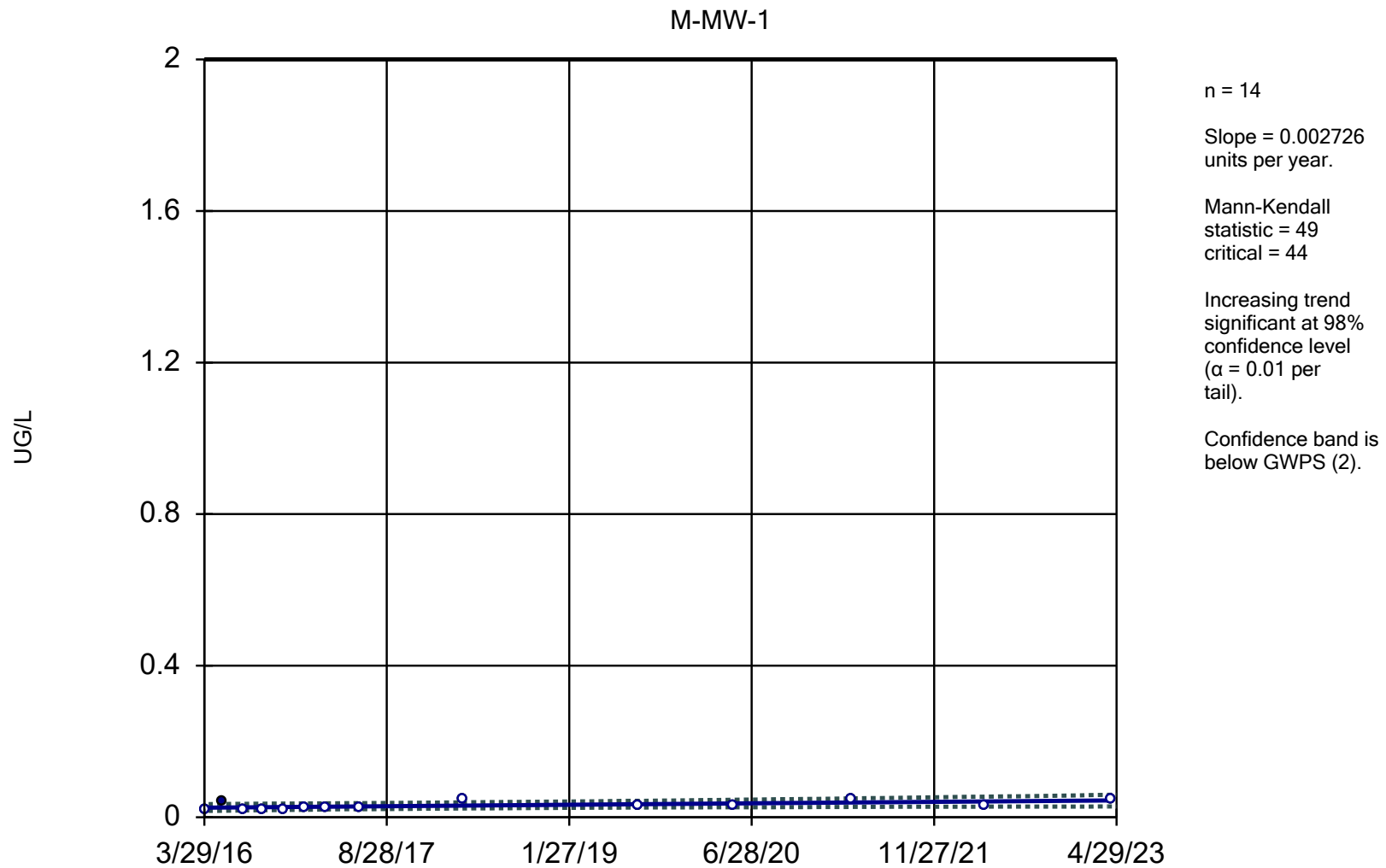
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Sen's Slope and 95% Confidence Band



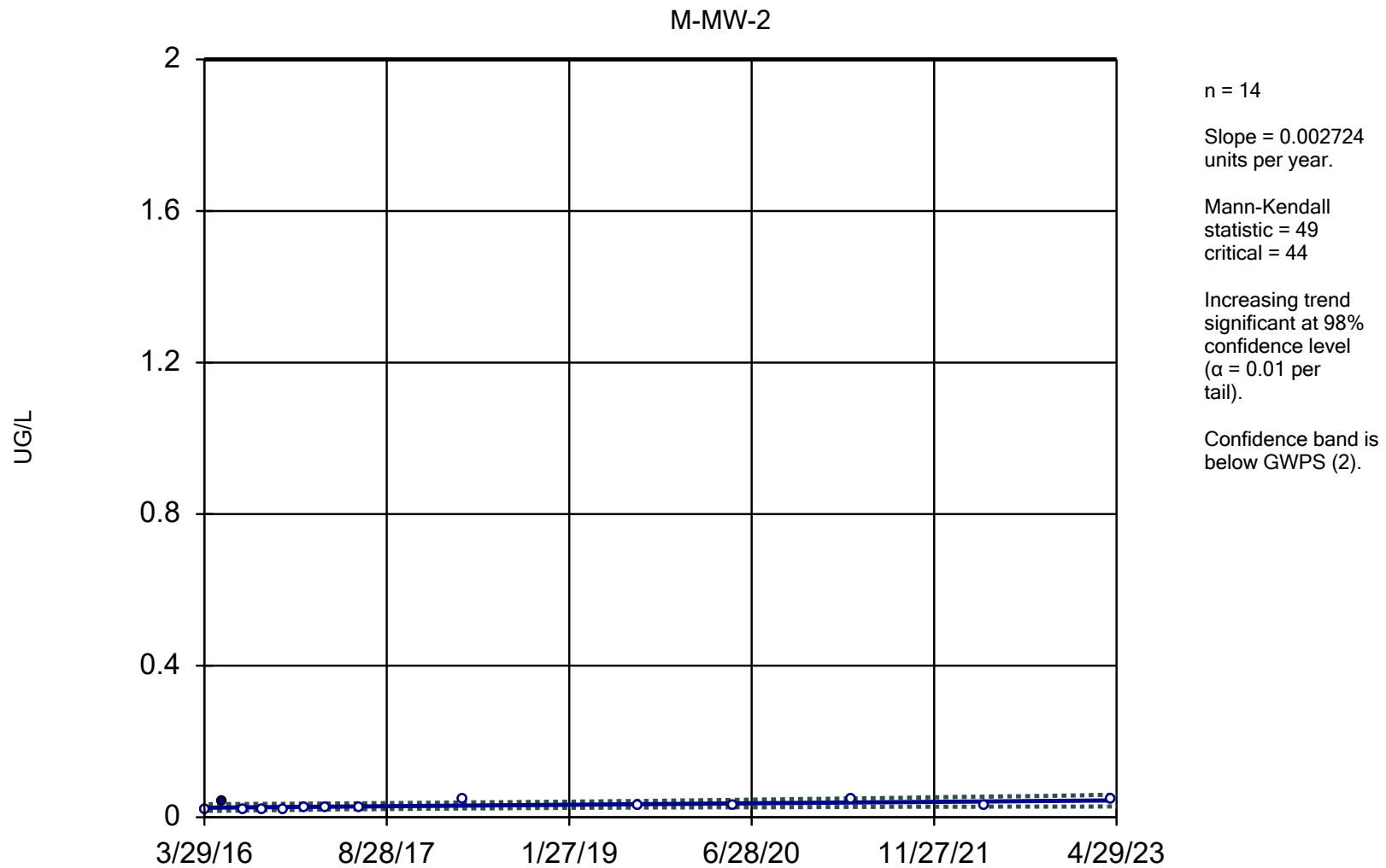
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



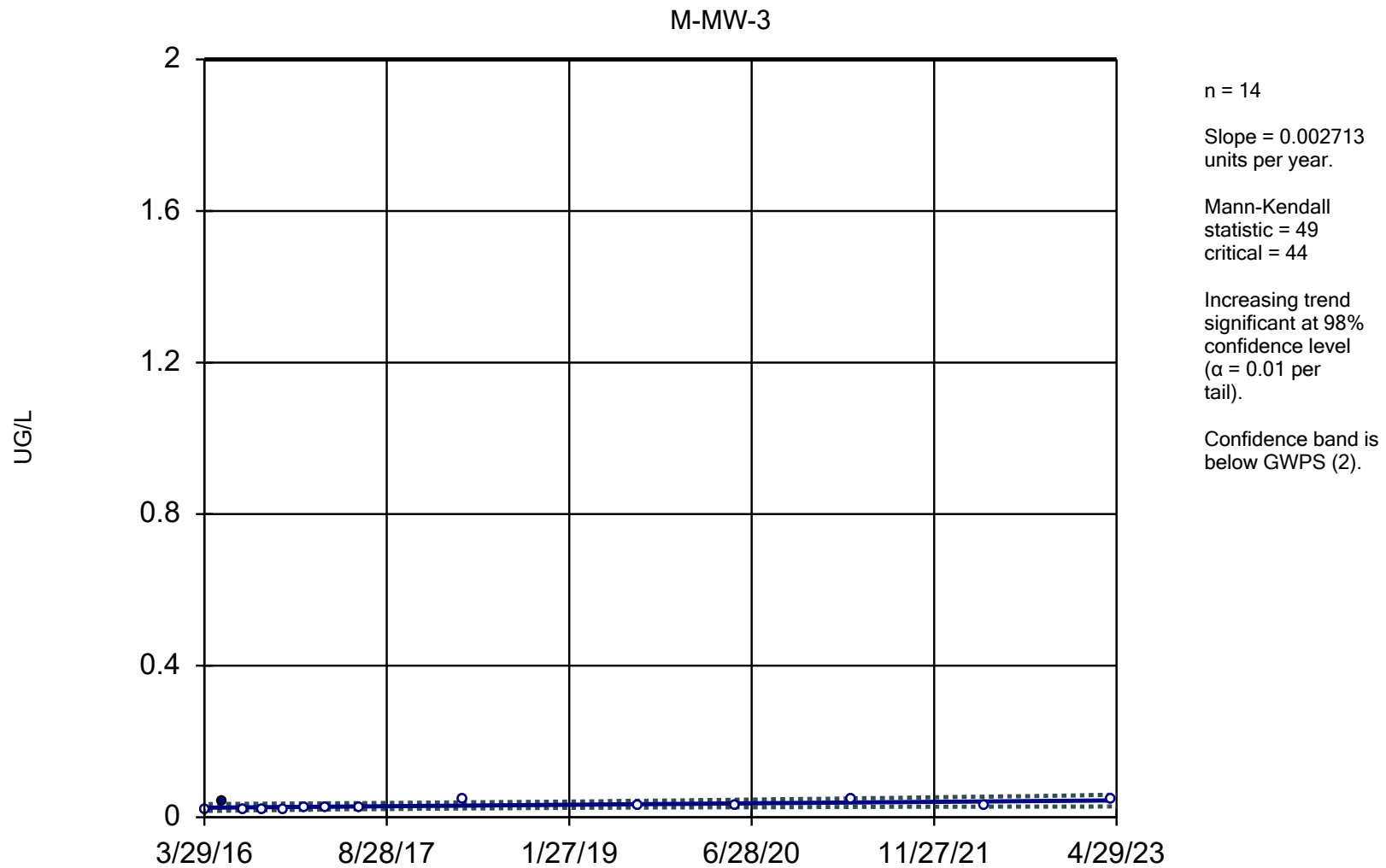
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



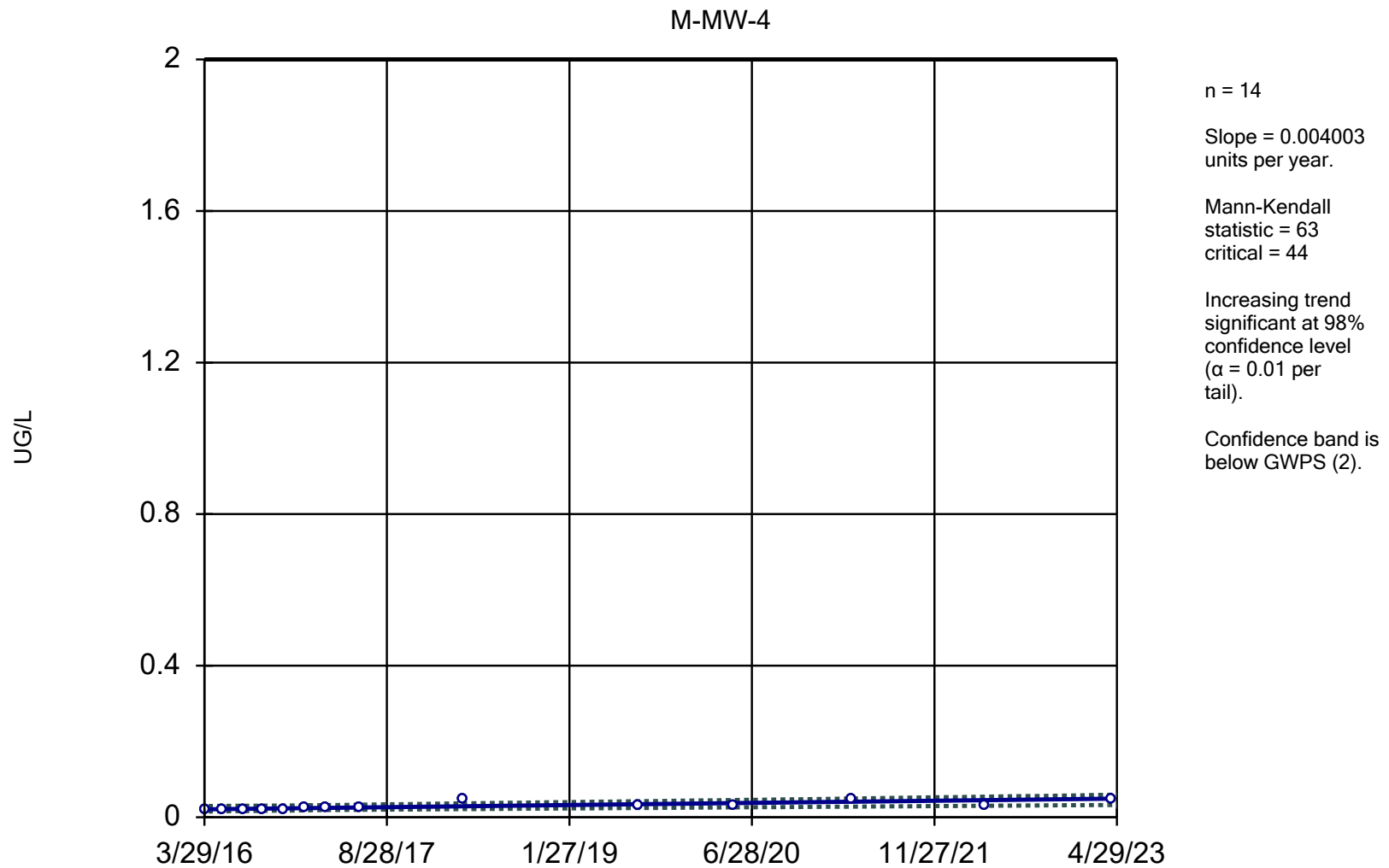
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Sen's Slope and 95% Confidence Band



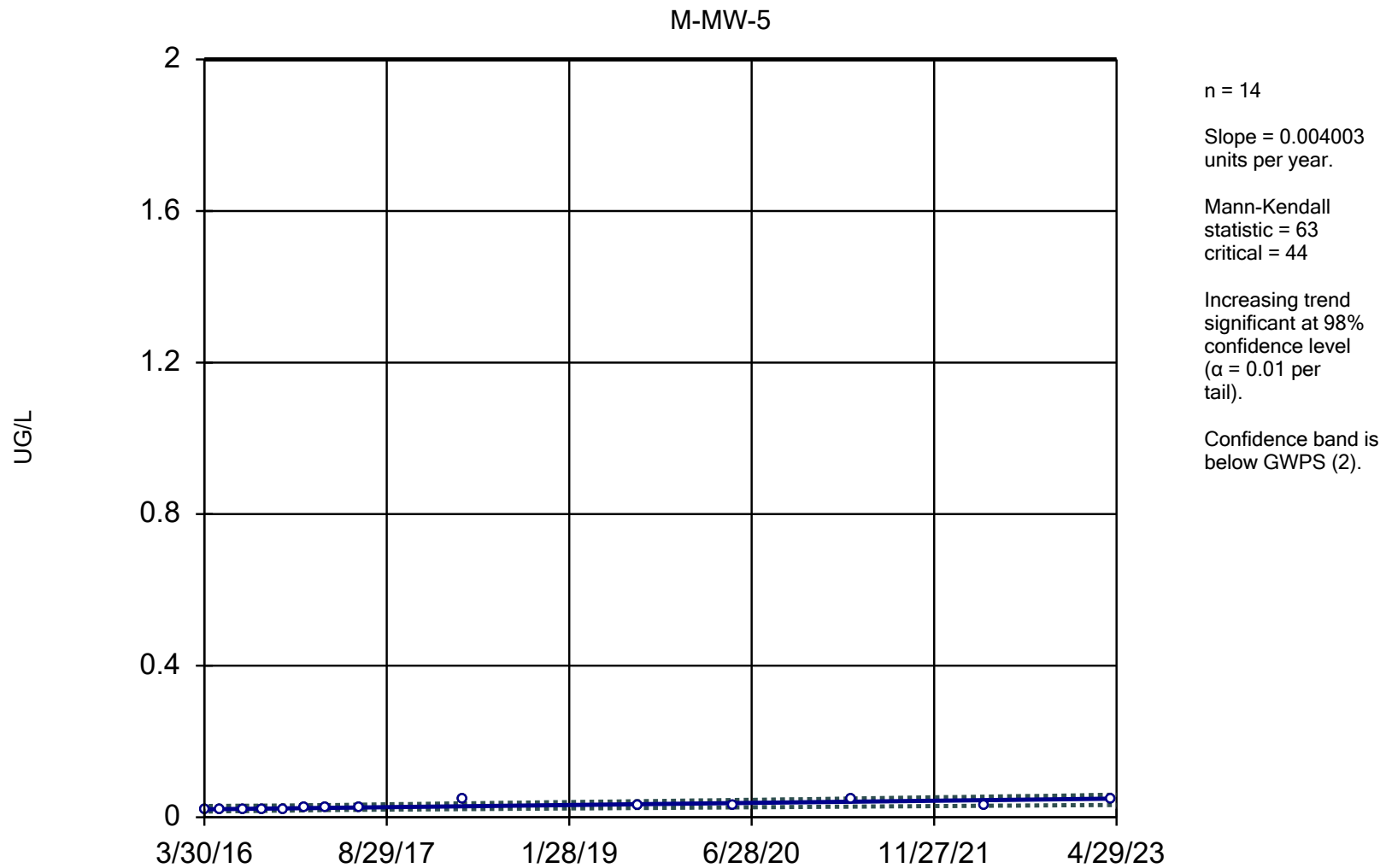
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Sen's Slope and 95% Confidence Band



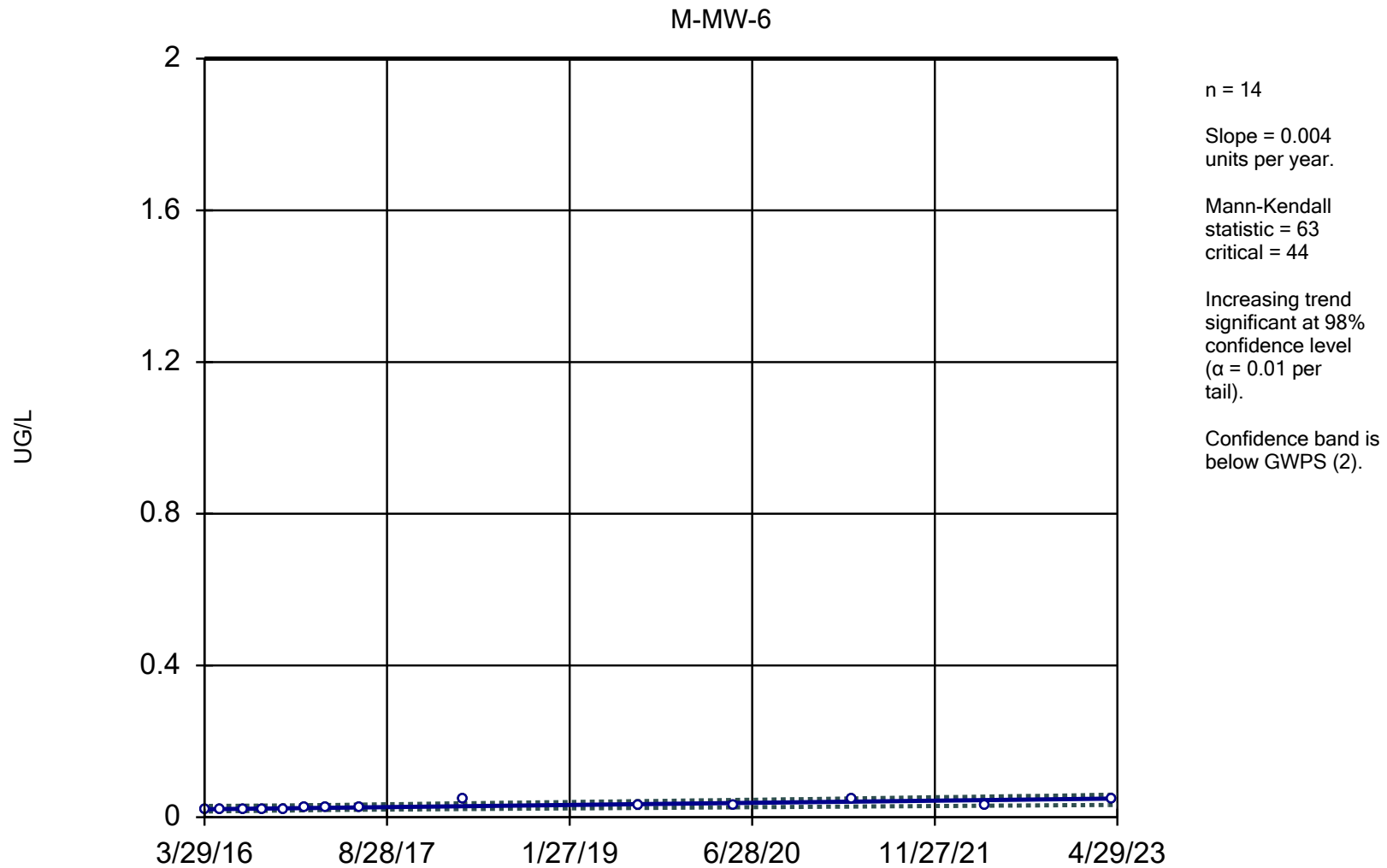
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Sen's Slope and 95% Confidence Band



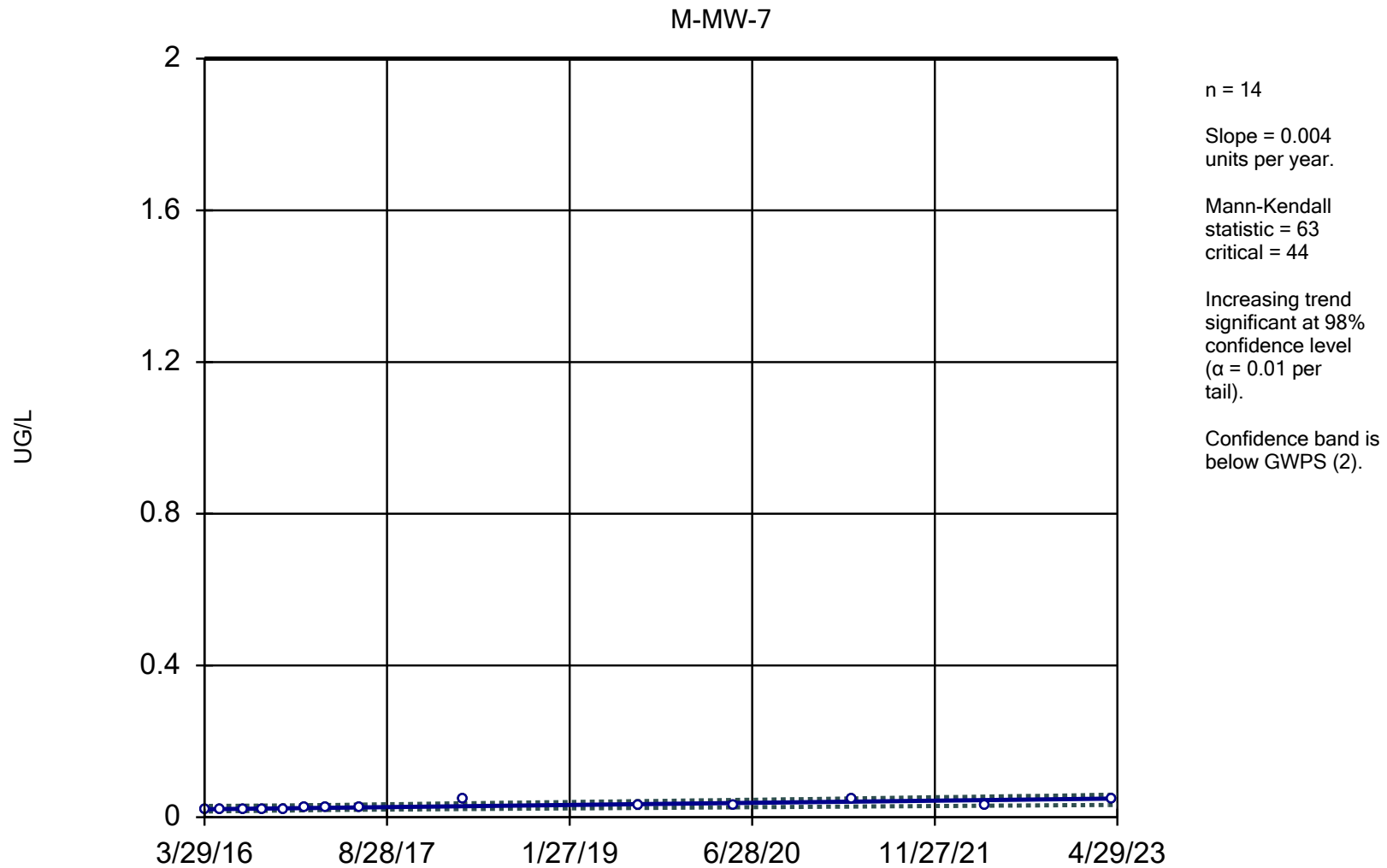
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Sen's Slope and 95% Confidence Band



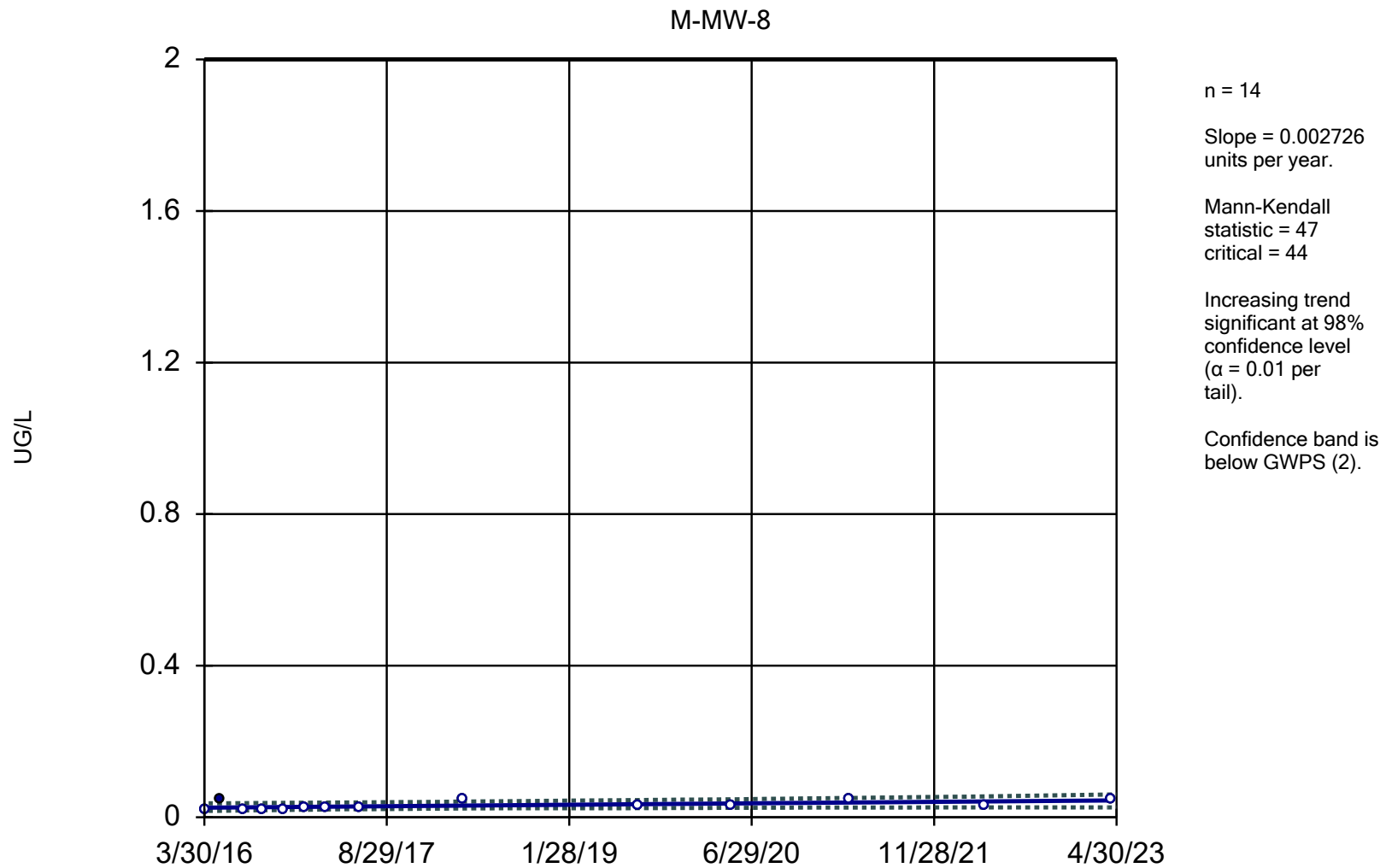
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Sen's Slope and 95% Confidence Band



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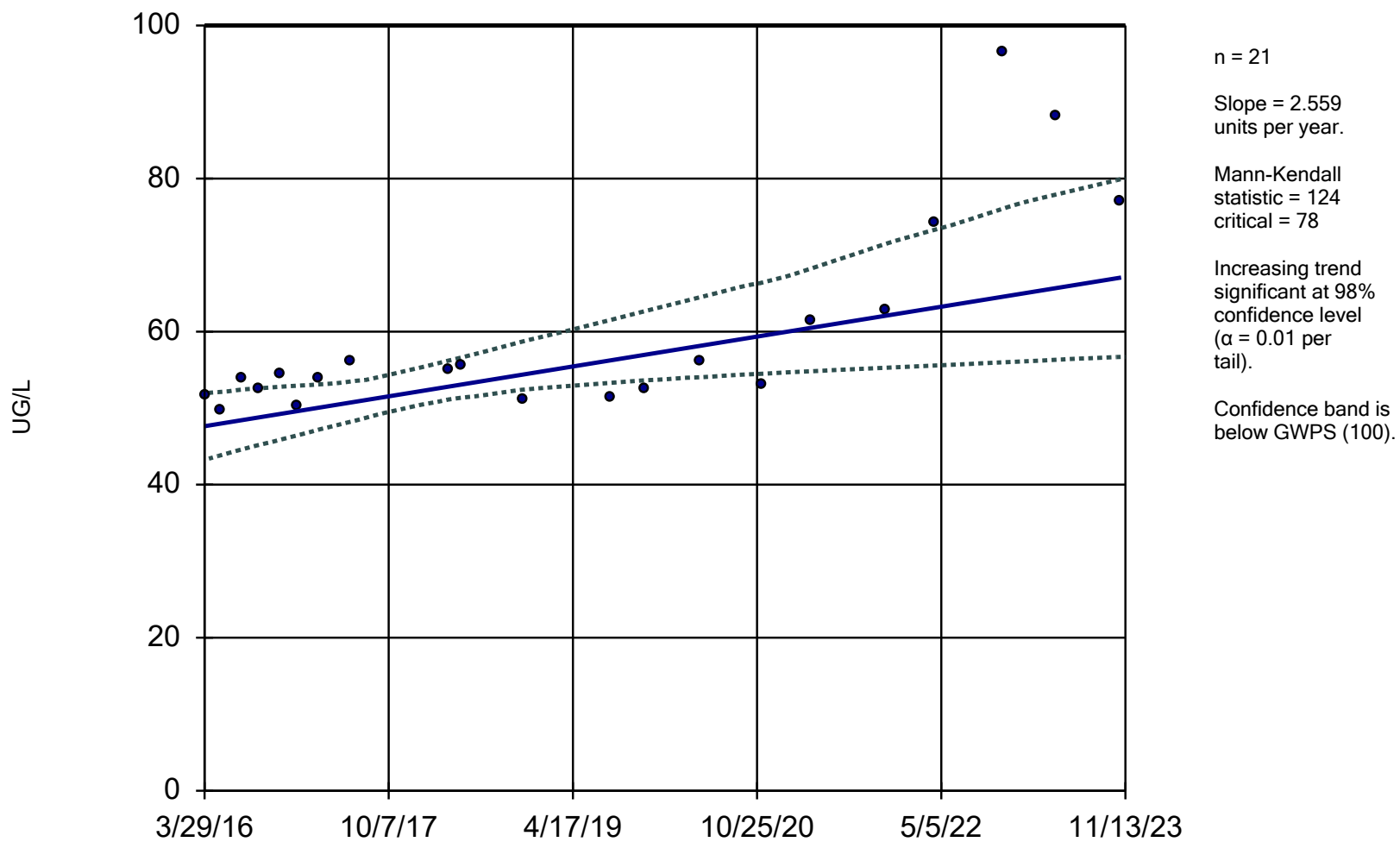
Sen's Slope and 95% Confidence Band



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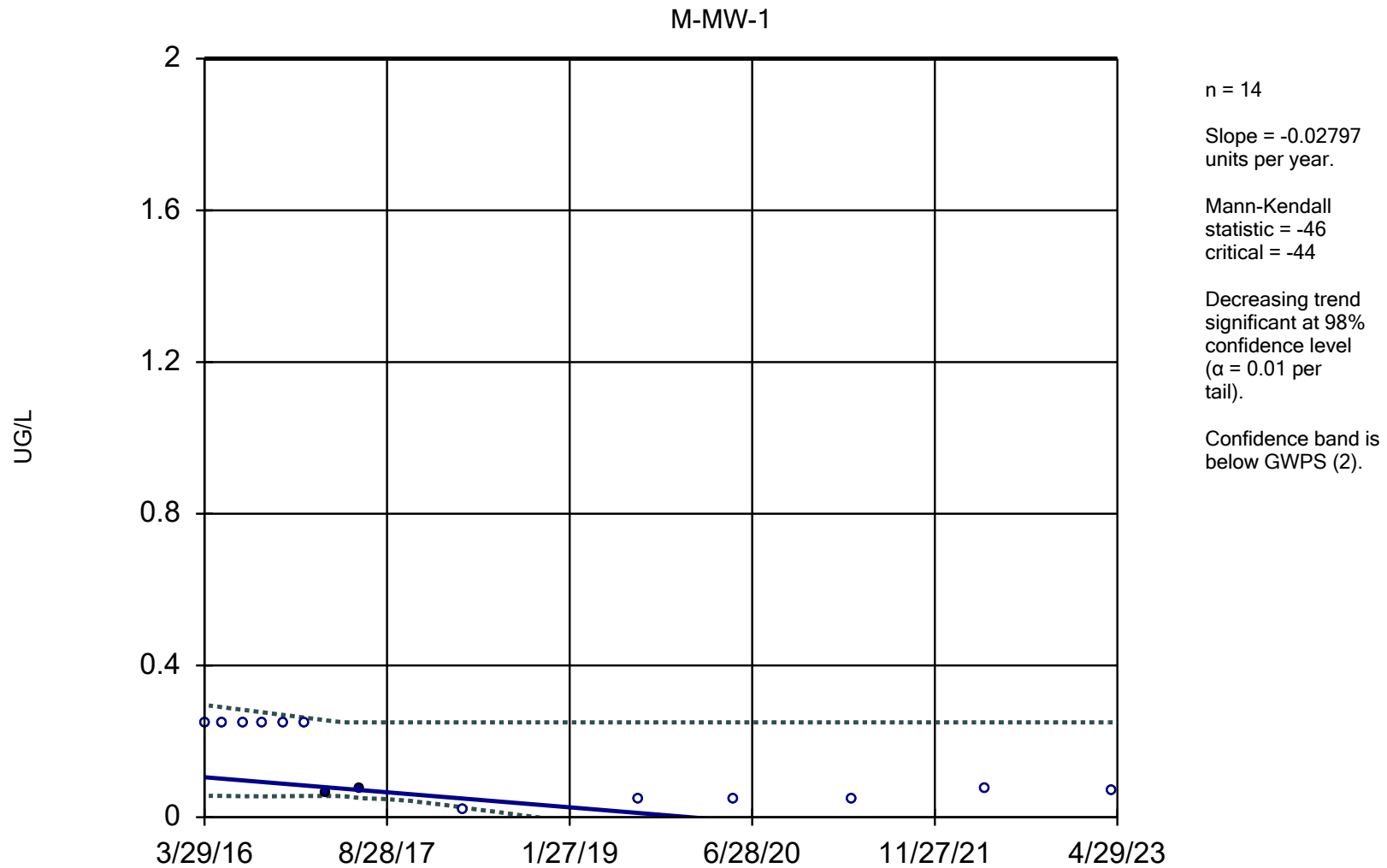
Sen's Slope and 95% Confidence Band

M-MW-4



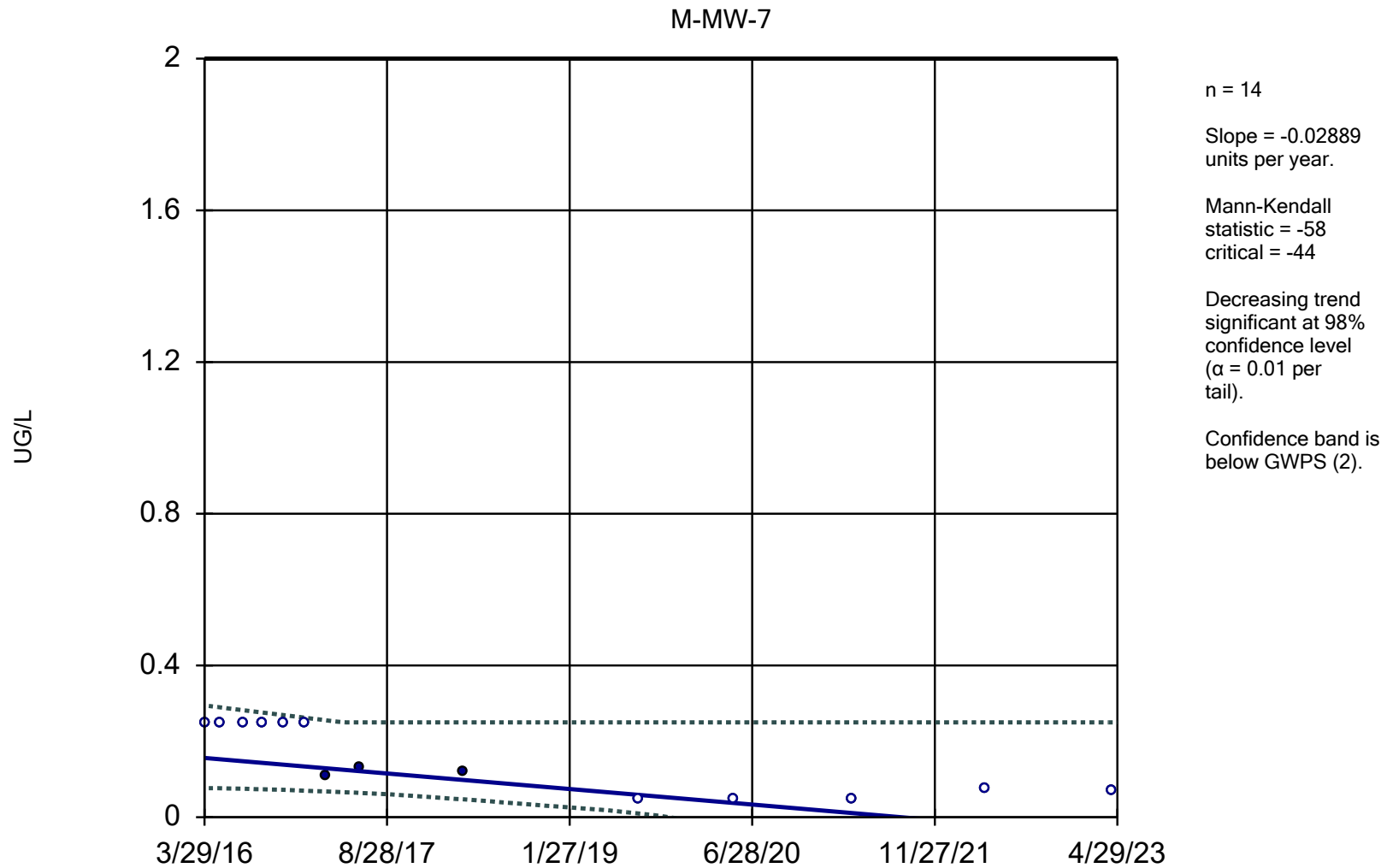
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Sen's Slope and 95% Confidence Band



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Sen's Slope and 95% Confidence Band



Constituent: THALLIUM, TOTAL Analysis Run 2/23/2024 1:45 PM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/23/2024, 1:45 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
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	0.008326	41	73	No	20	5	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0	-4	-78	No	21	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-3	0.1421	52	63	No	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-4	0.2899	91	73	Yes	20	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-5	0.1891	34	68	No	19	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-6	-0.1981	-40	-73	No	20	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-7	0.05225	26	78	No	21	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	0	0	73	No	20	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	0.4374	13	78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-2	-40.18	-164	-78	Yes	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-3	-9.707	-101	-78	Yes	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-4	-6.273	-128	-78	Yes	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-5	-16.44	-121	-78	Yes	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-6	-3.129	-123	-73	Yes	20	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-7	-0.7688	-44	-78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-8	-18.45	-120	-78	Yes	21	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	-16	-35	No	12	100	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 2/23/2024, 1:45 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
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	-84	No	22	9.091	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	-0.00...	-30	-89	No	23	34.78	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	-0.00...	-12	-84	No	22	36.36	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	-0.01136	-59	-84	No	22	27.27	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	-0.01136	-58	-89	No	23	21.74	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	-0.01111	-65	-84	No	22	27.27	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	-0.03628	-66	-101	No	25	20	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	-0.02118	-42	-84	No	22	22.73	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	-4	-58	No	17	100	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0.0263	5	78	No	21	47.62	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	0.01968	4	78	No	21	47.62	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	-0.06326	-8	-73	No	20	5	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-5	-0.9606	-96	-78	Yes	21	9.524	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-6	-2.266	-40	-73	No	20	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	-1.035	-22	-73	No	20	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	0.1838	19	68	No	19	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	0.06092	70	78	No	21	90.48	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.05873	40	78	No	21	76.19	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	0.7292	78	78	No	21	23.81	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	2.559	124	78	Yes	21	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	-0.6148	-14	-78	No	21	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	-2.373	-65	-78	No	21	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	-0.1492	-3	-78	No	21	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	1.028	18	78	No	21	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.01349	-35	-63	No	18	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	0.002117	6	78	No	21	80.95	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	-0.02659	-36	-78	No	21	52.38	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.002499	6	78	No	21	85.71	n/a	n/a	0.02	NP

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/23/2024, 1:45 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Radium [226 + 228] (PCI/L)	M-MW-5	-0.01273	-16	-78	No	21	47.62	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	0.009086	17	78	No	21	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	0.006591	11	68	No	19	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	0.008846	14	73	No	20	80	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	3	68	No	19	89.47	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	7	68	No	19	89.47	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	11	68	No	19	89.47	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	3	68	No	19	89.47	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	7	68	No	19	94.74	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	9	68	No	19	94.74	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	0.6807	42	68	No	19	10.53	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	14	63	No	18	88.89	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

June 2024 Assessment Monitoring Statistical Evaluation



Memorandum

October 20, 2024

To: Bill Kutosky – Ameren Missouri **Project Number:** 23010-24

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 June 2024 sampling event at the Multi-unit Surface Impoundment Network at the Meramec Energy Center located in St. Louis County, Missouri. Included in the memorandum is a 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). As part of the outlier analysis for this statistical evaluation, no new outliers were identified and removed from the dataset prior to the calculation of confidence limits.

An analysis of the outliers removed from the dataset to-date was completed. The following previously identified outliers were added back into the dataset prior to the calculation of confidence limits in **Appendix A and Appendix B**:

- Cobalt
 - M-MW-6 at 0.86 J micrograms per liter (µg/L) and 0.74 µg/L on 3/30/2016 and 5/13/2016, respectively: removed during the statistical evaluation for the November 2021 sampling event because the results were statistically lower than other cobalt results at the same monitoring well. Based on subsequent sampling results, these low results were confirmed and are no longer outliers.
- Radium 226 + 228
 - M-MW-1 at non-detect [<2.251 picocuries per liter (pCi/L)] on 11/10/2020: removed during the statistical evaluation for the November 2021 sampling event. The result was statistically higher than other radium results at the same monitoring well due to the high minimum detectable concentration (MDC) reported. Based on subsequent sampling results, the high result was confirmed and is no longer an outlier.

October 20, 2024

Based on the results from the confidence interval and trend analysis, no new SSLs were noted. SSLs at MEC as of the June 2024 sampling event continue to be:

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

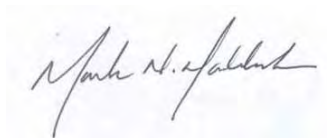
Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

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:

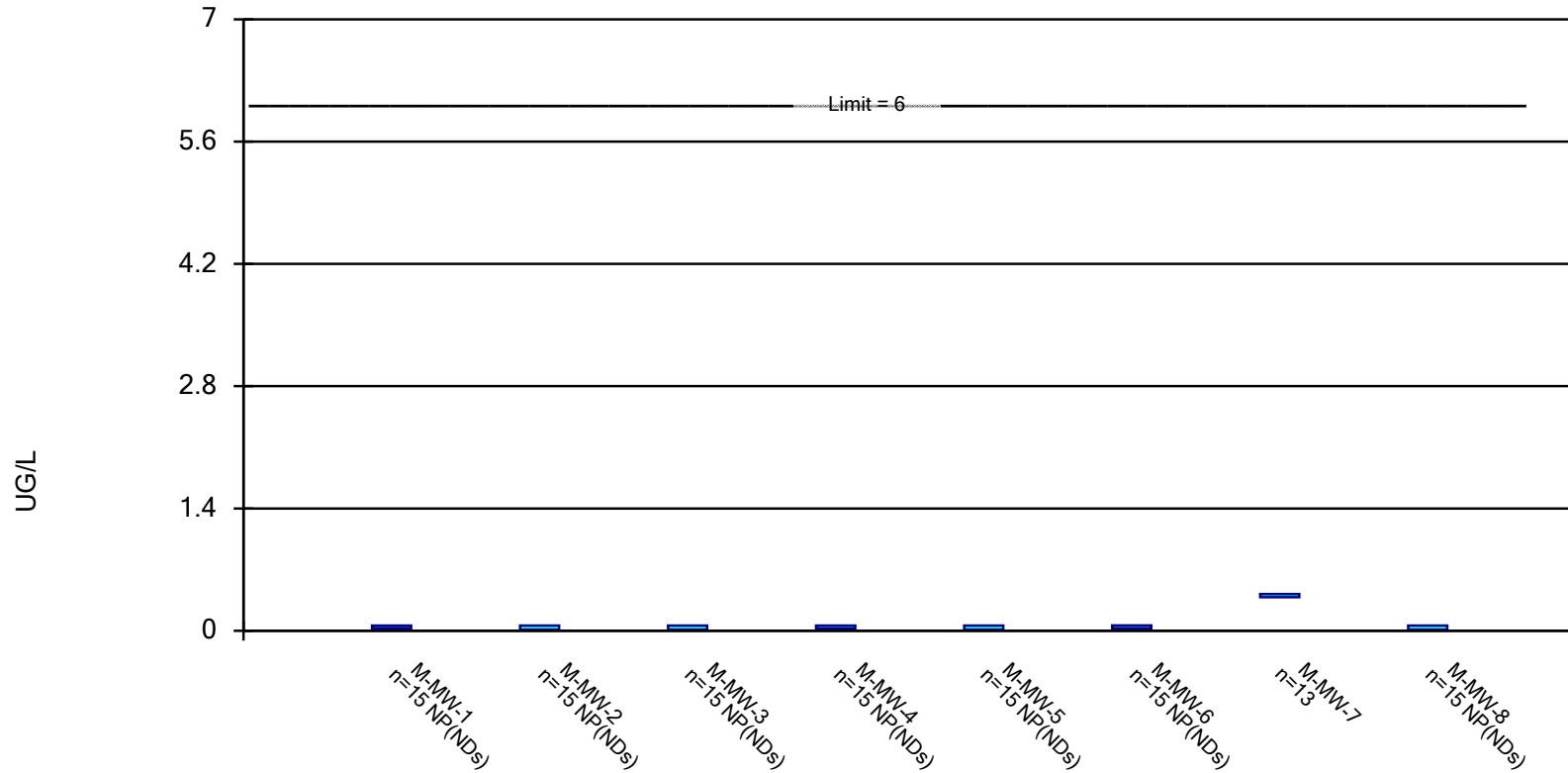
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>.
5. Health Based Groundwater Protection Standards (GWPS) were adopted 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.

Appendix A

Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval

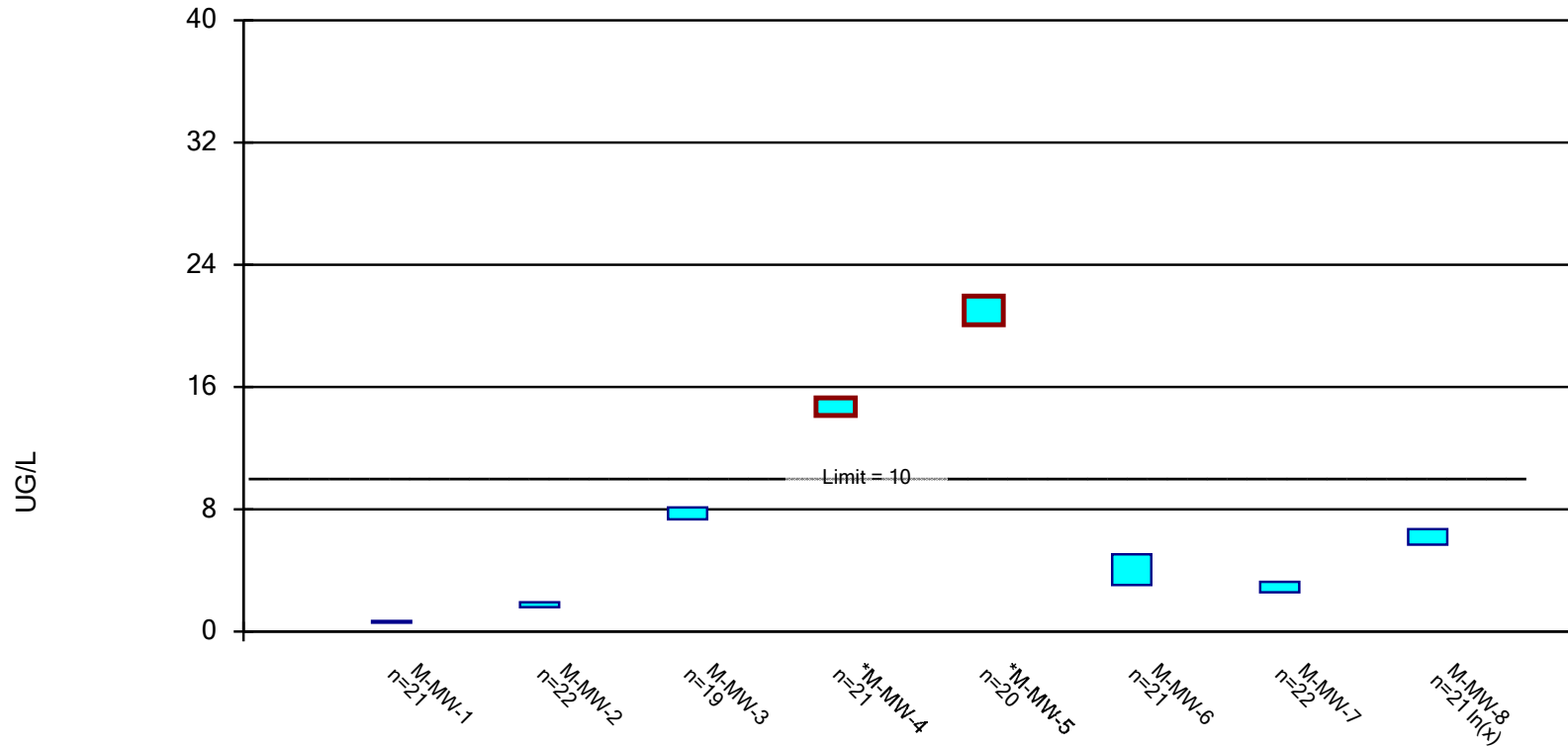
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ANTIMONY, TOTAL Analysis Run 9/4/2024 11:05 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

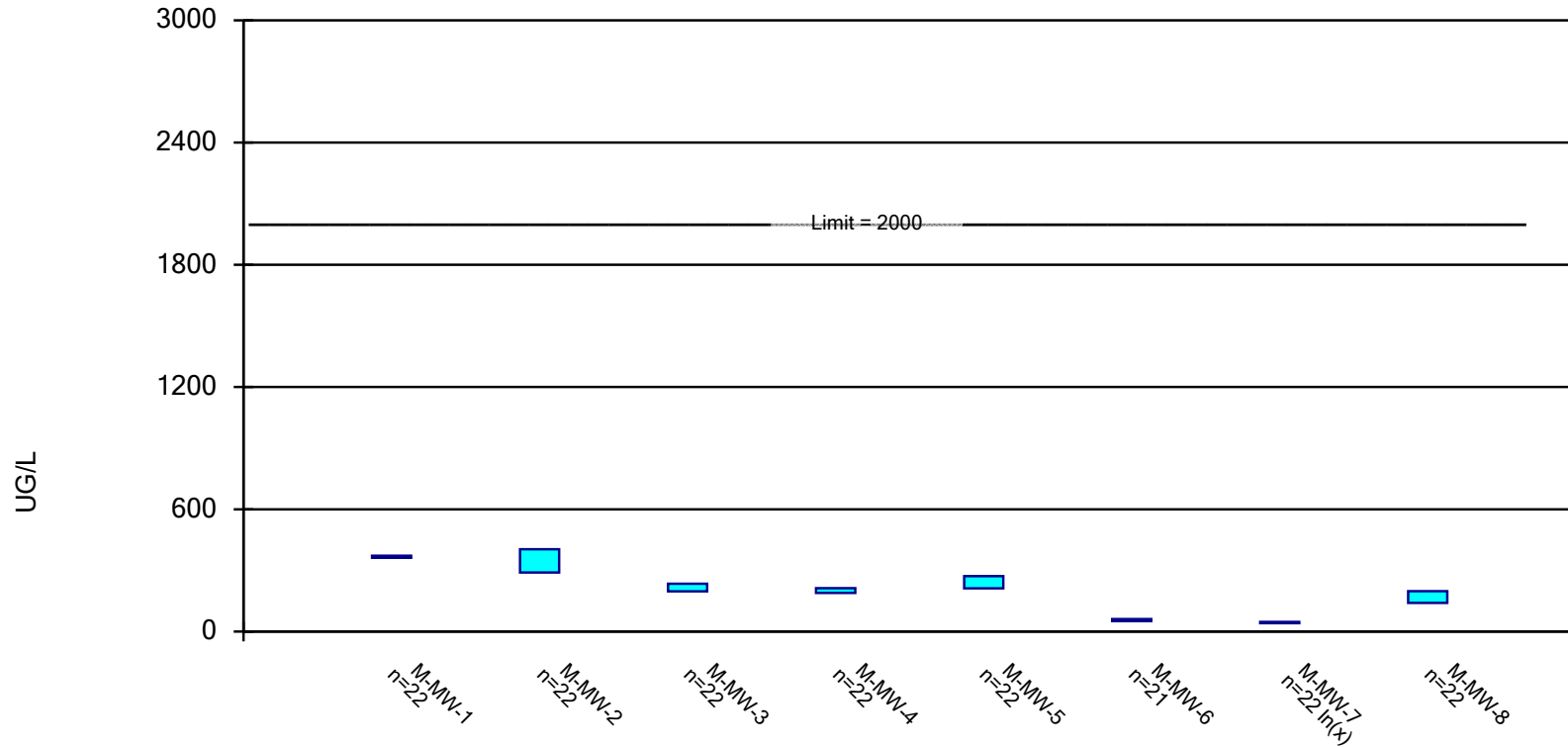
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ARSENIC, TOTAL Analysis Run 9/4/2024 11:05 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

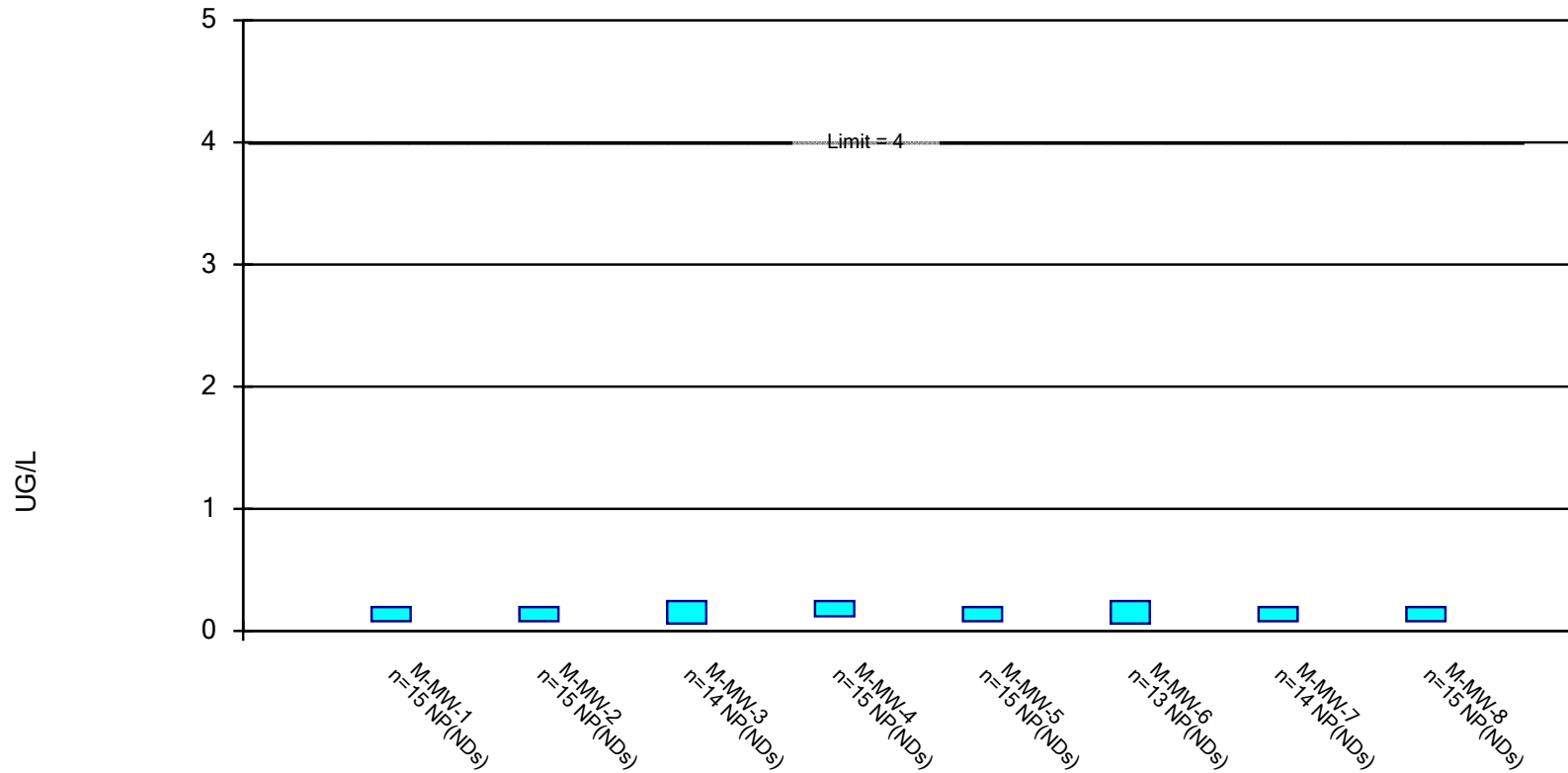
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: BARIUM, TOTAL Analysis Run 9/4/2024 11:05 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.

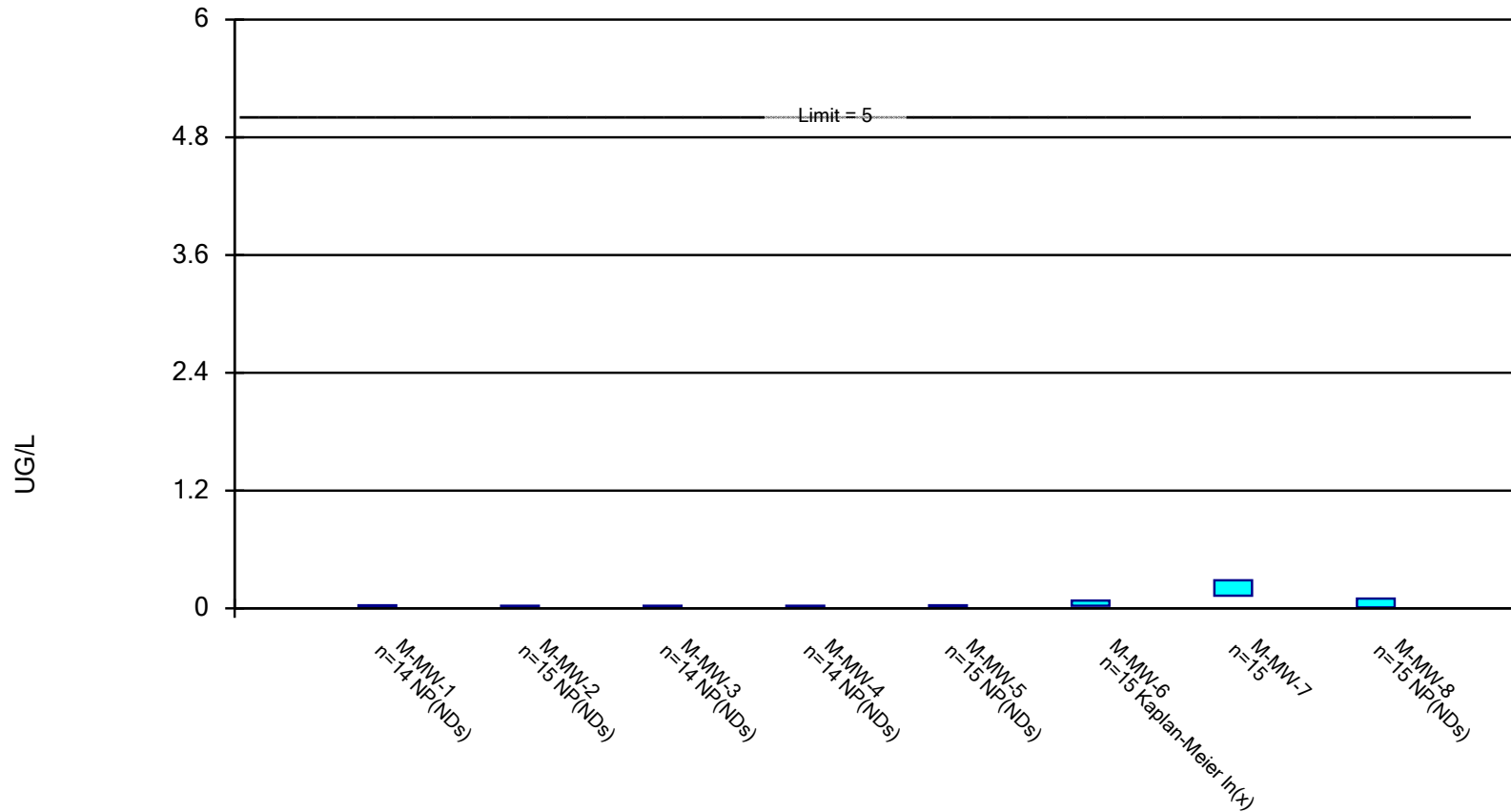


Constituent: BERYLLIUM, TOTAL Analysis Run 9/4/2024 11:05 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

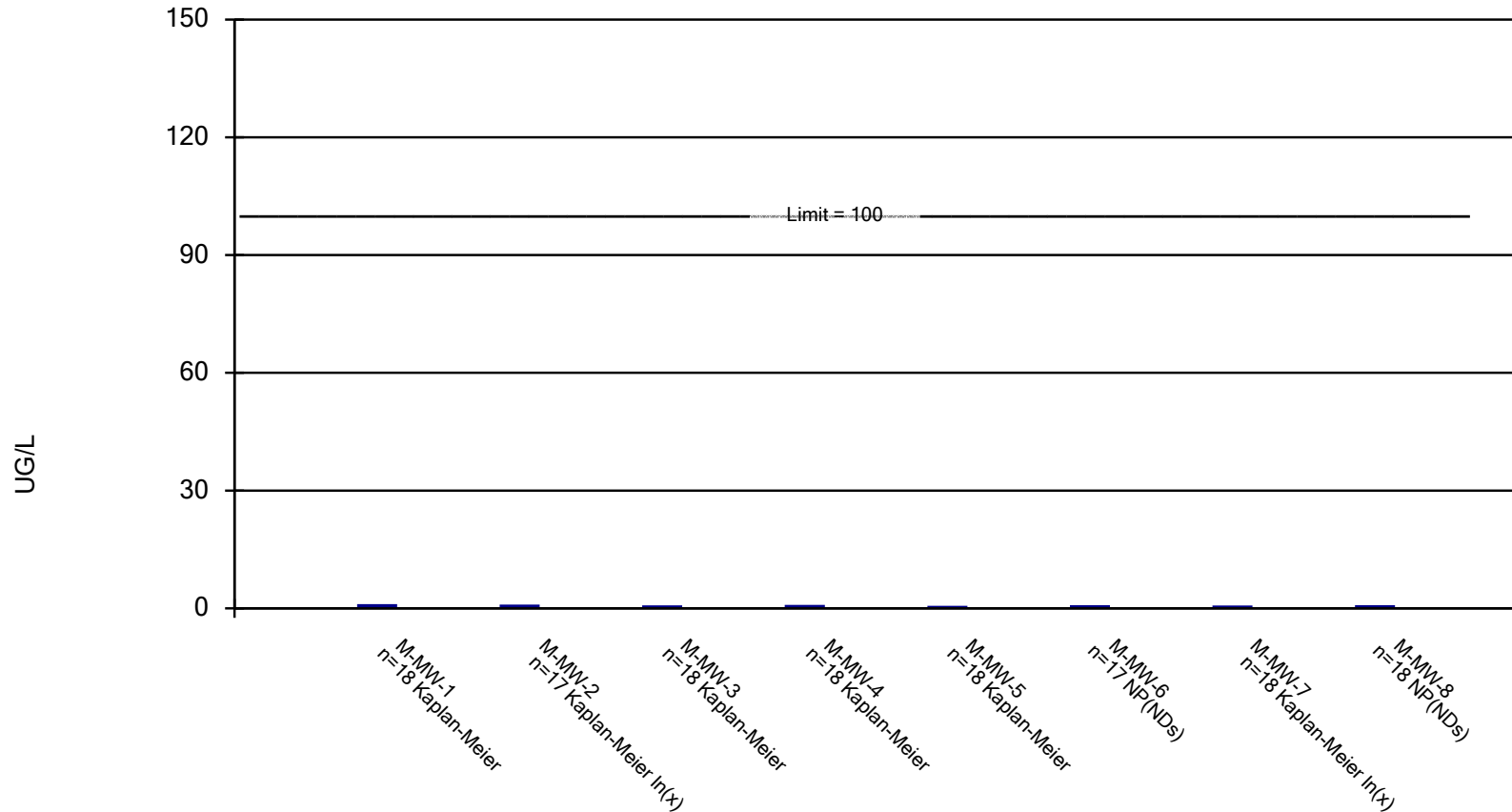
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: CADMIUM, TOTAL Analysis Run 9/4/2024 11:05 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.

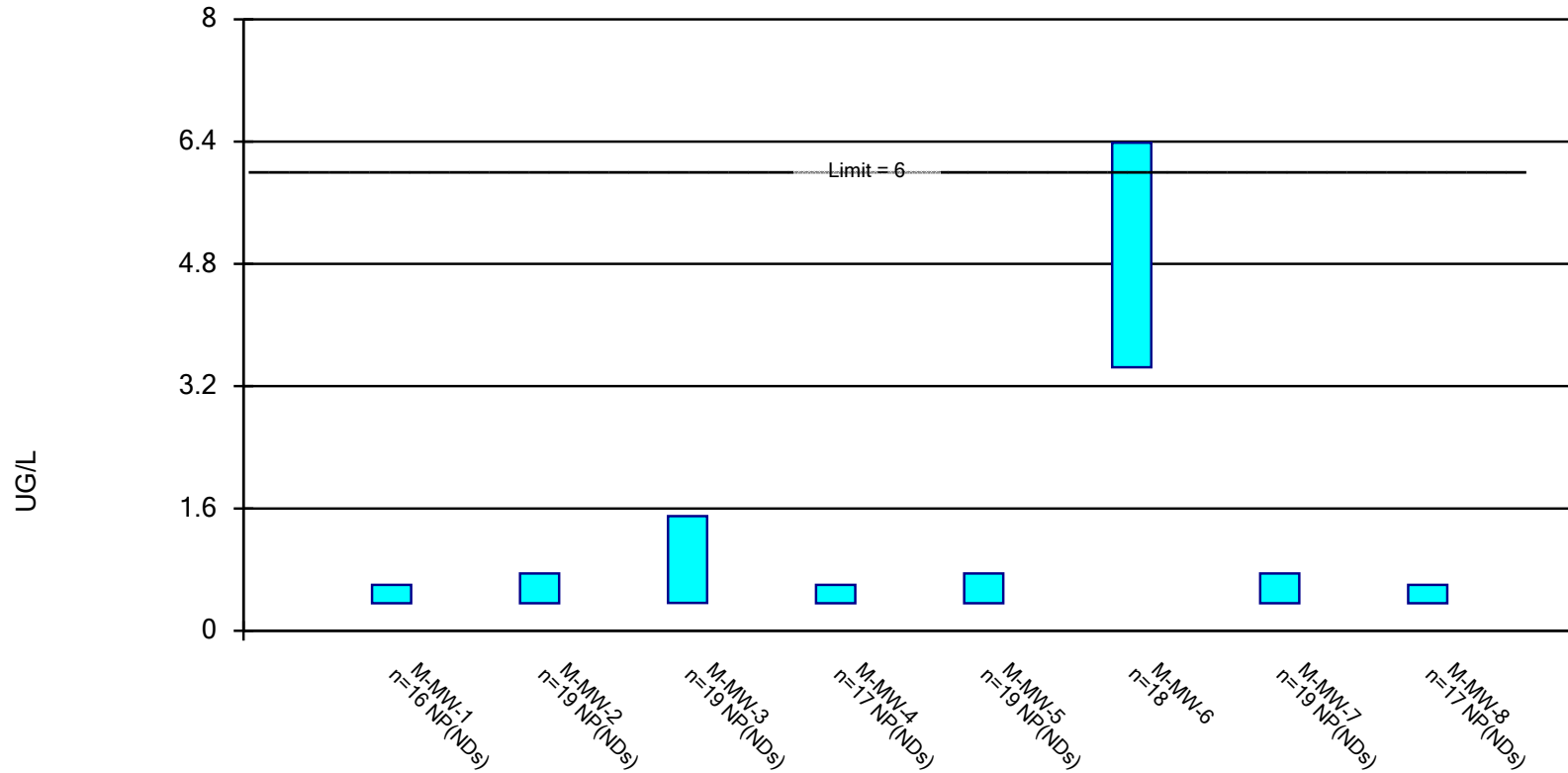


Constituent: CHROMIUM, TOTAL Analysis Run 9/4/2024 11:06 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

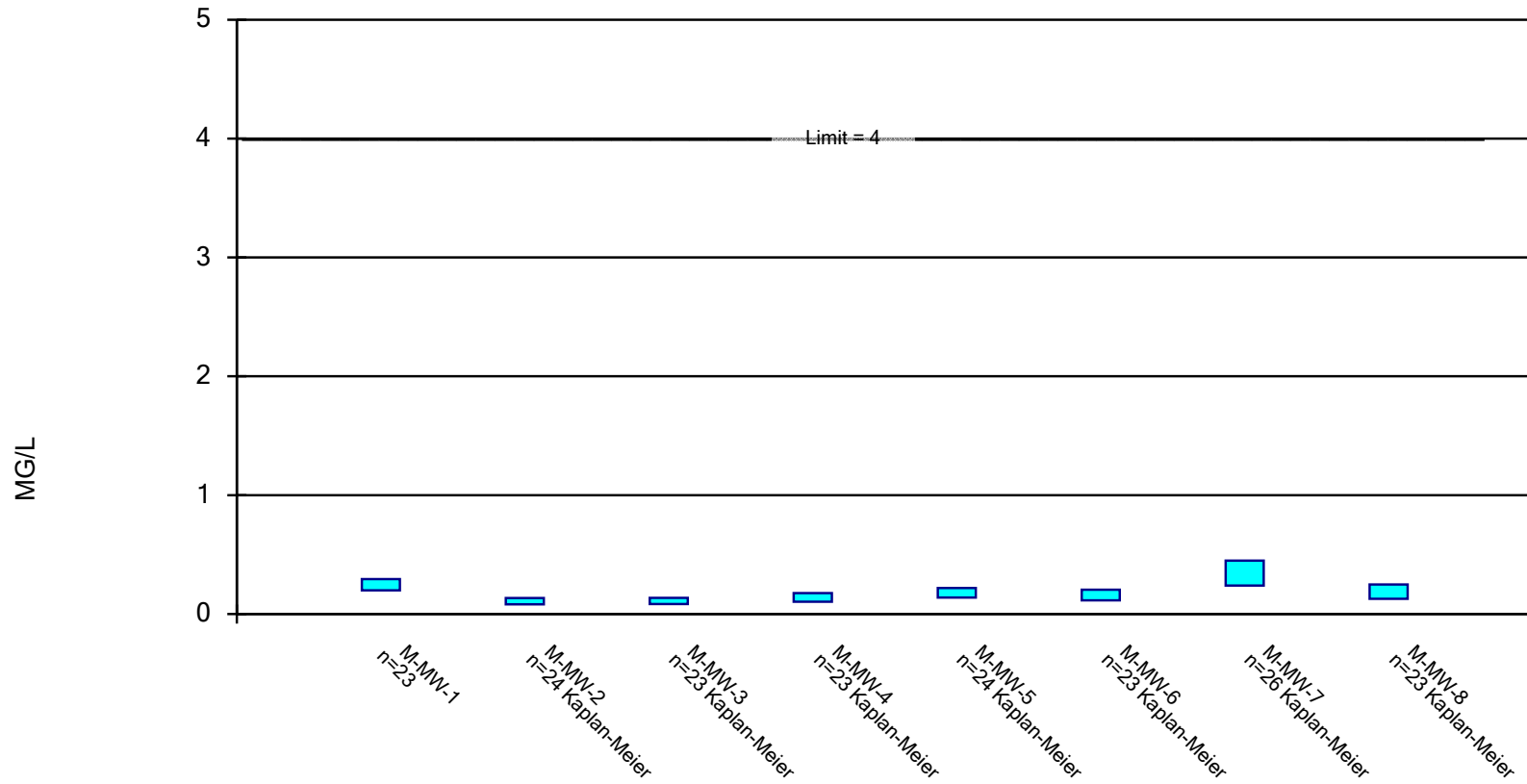
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: COBALT, TOTAL Analysis Run 9/4/2024 11:06 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

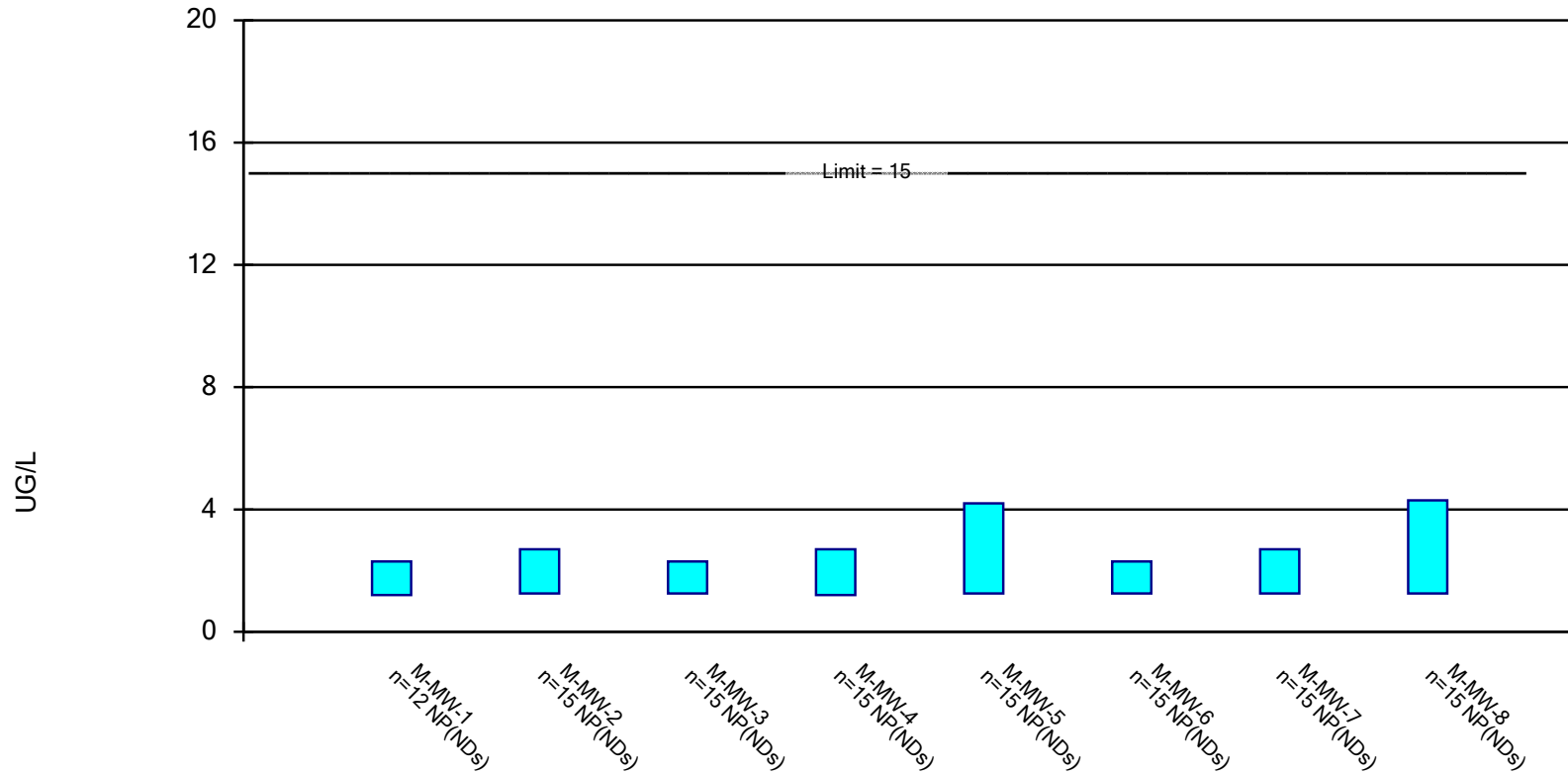
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: FLUORIDE, TOTAL Analysis Run 9/4/2024 11:06 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.

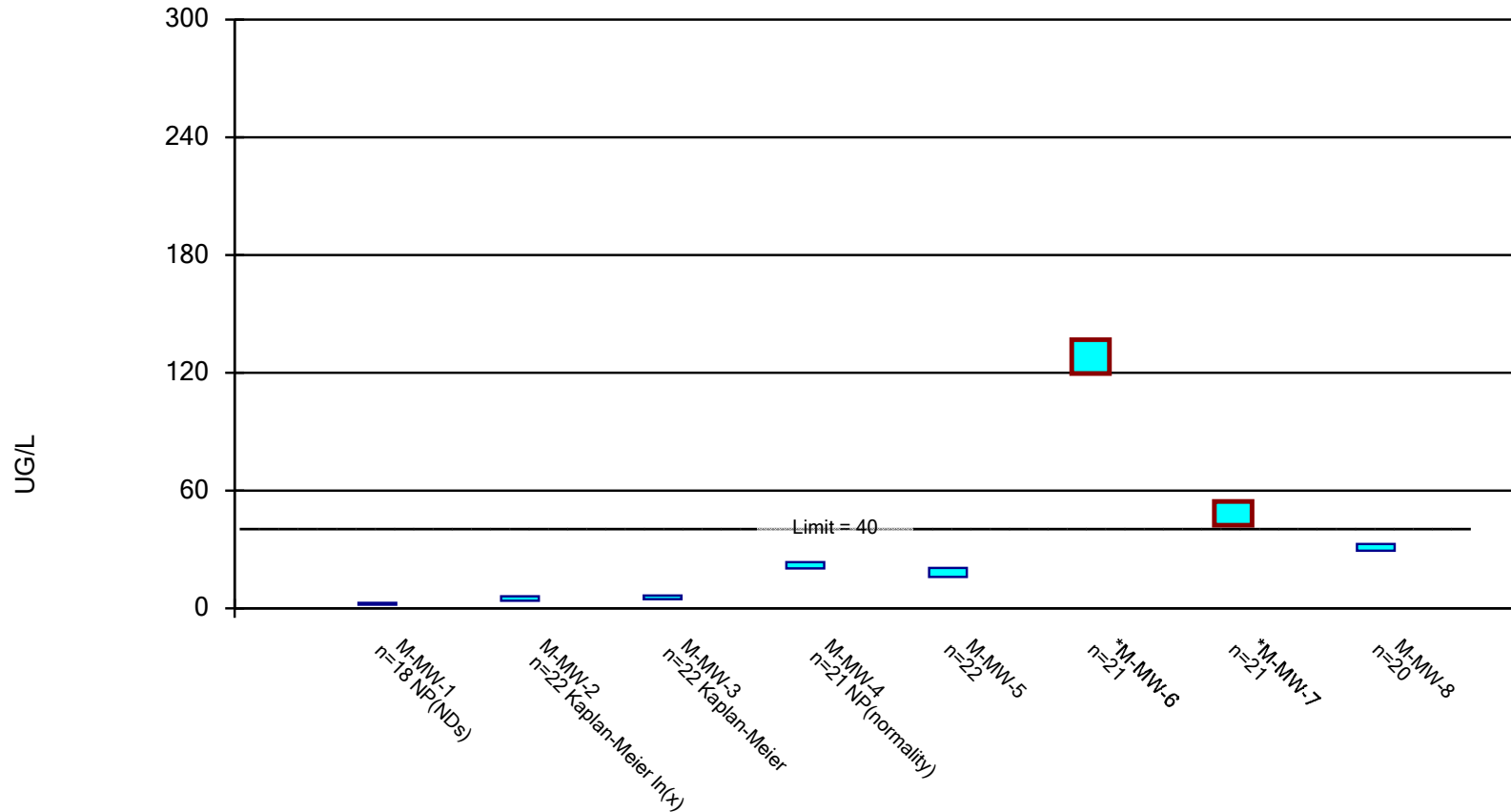


Constituent: LEAD, TOTAL Analysis Run 9/4/2024 11:06 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

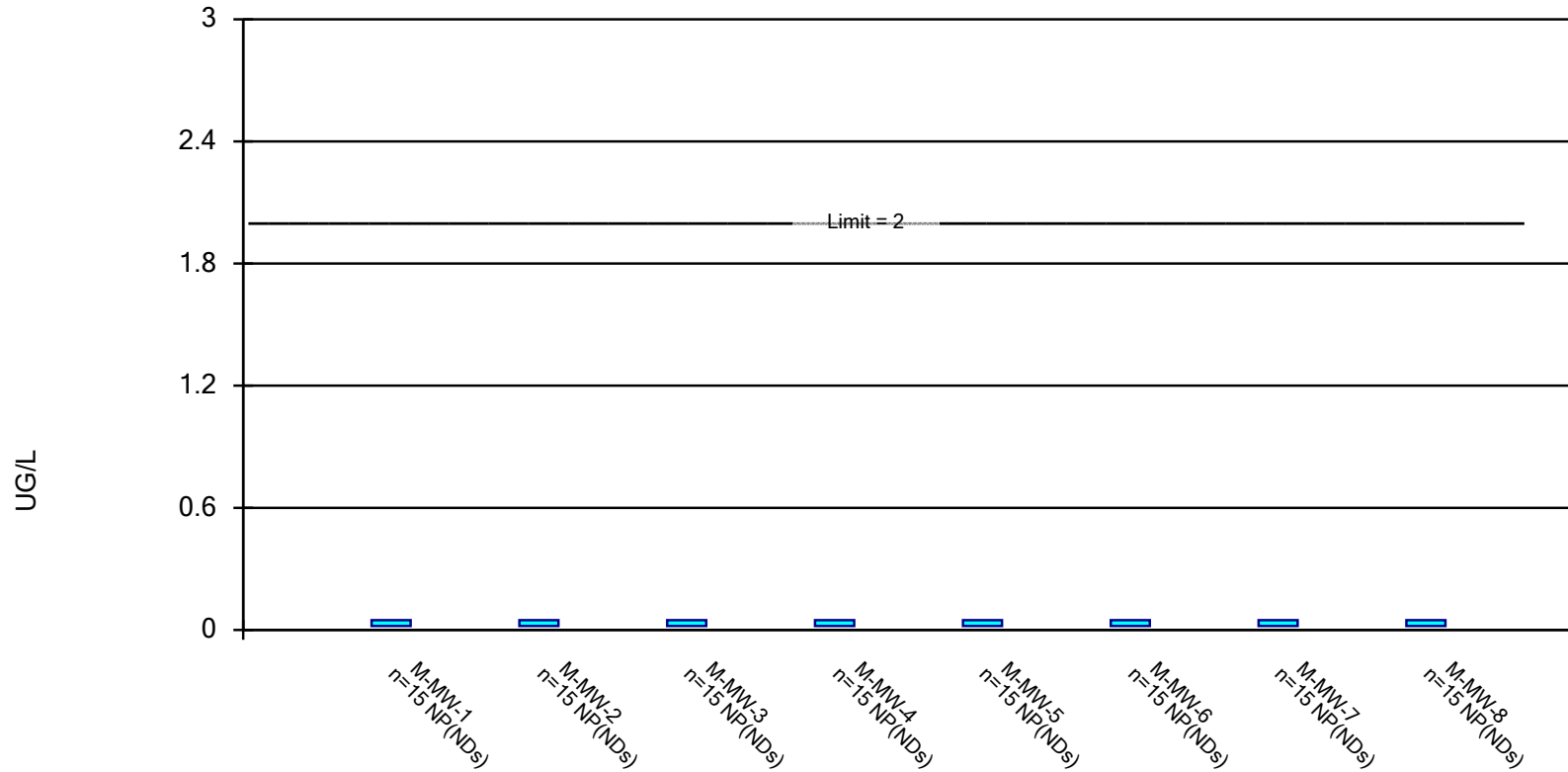
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: LITHIUM, TOTAL Analysis Run 9/4/2024 11:06 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.

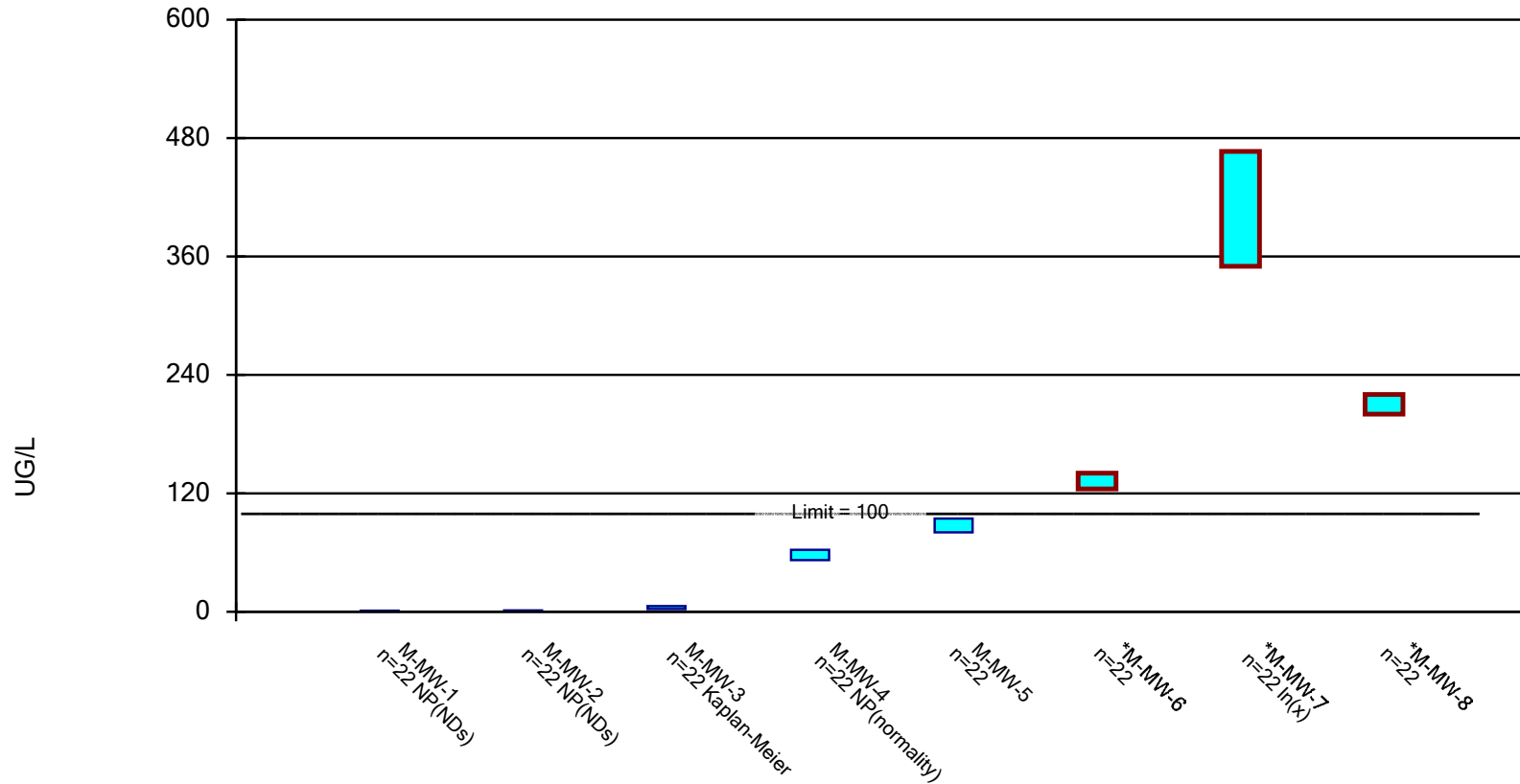


Constituent: MERCURY, TOTAL Analysis Run 9/4/2024 11:06 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

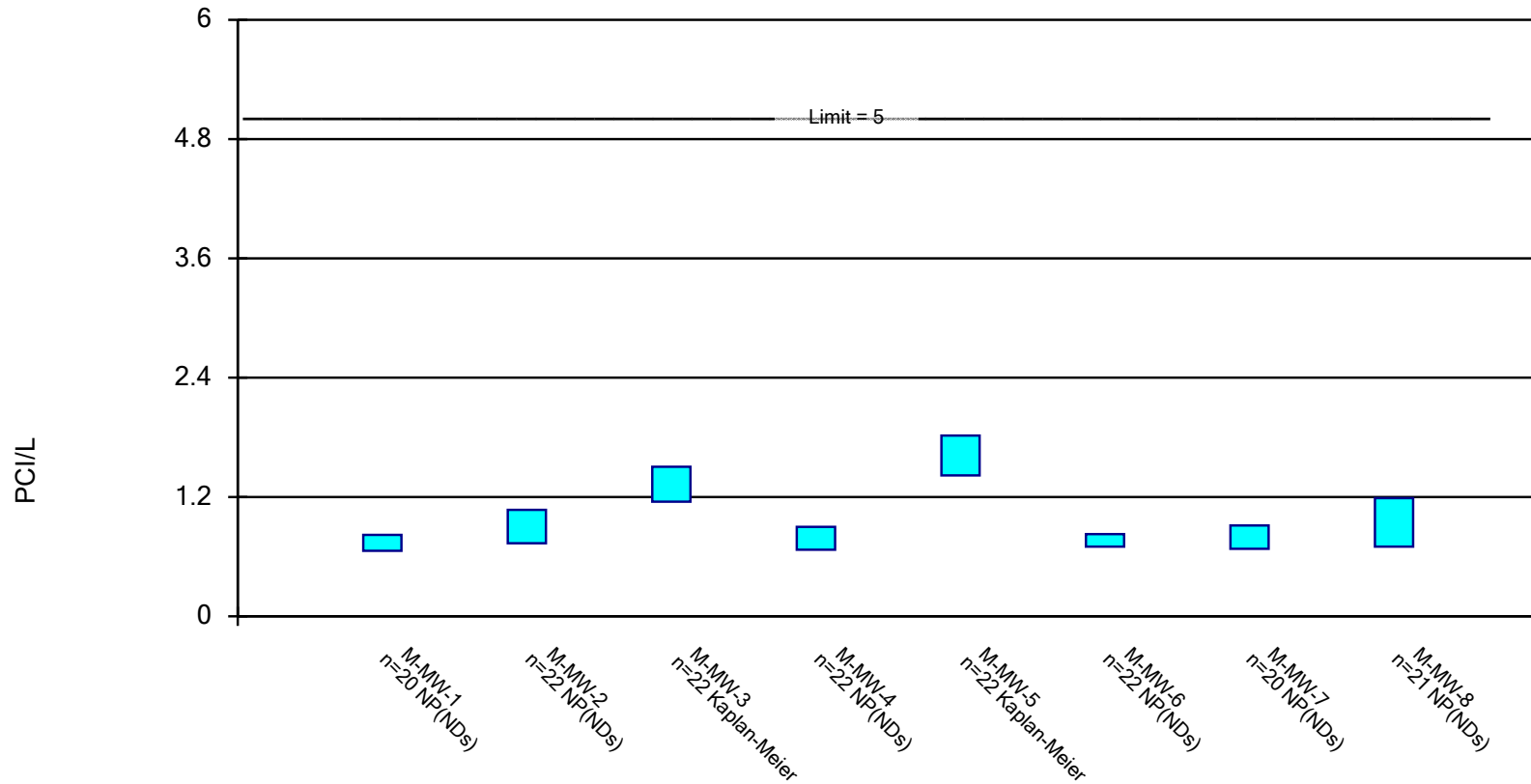
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: MOLYBDENUM, TOTAL Analysis Run 9/4/2024 11:06 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

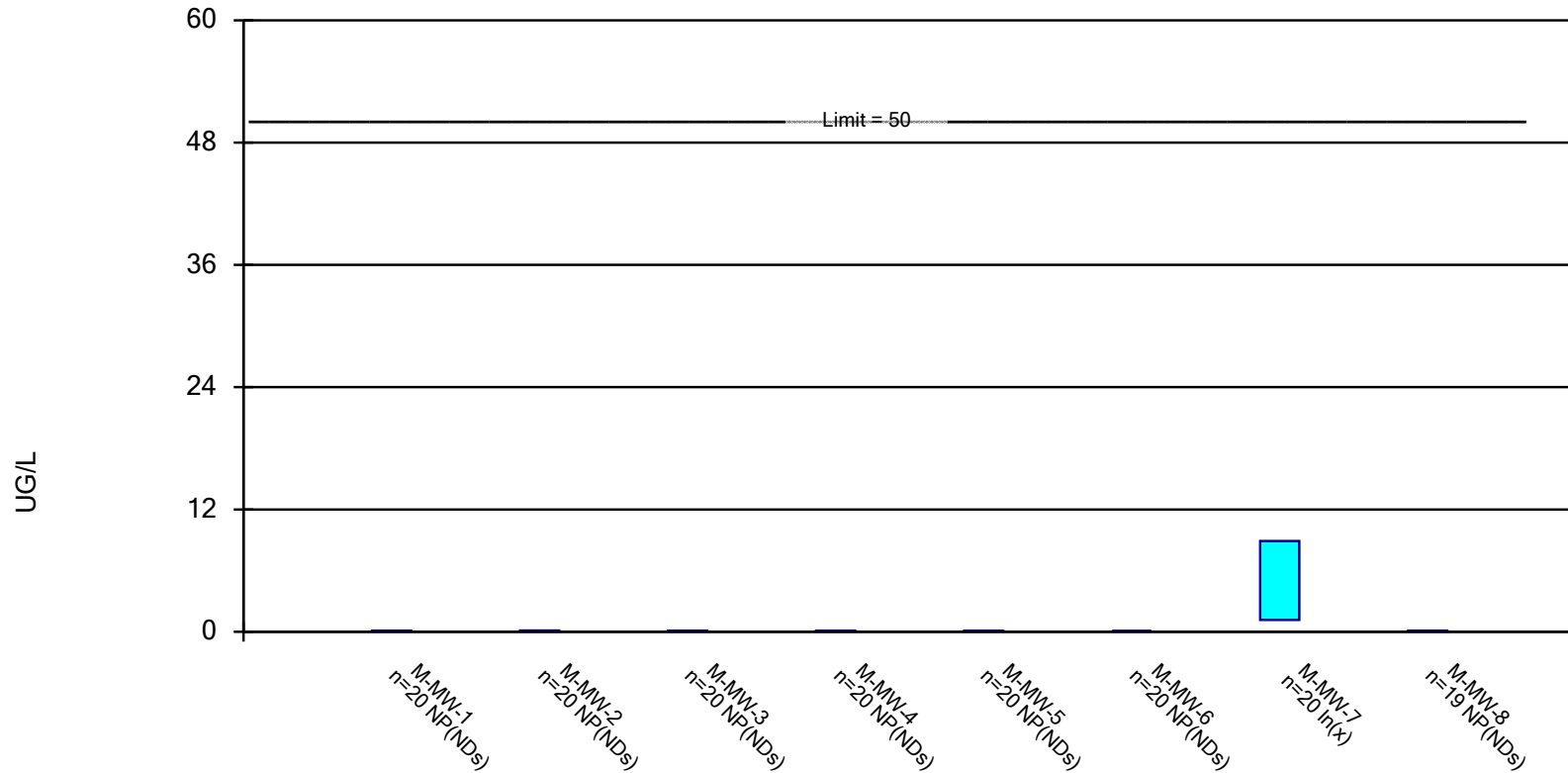
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Radium [226 + 228] Analysis Run 9/4/2024 11:06 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

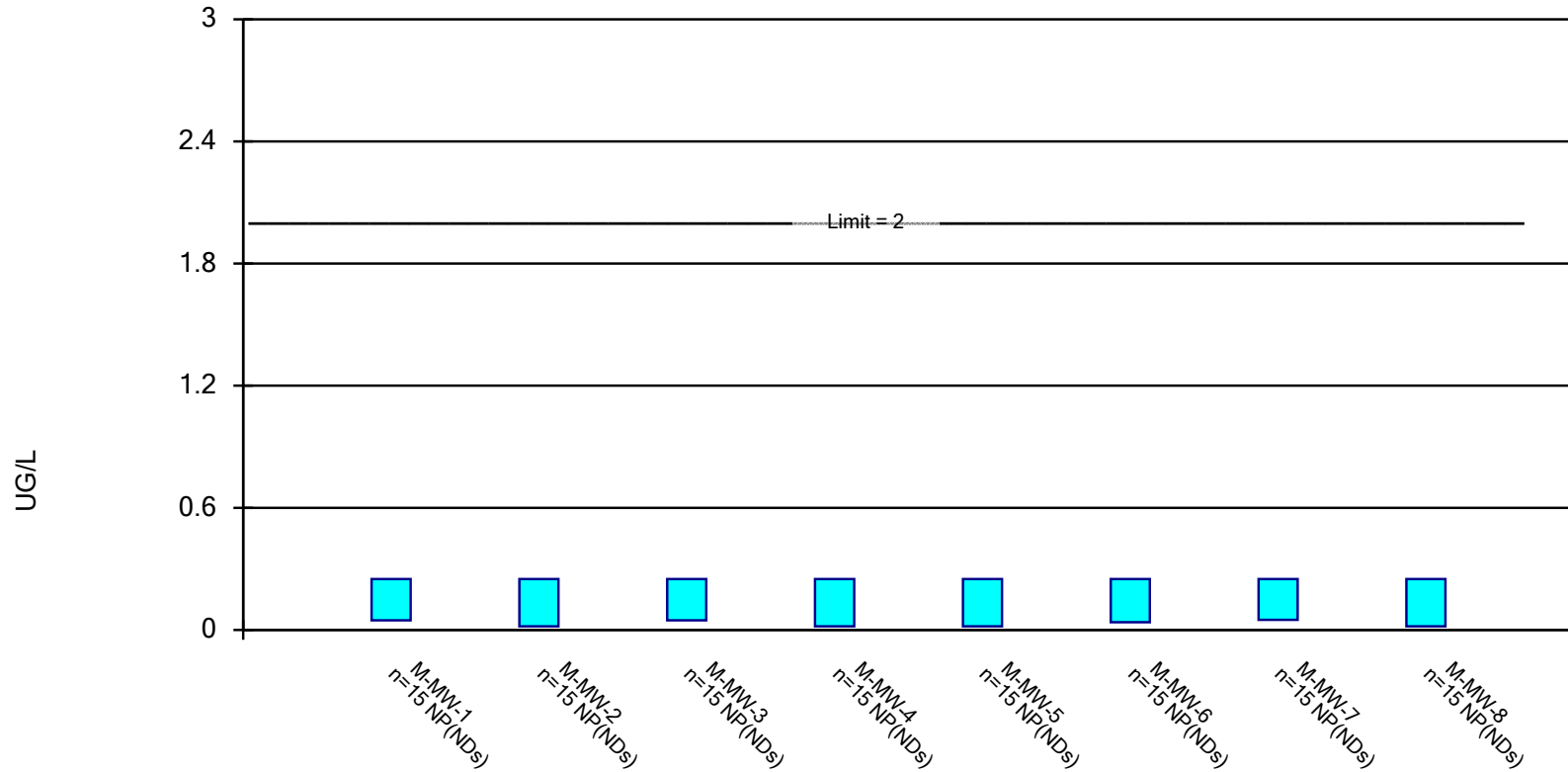
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: SELENIUM, TOTAL Analysis Run 9/4/2024 11:06 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 9/4/2024 11:06 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 11:09 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.06	0.028	6	No	15	80	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.06	0.013	6	No	15	93.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.06	0.013	6	No	15	93.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.06	0.027	6	No	15	93.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.06	0.013	6	No	15	93.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.062	0.029	6	No	15	66.67	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.4203	0.3843	6	No	13	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.06	0.013	6	No	15	80	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-1	0.6872	0.5747	10	No	21	4.762	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	1.919	1.59	10	No	22	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	8.119	7.345	10	No	19	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-4	15.29	14.14	10	Yes	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-5	21.95	20.07	10	Yes	20	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-6	5.049	3.046	10	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.247	2.571	10	No	22	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-8	6.697	5.685	10	No	21	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	371.6	361.6	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	404	289.4	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-3	234.6	197.1	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	212.9	189.2	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-5	271.6	212.2	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	61.55	51.24	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	47.32	40.8	2000	No	22	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-8	198.2	140.7	2000	No	22	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0.195	0.08	4	No	15	86.67	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0.195	0.08	4	No	15	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0.245	0.06	4	No	14	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0.245	0.12	4	No	15	73.33	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0.195	0.08	4	No	15	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0.245	0.06	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0.195	0.08	4	No	14	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0.195	0.08	4	No	15	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-1	0.031	0.009	5	No	14	85.71	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-2	0.0265	0.009	5	No	15	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-3	0.0265	0.009	5	No	14	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-4	0.0265	0.009	5	No	14	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-5	0.031	0.009	5	No	15	86.67	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-6	0.07927	0.02626	5	No	15	40	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-7	0.2856	0.129	5	No	15	13.33	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-8	0.099	0.009	5	No	15	53.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-1	0.7689	0.2944	100	No	18	33.33	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.6638	0.307	100	No	17	23.53	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-3	0.4552	0.1376	100	No	18	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.5881	0.2307	100	No	18	38.89	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.3443	0.1456	100	No	18	44.44	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.5	0.11	100	No	17	58.82	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-7	0.4207	0.1137	100	No	18	44.44	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.5	0.039	100	No	18	61.11	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-1	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-2	0.75	0.36	6	No	19	94.74	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 11:09 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	19	68.42	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-4	0.6	0.36	6	No	17	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-5	0.75	0.36	6	No	19	94.74	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-6	6.386	3.447	6	No	18	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-7	0.75	0.36	6	No	19	89.47	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-8	0.6	0.36	6	No	17	94.12	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.2941	0.1989	4	No	23	8.696	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1343	0.08104	4	No	24	37.5	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.135	0.08389	4	No	23	34.78	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.1759	0.1032	4	No	23	26.09	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.2187	0.1378	4	No	24	20.83	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.2039	0.1154	4	No	23	30.43	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.4485	0.2393	4	No	26	23.08	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.2484	0.1284	4	No	23	21.74	No	0.01	Param.
LEAD, TOTAL (UG/L)	M-MW-1	2.3	1.2	15	No	12	100	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-2	2.7	1.25	15	No	15	73.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-3	2.3	1.25	15	No	15	93.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-4	2.7	1.2	15	No	15	86.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-5	4.2	1.25	15	No	15	73.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-6	2.3	1.25	15	No	15	93.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-7	2.7	1.25	15	No	15	86.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-8	4.3	1.25	15	No	15	80	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-1	2.8	1.85	40	No	18	100	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	6.111	3.874	40	No	22	45.45	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-3	6.49	4.611	40	No	22	45.45	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-4	23.5	20.3	40	No	21	4.762	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-5	20.55	16.01	40	No	22	9.091	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-6	136.9	119.6	40	Yes	21	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-7	54.42	42.33	40	Yes	21	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-8	32.74	29.39	40	No	20	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-1	0.048	0.0195	2	No	15	93.33	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-2	0.048	0.0195	2	No	15	93.33	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-3	0.048	0.0195	2	No	15	93.33	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-4	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-5	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-6	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-7	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-8	0.048	0.0195	2	No	15	93.33	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	1.1	0.45	100	No	22	90.91	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	1.3	0.45	100	No	22	77.27	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	5.771	2.722	100	No	22	22.73	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	62.8	52.4	100	No	22	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	94.37	80.44	100	No	22	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	140.4	124.5	100	Yes	22	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	466.5	350.1	100	Yes	22	0	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	220.1	200.3	100	Yes	22	0	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-1	0.8185	0.6585	5	No	20	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	1.07	0.734	5	No	22	81.82	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.504	1.153	5	No	22	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-4	0.9	0.67	5	No	22	86.36	No	0.01	NP (NDs)

Confidence Interval

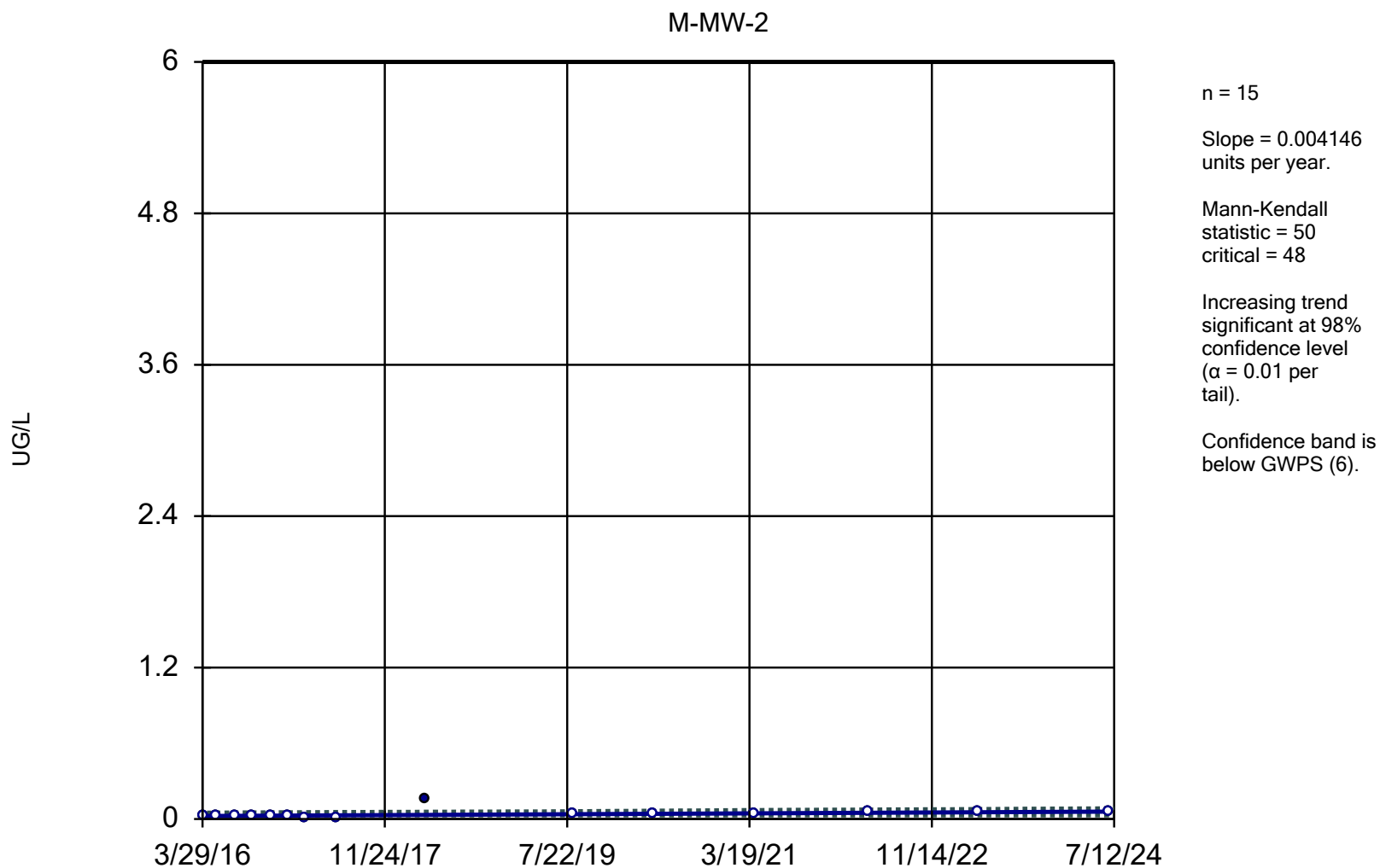
Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 11:09 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Radium [226 + 228] (PCI/L)	M-MW-5	1.818	1.417	5	No	22	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-6	0.827	0.7	5	No	22	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.913	0.679	5	No	20	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	1.188	0.701	5	No	21	80.95	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	20	90	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	20	90	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.089	50	No	20	90	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	20	90	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	20	95	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.087	50	No	20	95	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	8.905	1.166	50	No	20	10	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.088	50	No	19	89.47	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-1	0.25	0.047	2	No	15	86.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-2	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-3	0.25	0.047	2	No	15	86.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-4	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-5	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-6	0.25	0.038	2	No	15	93.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-7	0.25	0.0495	2	No	15	80	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-8	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)

Appendix B

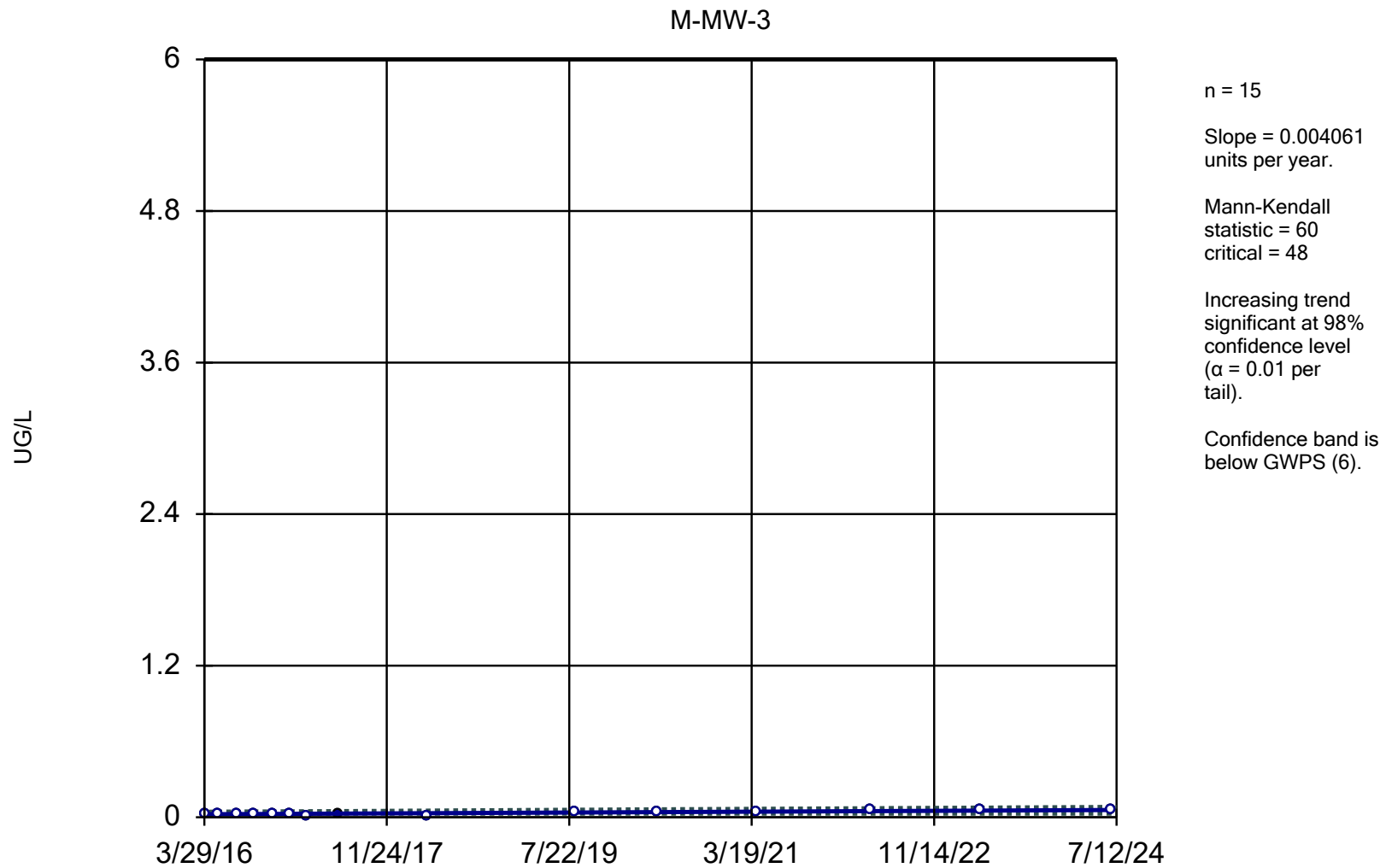
Sanitas Trending Confidence Bands Statistical Output

Sen's Slope and 95% Confidence Band



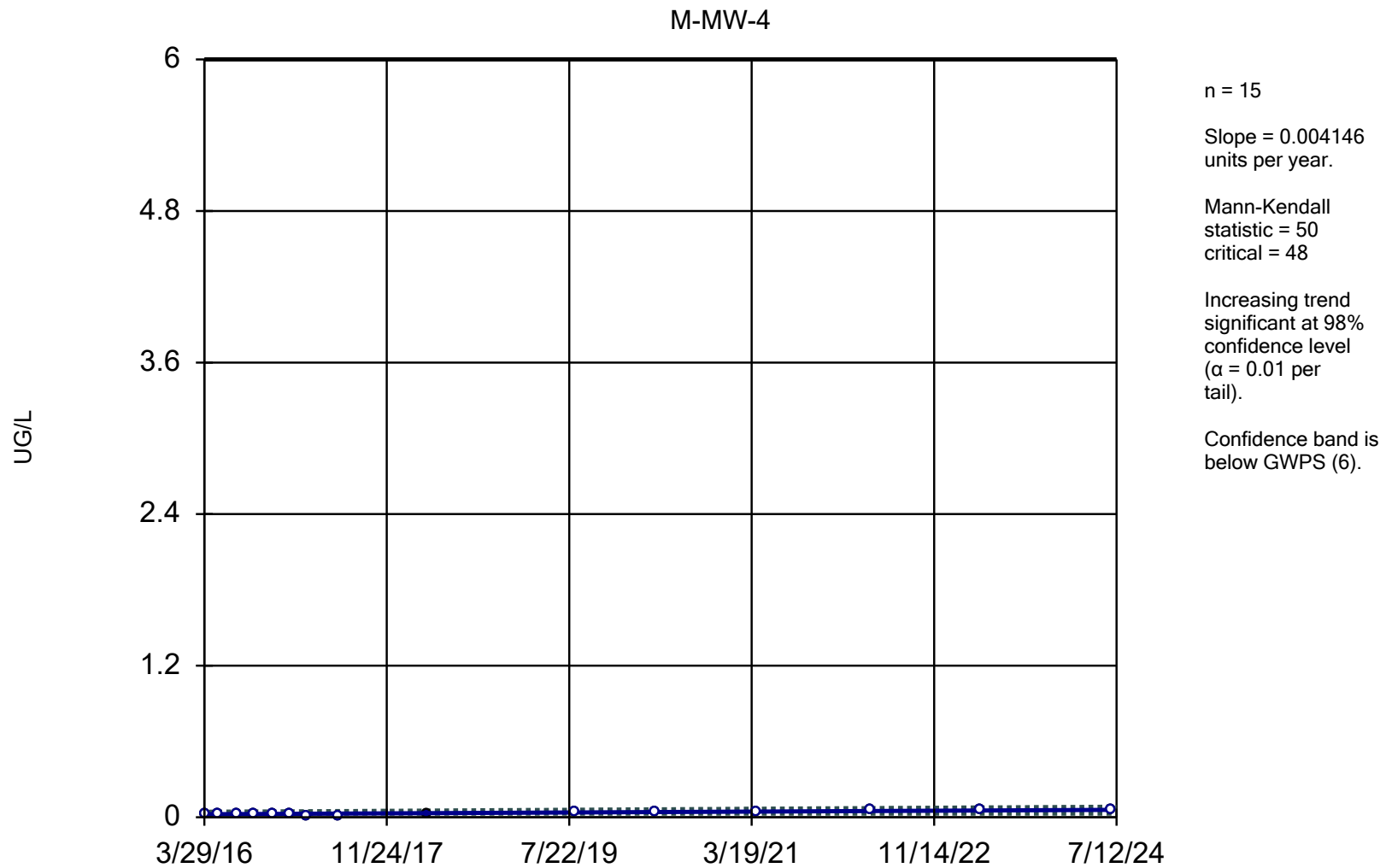
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



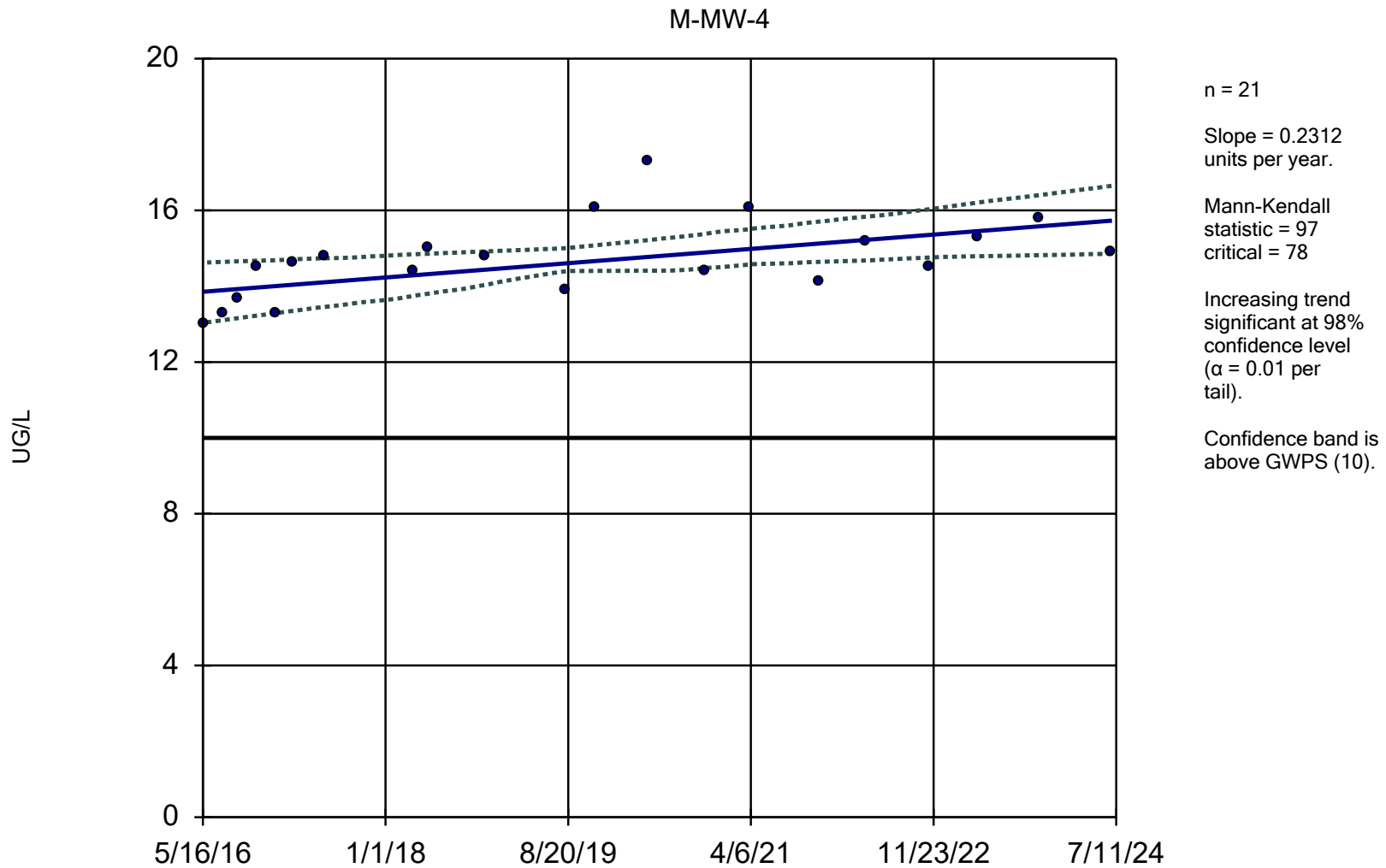
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Sen's Slope and 95% Confidence Band

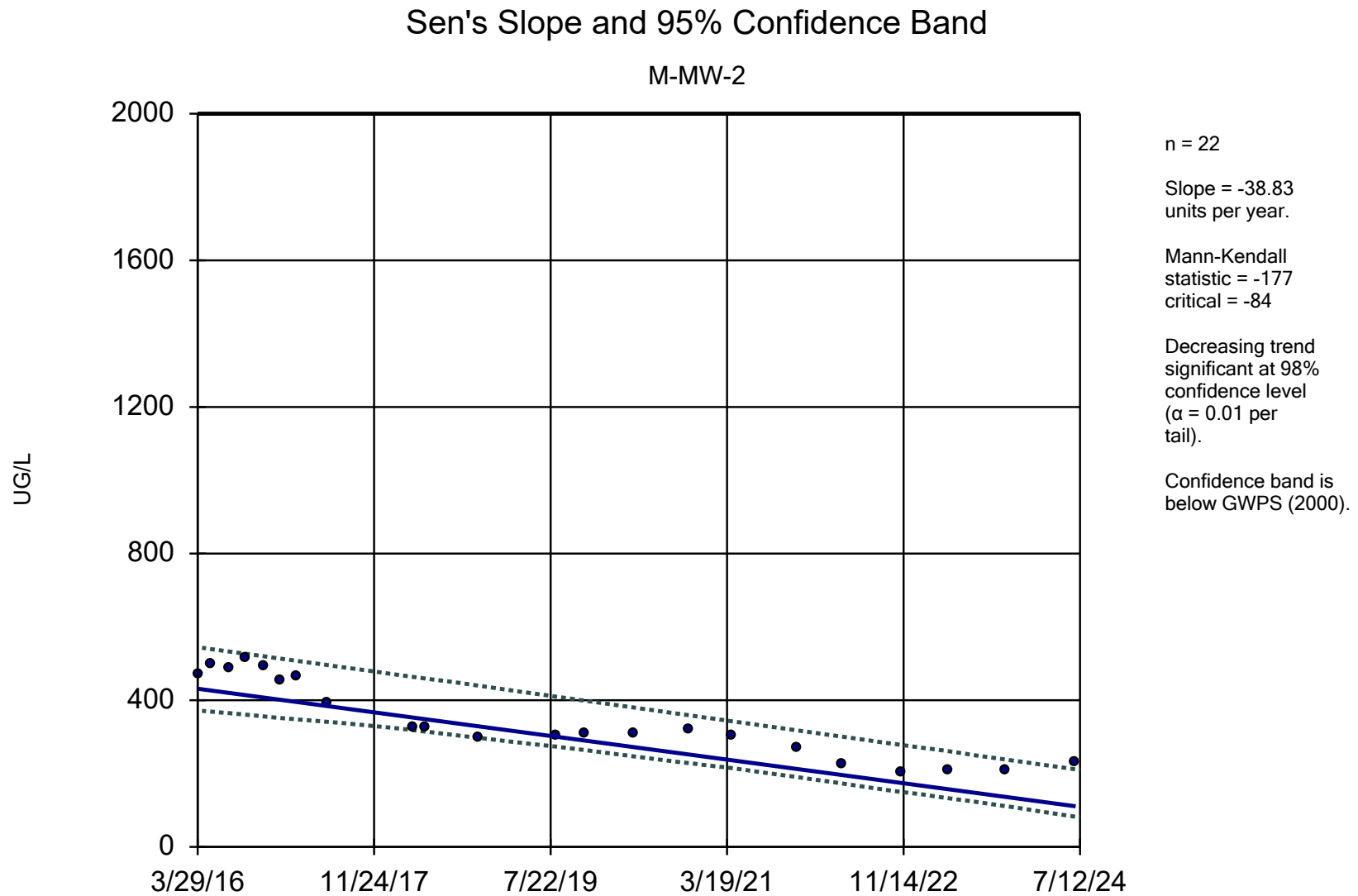


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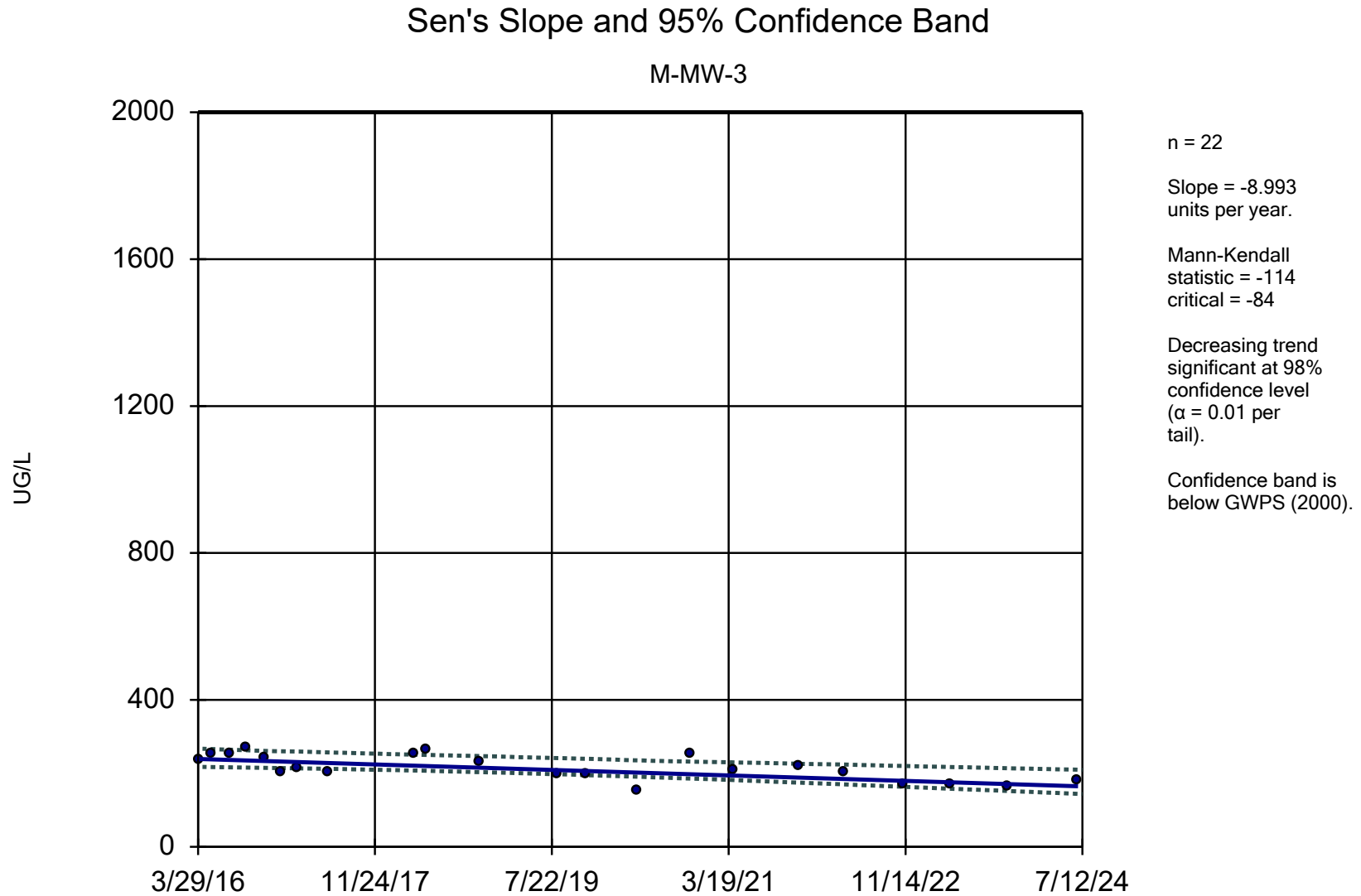
Sen's Slope and 95% Confidence Band



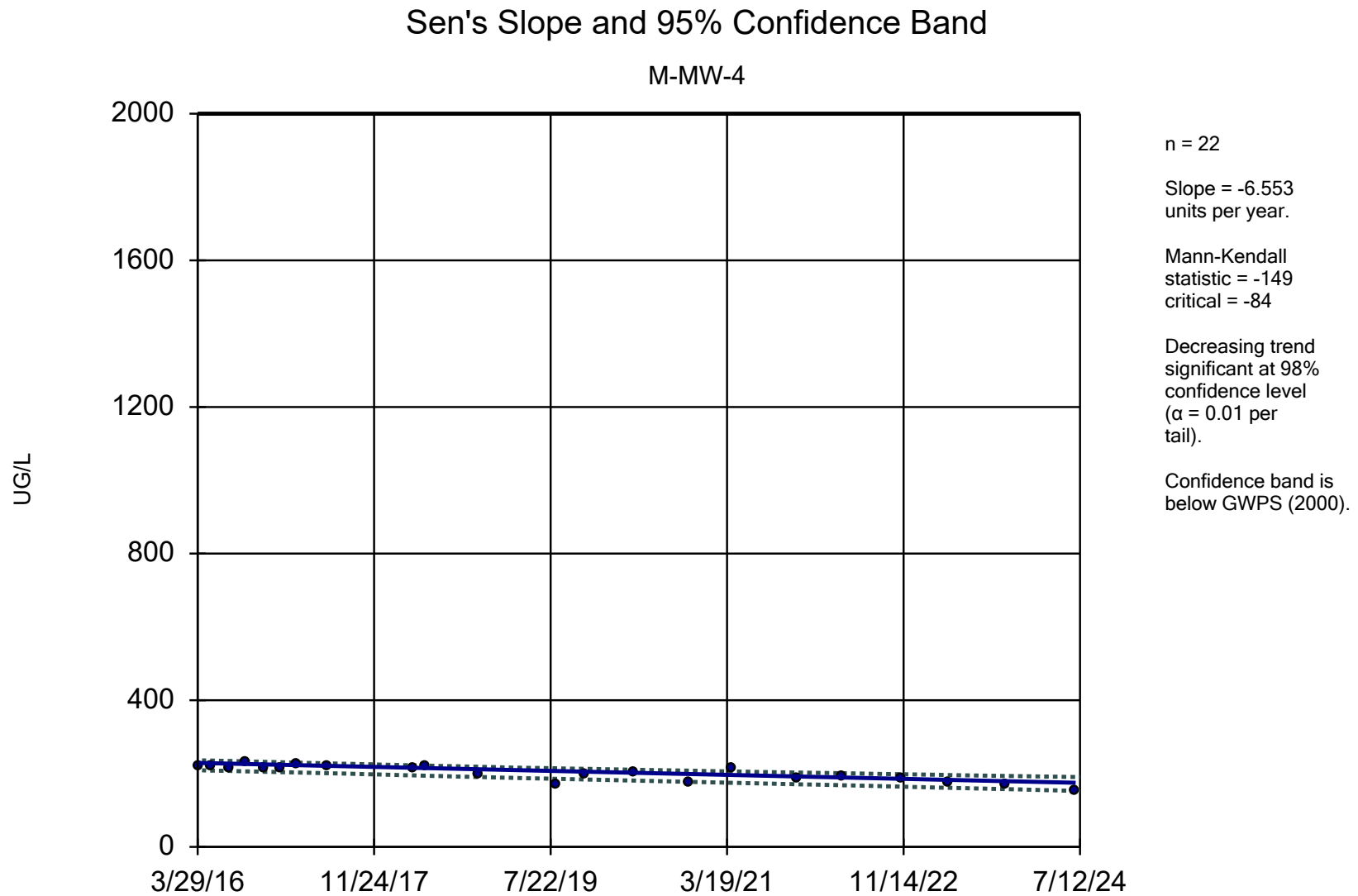
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Meramec E.C. Client: Ameren Data: MEC Data



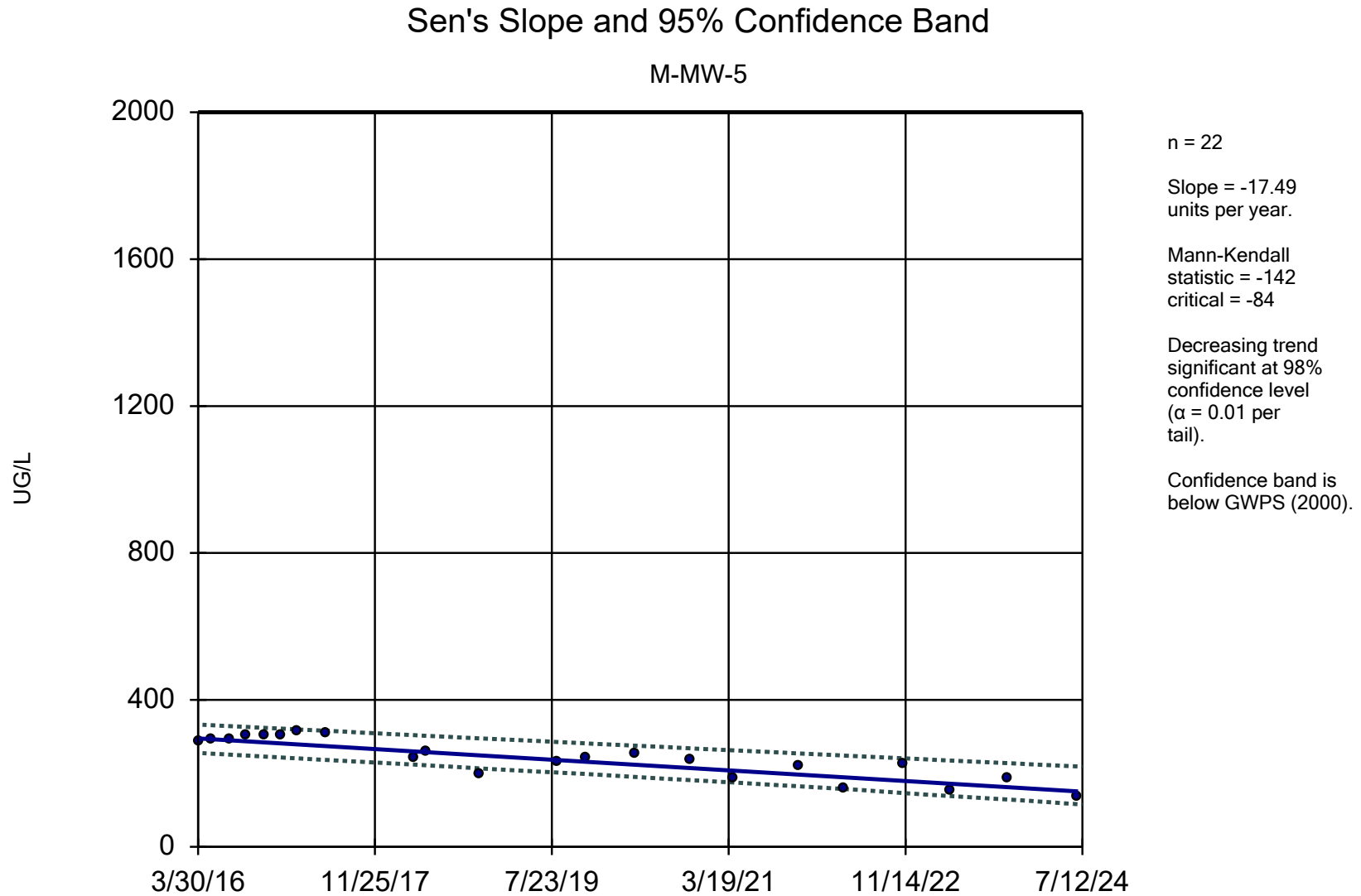
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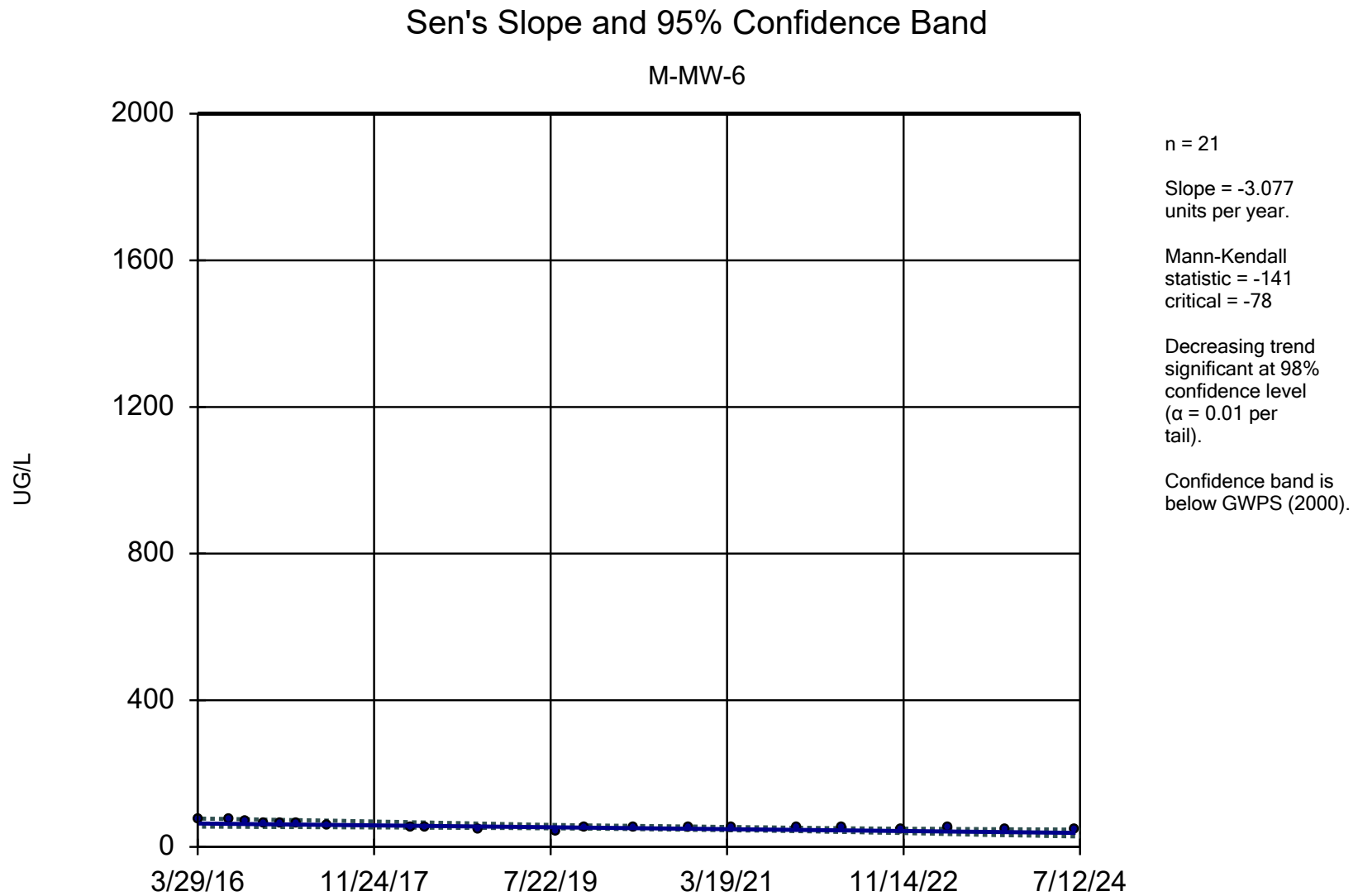
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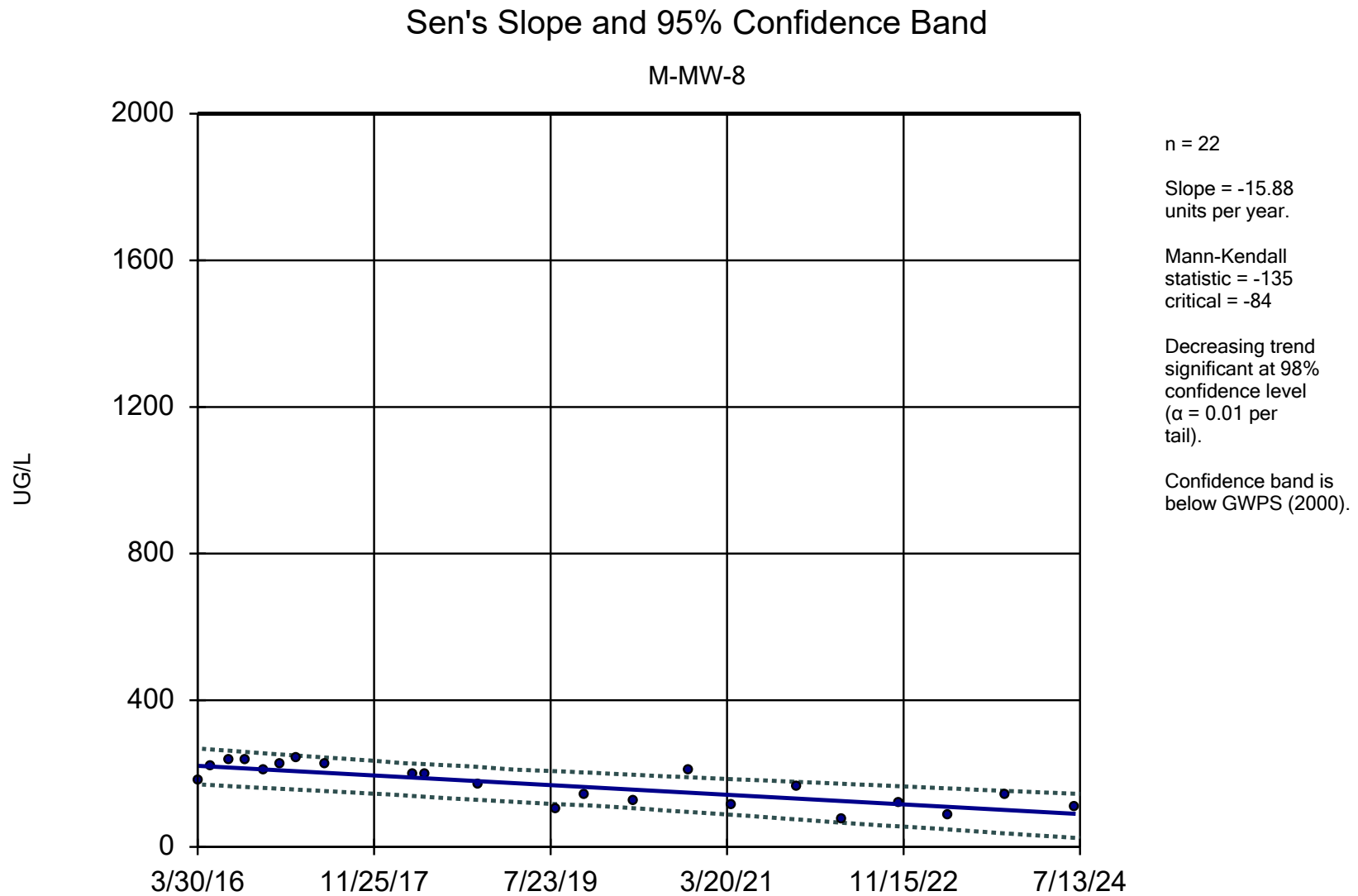
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Meramec E.C. Client: Ameren Data: MEC Data



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Meramec E.C. Client: Ameren Data: MEC Data

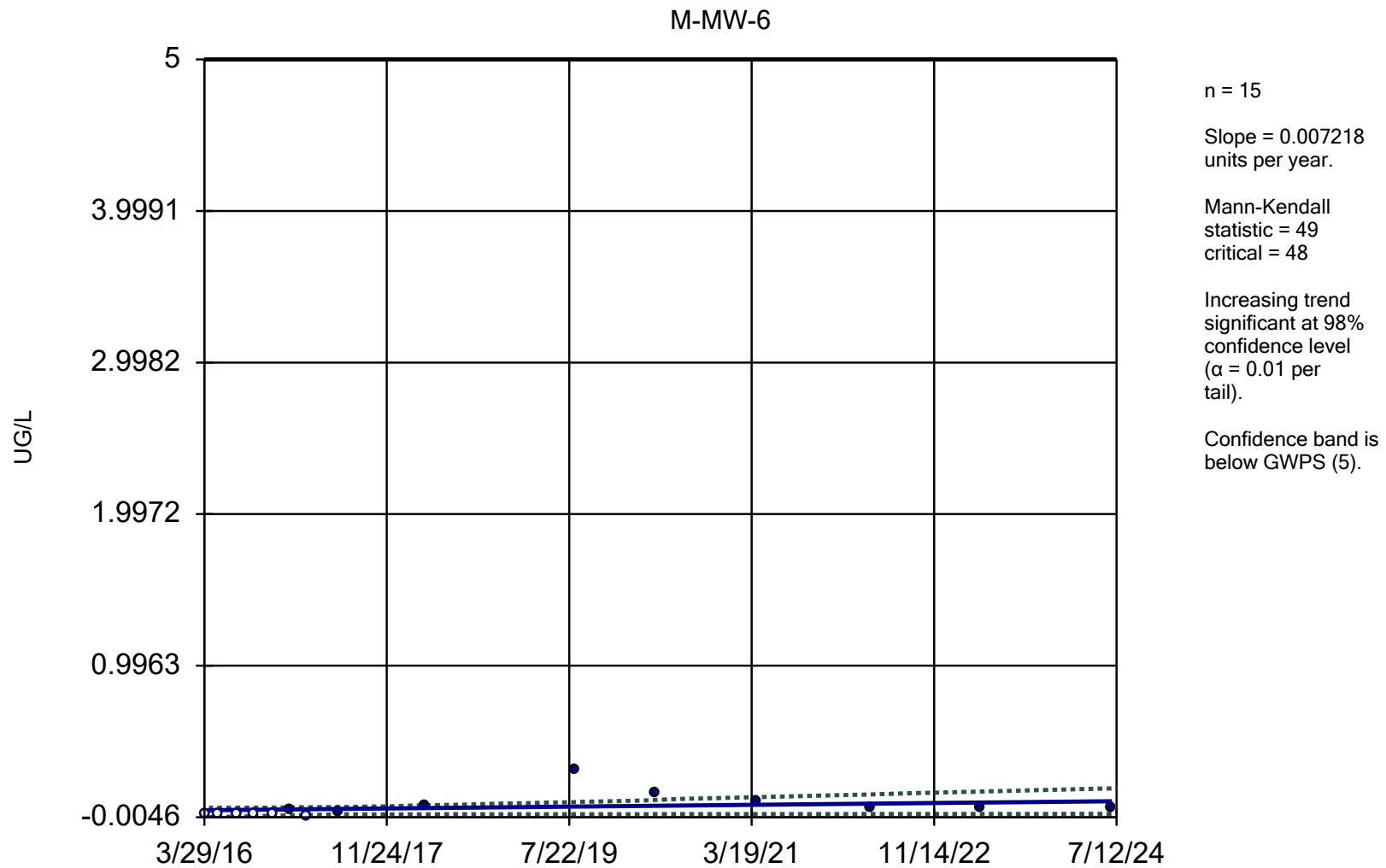


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Meramec E.C. Client: Ameren Data: MEC Data



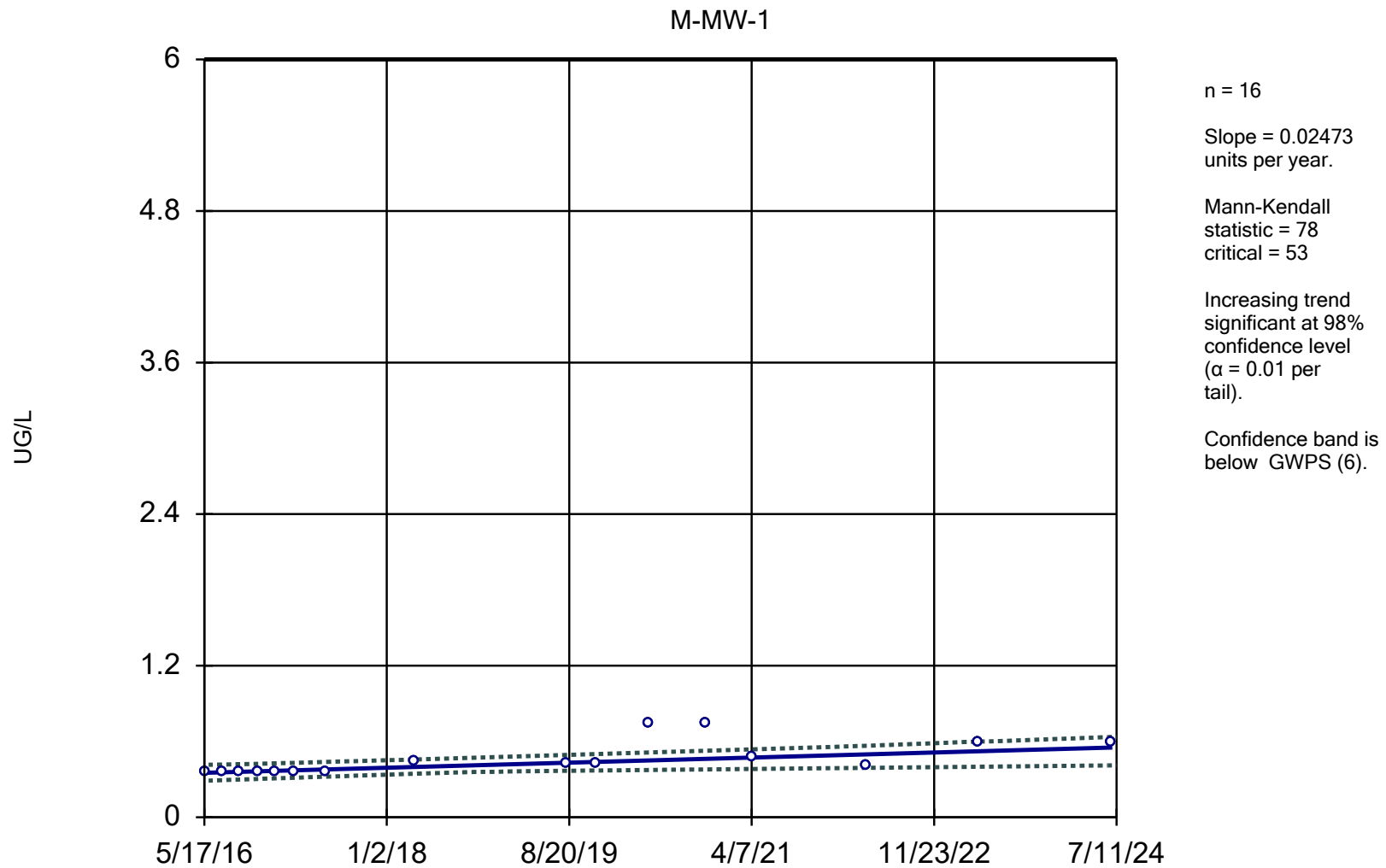
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

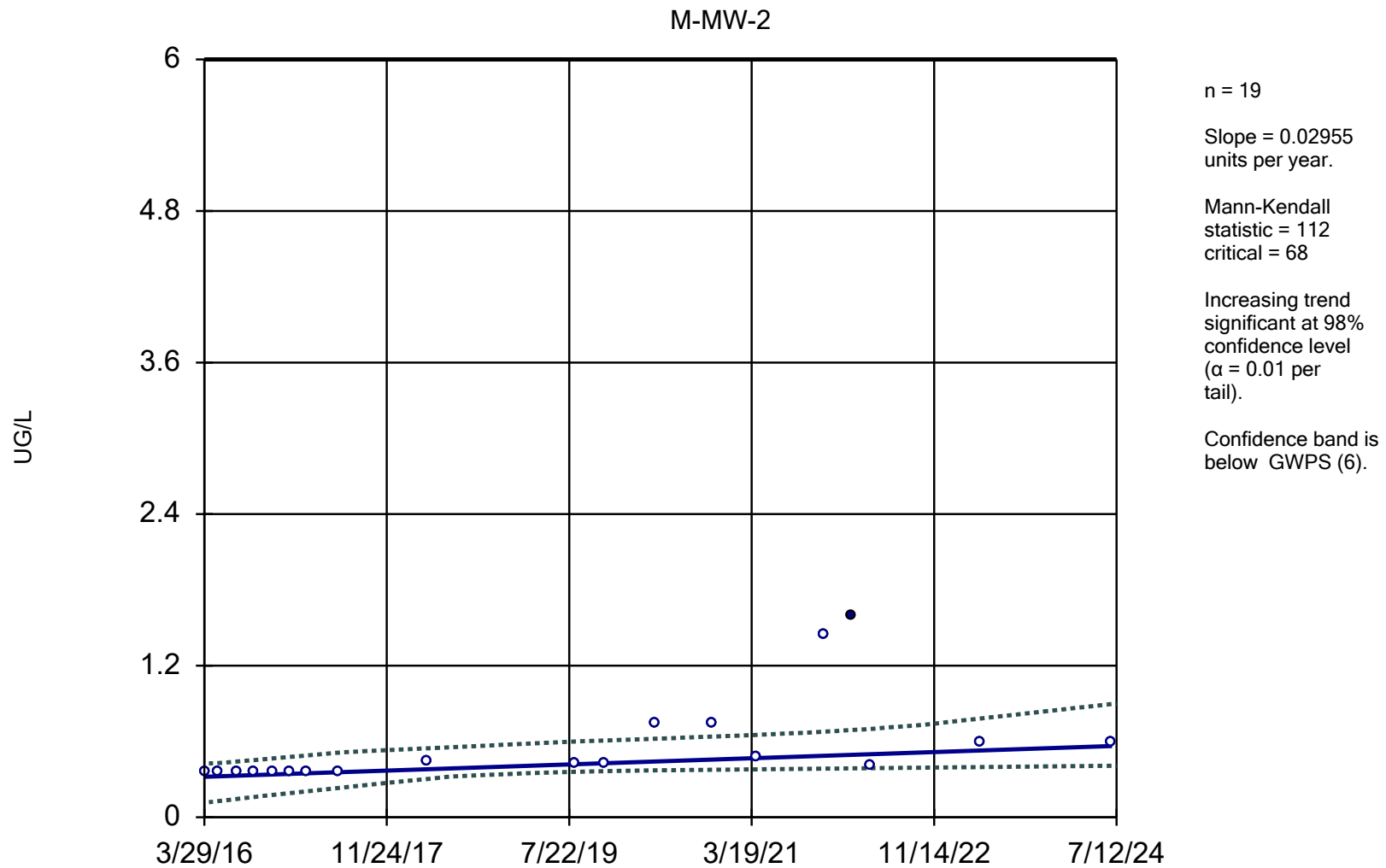


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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

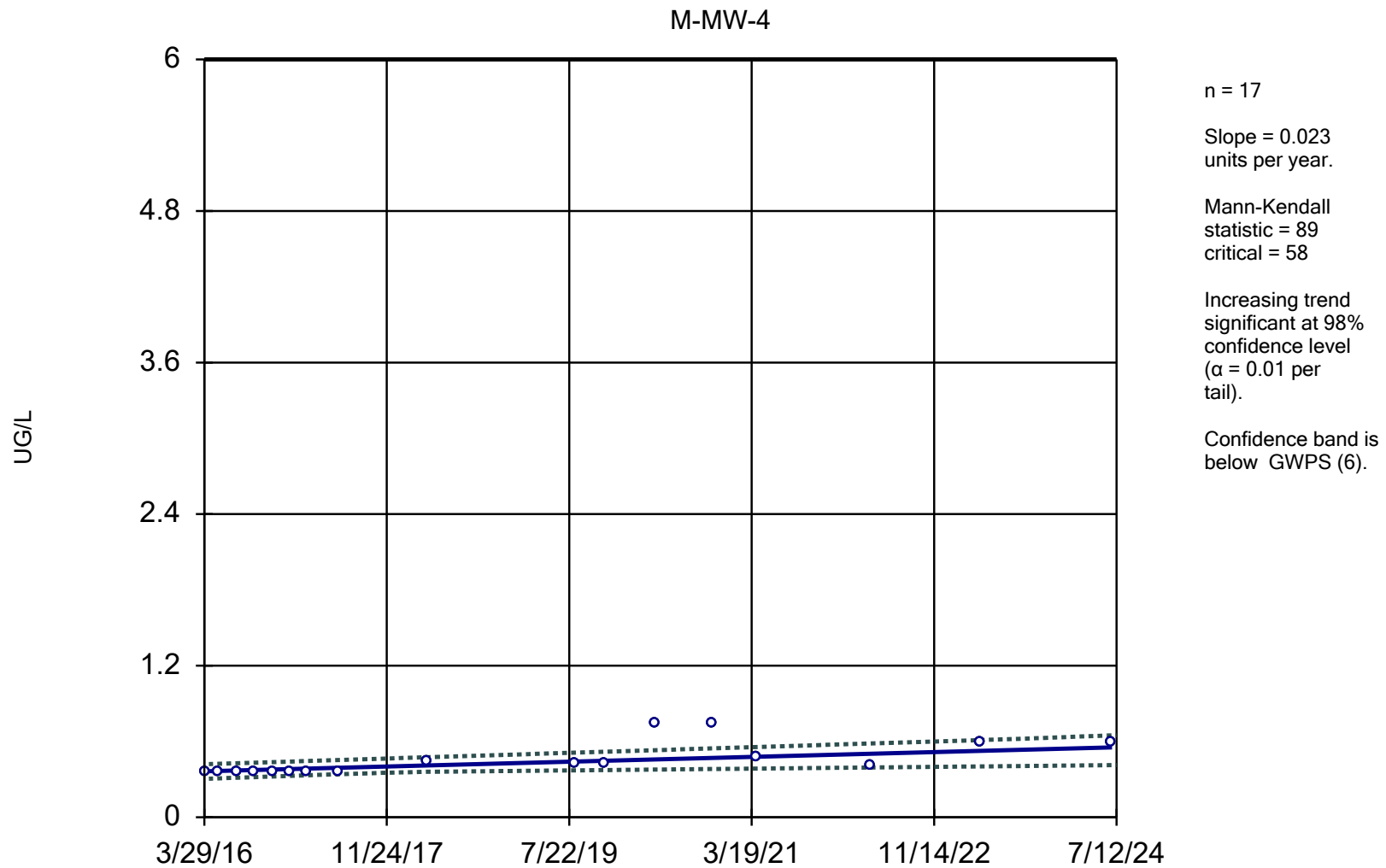


Sen's Slope and 95% Confidence Band



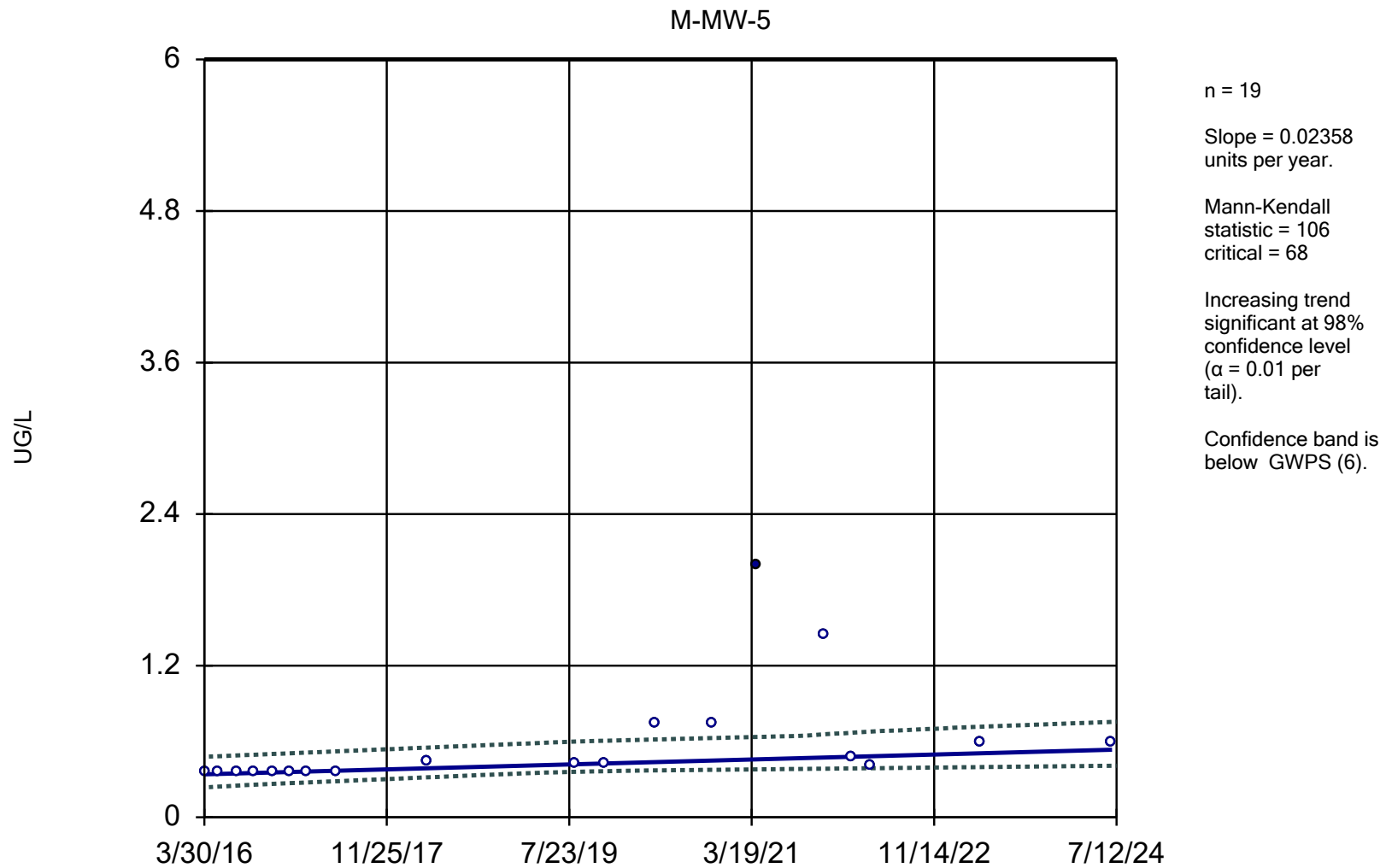
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Sen's Slope and 95% Confidence Band

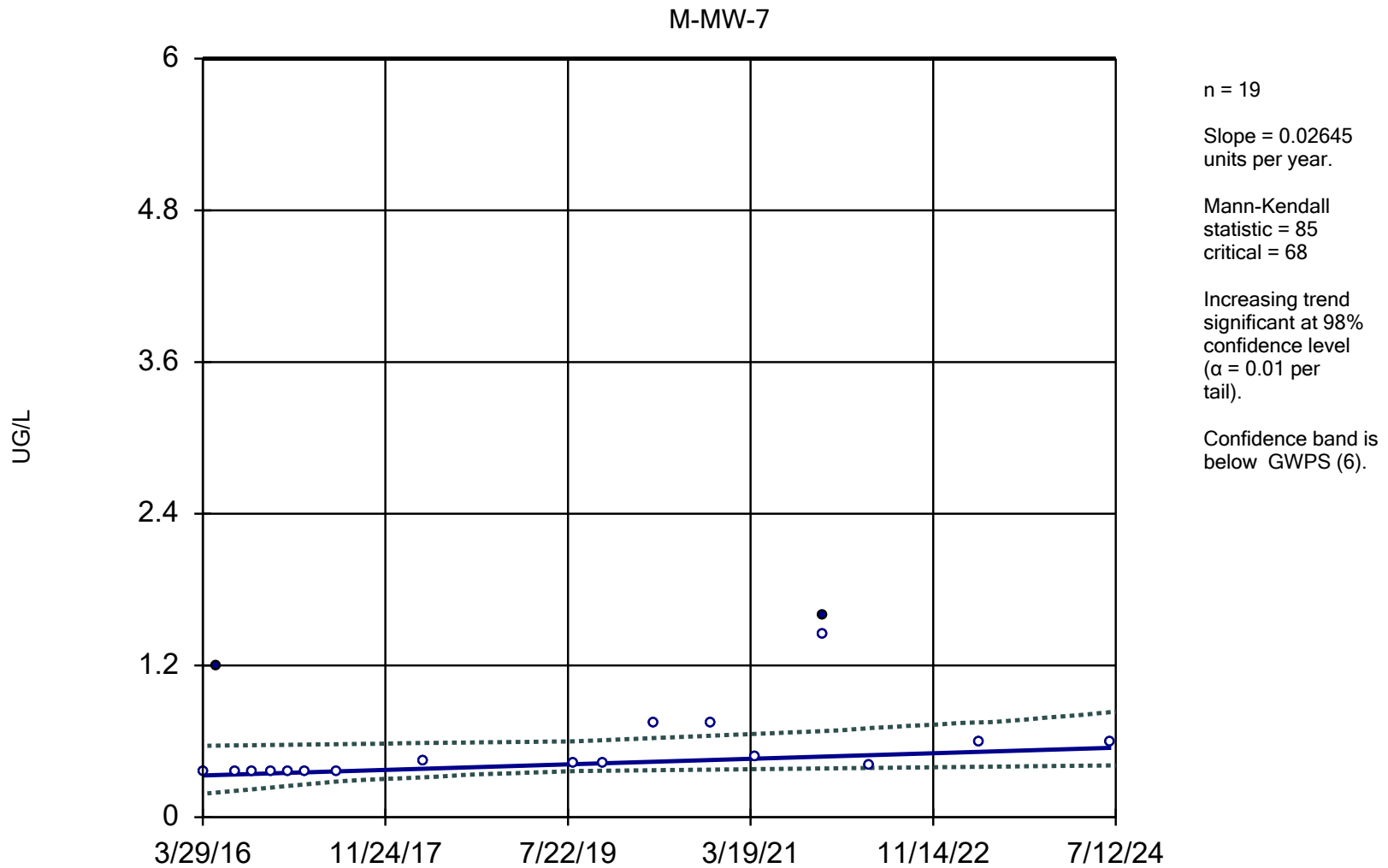


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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

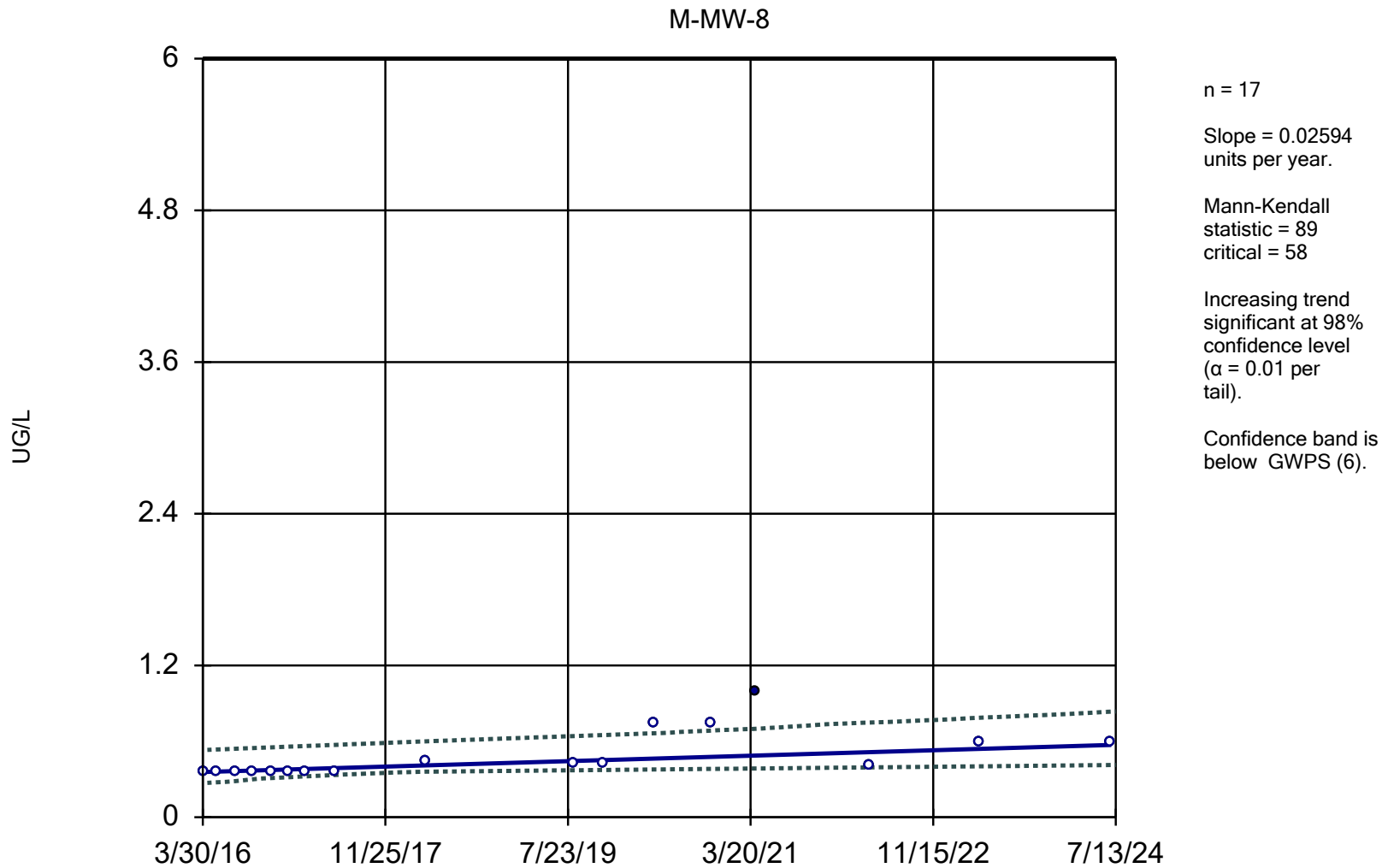


Sen's Slope and 95% Confidence Band



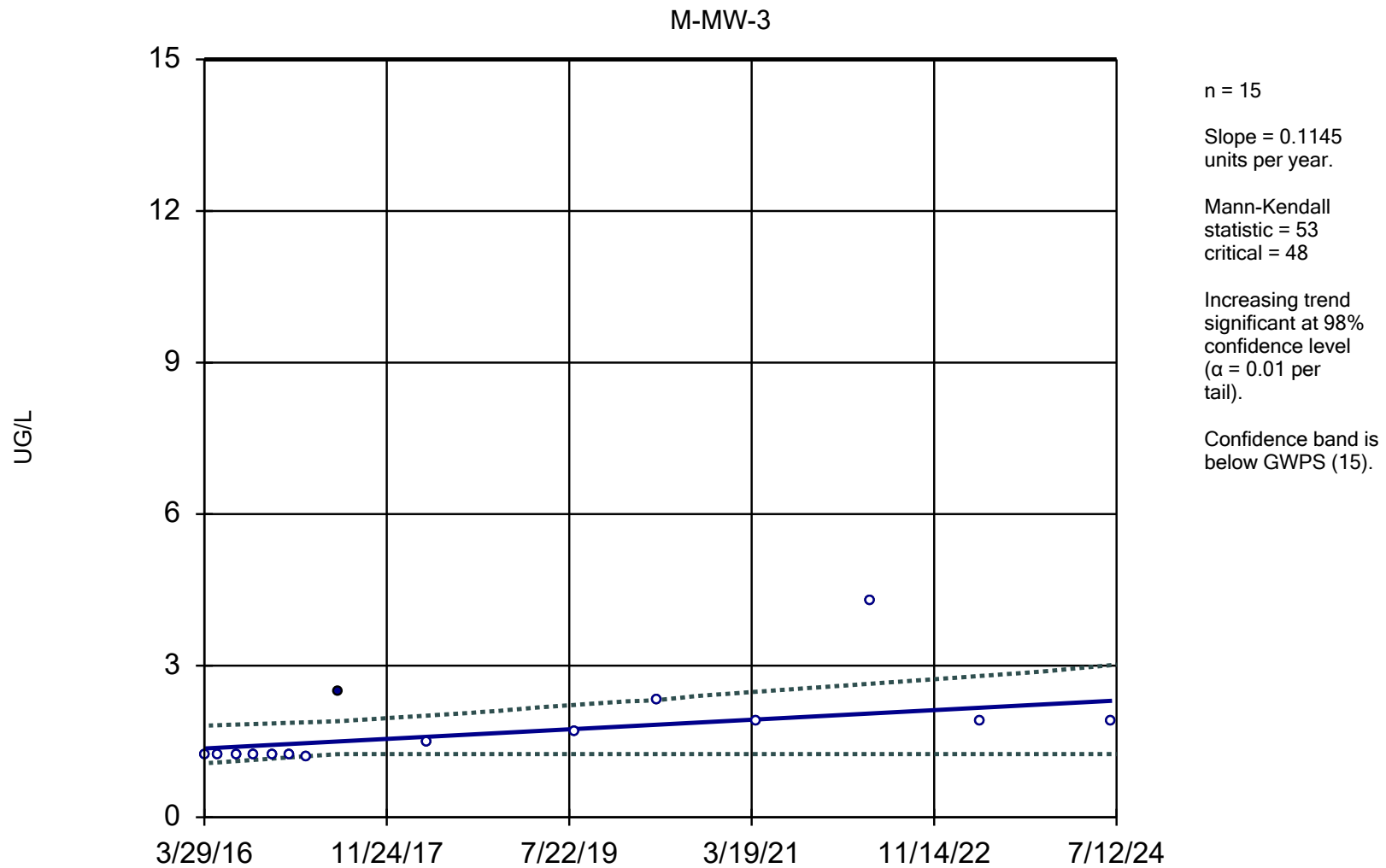
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



Constituent: COBALT, TOTAL Analysis Run 9/4/2024 11:17 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

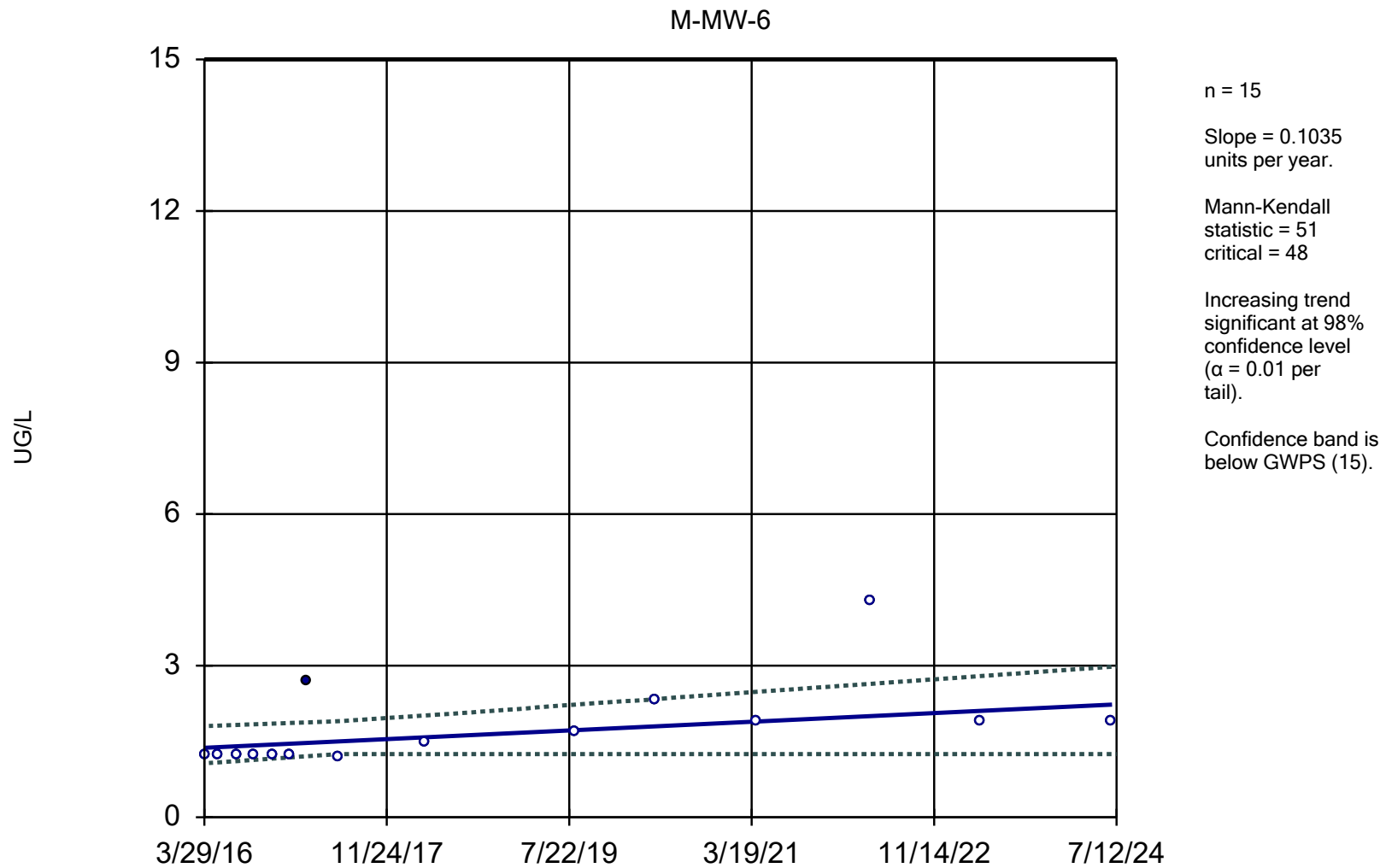
Sen's Slope and 95% Confidence Band



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Meramec E.C. Client: Ameren Data: MEC Data

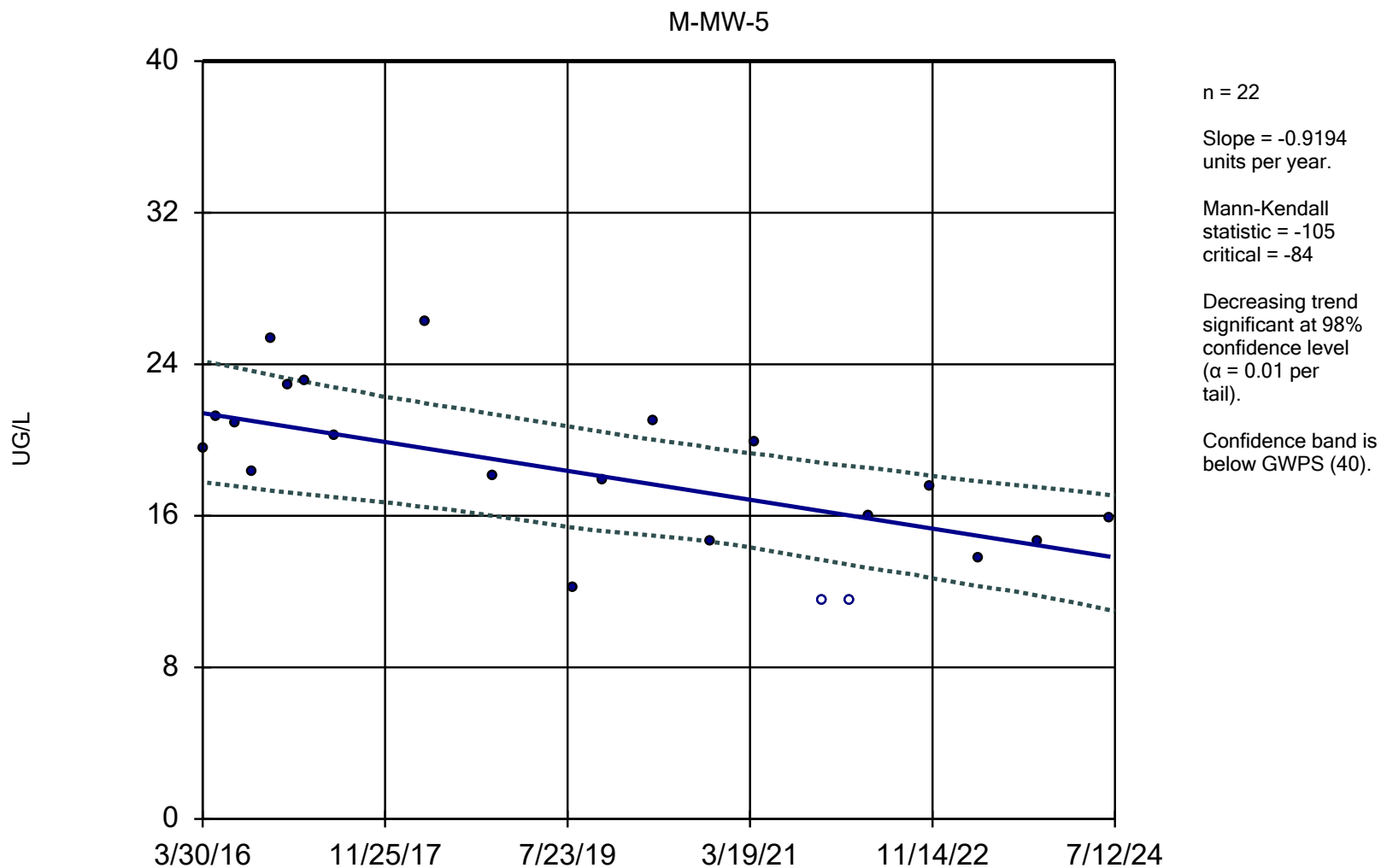
Sen's Slope and 95% Confidence Band



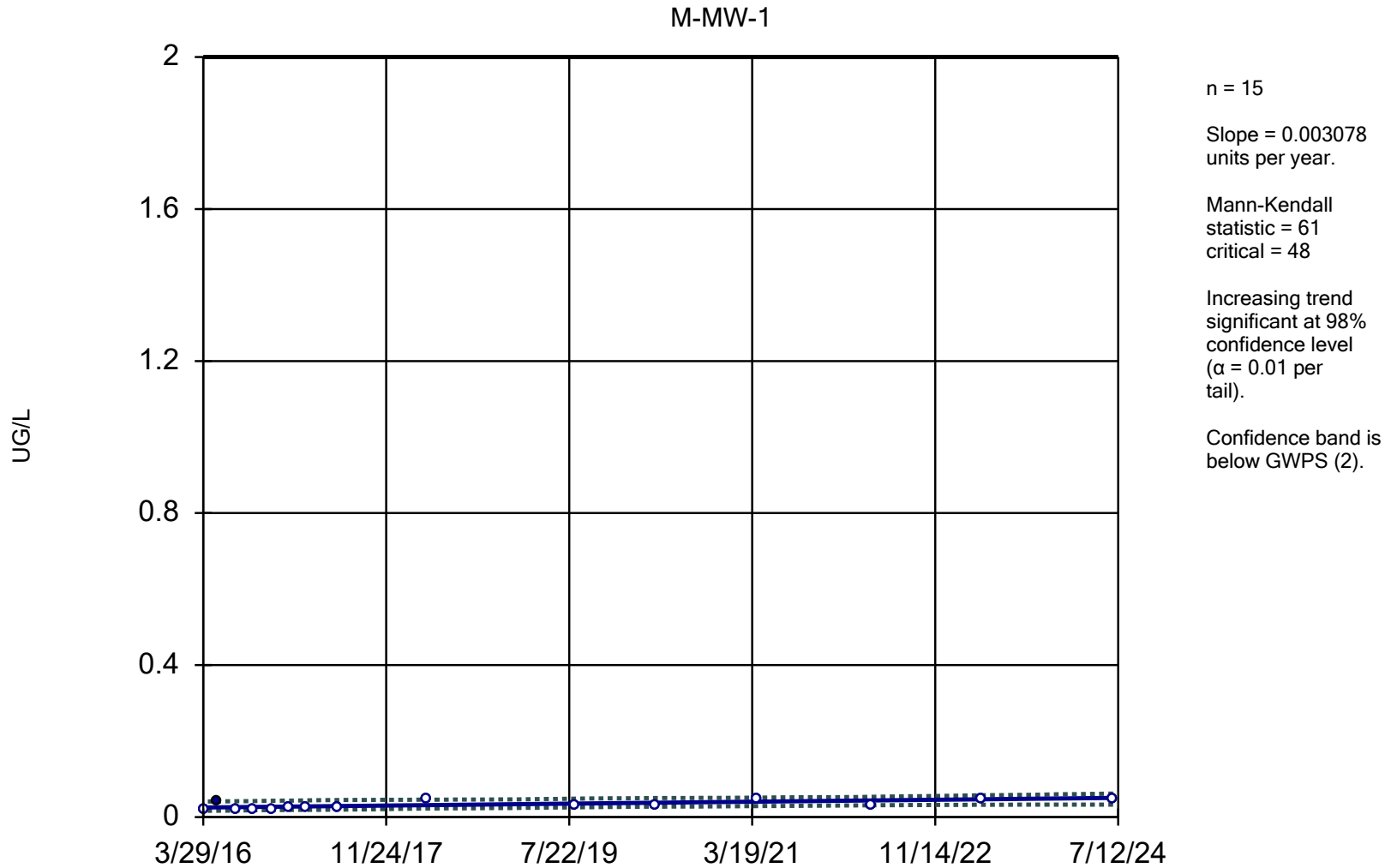
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Sen's Slope and 95% Confidence Band

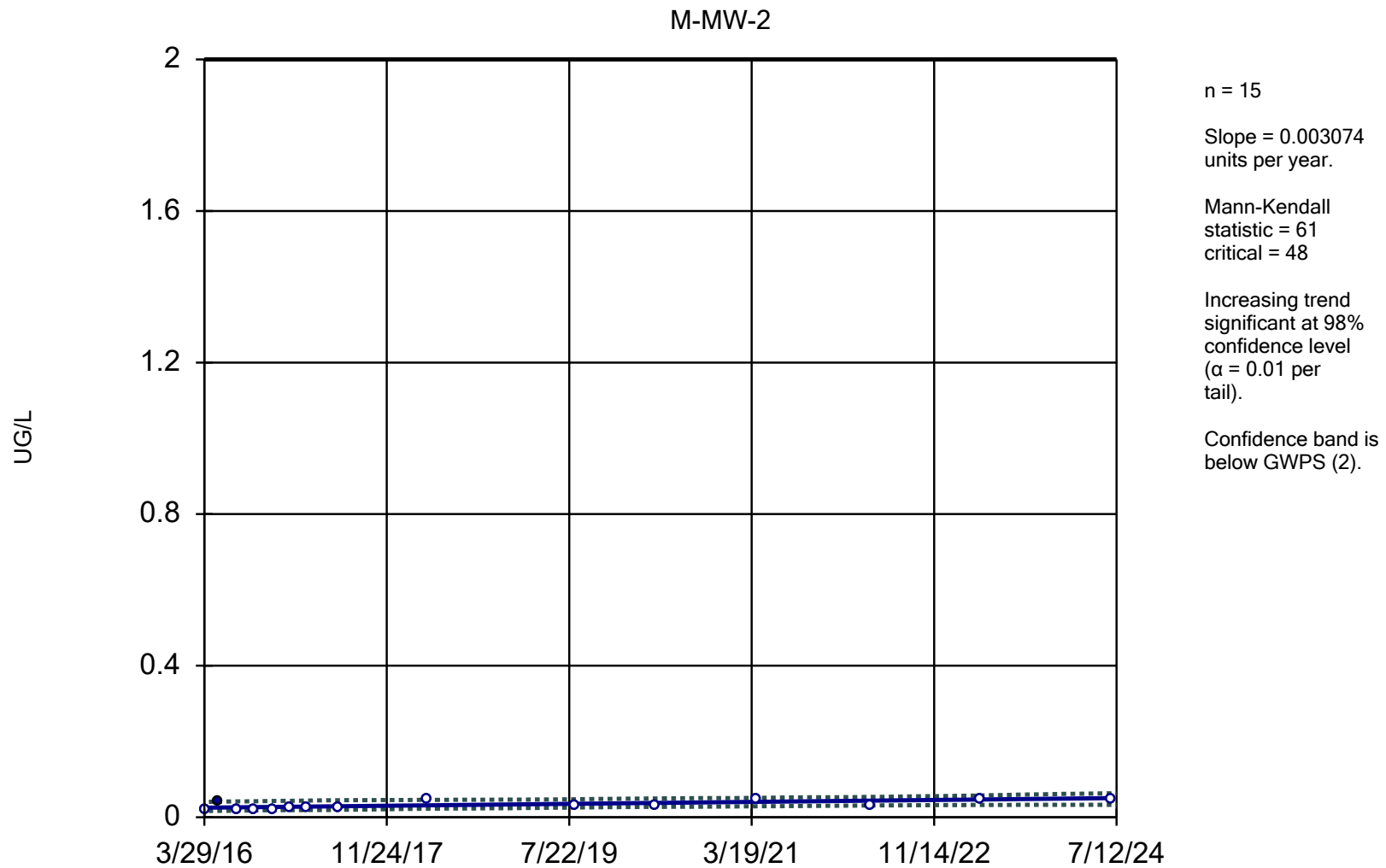


Sen's Slope and 95% Confidence Band



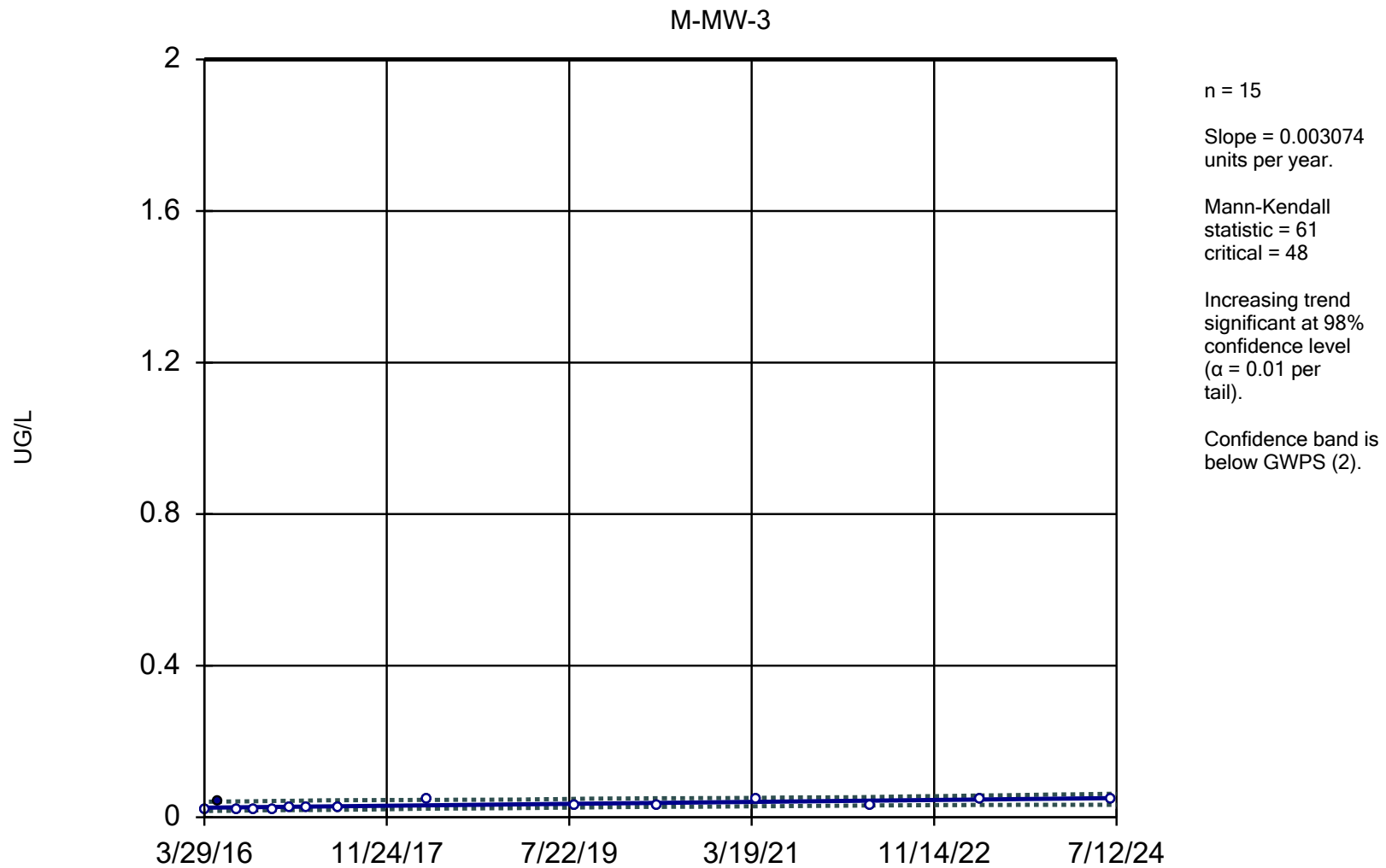
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Sen's Slope and 95% Confidence Band



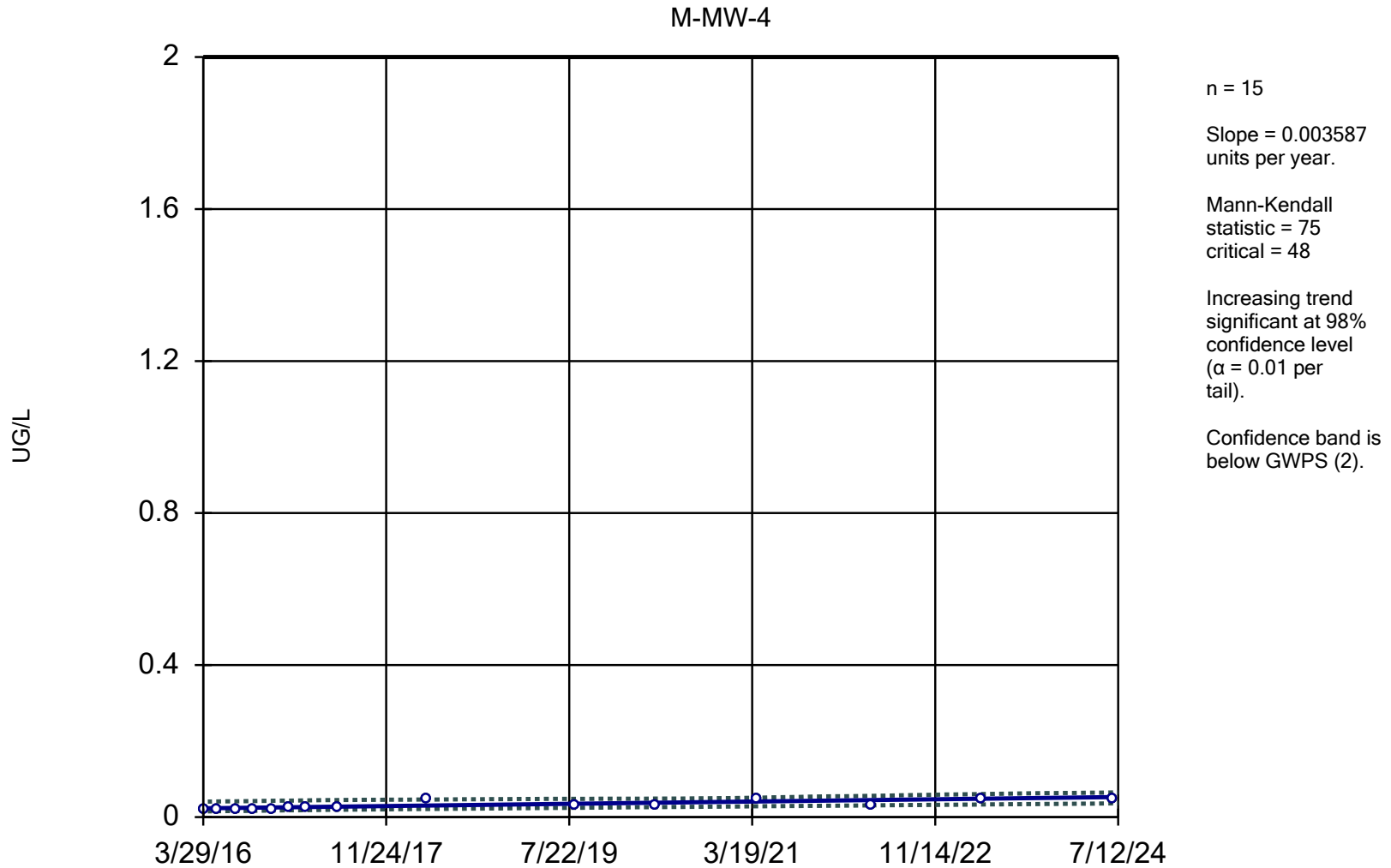
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Sen's Slope and 95% Confidence Band

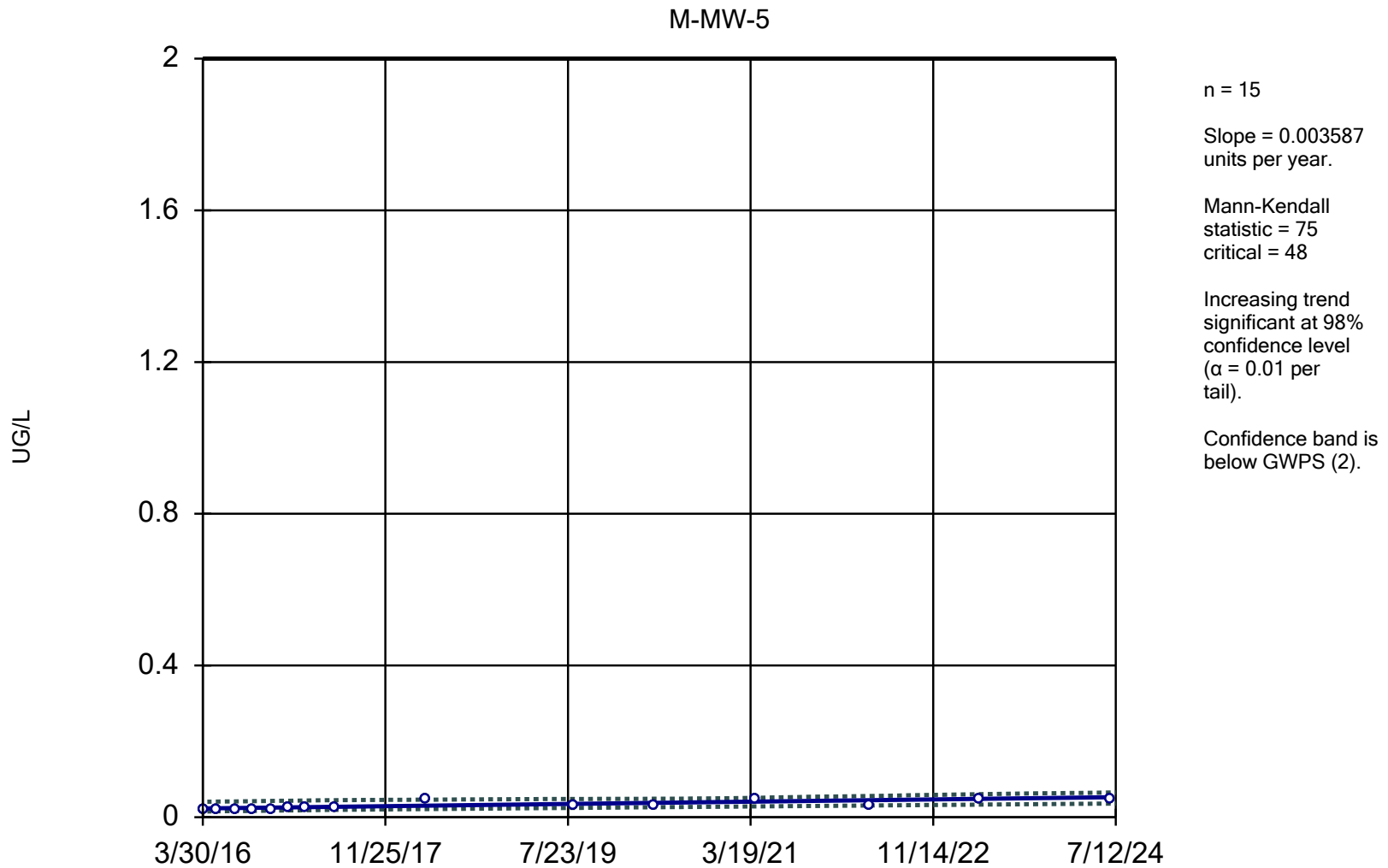


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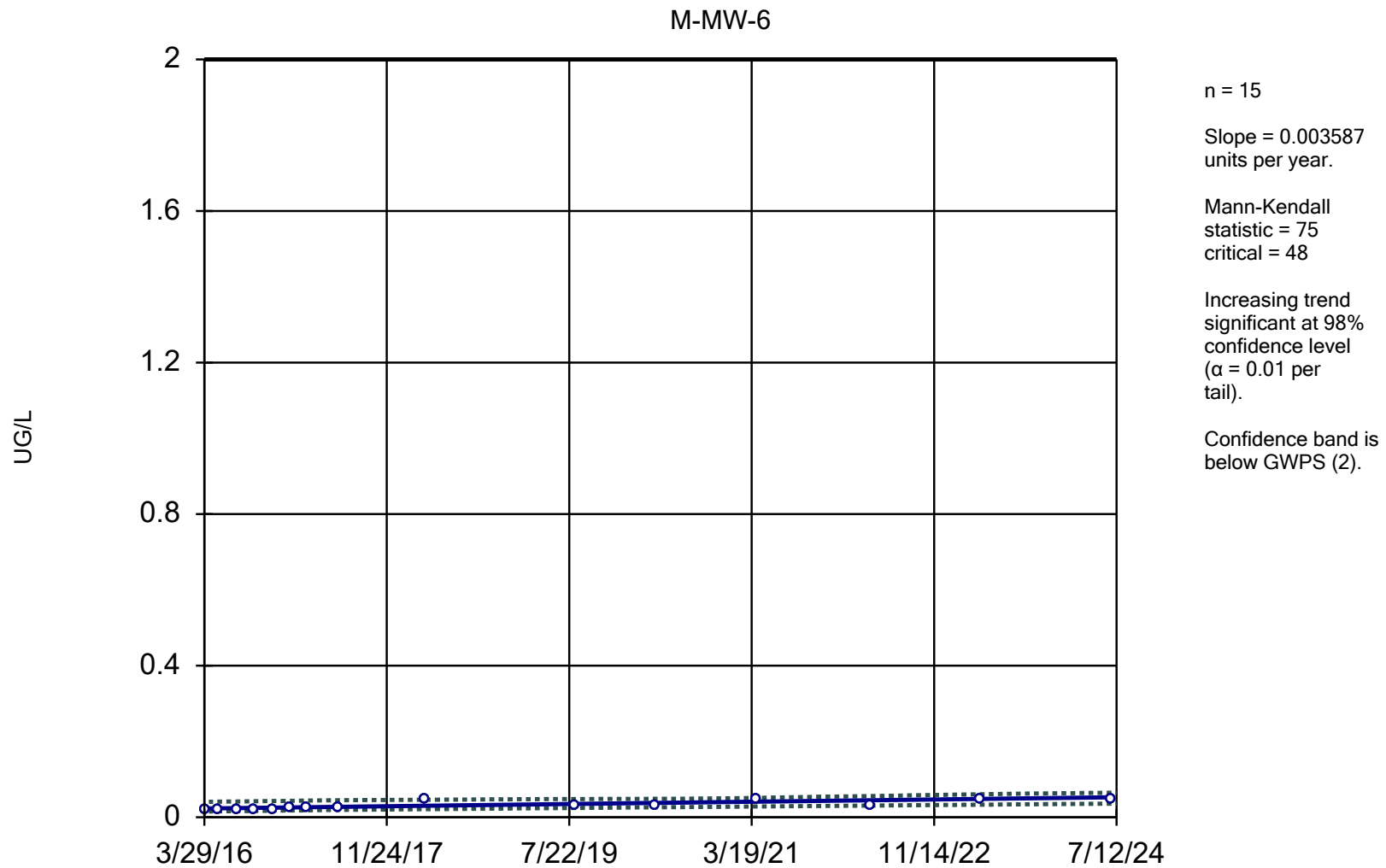
Sen's Slope and 95% Confidence Band



Sen's Slope and 95% Confidence Band

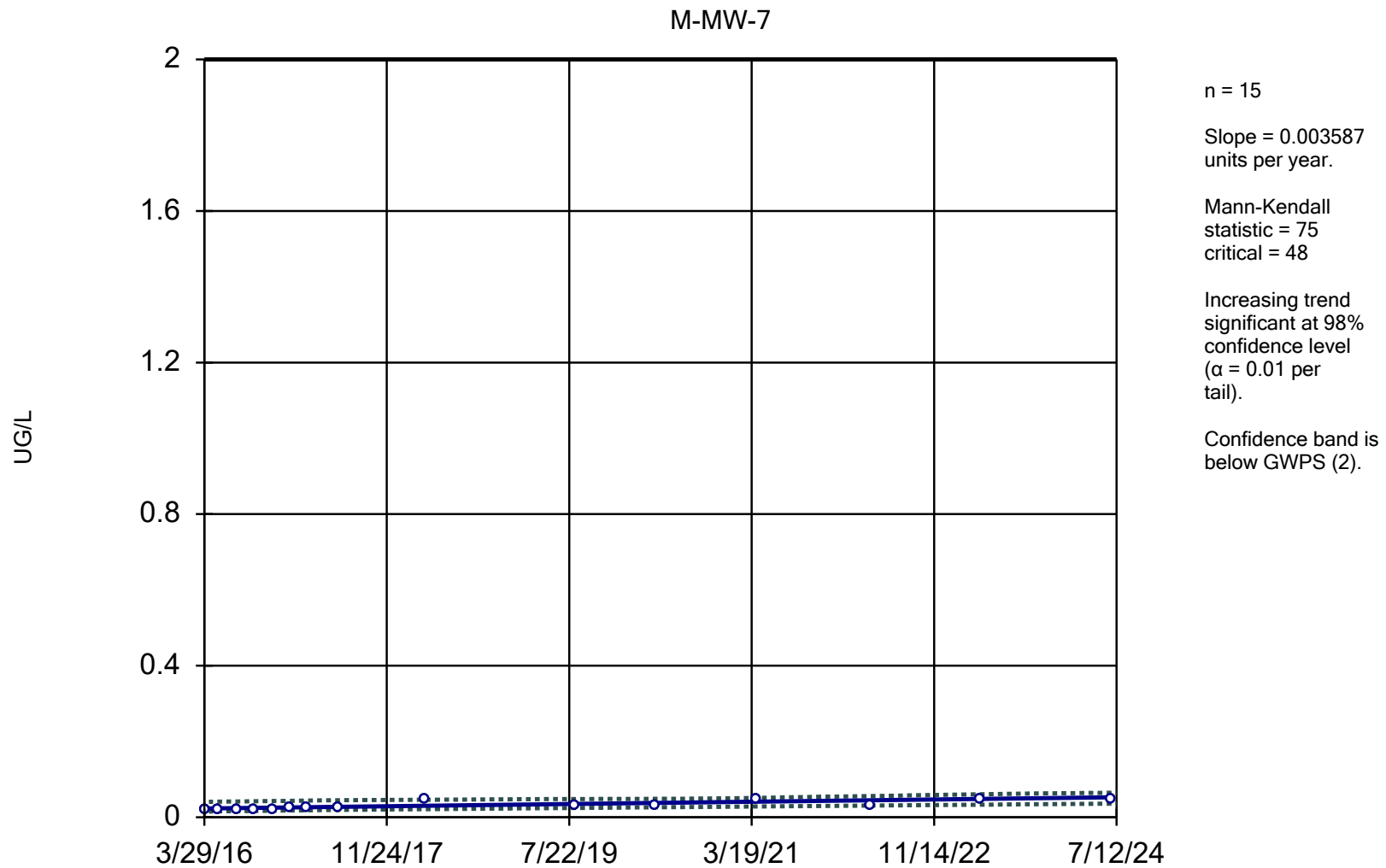


Sen's Slope and 95% Confidence Band



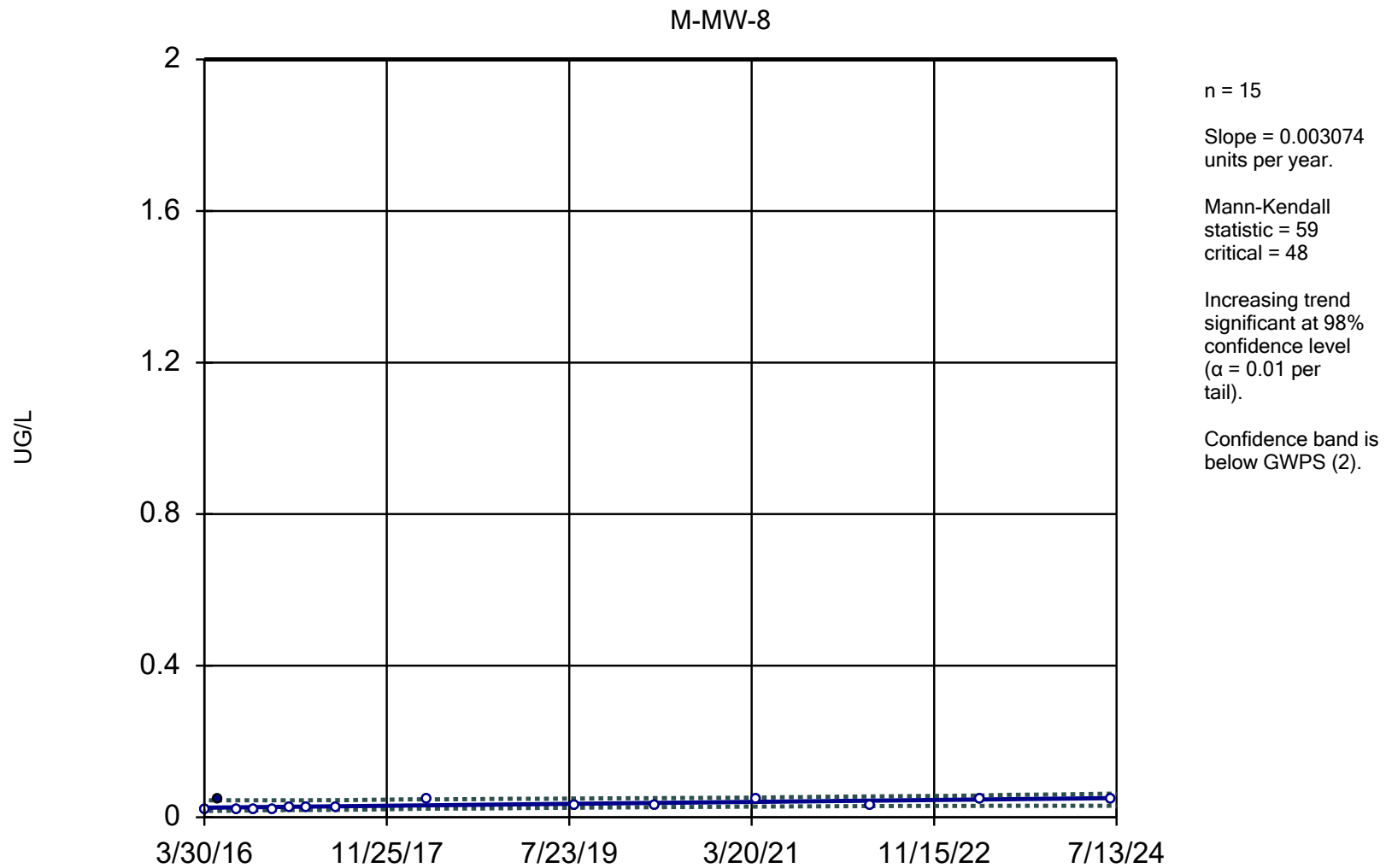
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

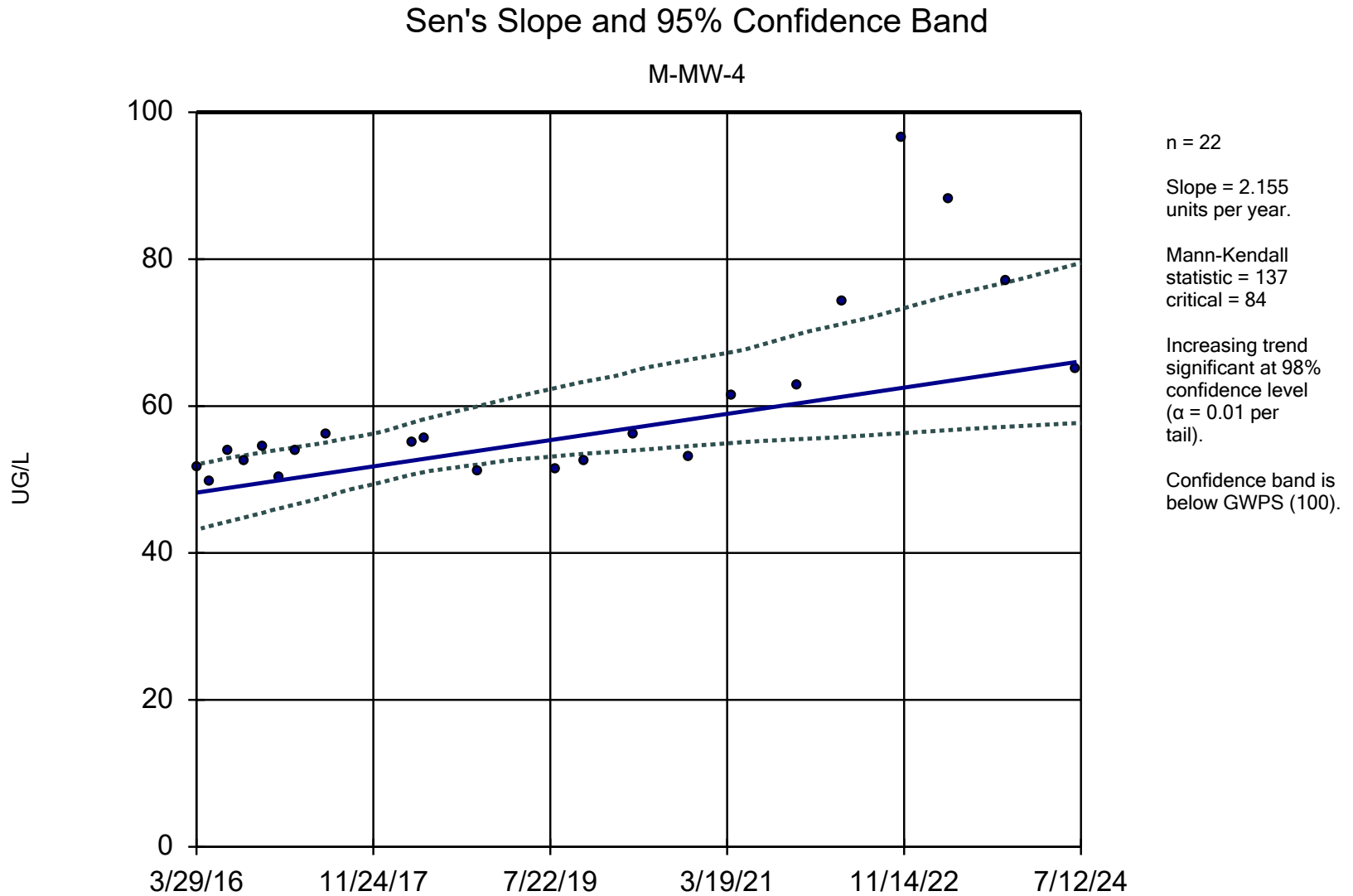


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Sen's Slope and 95% Confidence Band

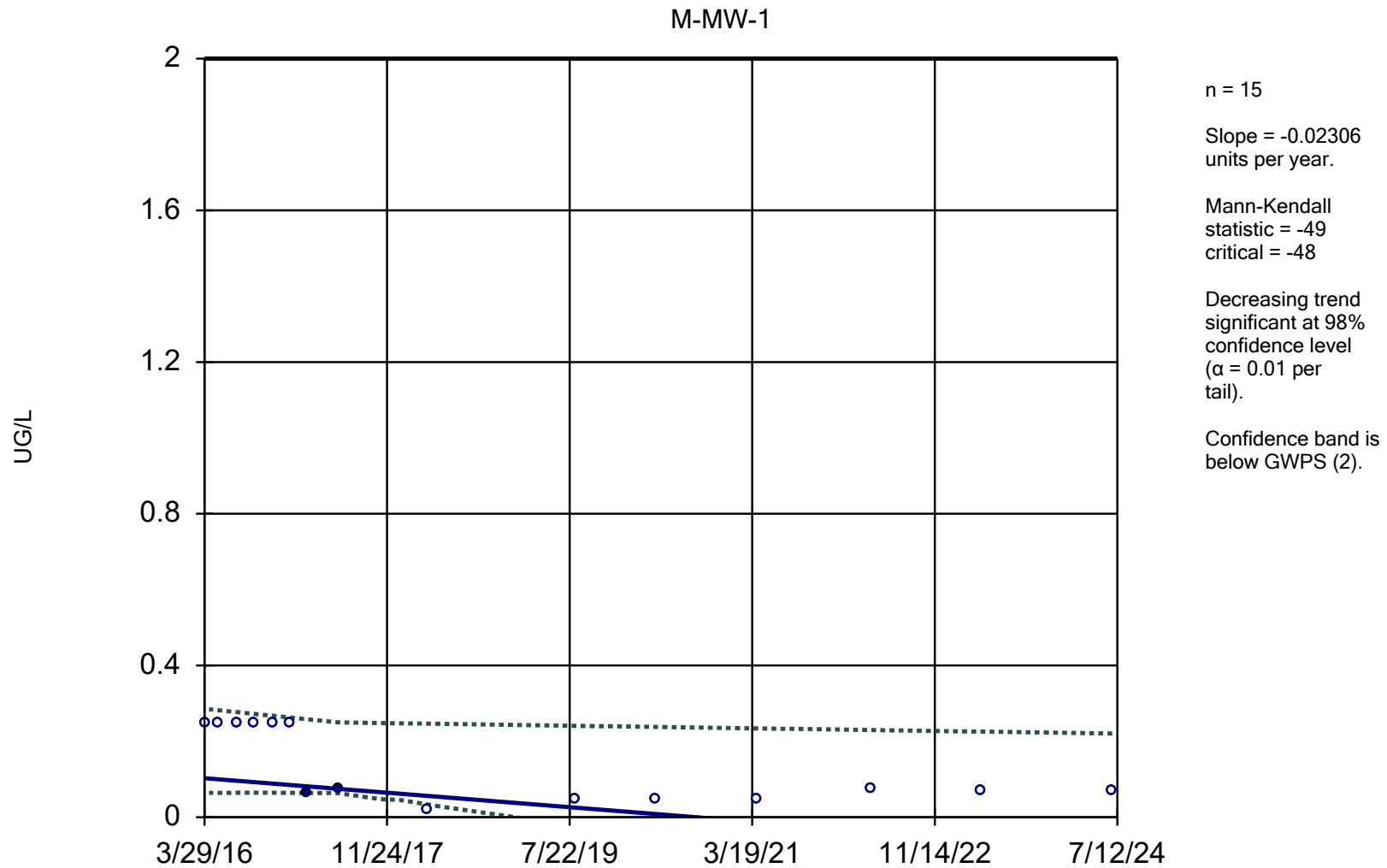


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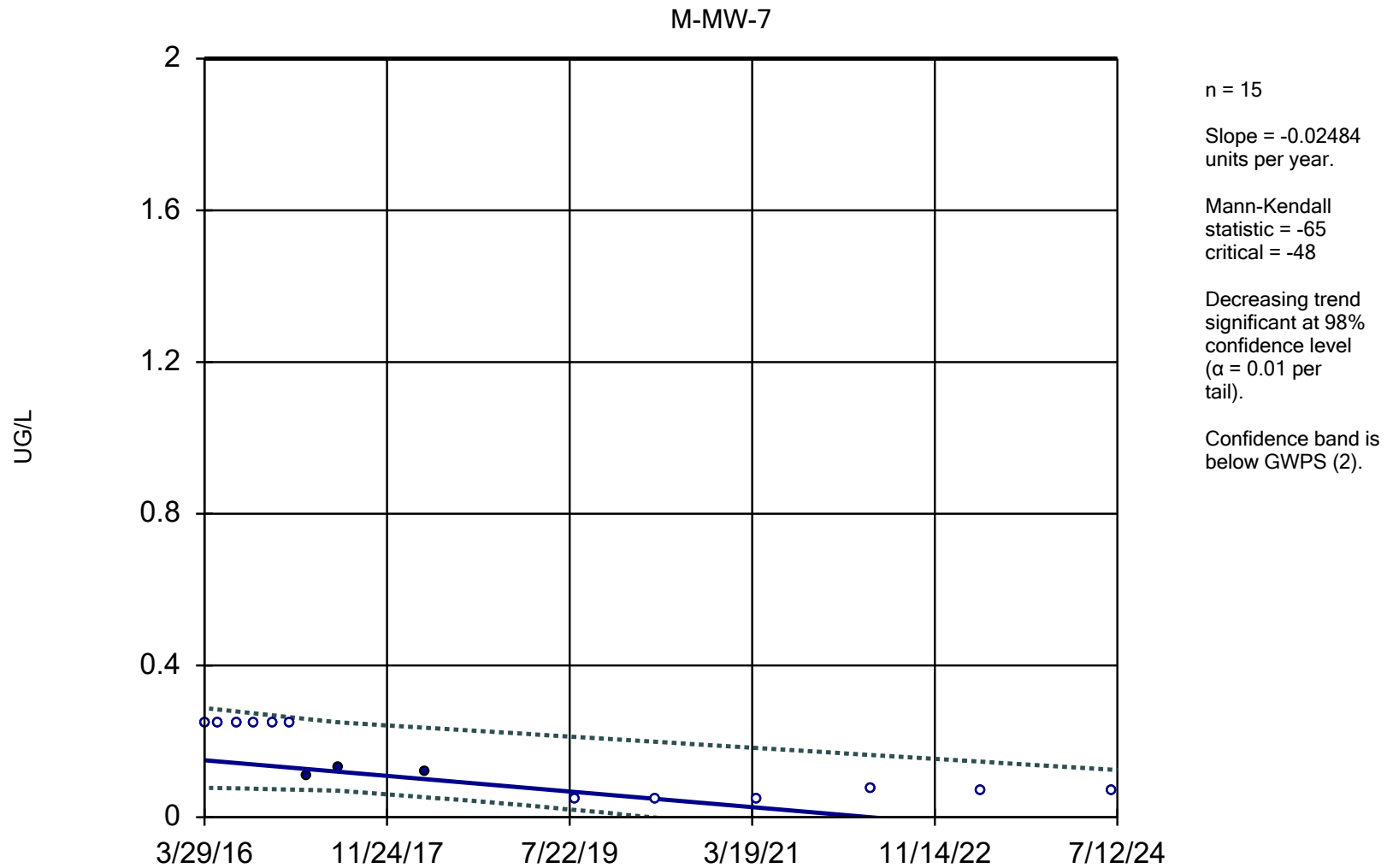
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Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



Constituent: THALLIUM, TOTAL Analysis Run 9/4/2024 11:18 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



Constituent: THALLIUM, TOTAL Analysis Run 9/4/2024 11:18 AM View: Assessment Monitoring
Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 11:19 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.003925	42	48	No	15	80	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.004146	50	48	Yes	15	93.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.004061	60	48	Yes	15	93.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.004146	50	48	Yes	15	93.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.004061	38	48	No	15	93.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.003814	38	48	No	15	66.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.001365	8	39	No	13	0	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.003083	18	48	No	15	80	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-1	0.008415	56	78	No	21	4.762	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0	-4	-84	No	22	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-3	0.1156	52	68	No	19	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-4	0.2312	97	78	Yes	21	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-5	0.07866	17	73	No	20	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-6	-0.09752	-22	-78	No	21	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-7	0.05014	30	84	No	22	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	0.0574	20	78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	0	3	84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-2	-38.83	-177	-84	Yes	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-3	-8.993	-114	-84	Yes	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-4	-6.553	-149	-84	Yes	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-5	-17.49	-142	-84	Yes	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-6	-3.077	-141	-78	Yes	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-7	-0.7626	-53	-84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-8	-15.88	-135	-84	Yes	22	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0	-11	-48	No	15	86.67	n/a	n/a	0.02	NP
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BERYLLIUM, TOTAL (UG/L)	M-MW-3	-0.00...	-32	-44	No	14	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-4	-0.00...	-24	-48	No	15	73.33	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-5	-0.00...	-26	-48	No	15	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-6	-0.00...	-27	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0	-22	-44	No	14	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-8	-0.00...	-26	-48	No	15	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-1	0.001293	23	44	No	14	85.71	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-2	0.001293	34	48	No	15	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-3	0.001321	34	44	No	14	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-4	0.001322	34	44	No	14	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-5	0.001292	17	48	No	15	86.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-6	0.007218	49	48	Yes	15	40	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-7	0.02696	47	48	No	15	13.33	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-8	0.003611	27	48	No	15	53.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-1	-0.03849	-31	-63	No	18	33.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.01522	13	58	No	17	23.53	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-3	0	-1	-63	No	18	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.005551	8	63	No	18	38.89	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.01703	24	63	No	18	44.44	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.02092	20	58	No	17	58.82	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-7	0	5	63	No	18	44.44	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.02709	37	63	No	18	61.11	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-1	0.02473	78	53	Yes	16	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-2	0.02955	112	68	Yes	19	94.74	n/a	n/a	0.02	NP

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 11:19 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
COBALT, TOTAL (UG/L)	M-MW-3	0.0231	35	68	No	19	68.42	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-4	0.023	89	58	Yes	17	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-5	0.02358	106	68	Yes	19	94.74	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-6	0.1762	15	63	No	18	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-7	0.02645	85	68	Yes	19	89.47	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-8	0.02594	89	58	Yes	17	94.12	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-1	-0.00...	-25	-89	No	23	8.696	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	-0.00...	-43	-95	No	24	37.5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	0	10	89	No	23	34.78	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	-0.00...	-42	-89	No	23	26.09	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	-0.00...	-61	-95	No	24	20.83	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	-0.01107	-81	-89	No	23	30.43	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	-0.03817	-85	-106	No	26	23.08	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	-0.0169	-52	-89	No	23	21.74	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-1	0.1002	34	35	No	12	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-2	0	5	48	No	15	73.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-3	0.1145	53	48	Yes	15	93.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-4	0.09573	29	48	No	15	86.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-5	0.06418	14	48	No	15	73.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-6	0.1035	51	48	Yes	15	93.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-7	0.1198	44	48	No	15	86.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-8	0.08325	22	48	No	15	80	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-1	0	-15	-63	No	18	100	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0	4	84	No	22	45.45	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	0.05299	7	84	No	22	45.45	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	0.04655	8	78	No	21	4.762	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-5	-0.9194	-105	-84	Yes	22	9.091	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-6	-1.338	-34	-78	No	21	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	-0.8986	-22	-78	No	21	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	0.1901	26	73	No	20	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-1	0.003078	61	48	Yes	15	93.33	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-2	0.003074	61	48	Yes	15	93.33	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-3	0.003074	61	48	Yes	15	93.33	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-4	0.003587	75	48	Yes	15	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-5	0.003587	75	48	Yes	15	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-6	0.003587	75	48	Yes	15	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-7	0.003587	75	48	Yes	15	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-8	0.003074	59	48	Yes	15	93.33	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	0.03441	67	84	No	22	90.91	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.03075	34	84	No	22	77.27	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	0.5576	65	84	No	22	22.73	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	2.155	137	84	Yes	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	-1.264	-35	-84	No	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	-2.368	-76	-84	No	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	-3.644	-24	-84	No	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	1.312	35	84	No	22	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.00...	-12	-73	No	20	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	0.01062	19	84	No	22	81.82	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	-0.01736	-21	-84	No	22	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.006379	21	84	No	22	86.36	n/a	n/a	0.02	NP

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 11:19 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Radium [226 + 228] (PCI/L)	M-MW-5	-0.01288	-17	-84	No	22	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	0.01176	32	84	No	22	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	0.0168	30	73	No	20	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	0.01593	28	78	No	21	80.95	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	4	73	No	20	90	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	8	73	No	20	90	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	14	73	No	20	90	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	4	73	No	20	90	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	10	73	No	20	95	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	14	73	No	20	95	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	0.3947	39	73	No	20	10	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	17	68	No	19	89.47	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-1	-0.02306	-49	-48	Yes	15	86.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-2	-0.02217	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-3	-0.02306	-43	-48	No	15	86.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-4	-0.02217	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-5	-0.02214	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-6	-0.02266	-32	-48	No	15	93.33	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-7	-0.02484	-65	-48	Yes	15	80	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-8	-0.02216	-30	-48	No	15	100	n/a	n/a	0.02	NP

Appendix E

November 2023 Corrective Action Monitoring Statistical Evaluation



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: **Corrective Action Statistical Evaluation, Multi-Unit Surface Impoundment Network, Meramec Energy Center, Saint Louis County, Missouri**

1.0 INTRODUCTION

This Technical Memorandum provides the results of the Corrective Action Monitoring statistical analyses from the November 2023 sampling event at the Multi-Unit Surface Impoundment Network at the Meramec Energy Center (MEC) located in Saint Louis County, Missouri. As outlined in the Remedy Selection Report for the MEC, Corrective Action at the MEC consists of two phases, as follows:

- 1) Source control, stabilization, and containment of CCR by installation of a low-permeability geomembrane cap.
- 2) Once source control is achieved, monitor the natural attenuation (MNA) of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modeling evaluations to document concentration trends following Corrective Action.

Closure of the CCR Surface Impoundments at the MEC commenced in 2017, beginning with construction of a low-permeability cover system at impoundment MCPE (Pond 489). Phase 1 continued with closure of other surface impoundments at the MEC and was completed in October 2023, with the installation of a low permeability cover system at remaining surface impoundments (MCPA, MCPB, MCPC). As of October 2023, the MEC is in Phase 2 of Corrective Action. Included in this memorandum is a summary of constituents that are currently in exceedance of the groundwater protection standard (GWPS), a list of site-specific Groundwater Protection Standards (GWPS, **Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

After selecting a remedy, a Corrective Action Groundwater Monitoring Program was established within 90 days as required by the CCR Rule. The initial baseline sampling event associated with the Corrective Action monitoring program was completed in May 2020, with a total of nine sampling events completed for the Corrective Action Groundwater Monitoring Program at the MEC to date. As outlined by the Remedy Selection Report, once source control is achieved, Phase 2 will be initiated, which includes groundwater monitoring of MNA and completing associated statistical evaluations. The November 2023 sampling event is the first Corrective Action event completed that is associated with Phase 2 of the remedy. Thus, the statistical evaluation described herein is the first Corrective Action statistical evaluation for the MEC.

Several constituents were reported at concentrations below the Practical Quantitation Limit (PQL) during the spring 2020, 2021, 2022, and/or 2023 sampling events including antimony, beryllium, cadmium, chromium, cobalt,

lead, mercury, and thallium. As outlined in the Statistical Analysis Plan for the MEC, when these constituents were not detected during the initial Corrective Action sampling event in each calendar year, they were not re-sampled/tested during the subsequent semi-annual sampling event later that year. Each constituent has a minimum of four results; therefore, confidence intervals may be calculated for each Appendix IV constituent.

Additionally, now that eight rounds of Corrective Action Sampling have been completed, trend tests using the Sen's Slope / Mann Kendall may be completed as outlined in the USEPA Unified Guidance. Trend tests were completed for the following constituents with at least eight results per well: arsenic, barium, fluoride, lithium, molybdenum, radium 226 + 228, and selenium.

2.0 STATISTICAL EVALUATION

The Appendix IV constituents were evaluated for exceedances above the GWPS using the methods and procedures outlined in the Corrective Action Groundwater Monitoring Plan's (CAGMP's) Statistical Analysis Plan (SAP). An outlier analysis was completed as the first step of the statistical evaluation. The outlier analysis was performed only on the results collected as a part of the Corrective Action Monitoring Program. The following outliers were removed prior to the calculation of confidence limits:

- Arsenic
 - M-MW-9 at non-detect [<0.11 micrograms per liter ($\mu\text{g/L}$)] on 11/12/2021: result is statistically lower than other arsenic values at the same monitoring well. This low result is not consistent with previous or subsequent arsenic results at the well and is an outlier.
 - M-MW-11D at 4.1 and 7.2 $\mu\text{g/L}$ on 5/5/2020 and 6/22/2020: results are statistically lower than other arsenic values at the same monitoring well. These low results are not consistent with subsequent arsenic results at the well and are outliers.
- Cobalt
 - M-MW-9 at 1.4 J $\mu\text{g/L}$ on 11/12/2021: result is statistically higher than other cobalt values at the same monitoring well. Analysis of the initial November 2021 sampling event data revealed there were laboratory errors associated with higher than usual dilution factors for several cobalt results. These cobalt samples were re-analyzed, including this sample collected at M-MW-9. The original result of 1.4 J $\mu\text{g/L}$ is higher than other cobalt results at the same well. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.
 - M-MW-10 at 5.3 $\mu\text{g/L}$ on 11/12/2021: Due to laboratory dilution errors, cobalt at M-MW-10 was re-analyzed for the November 2021 sampling event. This original sample result was removed from the data set as an outlier so that the November 2021 sampling event was not overrepresented in the dataset. The re-analyzed value of 5.0 J $\mu\text{g/L}$ was included in the dataset.
 - M-MW-11D at 1.7 J $\mu\text{g/L}$ on 11/12/2021: result is statistically higher than other cobalt values at the same monitoring well. Due to laboratory dilution errors, cobalt at M-MW-11D was re-analyzed for the November 2021 sampling event. The original sample result is higher than other cobalt results at the same well. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.

- M-MW-11S at 1.6 J and 3.2 J $\mu\text{g/L}$ on 11/12/2021: results are statistically higher than other cobalt values at the same well. Due to laboratory dilution errors, cobalt at M-MW-11S was re-analyzed for the November 2021 sampling event. Both the original sample result and re-analyzed result are higher than other cobalt results at the same well. These high results are not consistent with previous or subsequent cobalt results at the well and are outliers.
- Lithium
 - M-MW-9 at non-detect ($<76.7 \mu\text{g/L}$) on 11/12/2021: result is statistically higher than other lithium values at the same well. Analysis of the November 2021 sampling event data revealed that a laboratory dilution was required for analysis of the sample. This dilution caused the method detection limit (MDL) to be greater than the GWPS and the effective sample result to be higher than other lithium results at the same well. This sample was re-analyzed, and the result of non-detect ($<15.3 \mu\text{g/L}$) is consistent with other lithium results at the same well. The original non-detect result is an outlier and removed from the dataset for statistical analysis.
 - M-MW-10 at non-detect ($<76.7 \mu\text{g/L}$) on 11/12/2021. For the same reason discussed above for M-MW-9, the November 2021 lithium result was re-analyzed due to a high laboratory MDL used for the original lithium analysis. Although both the original sample result and re-analyzed result are consistent with other lithium values at the same well, the original result was removed from the data set as an outlier so that the November 2021 sampling event was not overrepresented in the dataset. The re-analyzed value of $40.6 \mu\text{g/L}$ was included in the dataset.
 - M-TP-2 at non-detect ($<76.7 \mu\text{g/L}$) on 11/12/2021. For the same reason discussed above for M-MW-9, the November 2021 lithium result was re-analyzed due to a high laboratory MDL used for the original lithium analysis. Although both the original sample result and re-analyzed result are consistent with other lithium values at the same well, the original result was removed from the data set as an outlier so that the November 2021 sampling event was not overrepresented in the dataset. The re-analyzed value of $41.1 \mu\text{g/L}$ was included in the dataset.
 - M-MW-11D at non-detect ($<76.7 \mu\text{g/L}$) on 11/12/2021. For the same reason discussed above for M-MW-9, the November 2021 lithium result was re-analyzed due to a high laboratory MDL used for the original lithium analysis. Although both the original sample result and re-analyzed result are consistent with other lithium values at the same well, the original result was removed from the data set as an outlier so that the November 2021 sampling event was not overrepresented in the dataset. The re-analyzed value of $41.6 \mu\text{g/L}$ was included in the dataset.
 - M-MW-11S at non-detect ($<76.7 \mu\text{g/L}$) on 11/12/2021. For the same reason discussed above for M-MW-9, the November 2021 lithium result was re-analyzed due to a high laboratory MDL used for the original lithium analysis. The original non-detect result is higher than other lithium results at the same well and is an outlier. The re-analyzed value of non-detect ($<30.7 \mu\text{g/L}$) was included in the dataset.
- Radium 226 + 228
 - M-MW-9 at 1.785 picocuries per liter (pCi/L) on 11/9/2020: result is statistically higher than other radium 226 + 228 values at the same well. This high result is not consistent with previous or subsequent radium 226 + 228 results at the well and is an outlier.

- M-TP-1 at 2.081 pCi/L on 7/23/2020: result is statistically higher than other radium 226 + 228 values at the same well. This high result is not consistent with subsequent radium 226 + 228 results at the well and is an outlier.

Following the removal of outliers, statistical analyses were completed using the methods and procedures outlined in the CAGMP's SAP. The second step in the statistical evaluation was to calculate confidence intervals and compare those to the GWPS¹ (**Appendix A**). Confidence intervals were calculated based on results since May 2020, when Corrective Action sampling at the MEC commenced. Confidence interval evaluation was supplemented with Sen's Slope/Mann Kendall Analyses on constituents that have eight independent sampling results at a given well, per the USEPA Unified Guidance (**Appendix B**). The Sen's Slope/Mann-Kendall Analysis identifies well-analyte pairs that have statistically significant trends and calculates confidence bands that vary with time. The upper confidence band, in relation to the GWPS for a given constituent, is used to determine exceedances, as outlined in the site CAGMP. As discussed previously, arsenic, barium, fluoride, lithium, molybdenum, radium 226 + 228, and selenium are the only constituents with the requisite quantity of results to perform Sen's Slope/Mann Kendall Analyses. Only confidence intervals were prepared for the remaining Appendix IV parameters.

Using these corrective action statistical methods, as of the November 2023 sampling event, the wells with constituents exceeding the GWPS are as follows:

- Arsenic at M-MW-9, M-MW-10, M-TP-1, and M-MW-11D
- Cobalt at M-MW-10
- Lithium at M-MW-10, M-TP-2, and M-MW-11D
- Molybdenum at M-MW-11D

This initial corrective action statistical evaluation notes exceedances of the GWPS for arsenic, cobalt, lithium, and molybdenum. Variability in the initial groundwater sampling results during and directly after the closure of the MEC surface impoundments is expected, especially at wells near the CCR units, where closure grading and disturbance activities were greatest. The groundwater concentrations following closure are expected to be variable but generally decrease over time.

3.0 CLOSING

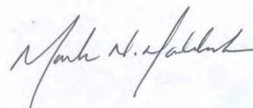
Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

Sincerely,

Rocksmith Geoengineering, LLC



Jeff Ingram, R.G.
Senior Geologist, Partner



Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

¹ The GWPS for each constituent is the same limit used during Assessment Monitoring, which was the groundwater monitoring phase immediately prior to Corrective Action.

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:

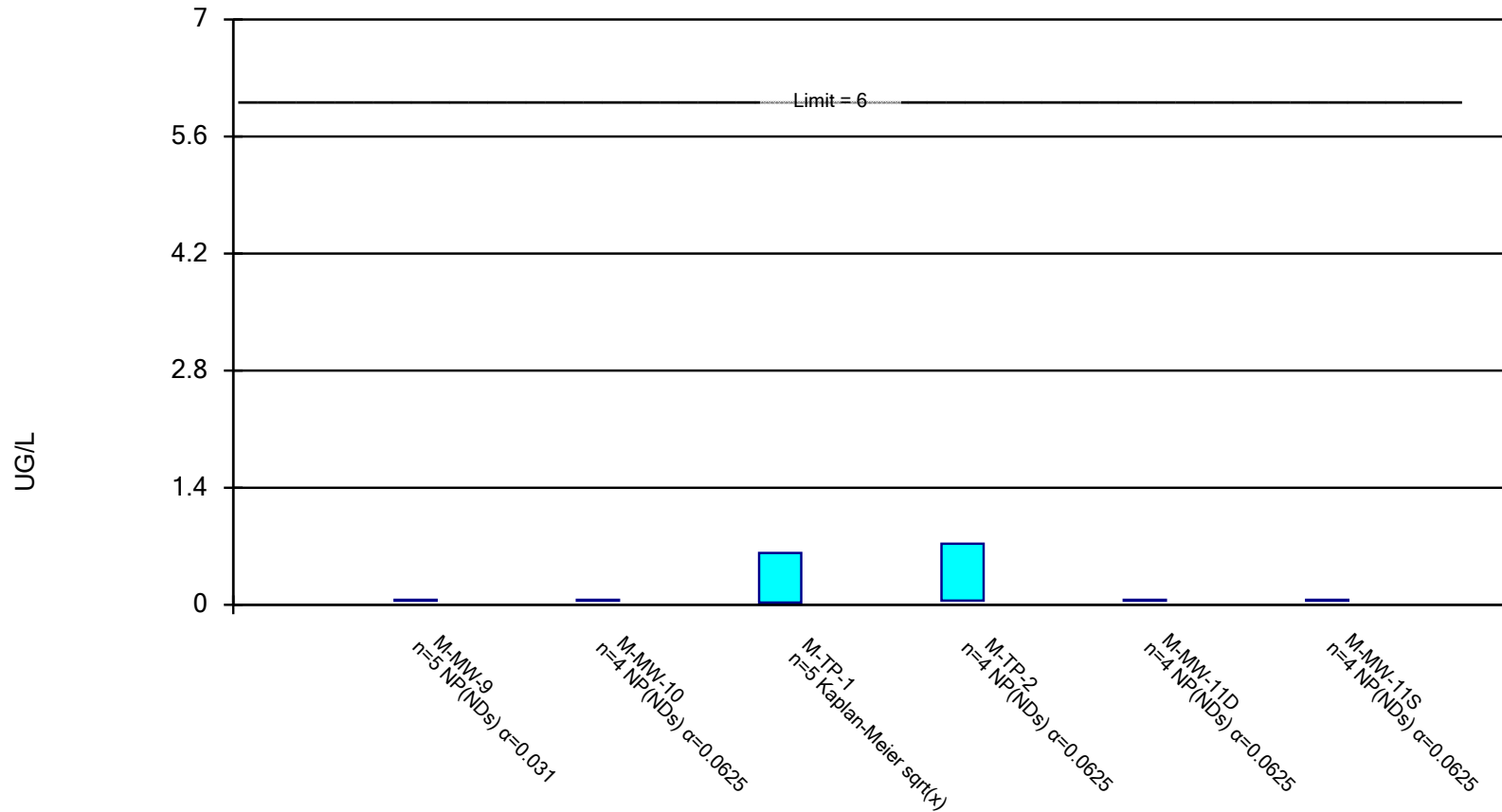
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>.
5. Health Based Groundwater Protection Standards (GWPS) were adopted 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.

Appendix A

Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

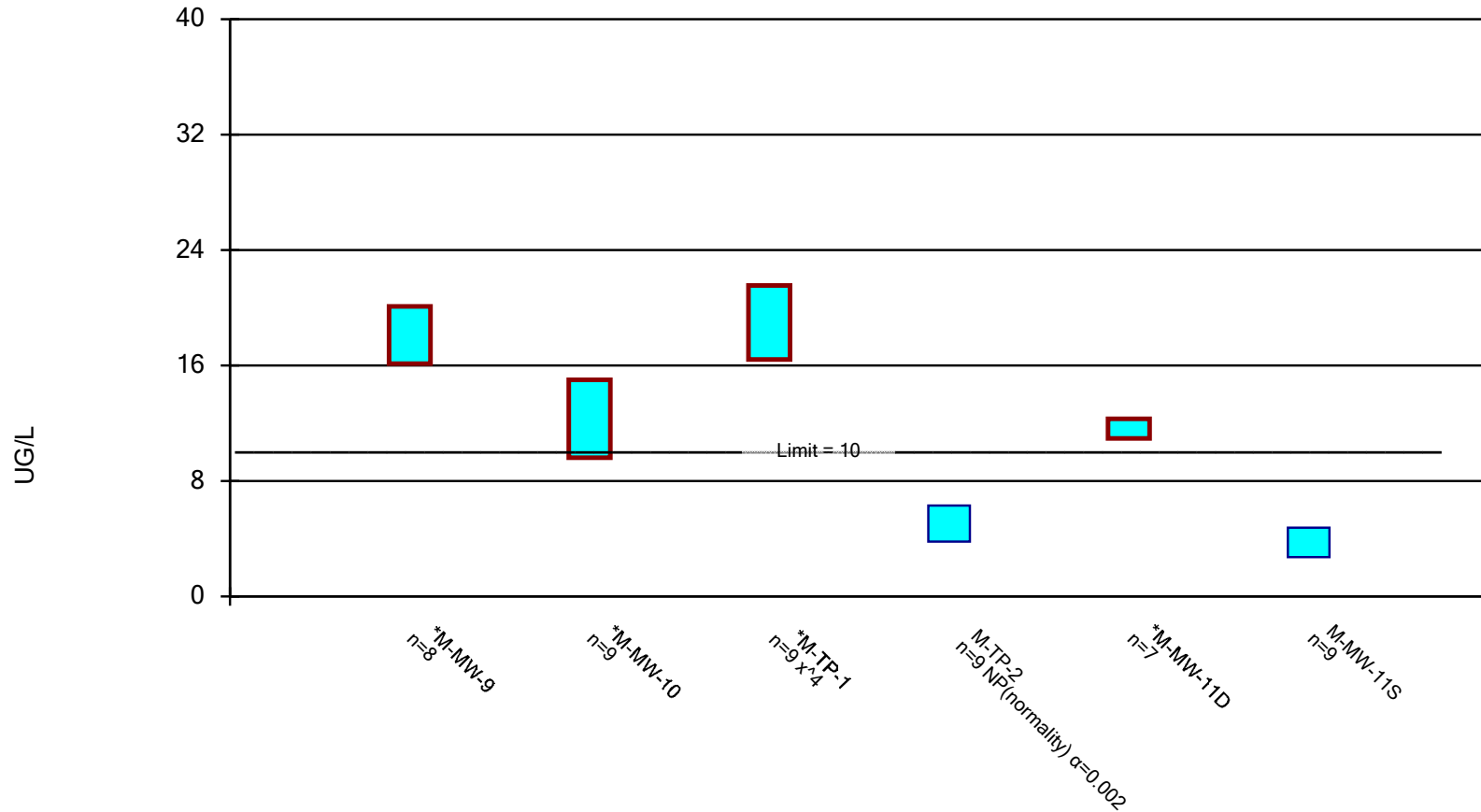


Constituent: ANTIMONY, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

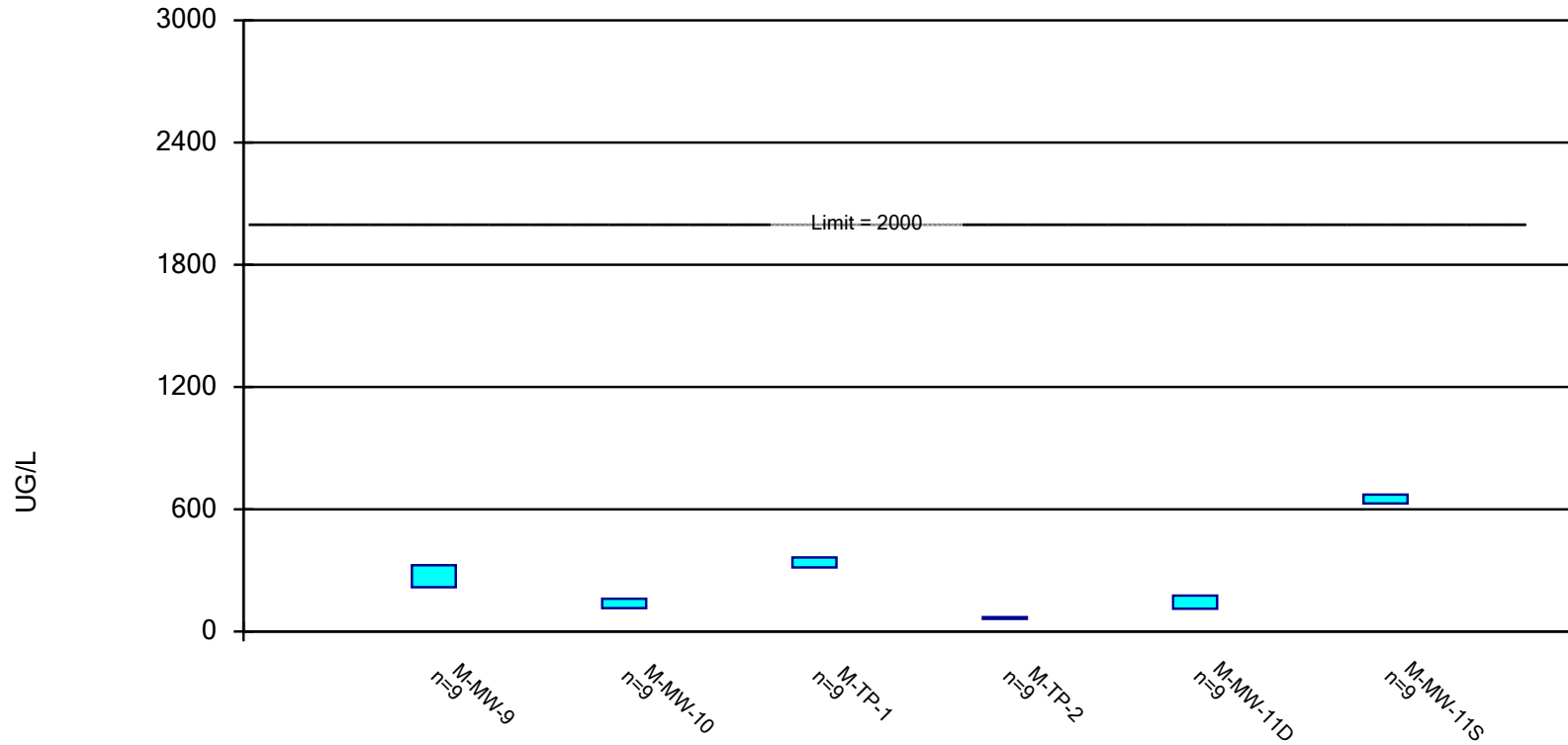


Constituent: ARSENIC, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

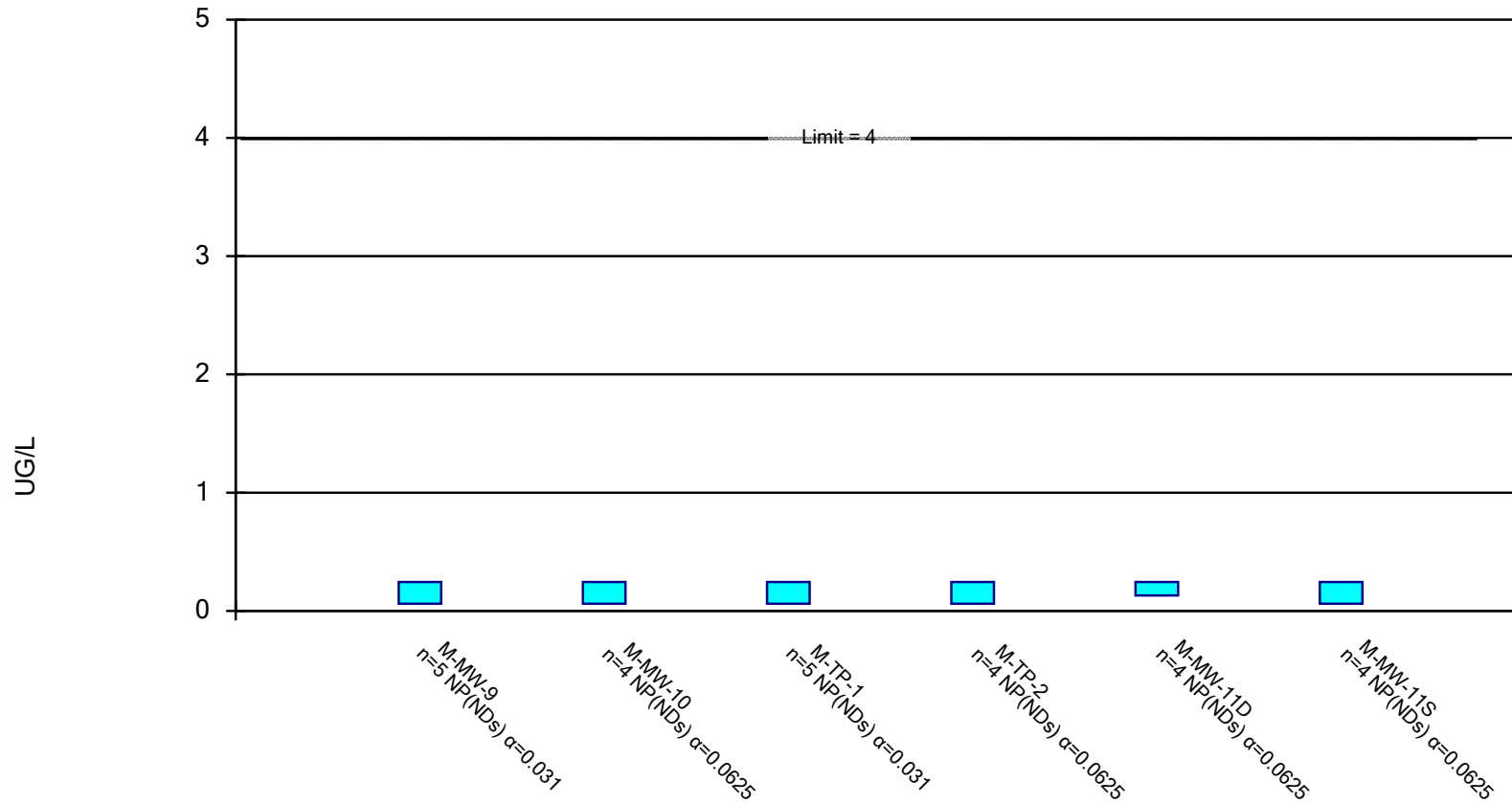


Constituent: BARIUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

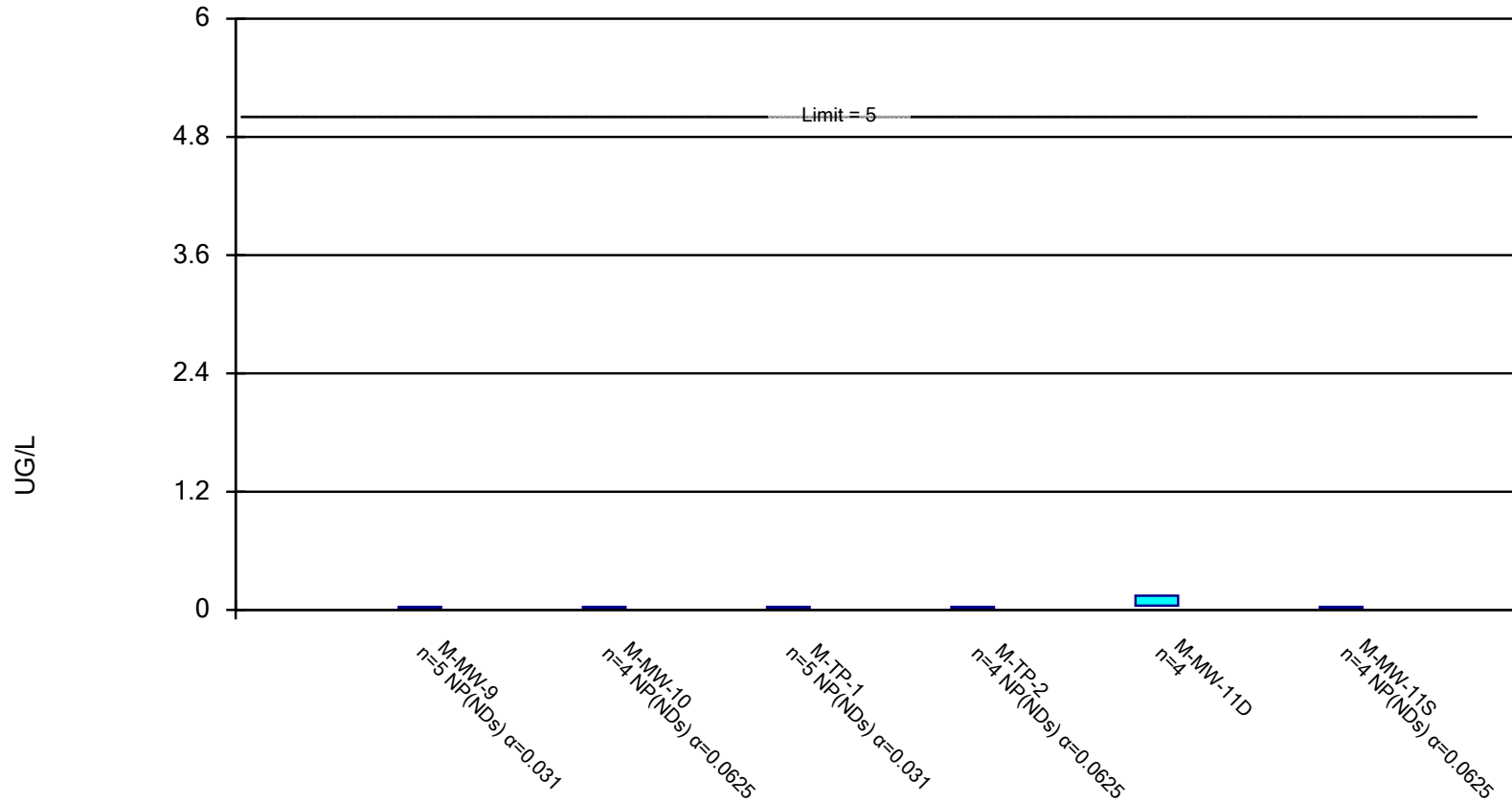


Constituent: BERYLLIUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

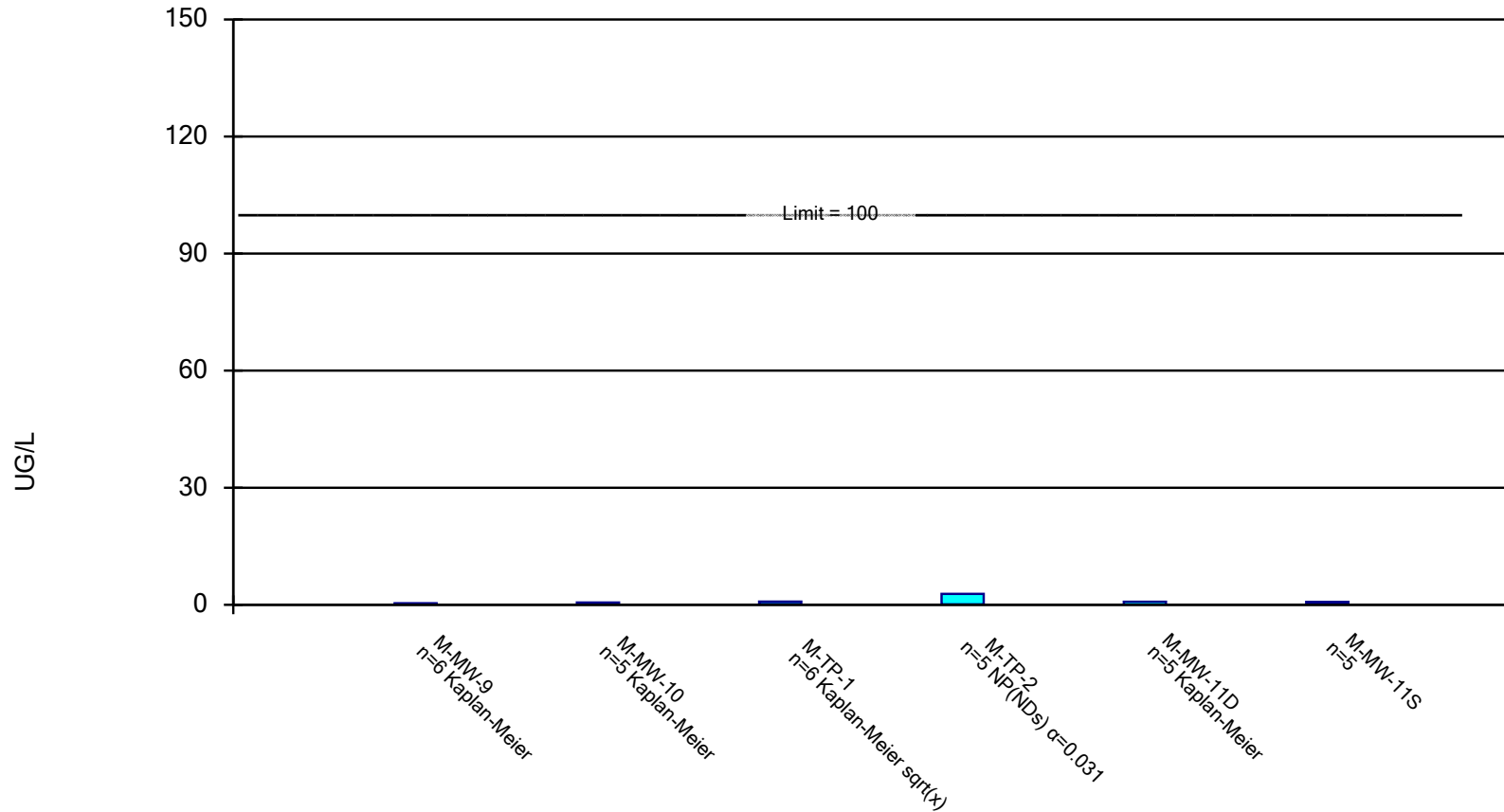


Constituent: CADMIUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

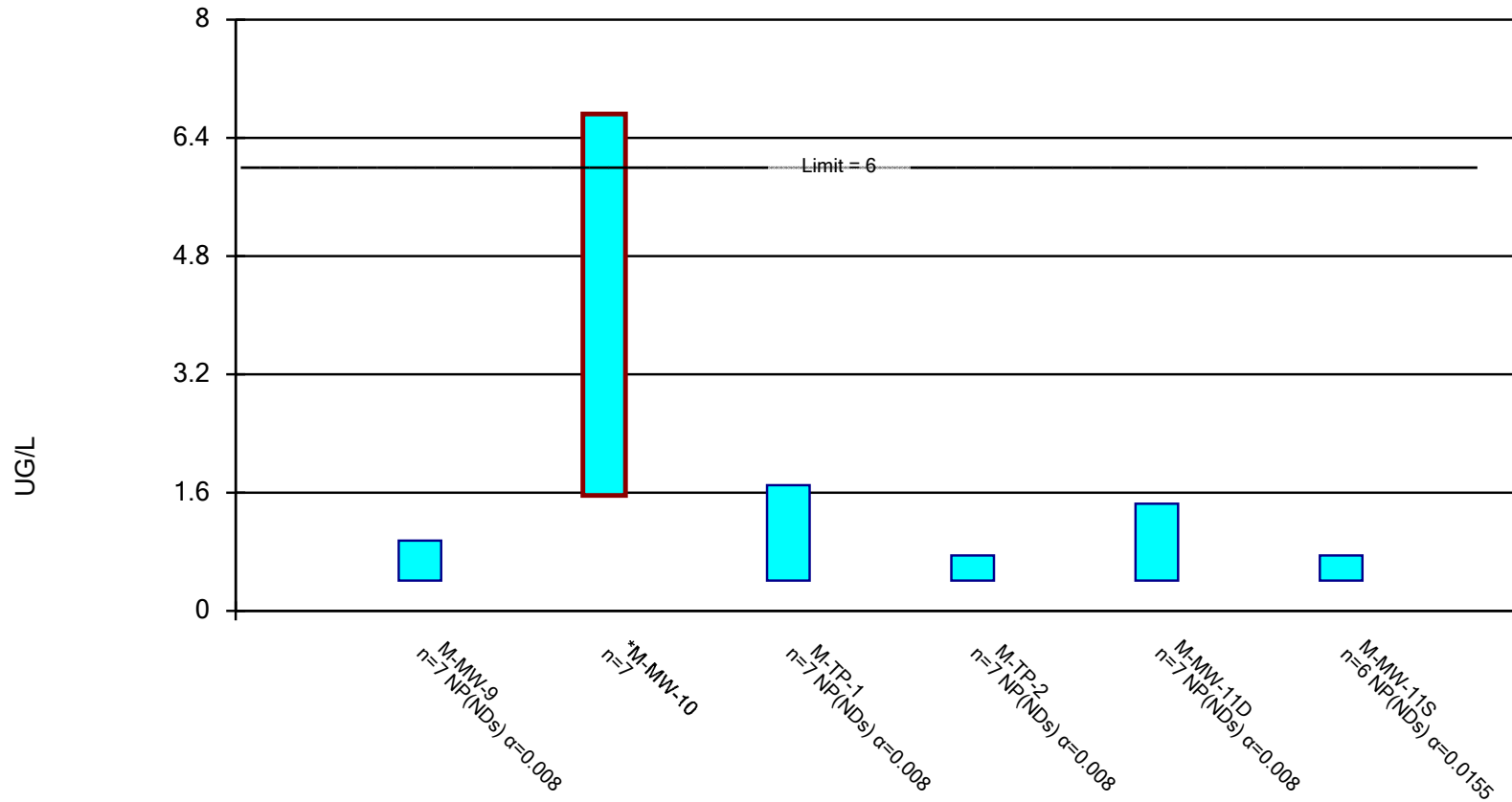


Constituent: CHROMIUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

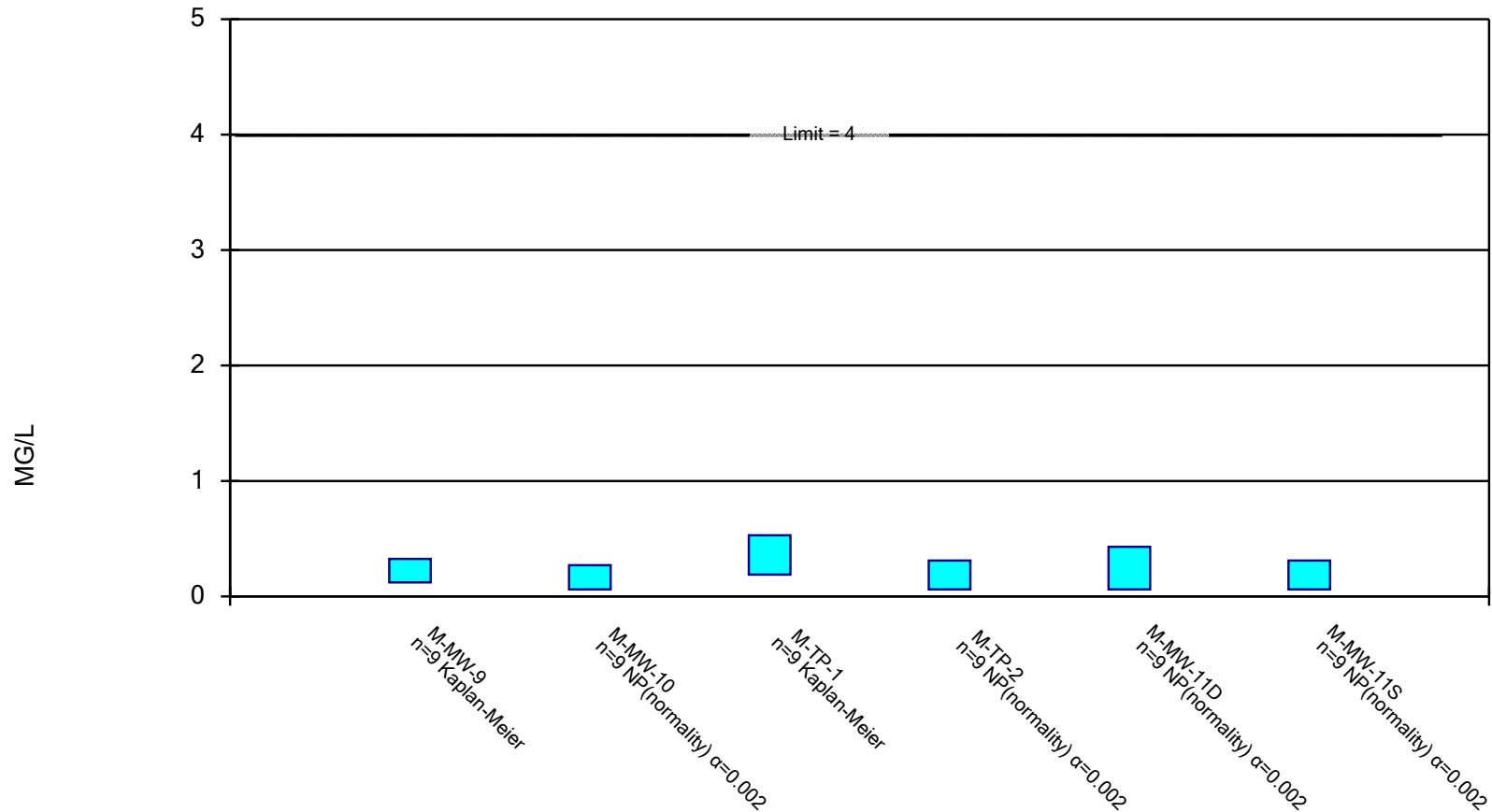


Constituent: COBALT, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

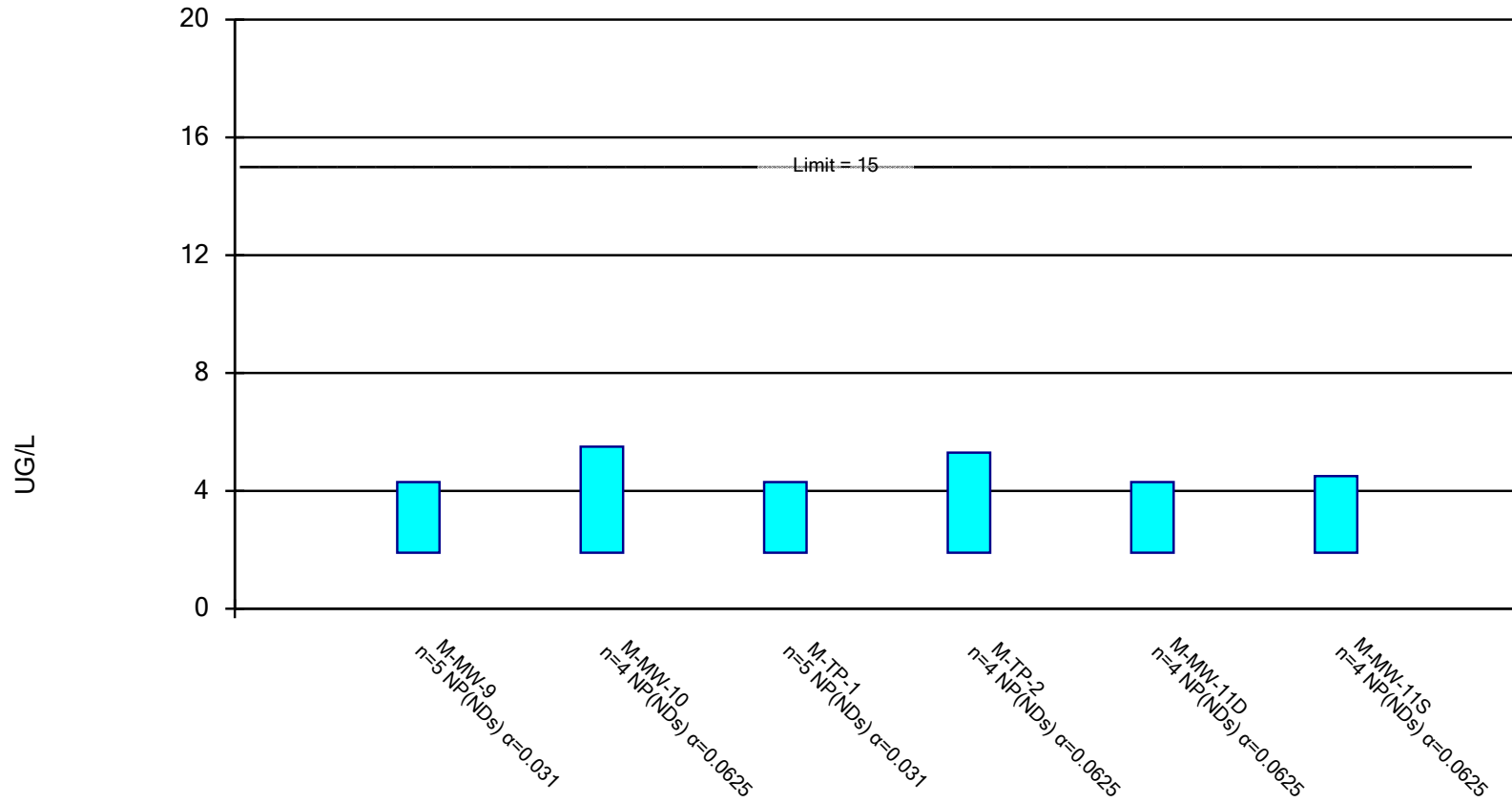


Constituent: FLUORIDE, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

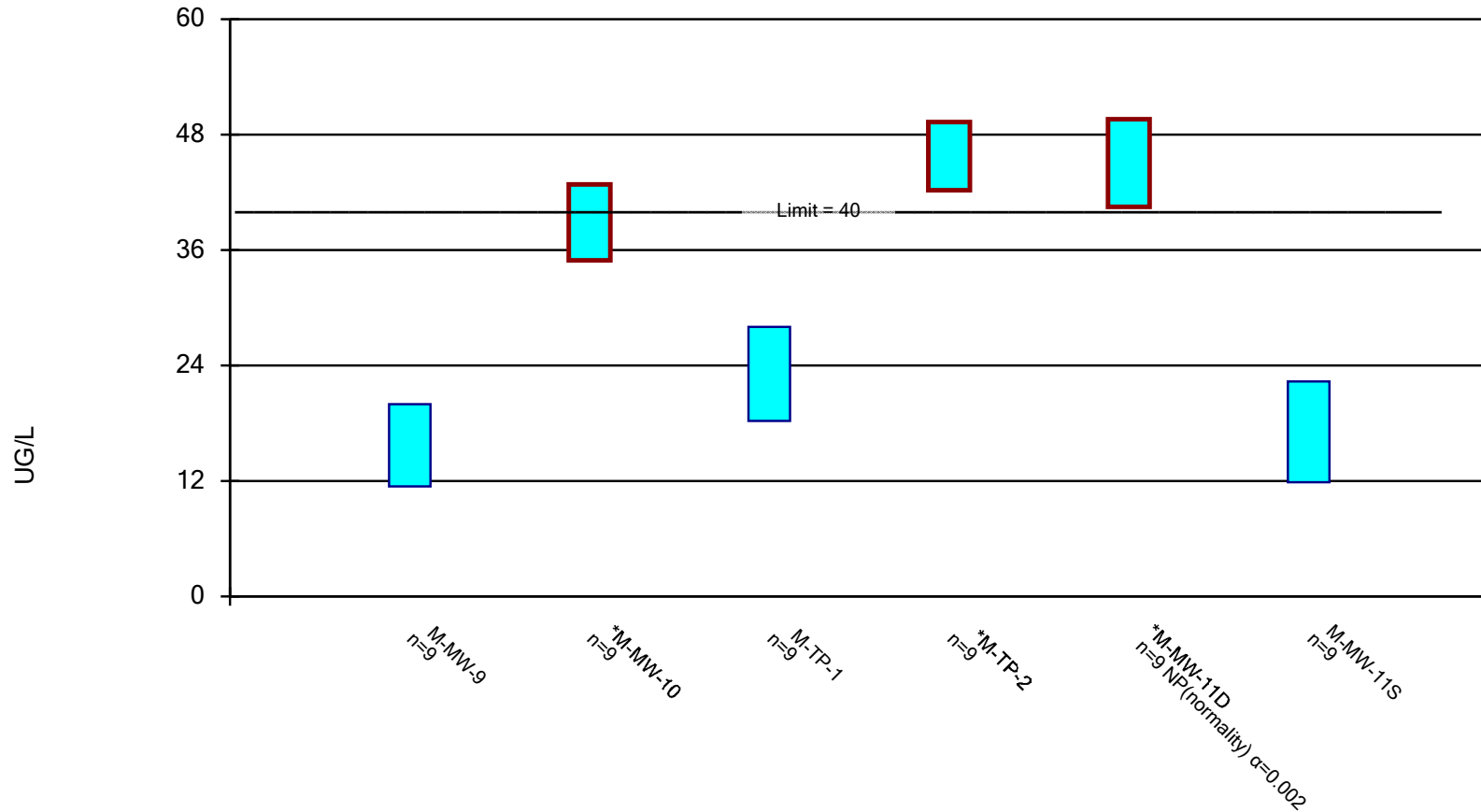


Constituent: LEAD, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

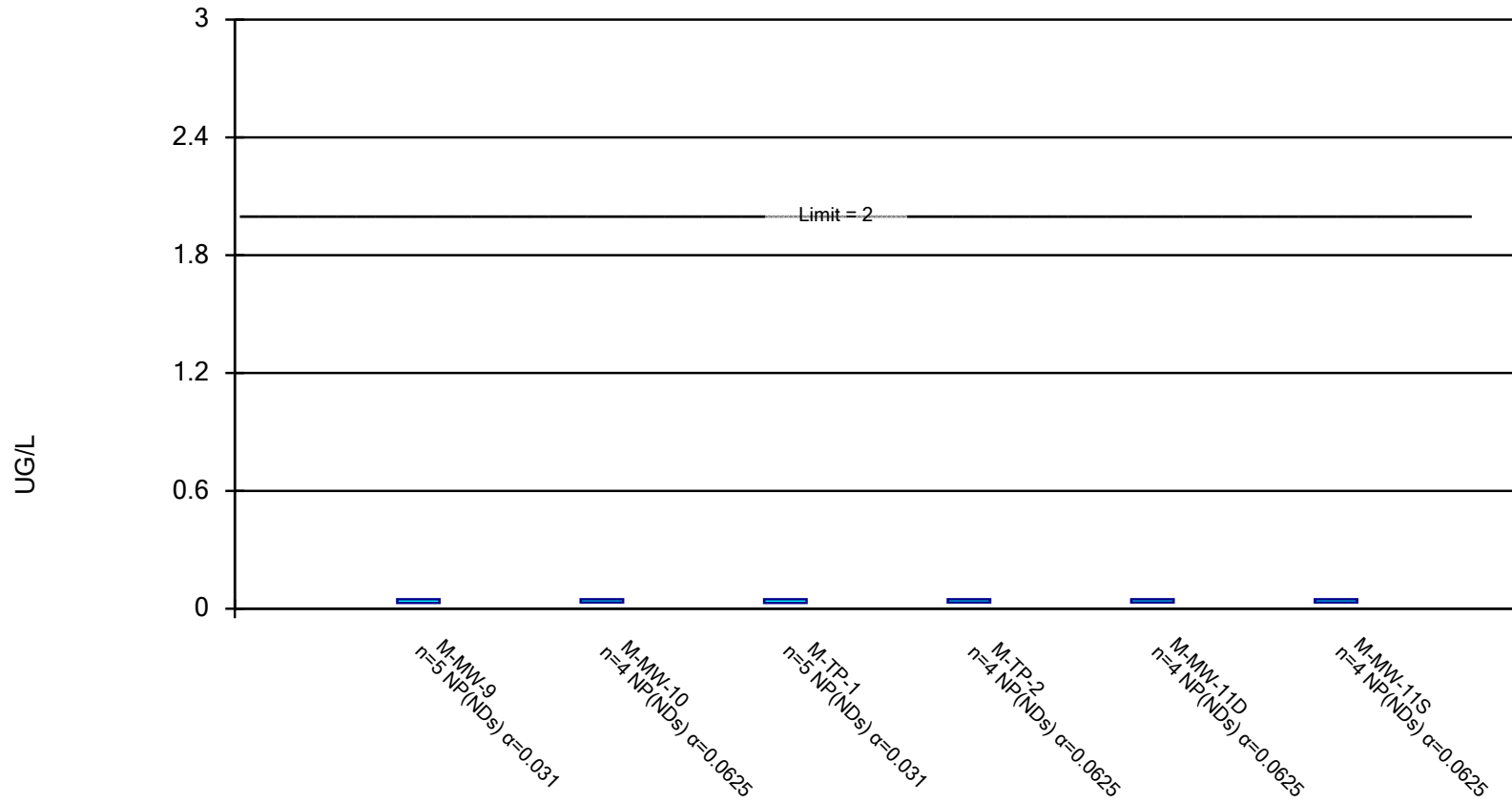


Constituent: LITHIUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

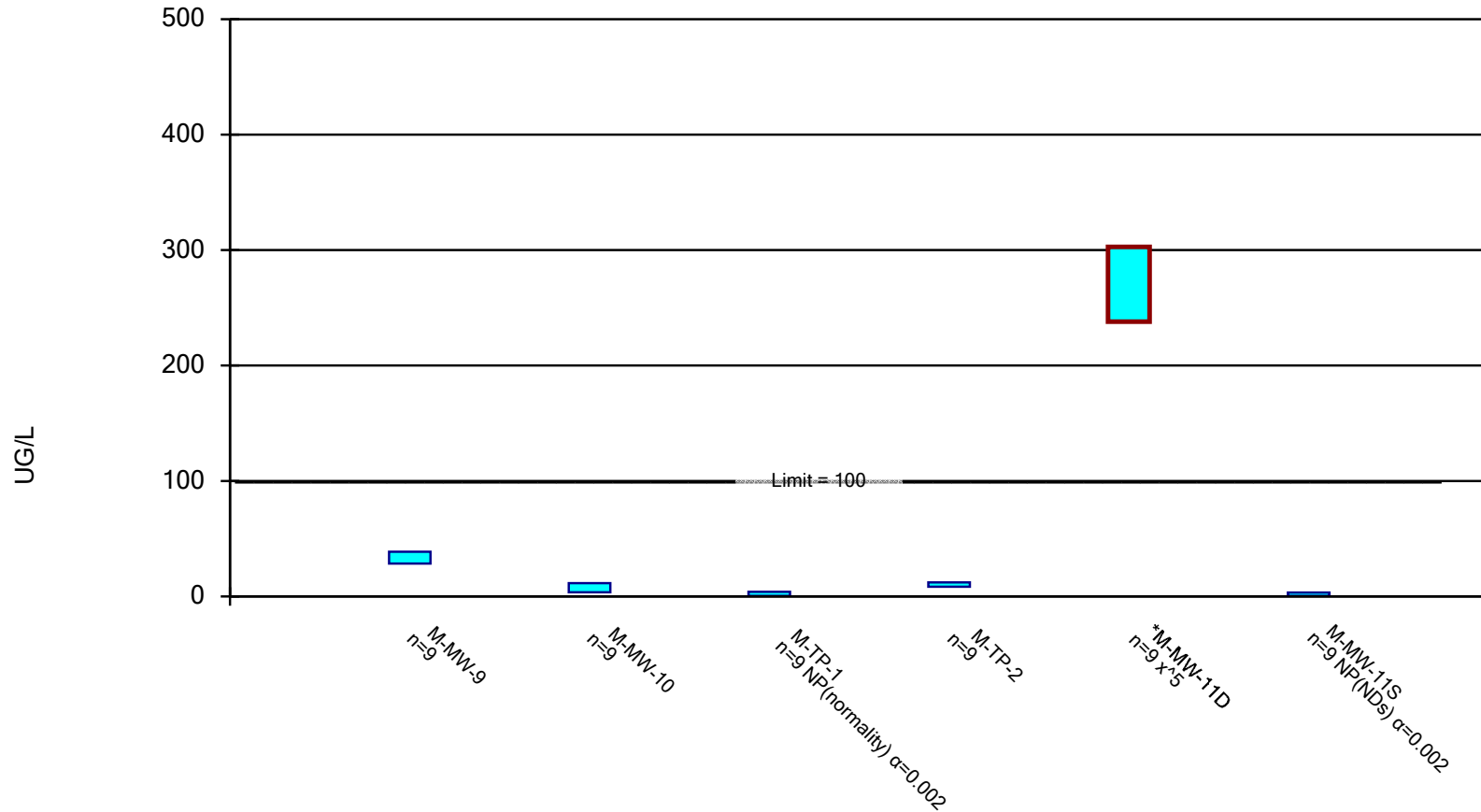


Constituent: MERCURY, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

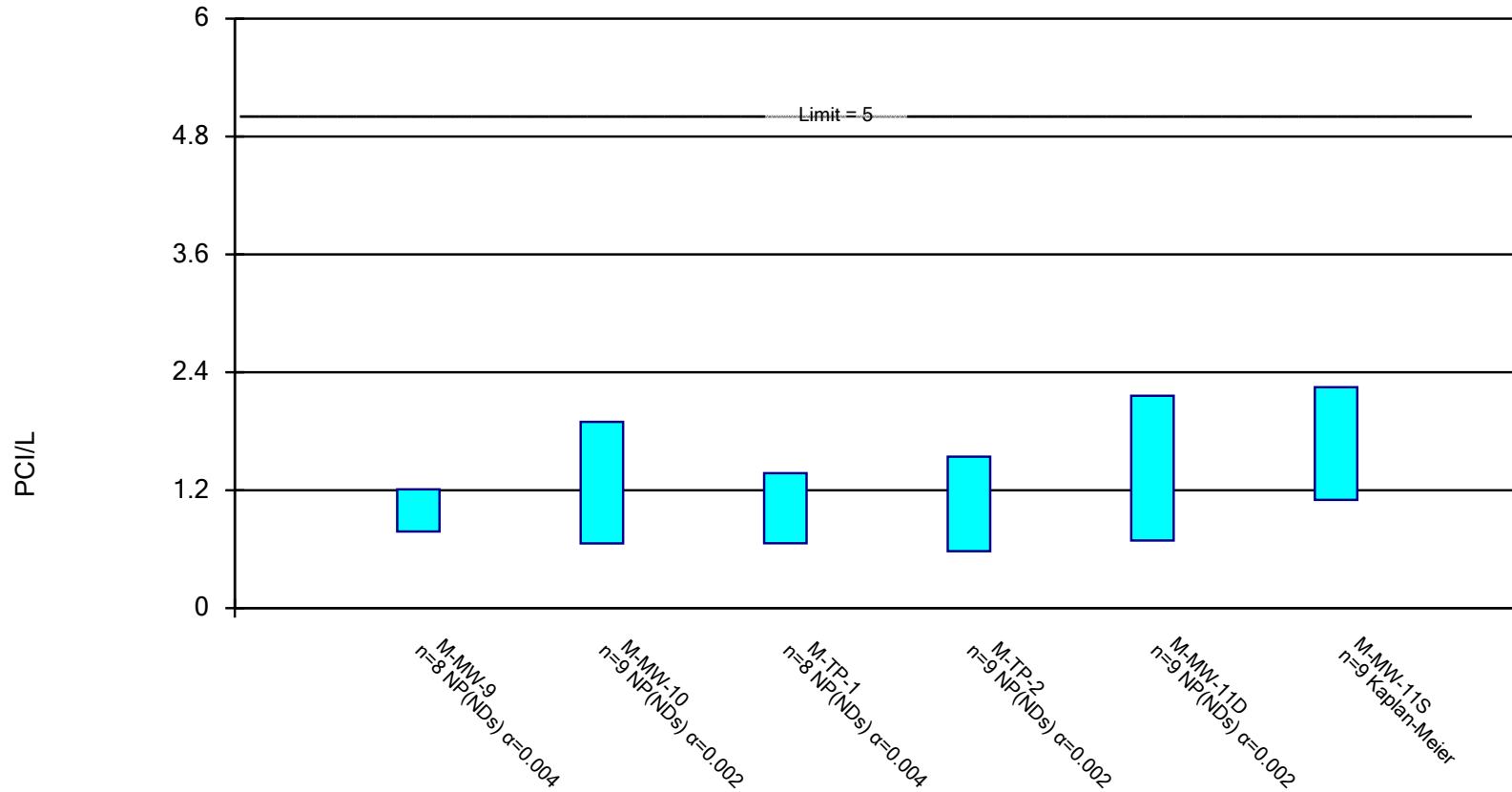


Constituent: MOLYBDENUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

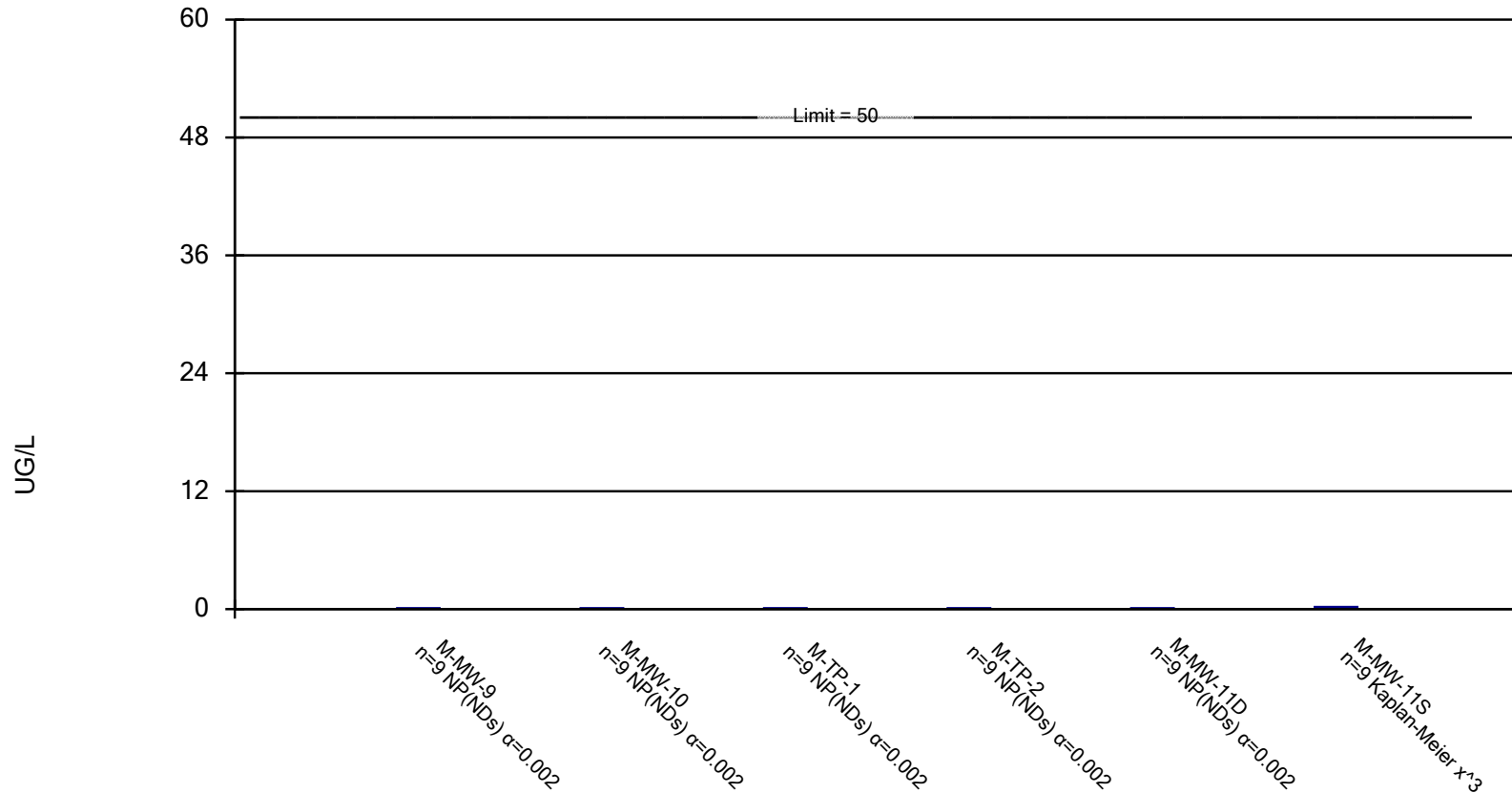


Constituent: Radium [226 + 228] Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

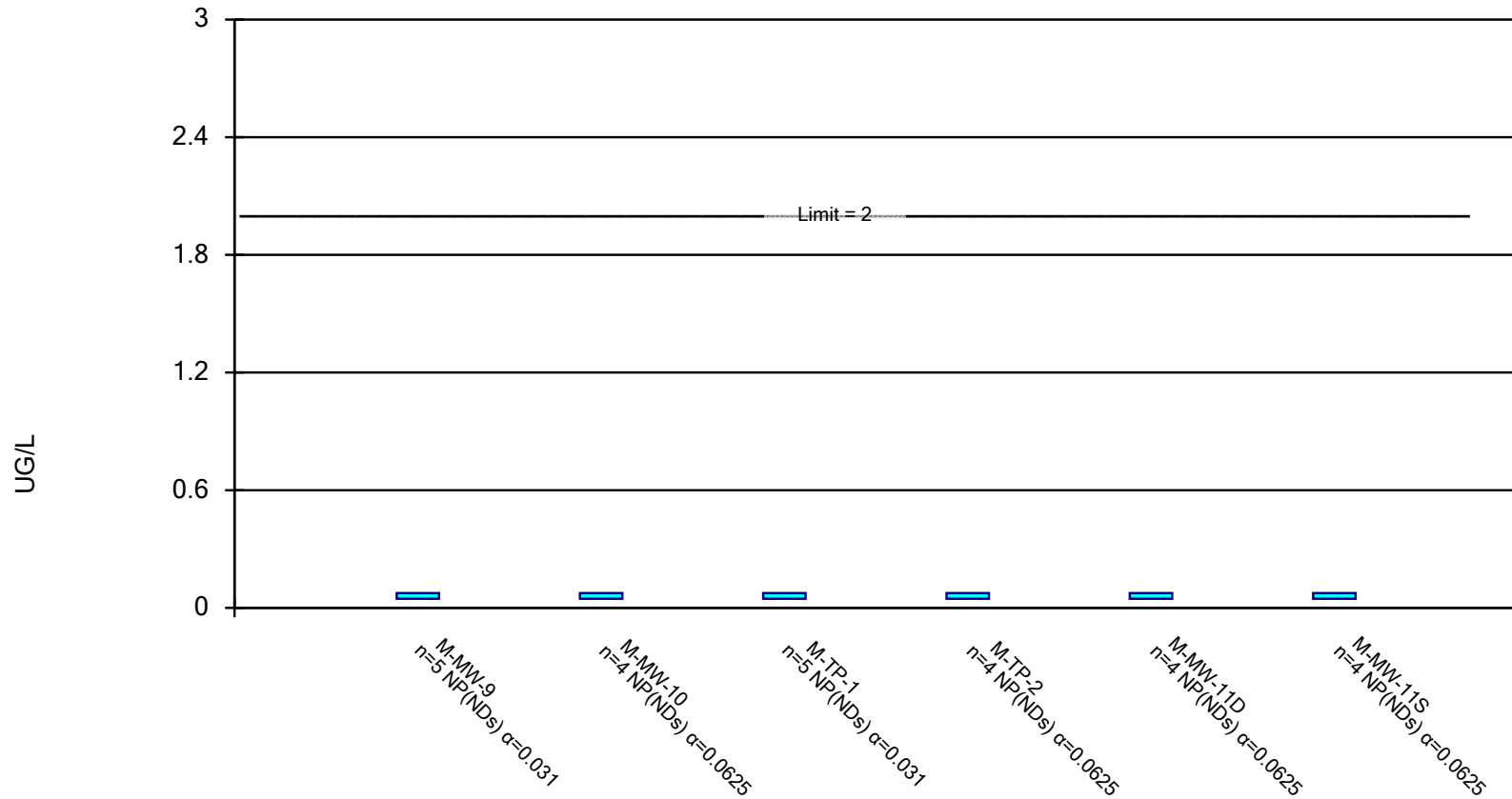


Constituent: SELENIUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.



Constituent: THALLIUM, TOTAL Analysis Run 2/21/2024 12:19 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/21/2024, 12:20 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	M-MW-9	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-10	0.06	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-TP-1	0.6197	0.0262	6	No	5	40	sqrt(x)	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-TP-2	0.73	0.05	6	No	4	75	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-11D	0.06	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-11S	0.06	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-9	20.1	16.13	10	Yes	8	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-10	15.01	9.608	10	Yes	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-TP-1	21.54	16.42	10	Yes	9	0	x^4	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-TP-2	6.3	3.8	10	No	9	0	No	0.002	NP (normality)
ARSENIC, TOTAL (UG/L)	M-MW-11D	12.31	10.95	10	Yes	7	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-11S	4.765	2.724	10	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-9	325.5	217.6	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-10	160.3	114.6	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-TP-1	363.8	314.5	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-TP-2	70.76	61.71	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-11D	176.2	111.9	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-11S	671.8	628.4	2000	No	9	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-9	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-10	0.245	0.06	4	No	4	100	No	0.0625	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-TP-1	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-TP-2	0.245	0.06	4	No	4	100	No	0.0625	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-11D	0.245	0.13	4	No	4	75	No	0.0625	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-11S	0.245	0.06	4	No	4	100	No	0.0625	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-9	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-10	0.031	0.025	5	No	4	100	No	0.0625	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-TP-1	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-TP-2	0.031	0.025	5	No	4	100	No	0.0625	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-11D	0.1441	0.04292	5	No	4	0	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-11S	0.031	0.025	5	No	4	100	No	0.0625	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-9	0.3677	0.2535	100	No	6	16.67	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-10	0.5769	0.1431	100	No	5	40	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-TP-1	0.7979	0.1307	100	No	6	16.67	sqrt(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-TP-2	2.8	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-11D	0.7758	0.04688	100	No	5	40	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-11S	0.7197	0.2163	100	No	5	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-9	0.95	0.41	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-10	6.723	1.562	6	Yes	7	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-TP-1	1.7	0.41	6	No	7	71.43	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	M-TP-2	0.75	0.41	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-11D	1.45	0.41	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-11S	0.75	0.41	6	No	6	100	No	0.0155	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-9	0.3245	0.121	4	No	9	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-10	0.27	0.06	4	No	9	44.44	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	M-TP-1	0.5299	0.189	4	No	9	22.22	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-TP-2	0.31	0.06	4	No	9	33.33	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	M-MW-11D	0.43	0.06	4	No	9	44.44	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	M-MW-11S	0.31	0.06	4	No	9	44.44	No	0.002	NP (normality)
LEAD, TOTAL (UG/L)	M-MW-9	4.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-10	5.5	1.9	15	No	4	75	No	0.0625	NP (NDs)

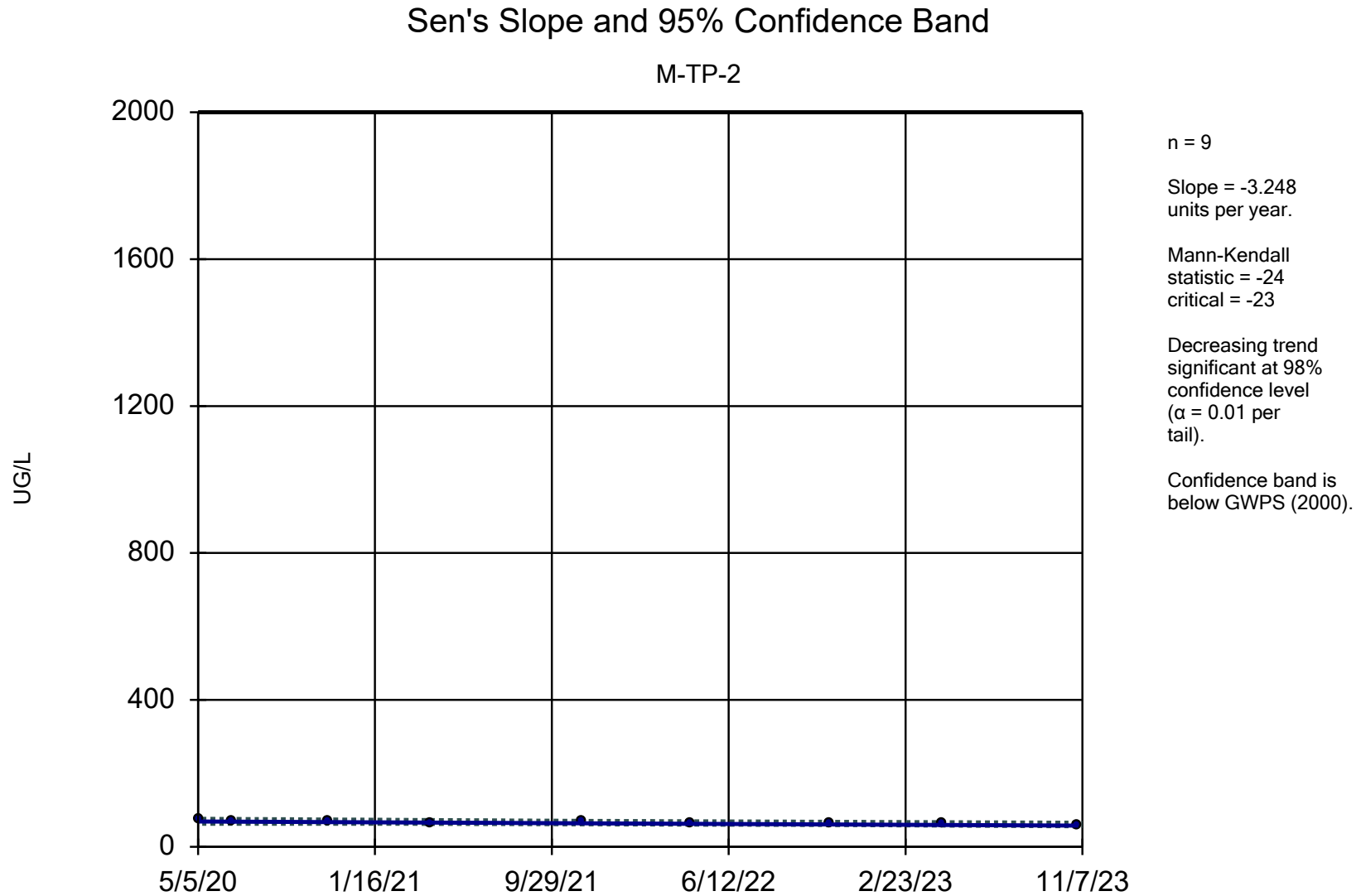
Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/21/2024, 12:20 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
LEAD, TOTAL (UG/L)	M-TP-1	4.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	M-TP-2	5.3	1.9	15	No	4	75	No	0.0625	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-11D	4.3	1.9	15	No	4	75	No	0.0625	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-11S	4.5	1.9	15	No	4	75	No	0.0625	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-9	19.98	11.43	40	No	9	11.11	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-10	42.82	34.93	40	Yes	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-TP-1	28.02	18.25	40	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-TP-2	49.31	42.22	40	Yes	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-11D	49.6	40.5	40	Yes	9	0	No	0.002	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-11S	22.34	11.87	40	No	9	11.11	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-9	0.048	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-10	0.048	0.032	2	No	4	100	No	0.0625	NP (NDs)
MERCURY, TOTAL (UG/L)	M-TP-1	0.048	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	M-TP-2	0.048	0.032	2	No	4	100	No	0.0625	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-11D	0.048	0.032	2	No	4	100	No	0.0625	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-11S	0.048	0.032	2	No	4	100	No	0.0625	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-9	38.63	28.44	100	No	9	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-10	11.54	3.546	100	No	9	11.11	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-TP-1	4	0.5	100	No	9	44.44	No	0.002	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	M-TP-2	12.1	8.408	100	No	9	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-11D	302.7	237.9	100	Yes	9	0	x^5	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-11S	3.4	0.45	100	No	9	77.78	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-9	1.208	0.7795	5	No	8	100	No	0.004	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-10	1.896	0.6585	5	No	9	55.56	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	M-TP-1	1.373	0.6605	5	No	8	87.5	No	0.004	NP (NDs)
Radium [226 + 228] (PCI/L)	M-TP-2	1.541	0.5785	5	No	9	88.89	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-11D	2.161	0.6885	5	No	9	66.67	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-11S	2.248	1.102	5	No	9	33.33	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-9	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-10	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-TP-1	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-TP-2	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-11D	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-11S	0.2102	0.1739	50	No	9	33.33	x^3	0.01	Param.
THALLIUM, TOTAL (UG/L)	M-MW-9	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-10	0.075	0.0465	2	No	4	100	No	0.0625	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-TP-1	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-TP-2	0.075	0.0465	2	No	4	100	No	0.0625	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-11D	0.075	0.0465	2	No	4	100	No	0.0625	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-11S	0.075	0.0465	2	No	4	100	No	0.0625	NP (NDs)

Appendix B

Sanitas Trending Confidence Bands Statistical Output

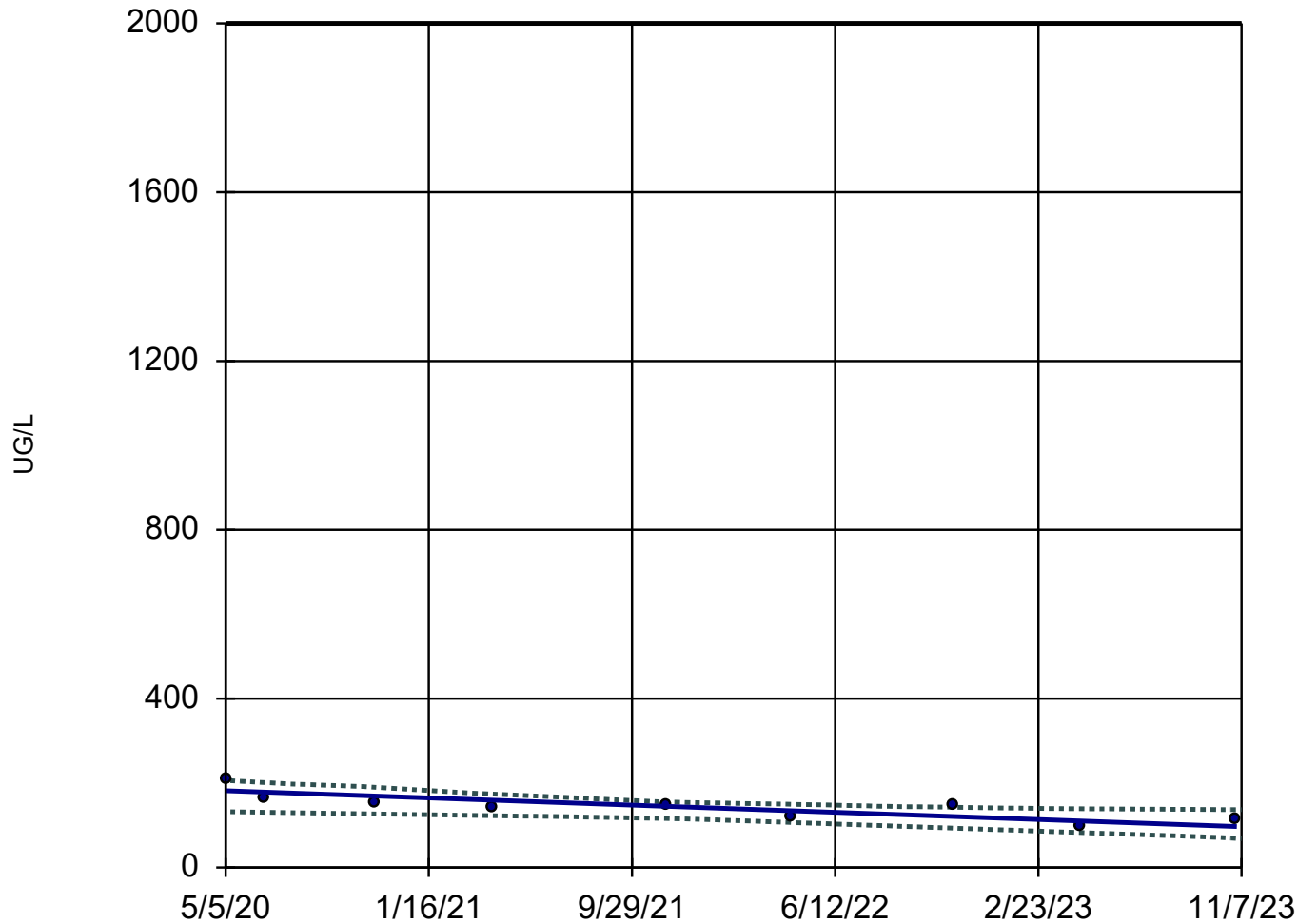


Constituent: BARIUM, TOTAL Analysis Run 2/21/2024 12:27 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-11D



n = 9

Slope = -24.23
units per year.

Mann-Kendall
statistic = -28
critical = -23

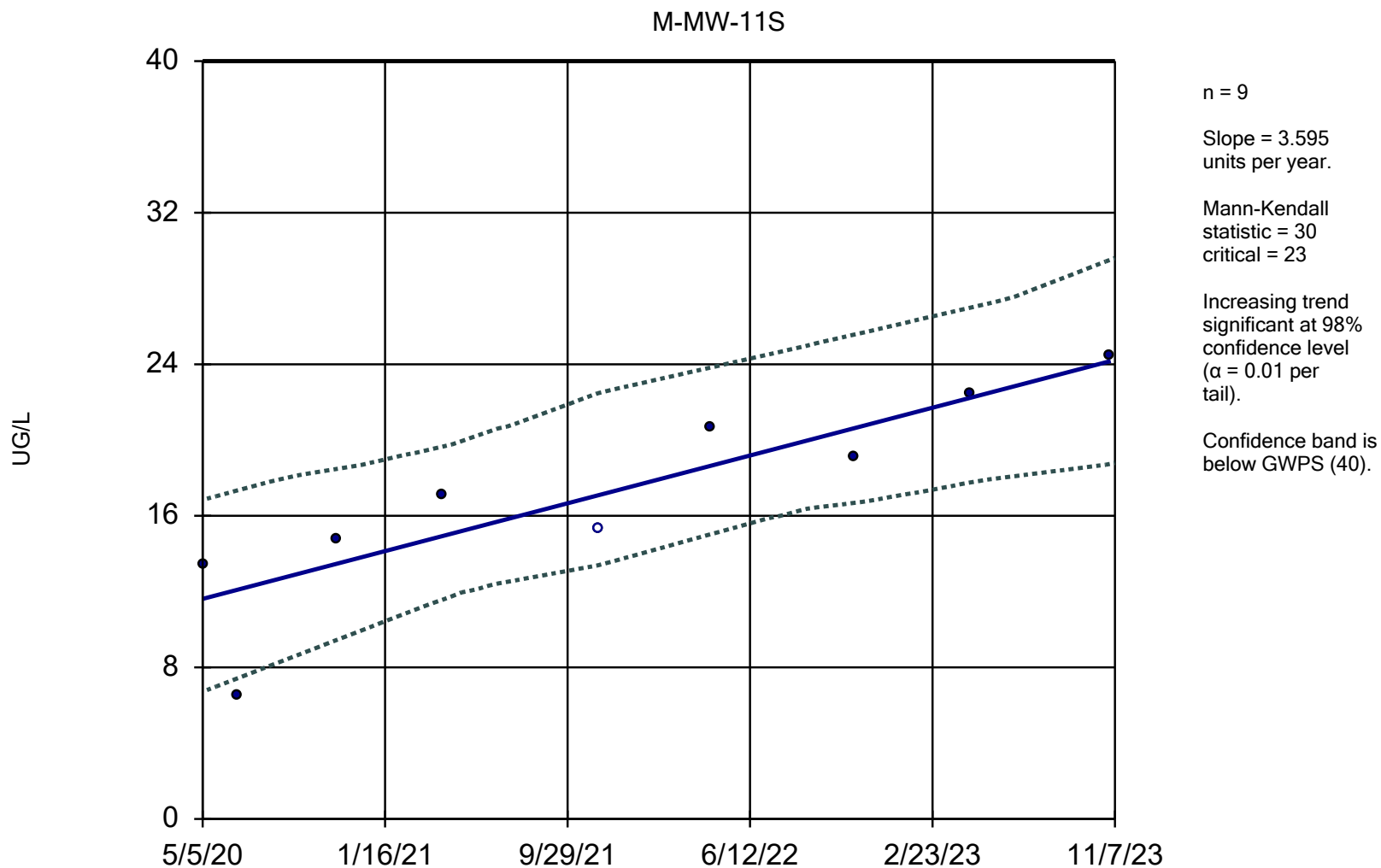
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/21/2024 12:27 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

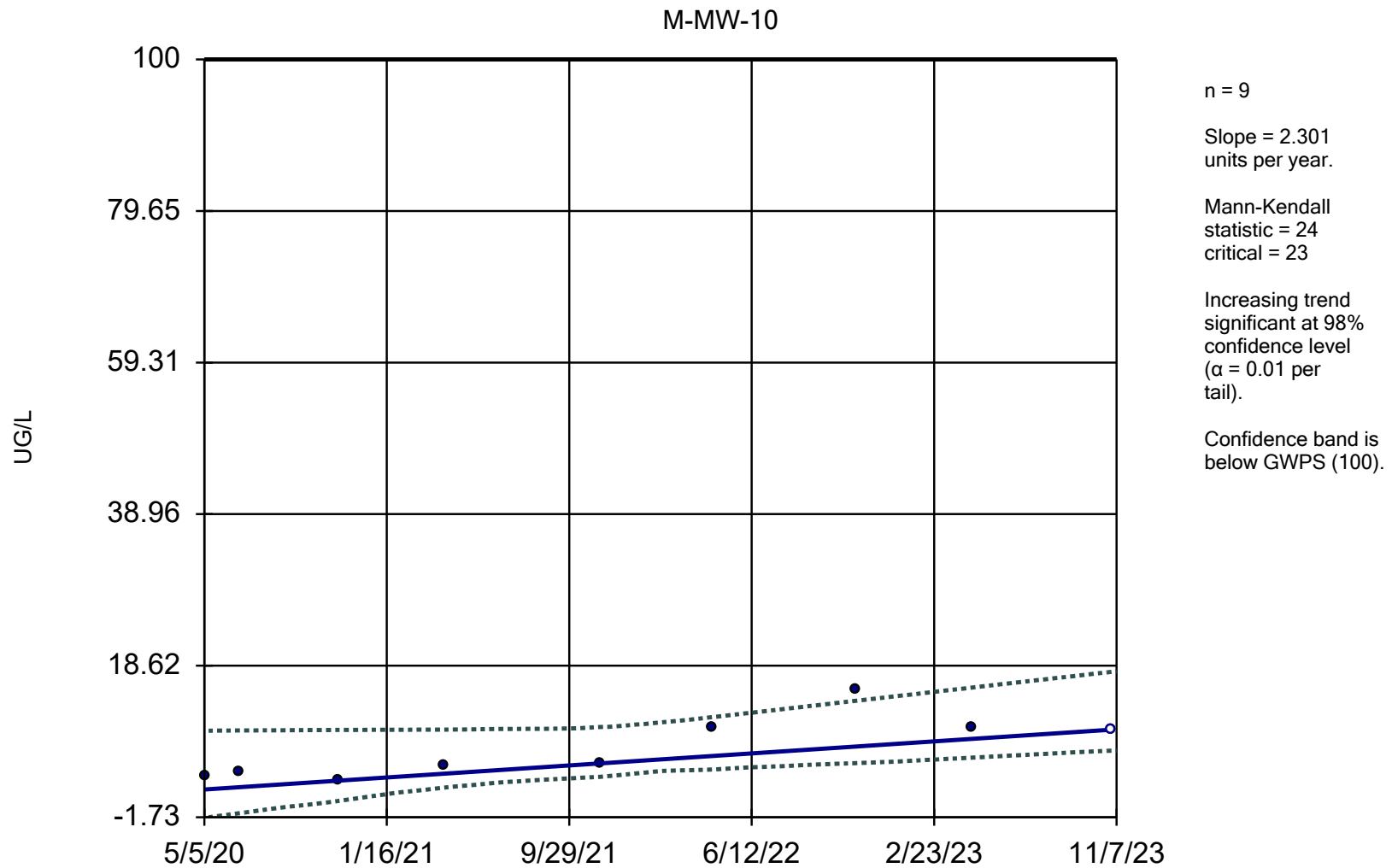
Sen's Slope and 95% Confidence Band



Constituent: LITHIUM, TOTAL Analysis Run 2/21/2024 12:27 PM View: Corrective Action

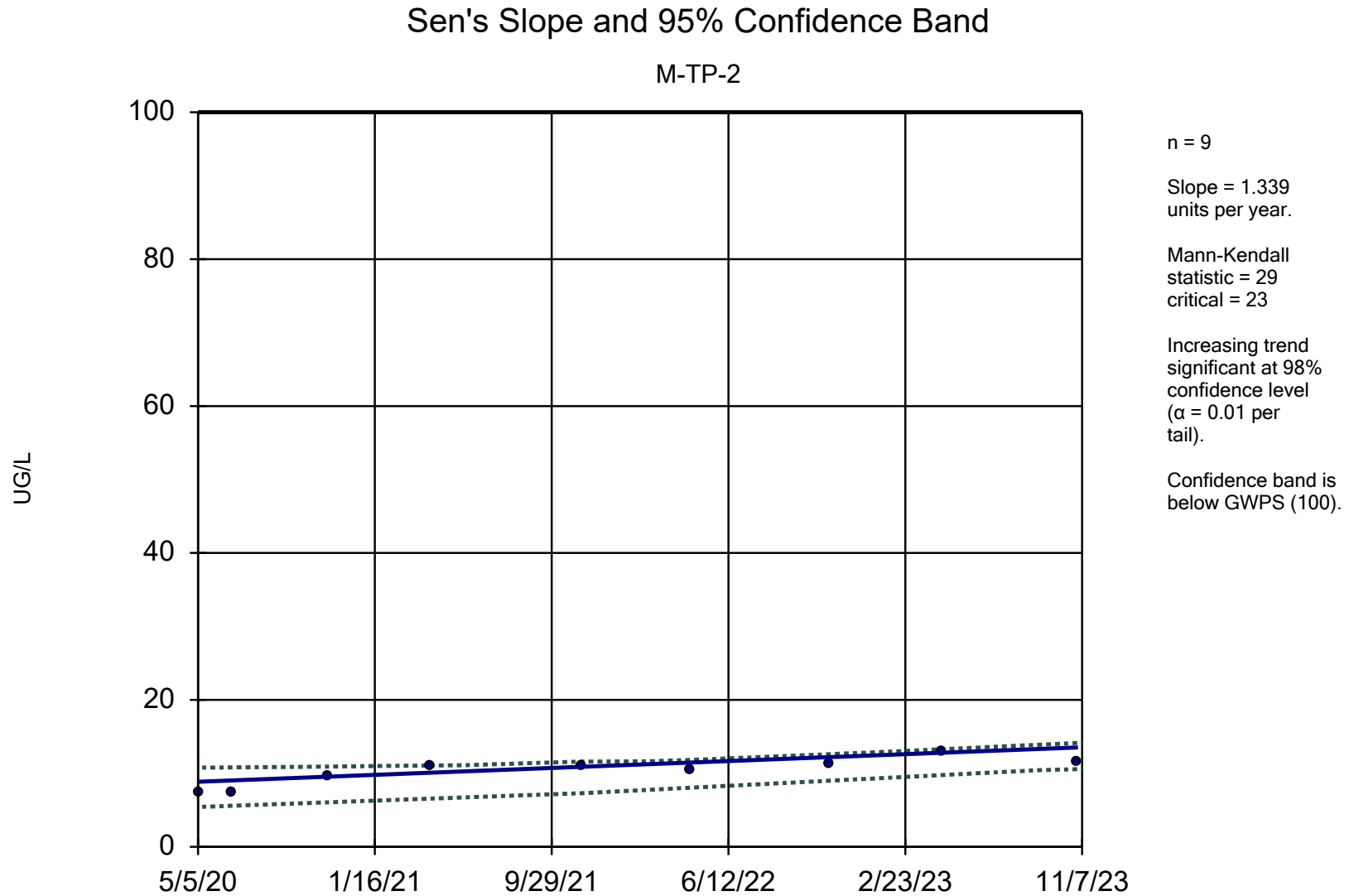
Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



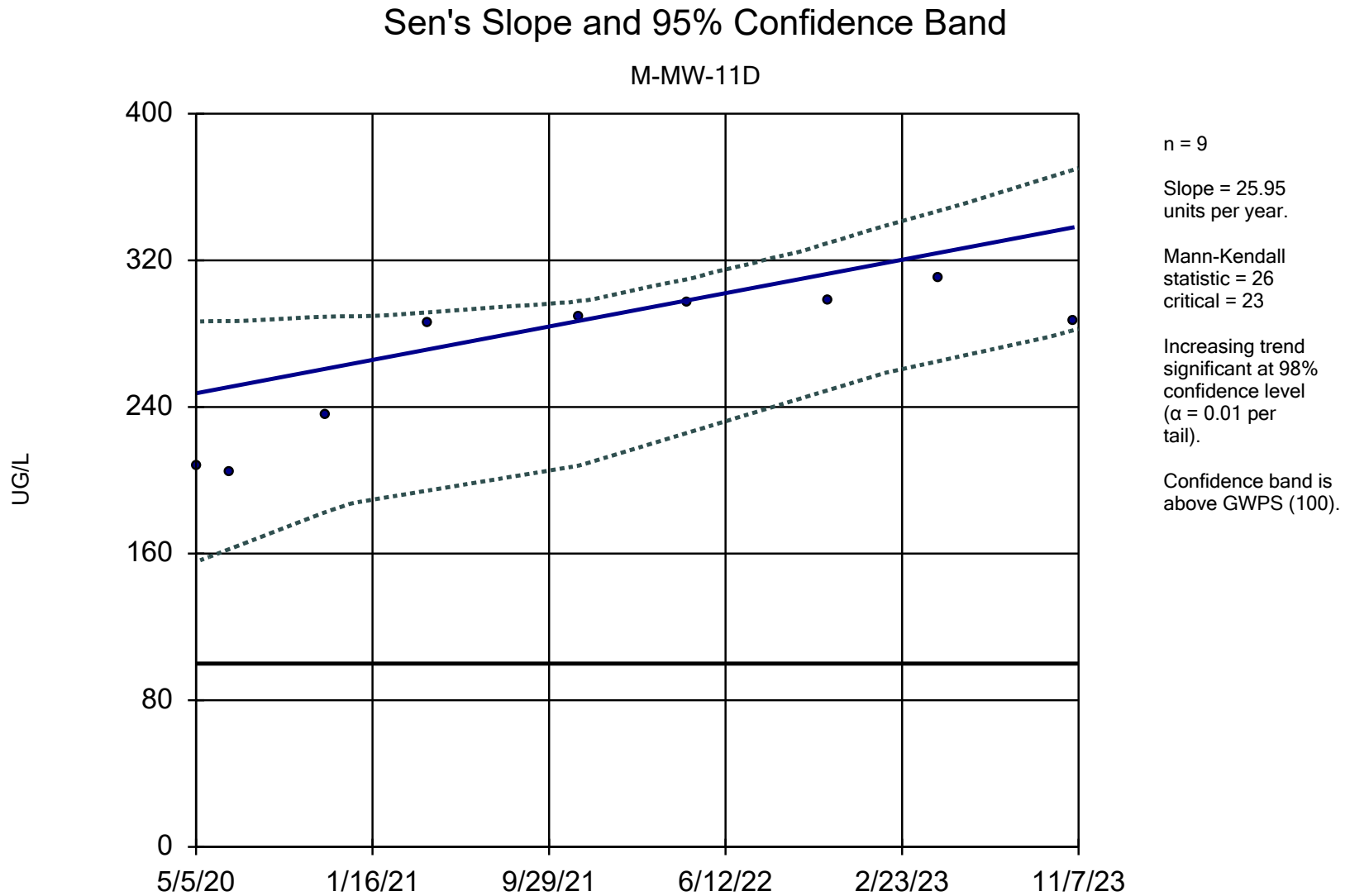
Constituent: MOLYBDENUM, TOTAL Analysis Run 2/21/2024 12:27 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data



Constituent: MOLYBDENUM, TOTAL Analysis Run 2/21/2024 12:27 PM View: Corrective Action

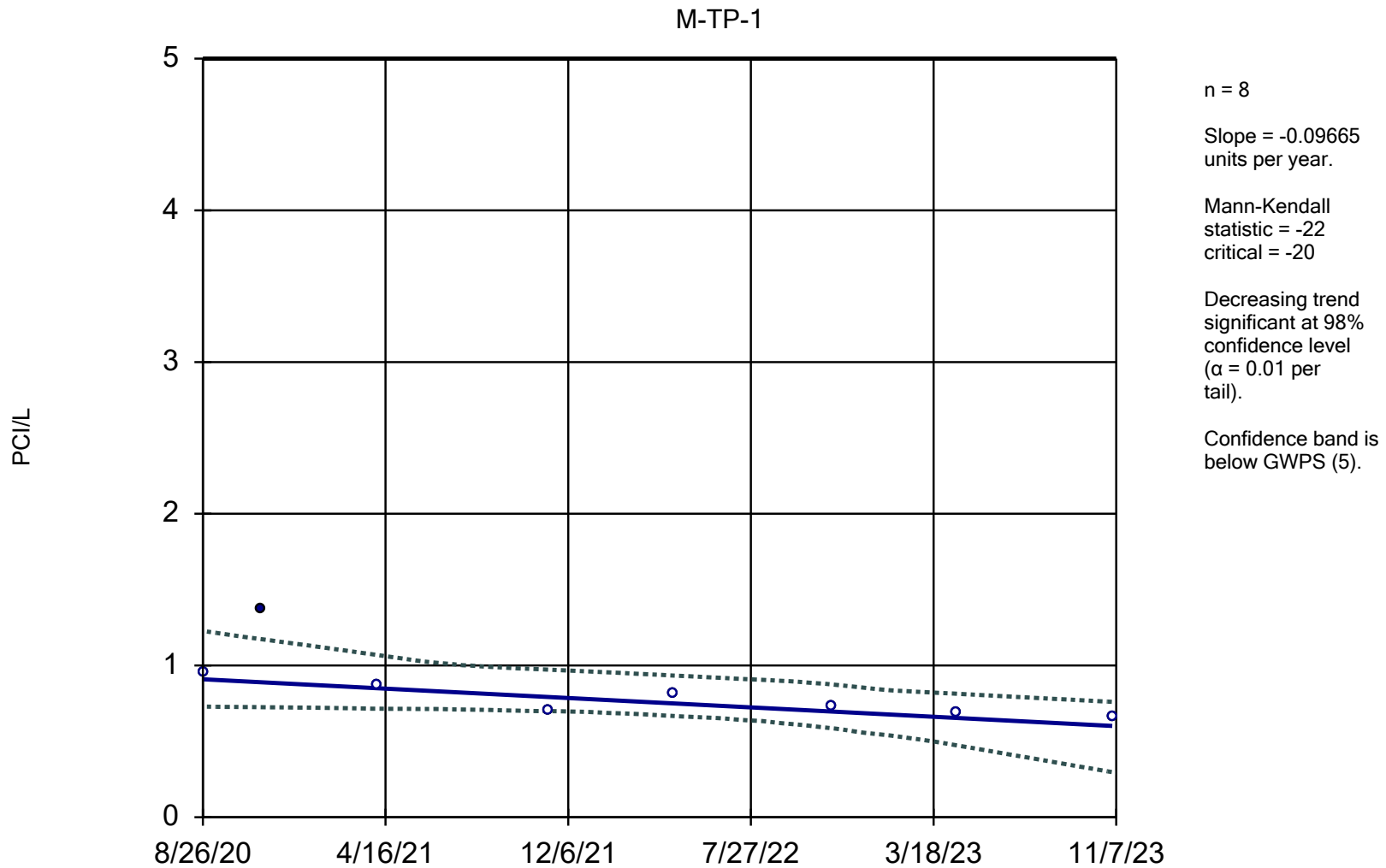
Meramec E.C. Client: Ameren Data: MEC Data



Constituent: MOLYBDENUM, TOTAL Analysis Run 2/21/2024 12:30 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band



Constituent: Radium [226 + 228] Analysis Run 2/21/2024 12:27 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/21/2024, 12:28 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
ARSENIC, TOTAL (UG/L)	M-MW-9	0.7981	6	20	No	8	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-10	0.6159	8	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-TP-1	1.915	16	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-TP-2	0.02897	0	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-11D	0.3935	12	17	No	7	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-11S	-0.352	-4	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-9	37.04	12	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-10	-6.149	-13	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-TP-1	-11.45	-20	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-TP-2	-3.248	-24	-23	Yes	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-11D	-24.23	-28	-23	Yes	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-11S	3.534	8	23	No	9	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-9	-0.1047	-22	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-10	-0.05159	-19	-23	No	9	44.44	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-TP-1	-0.07077	-10	-23	No	9	22.22	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-TP-2	-0.04985	-18	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-11D	-0.07303	-16	-23	No	9	44.44	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-11S	-0.03874	-20	-23	No	9	44.44	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-9	2.053	16	23	No	9	11.11	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-10	-2.375	-17	-23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-TP-1	0.5375	8	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-TP-2	0.3198	3	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-11D	-0.2552	-4	-23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-11S	3.595	30	23	Yes	9	11.11	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-9	0.2508	0	23	No	9	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-10	2.301	24	23	Yes	9	11.11	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-TP-1	0.009035	3	23	No	9	44.44	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-TP-2	1.339	29	23	Yes	9	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-11D	25.95	26	23	Yes	9	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-11S	0	-2	-23	No	9	77.78	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-9	0.04276	12	20	No	8	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-10	-0.1254	-14	-23	No	9	55.56	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-TP-1	-0.09665	-22	-20	Yes	8	87.5	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-TP-2	-0.1026	-12	-23	No	9	88.89	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-11D	-0.252	-22	-23	No	9	66.67	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-11S	0.1434	4	23	No	9	33.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-9	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-10	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-TP-1	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-TP-2	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-11D	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-11S	-0.00...	-12	-23	No	9	33.33	n/a	n/a	0.02	NP

Appendix F

June-July 2024 Corrective Action Monitoring Statistical Evaluation



To: Bill Kutosky – Ameren Missouri **Project Number:** 23010-24

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: **Corrective Action Statistical Evaluation, Multi-Unit Surface Impoundment Network, Meramec Energy Center, Saint Louis County, Missouri**

1.0 INTRODUCTION

This Technical Memorandum provides the results of the Corrective Action Monitoring statistical analyses from the June-July 2024 sampling event at the Multi-Unit Surface Impoundment Network at the Meramec Energy Center (MEC) located in Saint Louis County, Missouri. As outlined in the Remedy Selection Report for the MEC, Corrective Action at the MEC consists of two phases, as follows:

- 1) Source control, stabilization, and containment of CCR by installation of a low-permeability geomembrane cap.
- 2) Once source control is achieved, monitor the natural attenuation (MNA) of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modeling evaluations to document concentration trends following Corrective Action.

Phase 1 of Corrective Action commenced in 2017, beginning with construction of a low-permeability cover system at impoundment MCPE (Pond 489). Phase 1 continued with closure of other surface impoundments at the MEC (MCPD) and was completed in October 2023, with the installation of a low permeability cover system at remaining surface impoundments (MCPA, MCPB, MCPC). Phase 2 of Corrective Action at the MEC has been in place since October 2023, and since that time, the Multi-Unit Surface Impoundment Network at the MEC has been subject to the post-closure care requirements of the CCR Rule. A Supplemental Remedy Selection report was prepared for the MEC in July 2024 by Haley & Aldrich. This report documents the results of the above corrective measures since their inception as well as supplemental measures that may be applied in the future. The report notes that source control, in addition to ongoing natural attenuation, appears to contribute to a general reduction in most groundwater constituent concentrations near the MEC surface impoundments.

As required by the CCR Rule, a Corrective Action monitoring program was implemented within 90 days of selecting a remedy, and the first sampling event was completed in May 2020. 10 sampling events have been completed in total as a part of the Corrective Action Program at the MEC. This analysis uses results collected since the beginning of Corrective Action monitoring (May 2020) for the determination of constituents exceeding the GWPS.

Included in this memorandum is a summary of constituents that are currently in exceedance of the groundwater protection standard (GWPS), a list of site-specific Groundwater Protection Standards (GWPS, **Table 1**), and the

October 22, 2024

Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

Trend tests using the Sen's Slope/Mann Kendall method require a minimum of eight independent results, as outlined in the USEPA Unified Guidance. Therefore, trend tests were completed for the following Appendix IV constituents: arsenic, barium, cobalt, fluoride, lithium, molybdenum, radium 226 + 228, and selenium.

Several constituents were reported at concentrations below the Practical Quantitation Limit (PQL) during the spring 2020, 2021, 2022, 2023, and/or 2024 sampling events including antimony, beryllium, cadmium, chromium, cobalt, lead, mercury, and thallium. As outlined in the Statistical Analysis Plan for the MEC, when these constituents were not detected during the initial Corrective Action sampling event in each calendar year, they were not re-sampled/tested during the subsequent semi-annual sampling event later that year. As a result, there are fewer results available for these constituents. This is the first Corrective Action statistical evaluation where Sen's Slope/Mann-Kendall analyses were completed for cobalt, which now has eight results at each monitoring well.

2.0 STATISTICAL EVALUATION

The Appendix IV constituents were evaluated for exceedances above the GWPS using the methods and procedures outlined in the Corrective Action Groundwater Monitoring Plan's (CAGMP's) Statistical Analysis Plan (SAP). An outlier analysis was completed as the first step of the statistical evaluation. The outlier analysis was performed only on the results collected as a part of the Corrective Action Monitoring Program. The following outliers were removed from the dataset prior to the calculation of confidence limits:

- Arsenic
 - M-TP-2 at 6.3 micrograms per liter (µg/L) on 11/1/2023: result is statistically higher than other arsenic values at the same monitoring well. This high result is not consistent with previous or subsequent arsenic results at the well and is an outlier.
- Barium
 - M-TP-1 at 285 µg/L on 11/7/2022: result is statistically lower than other barium values at the same monitoring well. This low result is not consistent with previous or subsequent barium results at the well and is an outlier.
- Molybdenum
 - M-MW-9 at 41.9 µg/L and 21.9 µg/L on 11/7/2022 and 11/2/2023, respectively: results are statistically higher and lower than other molybdenum values at the same monitoring well. These results are not consistent with previous or subsequent molybdenum results at the well and are outliers.
- Radium 226 + 228
 - M-TP-1 at 1.373 J picocuries per liter (pCi/L) on 11/9/2020: result is statistically higher than other radium 226 + 228 values at the same well. This high result is not consistent with previous or subsequent radium 226 + 228 results at the well and is an outlier.

- M-TP-2 at 1.541 pCi/L on 5/5/2020: result is statistically higher than other radium 226 + 228 values at the same well. This high result is not consistent with previous or subsequent radium 226 + 228 results at the well and is an outlier.

An analysis of the outliers removed to-date was completed. No previously identified outliers were added back into the dataset prior to the calculation of confidence limits.

Following the outlier analysis, the second step in the statistical analysis was to calculate confidence intervals and compare those to the site-specific GWPS (**Appendix A**). Confidence interval evaluation was supplemented with Sen's Slope/Mann Kendall Analyses on constituents that have eight independent sampling results at a given well, per the USEPA Unified Guidance (**Appendix B**). The Sen's Slope/Mann-Kendall Analysis identifies well-analyte pairs that have statistically significant trends and calculates confidence bands that vary with time. The upper confidence band, in relation to the GWPS for a given constituent, is used to determine exceedances, as outlined in the site CAGMP. As discussed previously antimony, beryllium, cadmium, chromium, lead, mercury, and thallium do not have the requisite quantity of results to perform Sen's Slope/Mann Kendall Analyses, so only confidence intervals were produced for those constituents.

Using these corrective action statistical methods, as of the June-July 2024 sampling event, there are no new exceedances, and the wells with constituents exceeding the GWPS remain as follows:

- Arsenic at M-MW-9, M-MW-10, M-TP-1, and M-MW-11D
- Cobalt at M-MW-10¹
- Lithium at M-MW-10, M-TP-2, and M-MW-11D
- Molybdenum at M-MW-11D

Variability in the initial groundwater sampling results during and directly after the closure of the MEC surface impoundments is expected, especially at wells near the CCR units, where closure grading and disturbance activities were greatest. Groundwater constituent concentrations following closure are expected to be variable but are expected to decrease over time as stabilization occurs and supplemental corrective measures are put into service.

3.0 CLOSING

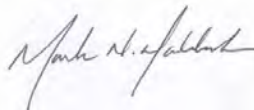
Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

Sincerely,

Rocksmith Geoengineering, LLC



Jeff Ingram, R.G.
Senior Geologist, Partner



Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

¹ Only one cobalt result at M-MW-10 is greater than the GWPS, and results display an overall decreasing trend. The upper confidence interval of 6.211 is only marginally greater than the GWPS for cobalt (6 µg/L).

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:

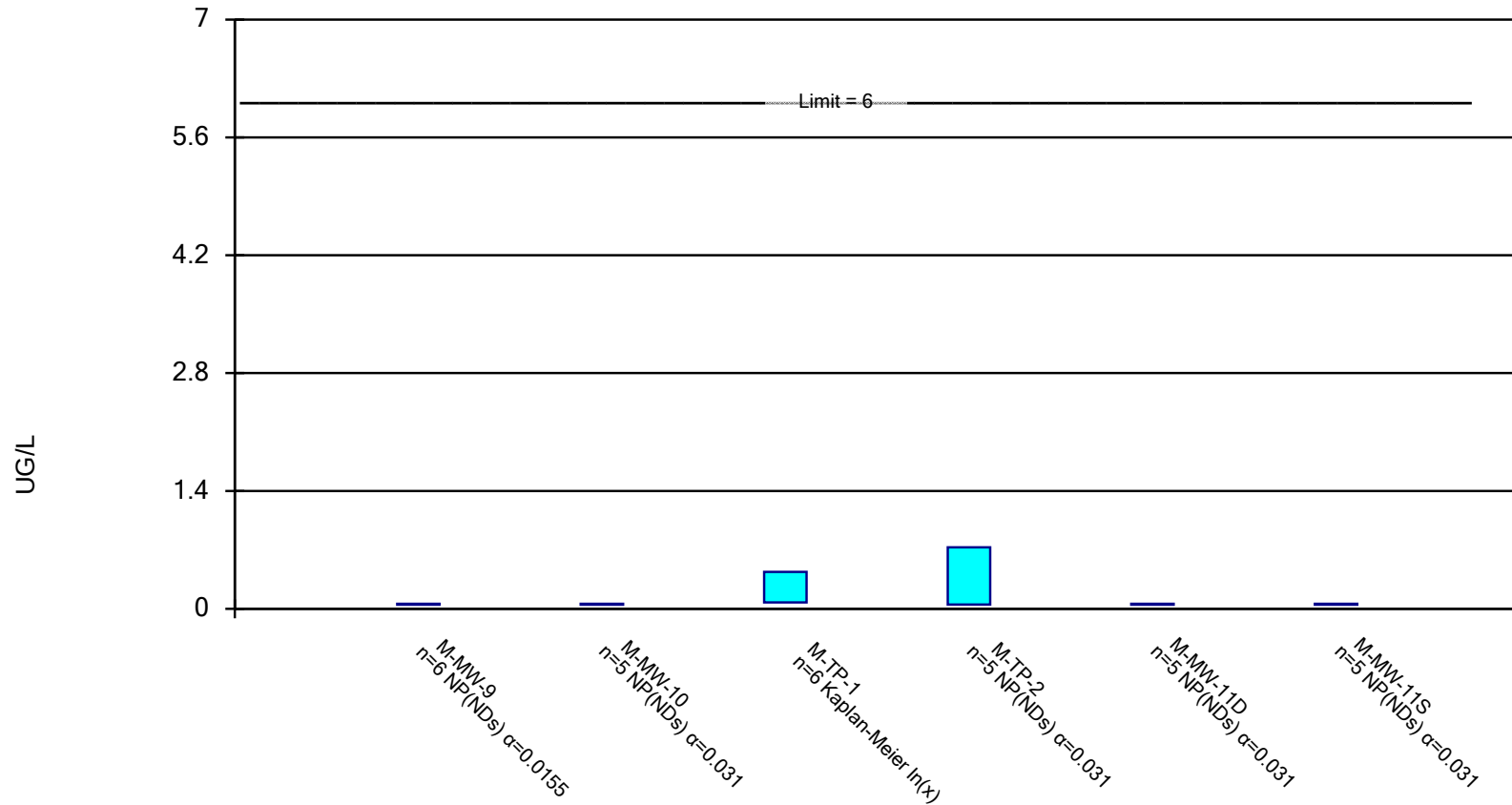
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>.
5. Health Based Groundwater Protection Standards (GWPS) were adopted 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.

Appendix A

Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

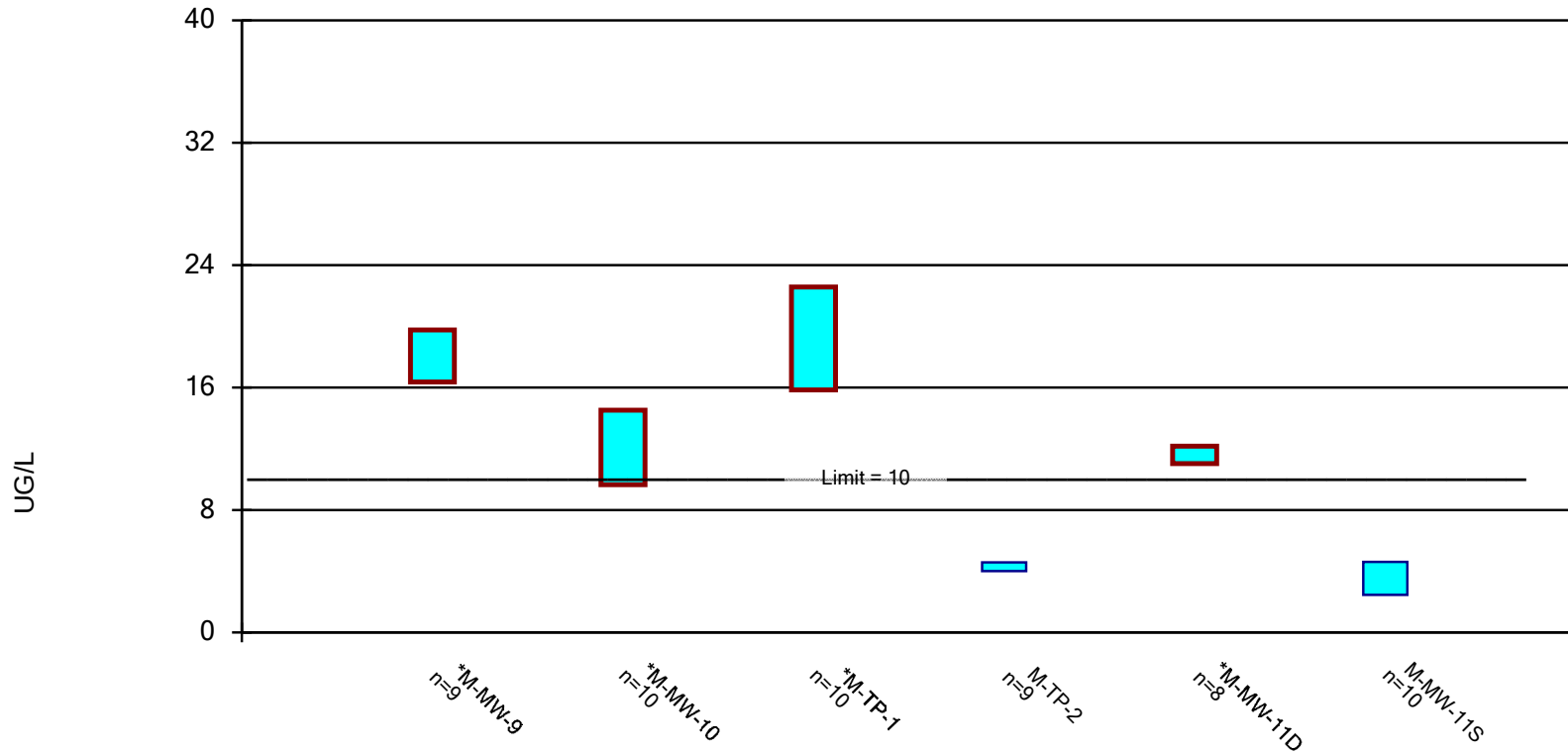


Constituent: ANTIMONY, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

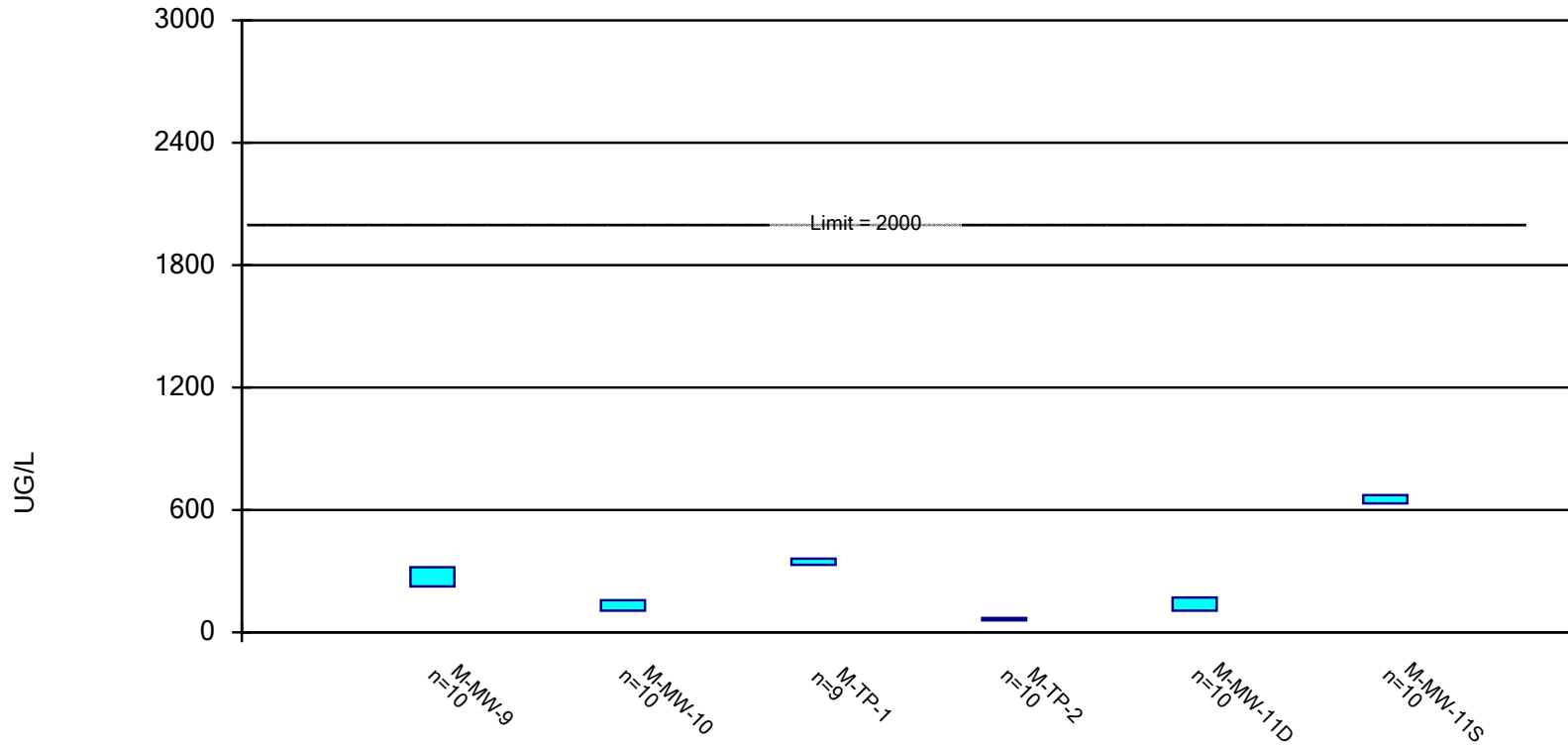


Constituent: ARSENIC, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

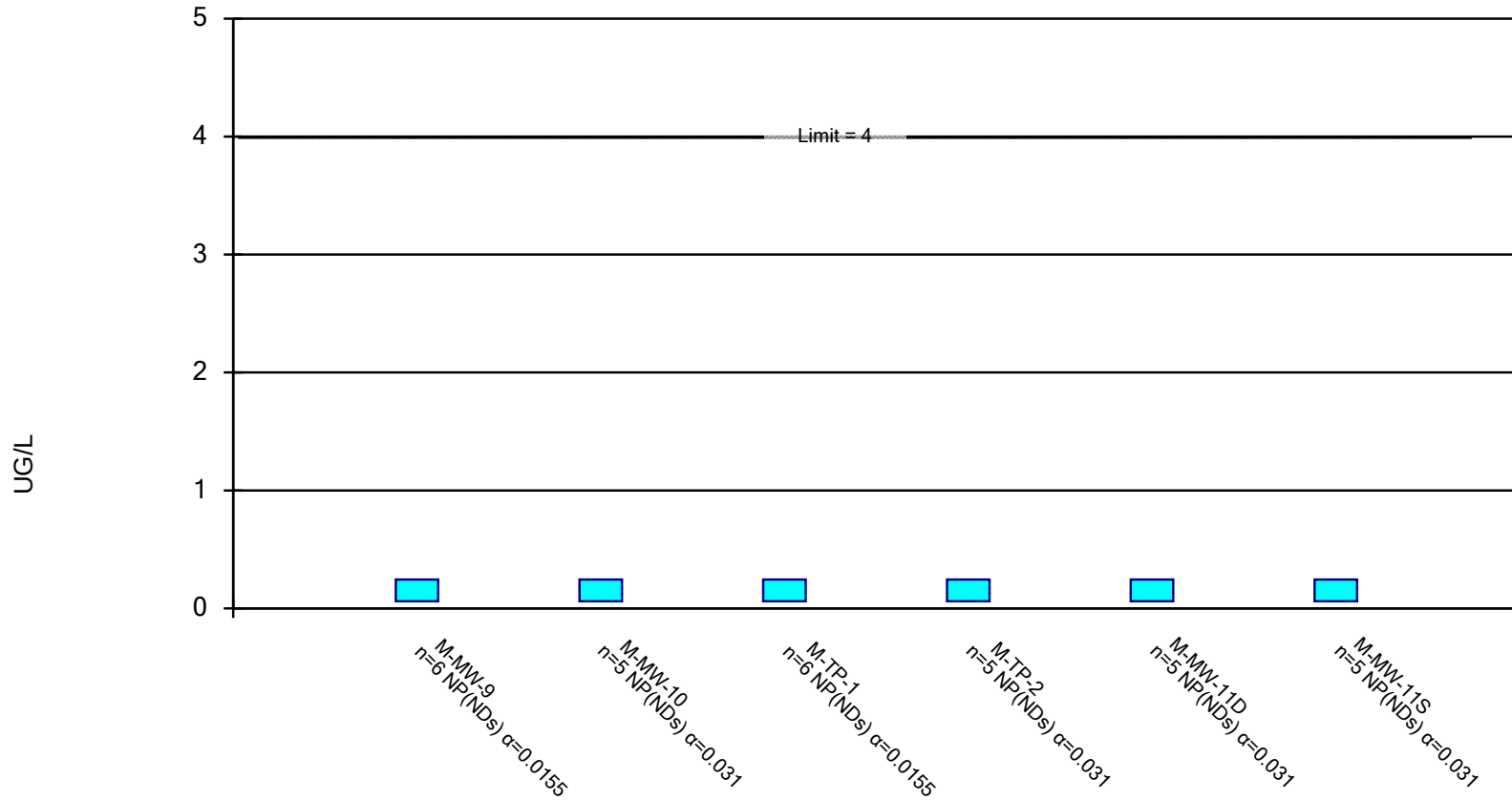


Constituent: BARIUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

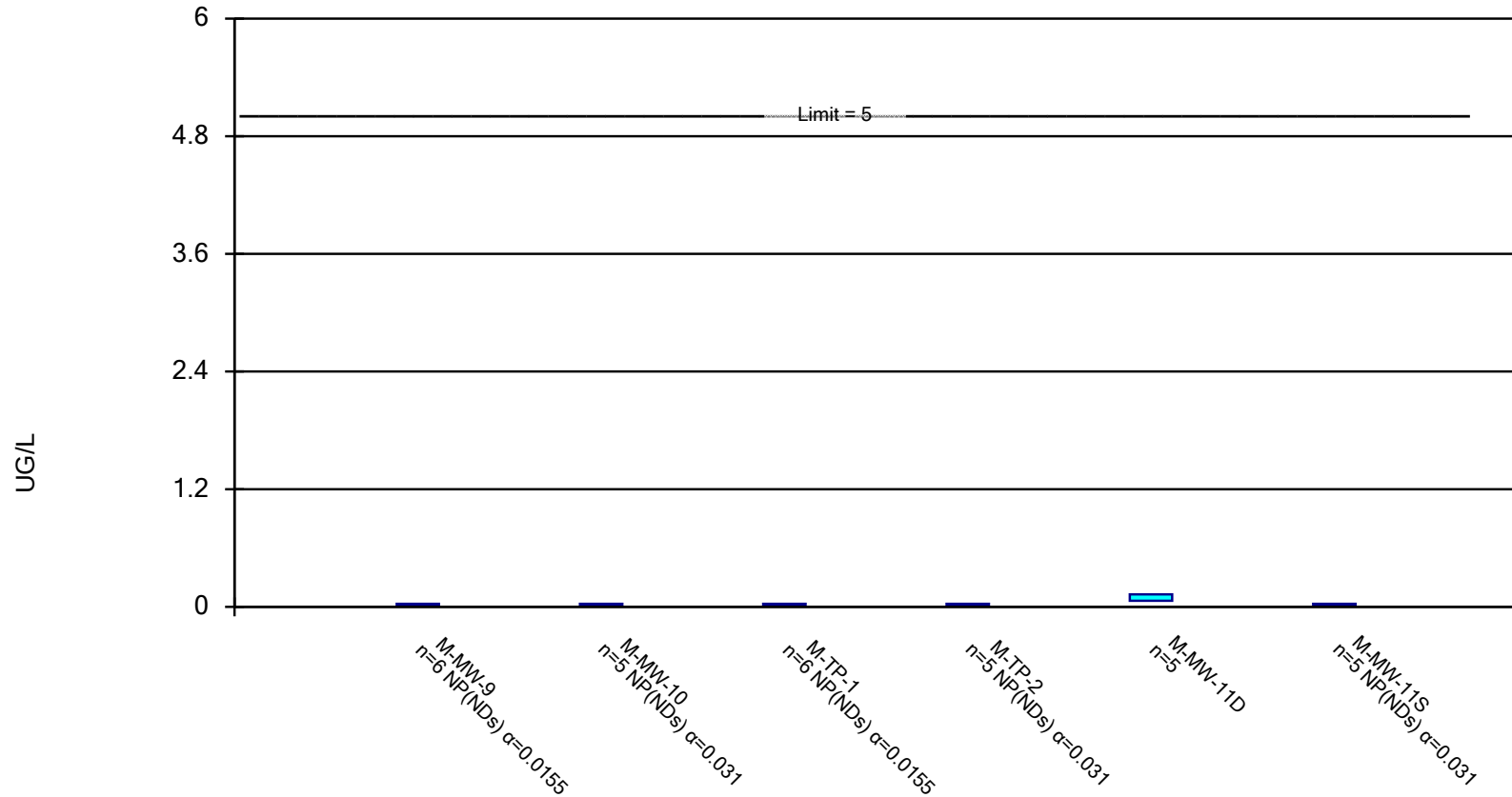


Constituent: BERYLLIUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

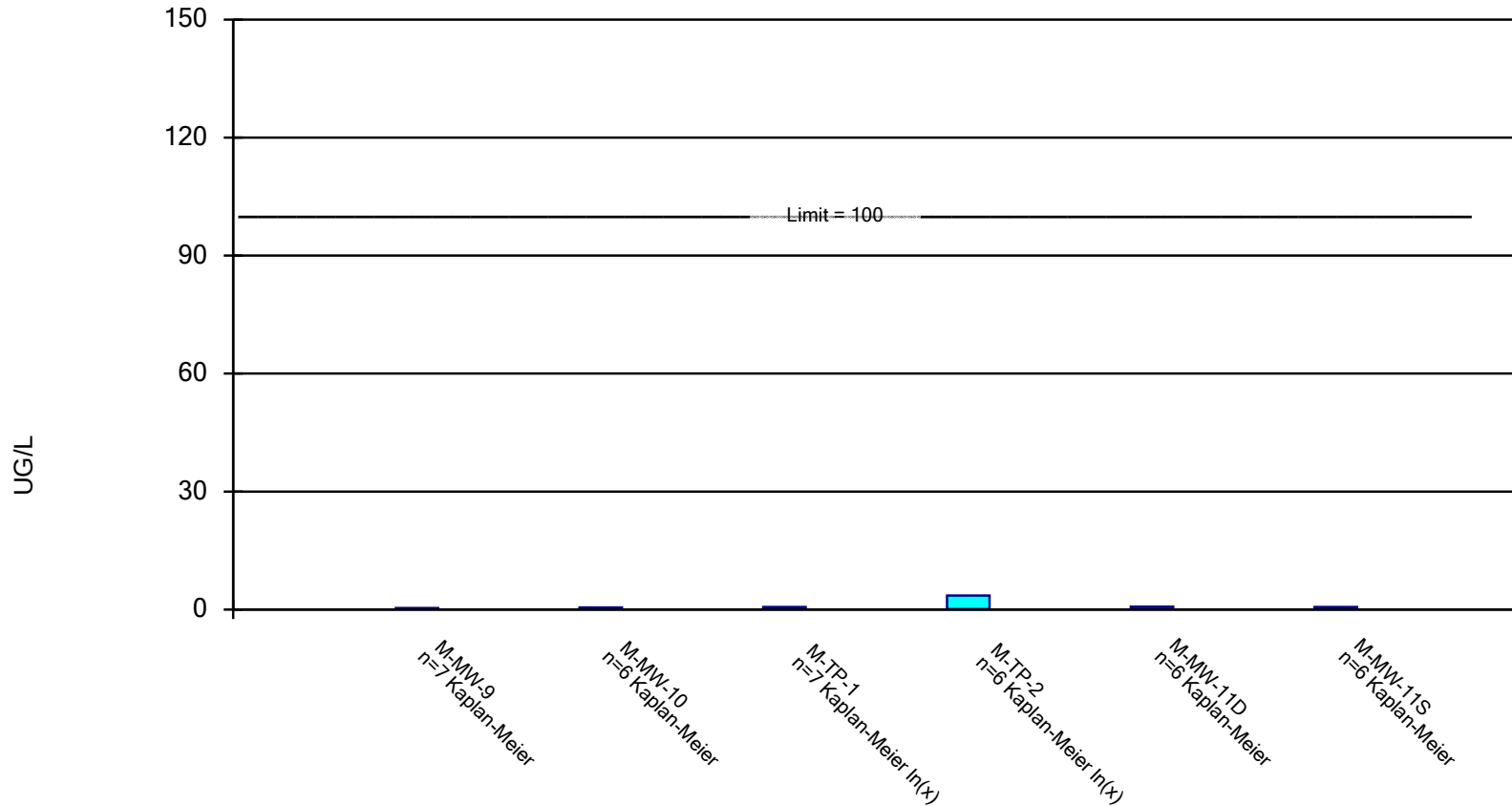


Constituent: CADMIUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

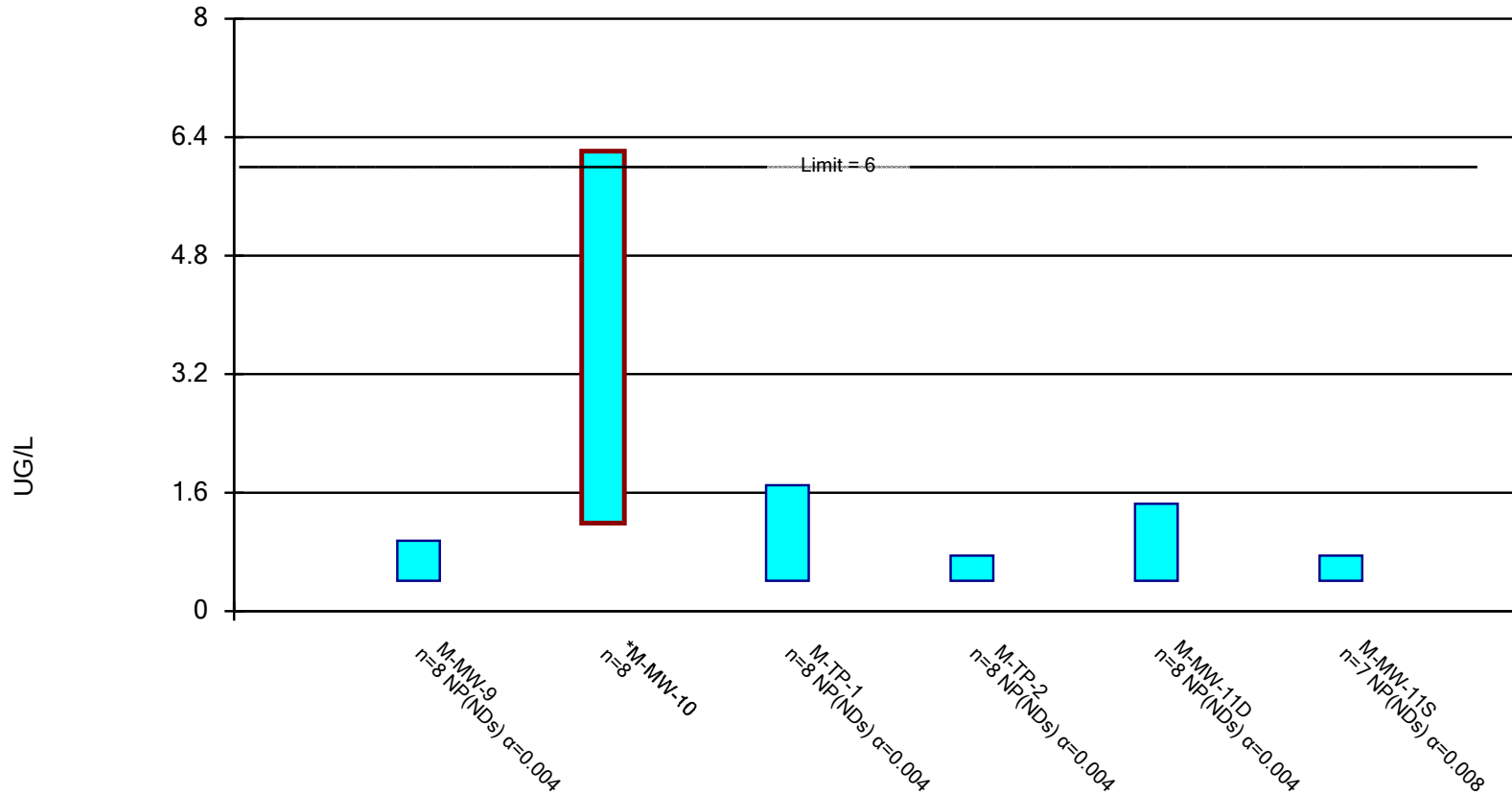


Constituent: CHROMIUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

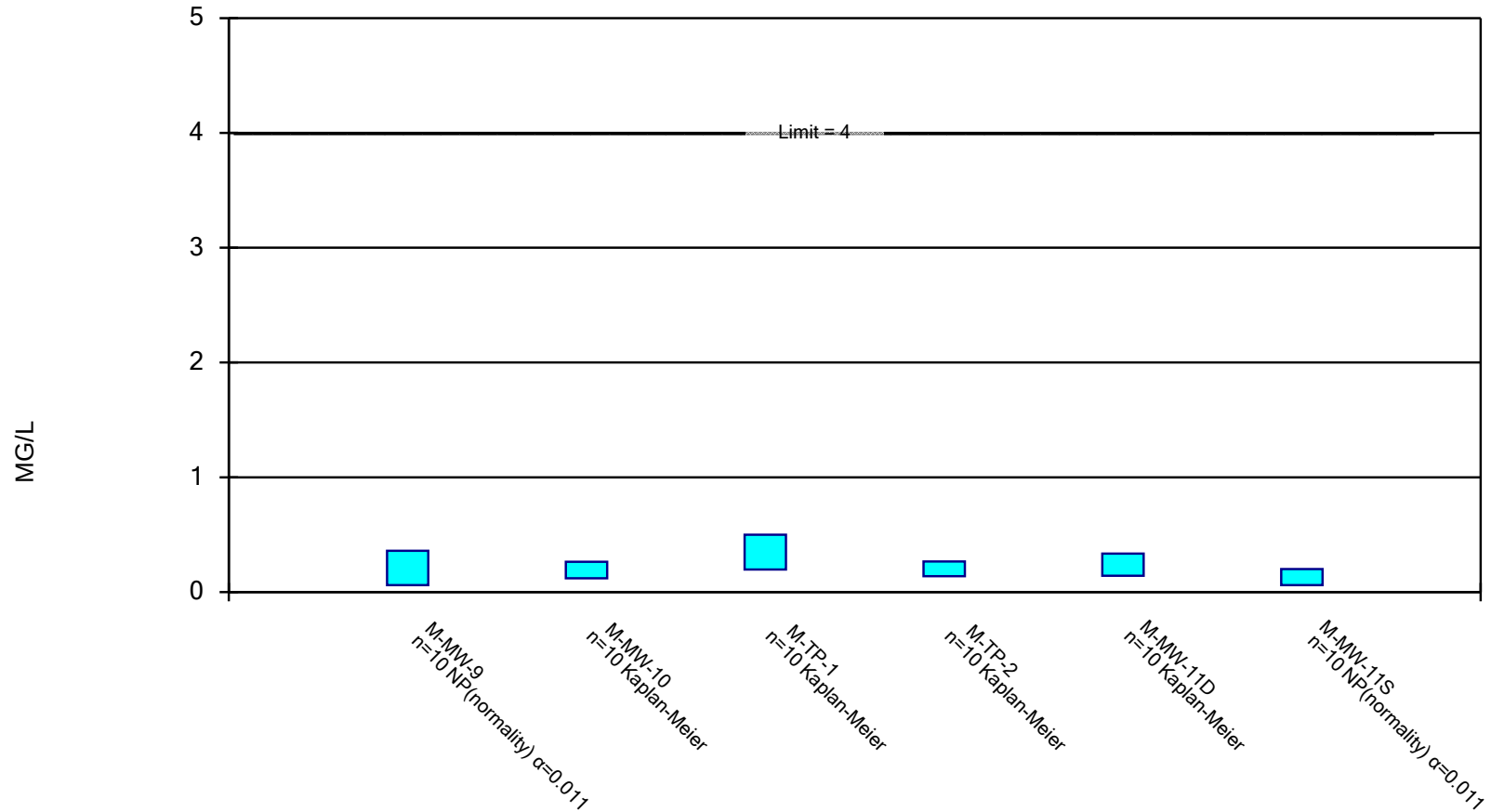


Constituent: COBALT, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

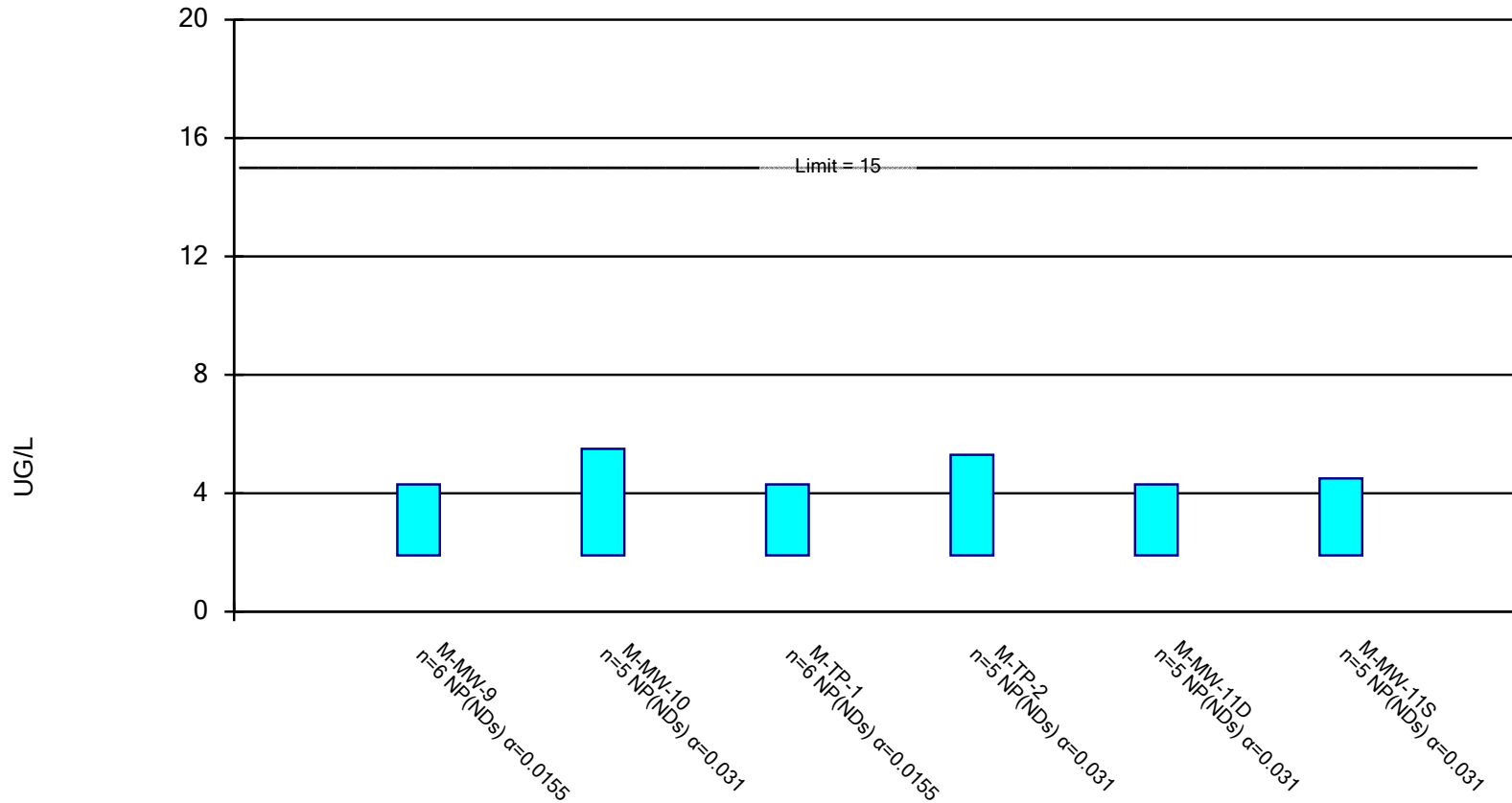


Constituent: FLUORIDE, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

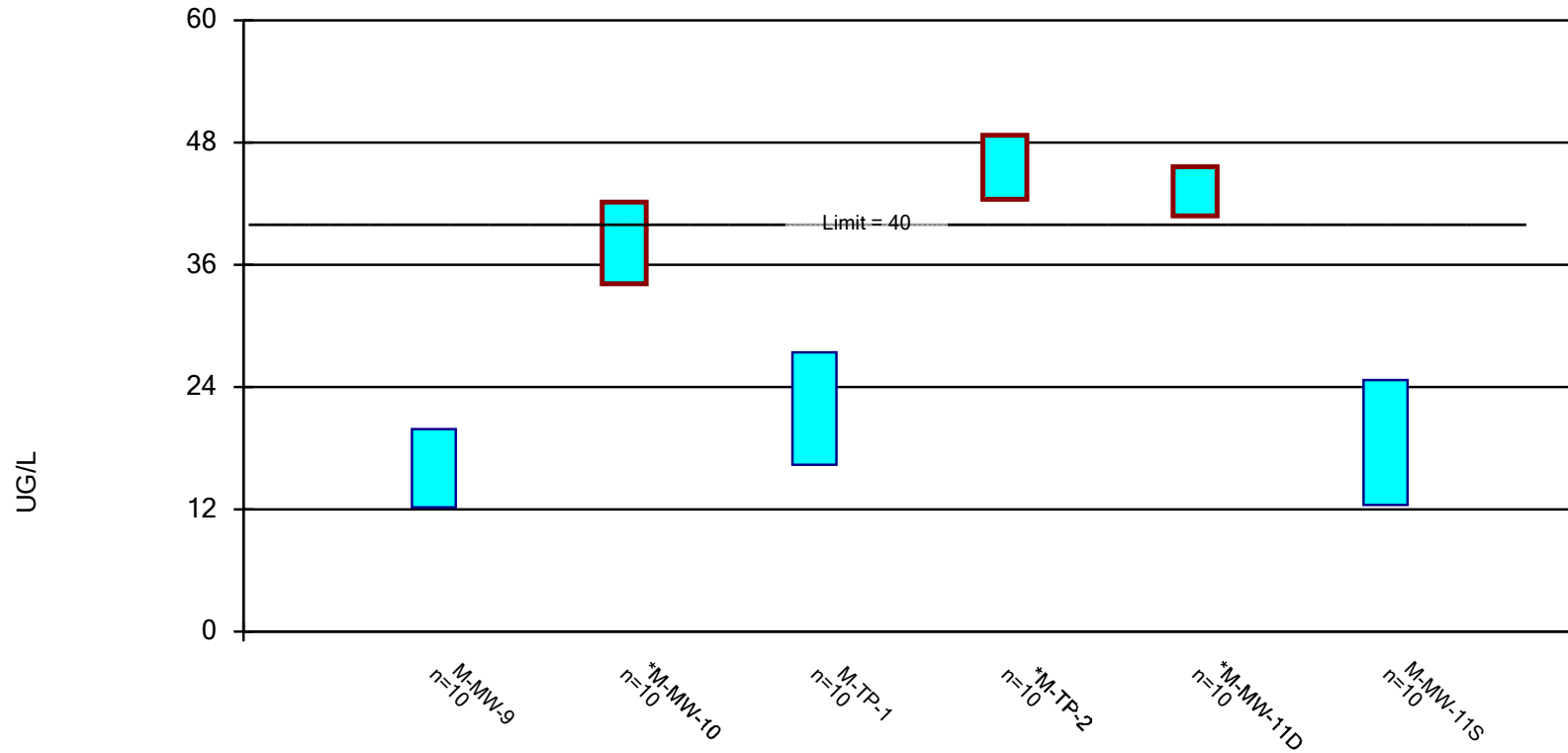


Constituent: LEAD, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

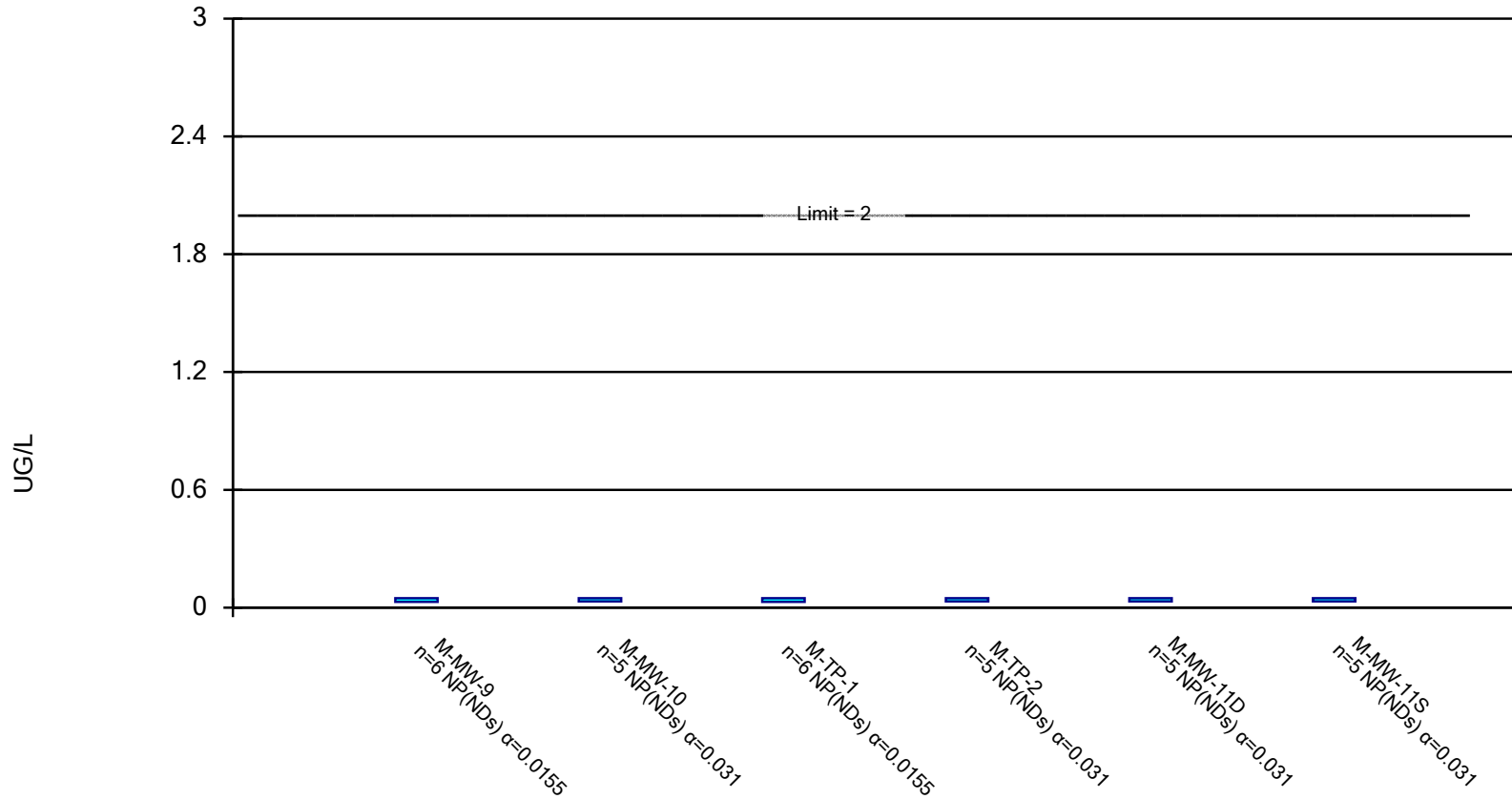


Constituent: LITHIUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

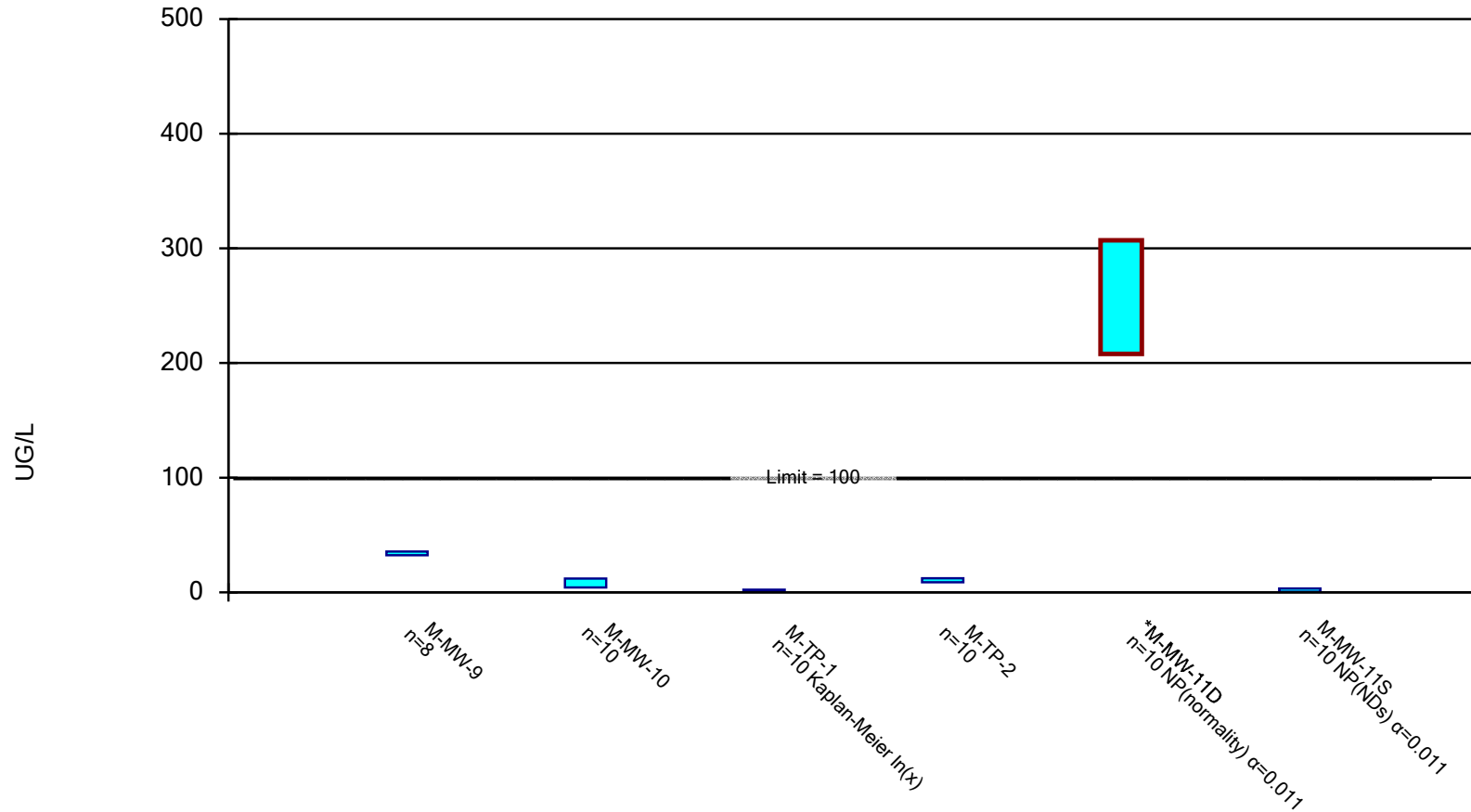


Constituent: MERCURY, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

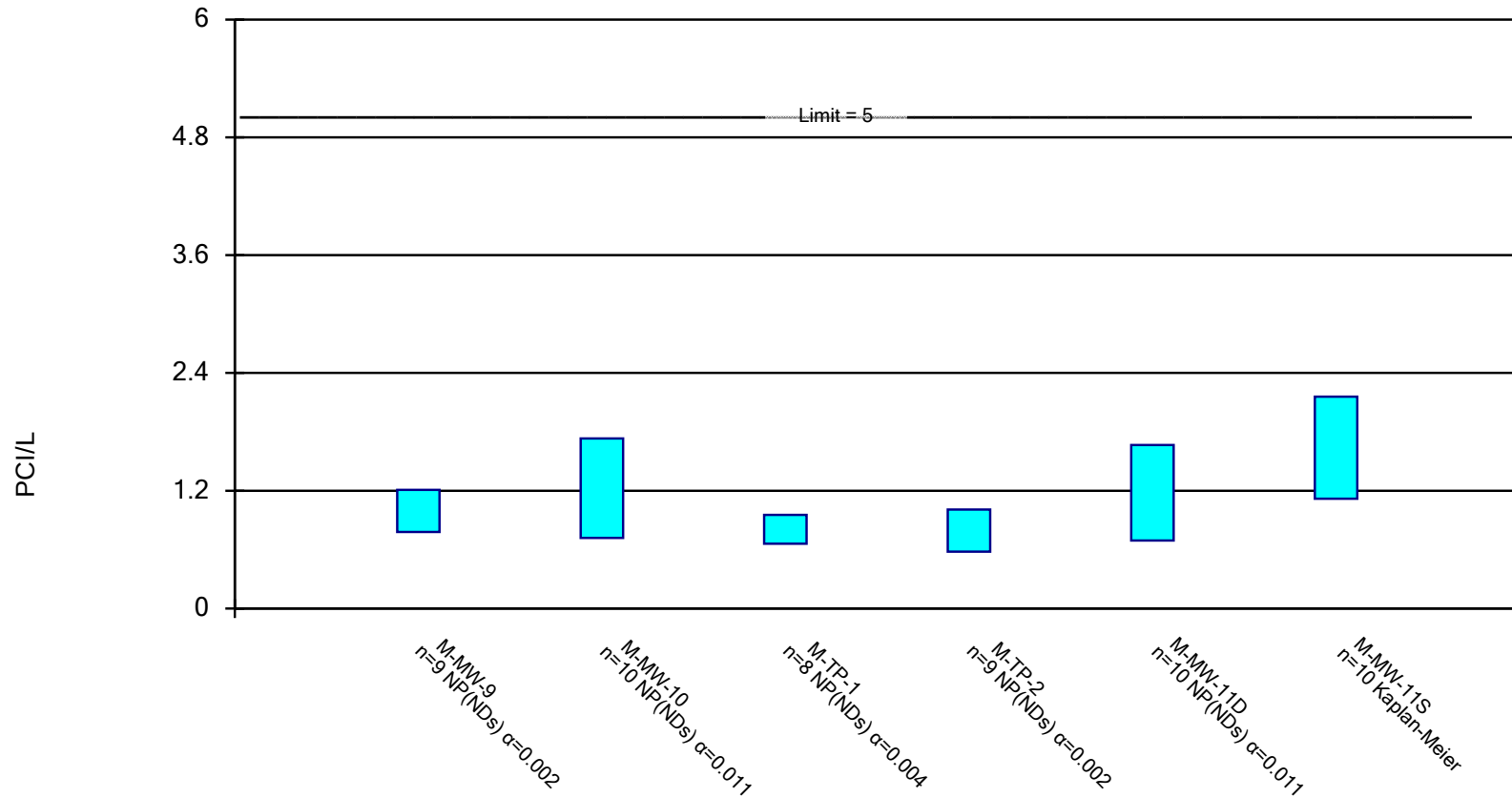
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: MOLYBDENUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action
Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

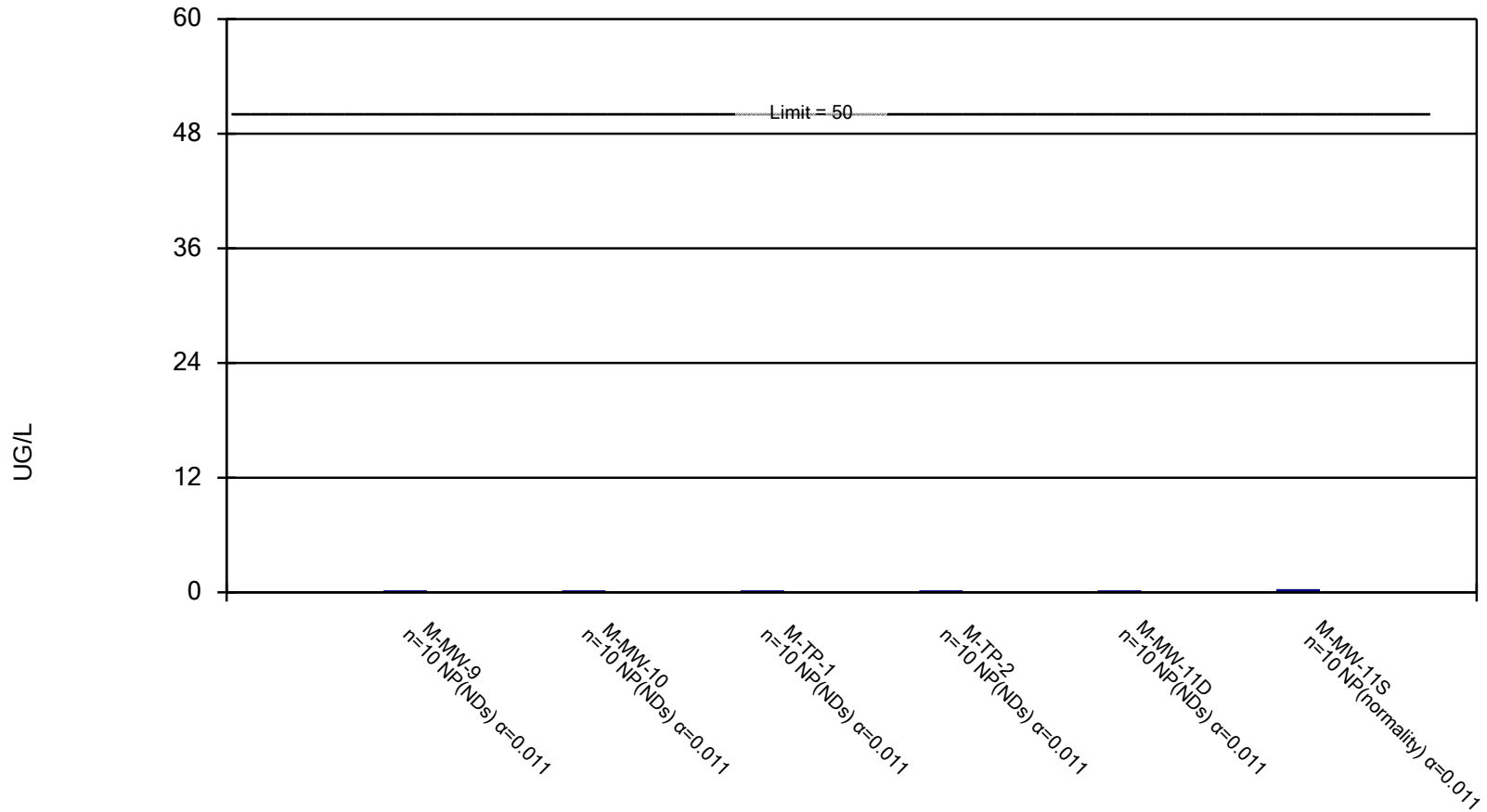


Constituent: Radium [226 + 228] Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

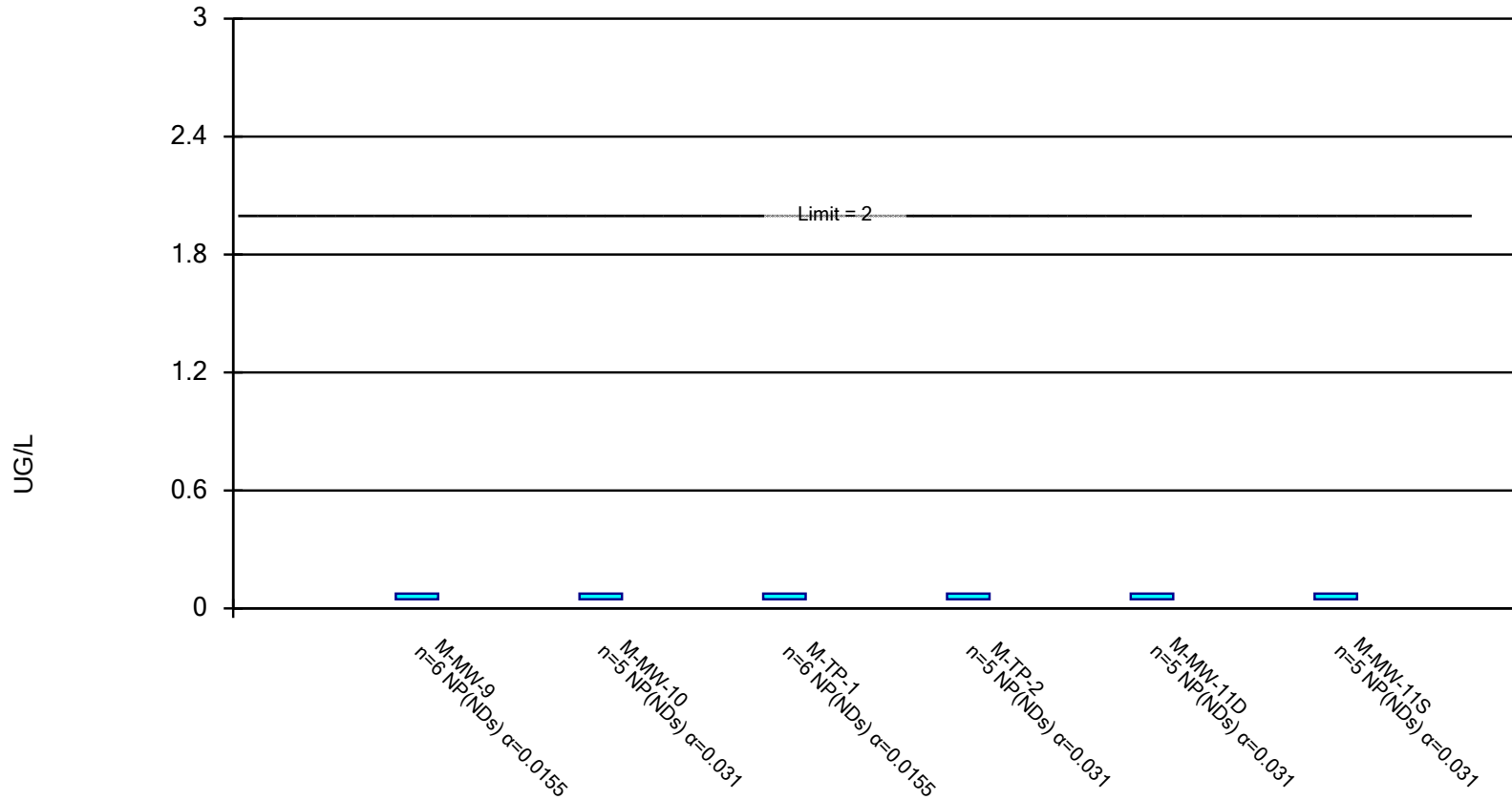


Constituent: SELENIUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.



Constituent: THALLIUM, TOTAL Analysis Run 9/4/2024 1:28 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 1:29 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	M-MW-9	0.06	0.0485	6	No	6	100	No	0.0155	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-10	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-TP-1	0.4388	0.07611	6	No	6	50	ln(x)	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-TP-2	0.73	0.05	6	No	5	80	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-11D	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-11S	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-9	19.76	16.37	10	Yes	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-10	14.53	9.654	10	Yes	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-TP-1	22.57	15.85	10	Yes	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-TP-2	4.572	4.006	10	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-11D	12.17	11.03	10	Yes	8	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-11S	4.606	2.454	10	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-9	318.8	224.8	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-10	157.3	106.2	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-TP-1	360.8	330.9	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-TP-2	70.6	58.72	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-11D	170.7	105.9	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-11S	672.4	632.4	2000	No	10	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-9	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-10	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-TP-1	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-TP-2	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-11D	0.245	0.06	4	No	5	80	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-11S	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-9	0.031	0.025	5	No	6	100	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-10	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-TP-1	0.031	0.025	5	No	6	100	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-TP-2	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-11D	0.1275	0.0621	5	No	5	0	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-11S	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-9	0.3599	0.2612	100	No	7	28.57	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-10	0.5378	0.1822	100	No	6	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-TP-1	0.6336	0.1974	100	No	7	28.57	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-TP-2	3.576	0.1057	100	No	6	50	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-11D	0.7101	0.1126	100	No	6	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-11S	0.6526	0.2834	100	No	6	16.67	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-9	0.95	0.41	6	No	8	100	No	0.004	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-10	6.211	1.189	6	Yes	8	12.5	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-TP-1	1.7	0.41	6	No	8	75	No	0.004	NP (NDs)
COBALT, TOTAL (UG/L)	M-TP-2	0.75	0.41	6	No	8	100	No	0.004	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-11D	1.45	0.41	6	No	8	100	No	0.004	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-11S	0.75	0.41	6	No	7	100	No	0.008	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-9	0.36	0.06	4	No	10	40	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	M-MW-10	0.2634	0.1206	4	No	10	40	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-TP-1	0.4998	0.196	4	No	10	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-TP-2	0.2663	0.1377	4	No	10	30	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-11D	0.3357	0.1423	4	No	10	40	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-11S	0.2	0.06	4	No	10	50	No	0.011	NP (normality)
LEAD, TOTAL (UG/L)	M-MW-9	4.3	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-10	5.5	1.9	15	No	5	80	No	0.031	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 1:29 PM

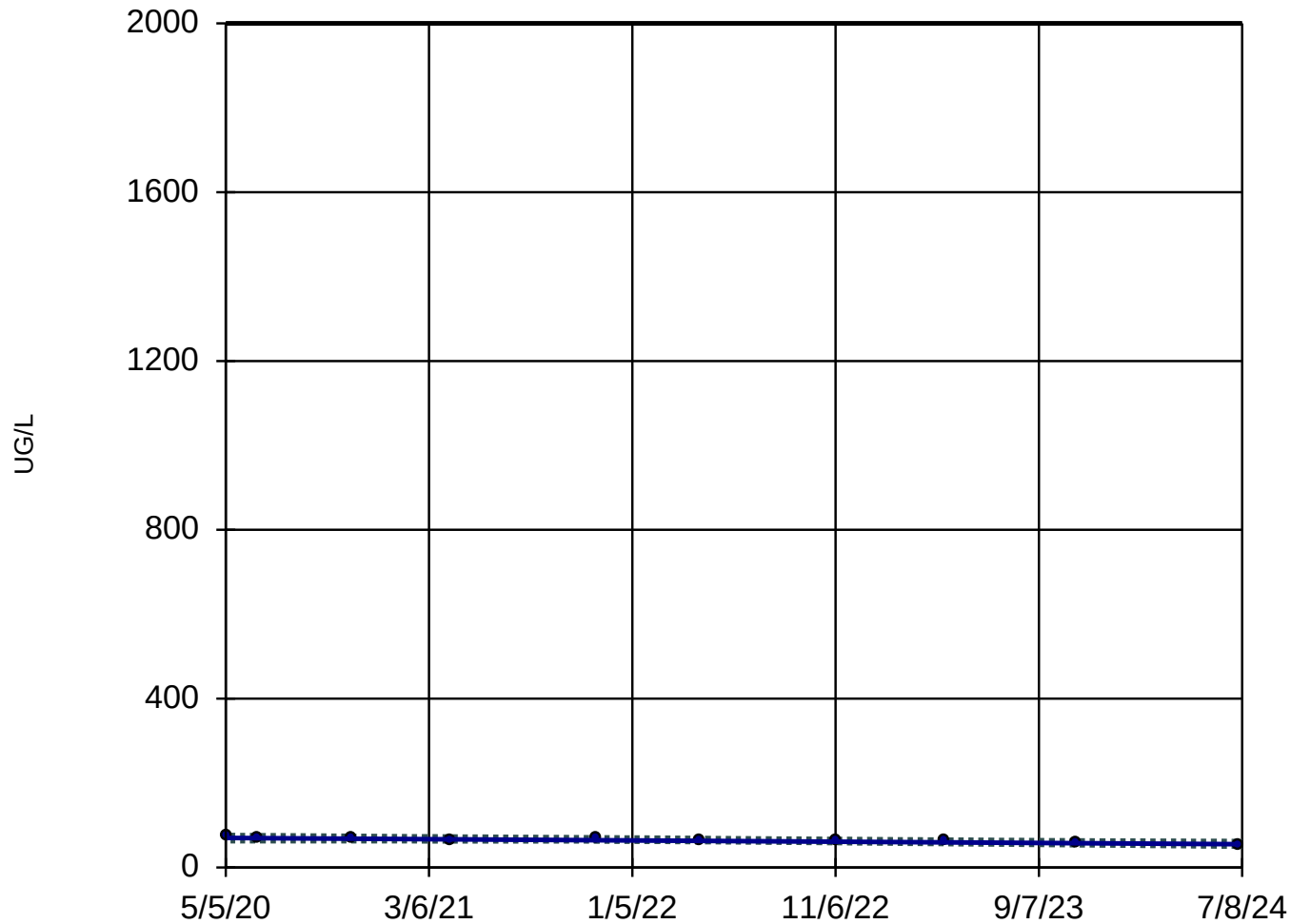
<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
LEAD, TOTAL (UG/L)	M-TP-1	4.3	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	M-TP-2	5.3	1.9	15	No	5	80	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-11D	4.3	1.9	15	No	5	80	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-11S	4.5	1.9	15	No	5	80	No	0.031	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-9	19.87	12.2	40	No	10	10	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-10	42.16	34.14	40	Yes	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-TP-1	27.41	16.37	40	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-TP-2	48.71	42.43	40	Yes	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-11D	45.62	40.8	40	Yes	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-11S	24.68	12.43	40	No	10	10	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-9	0.048	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-10	0.048	0.032	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	M-TP-1	0.048	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	M-TP-2	0.048	0.032	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-11D	0.048	0.032	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-11S	0.048	0.032	2	No	5	100	No	0.031	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-9	35.6	32.4	100	No	8	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-10	12.08	4.265	100	No	10	10	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-TP-1	2.335	0.8654	100	No	10	40	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-TP-2	12.29	8.746	100	No	10	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-11D	307	208	100	Yes	10	0	No	0.011	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	M-MW-11S	3.4	0.45	100	No	10	70	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-9	1.208	0.7795	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-10	1.732	0.7185	5	No	10	60	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	M-TP-1	0.954	0.6605	5	No	8	100	No	0.004	NP (NDs)
Radium [226 + 228] (PCI/L)	M-TP-2	1.008	0.5785	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-11D	1.665	0.693	5	No	10	70	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-11S	2.159	1.118	5	No	10	40	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-9	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-10	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-TP-1	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-TP-2	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-11D	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-11S	0.21	0.09	50	No	10	40	No	0.011	NP (normality)
THALLIUM, TOTAL (UG/L)	M-MW-9	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-10	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-TP-1	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-TP-2	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-11D	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-11S	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)

Appendix B

Sanitas Trending Confidence Bands Statistical Output

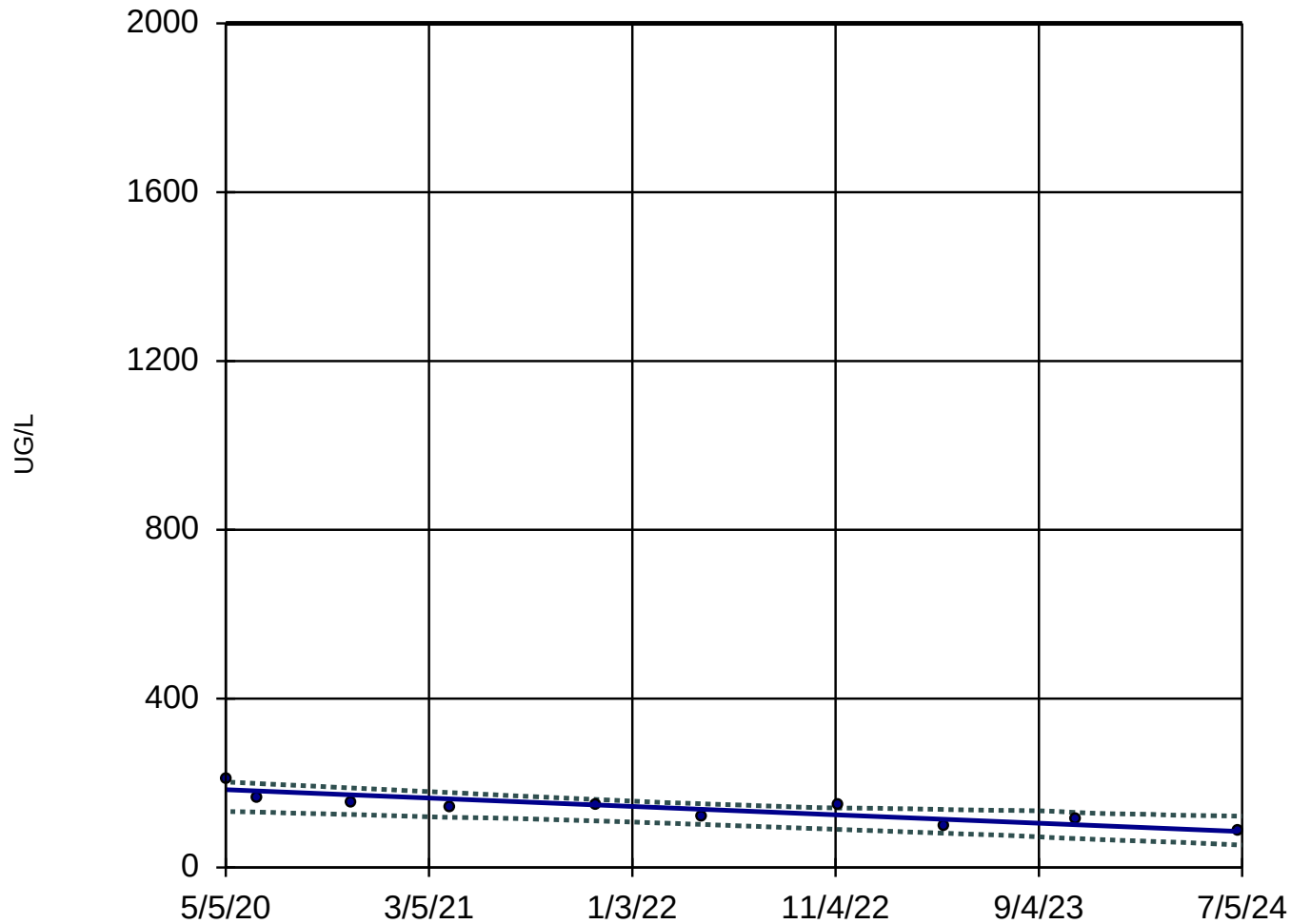
Sen's Slope and 95% Confidence Band

M-TP-2



Sen's Slope and 95% Confidence Band

M-MW-11D



n = 10

Slope = -23.83
units per year.

Mann-Kendall
statistic = -37
critical = -27

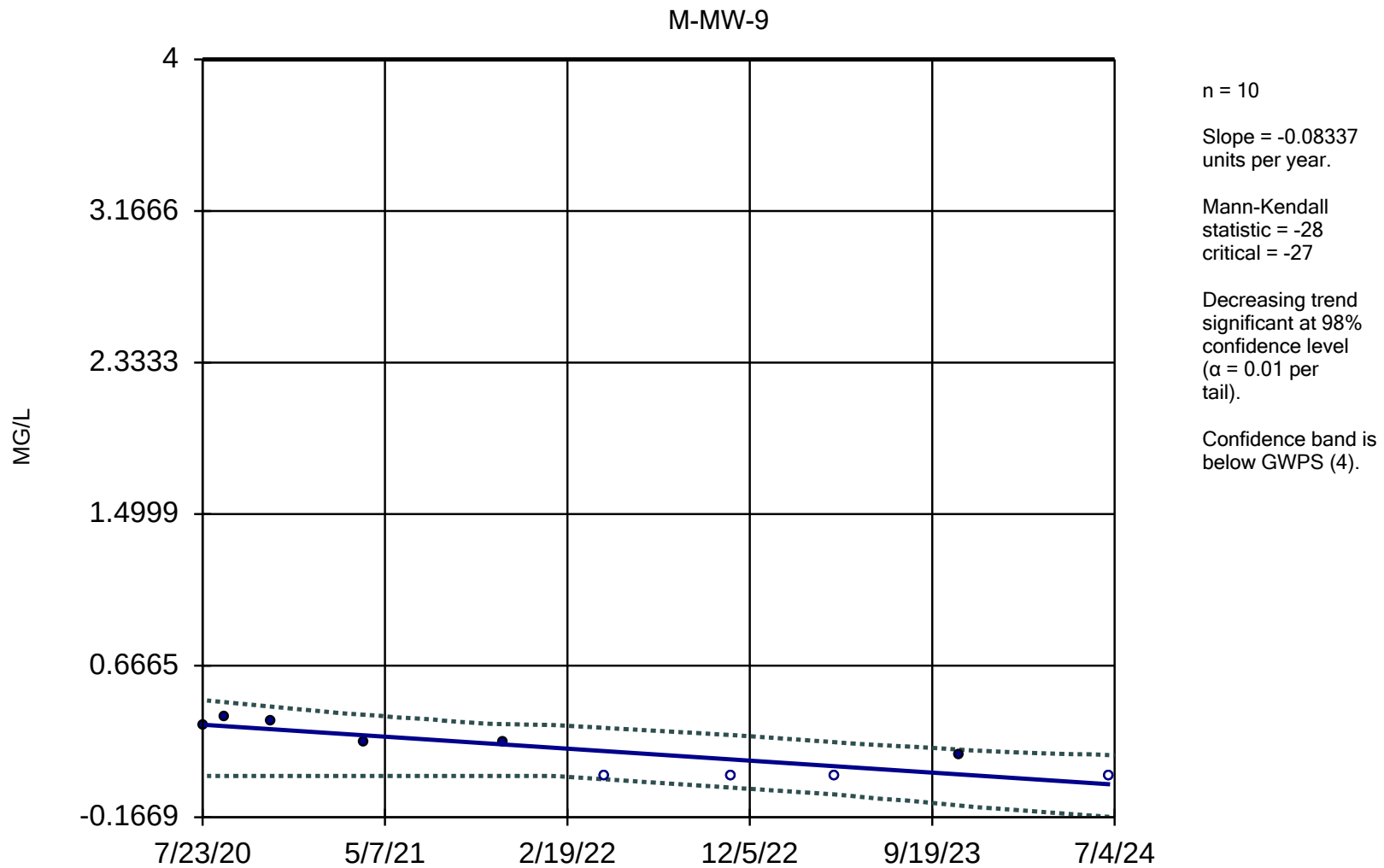
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 9/4/2024 1:33 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

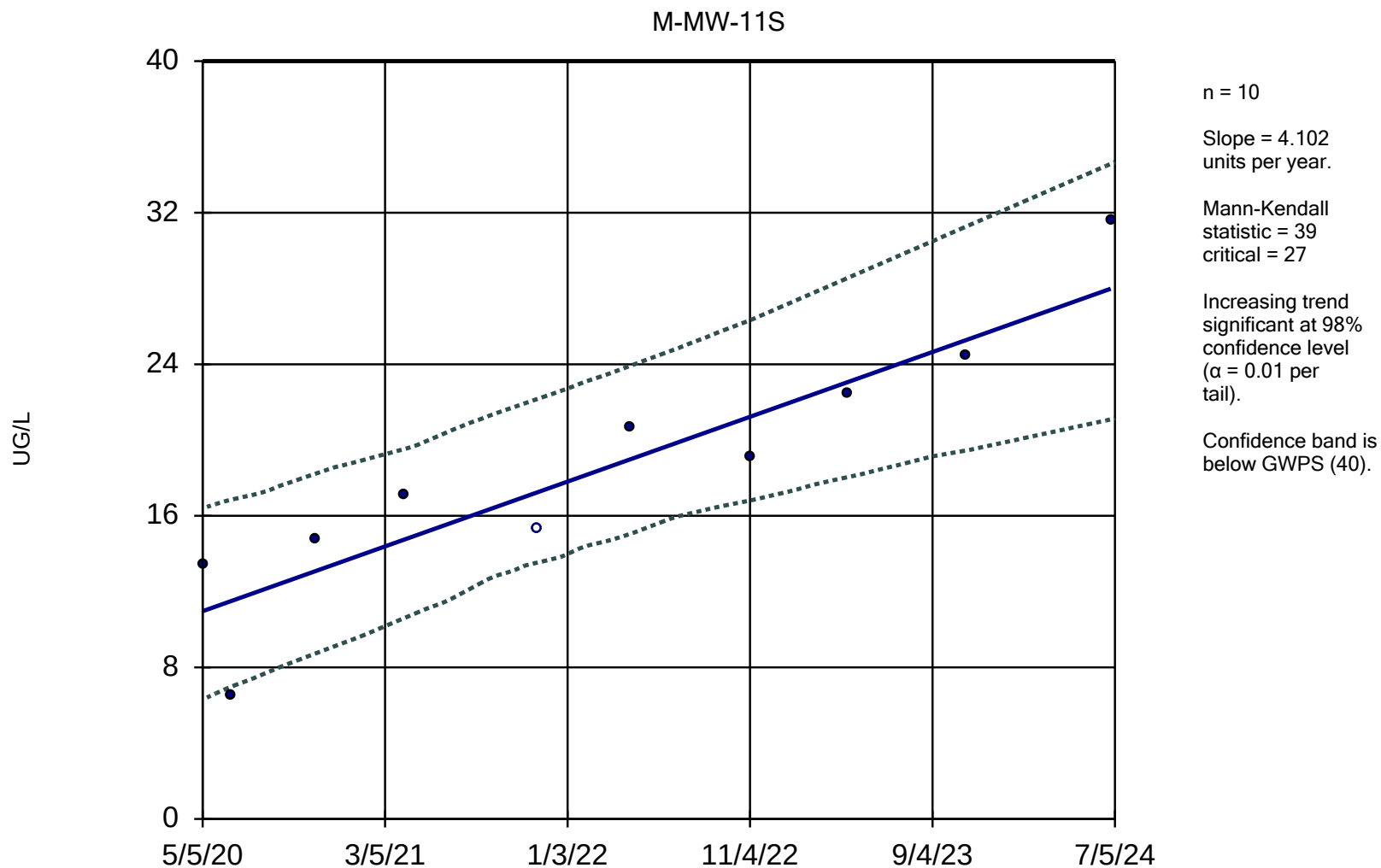
Sen's Slope and 95% Confidence Band



Constituent: FLUORIDE, TOTAL Analysis Run 9/4/2024 1:33 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

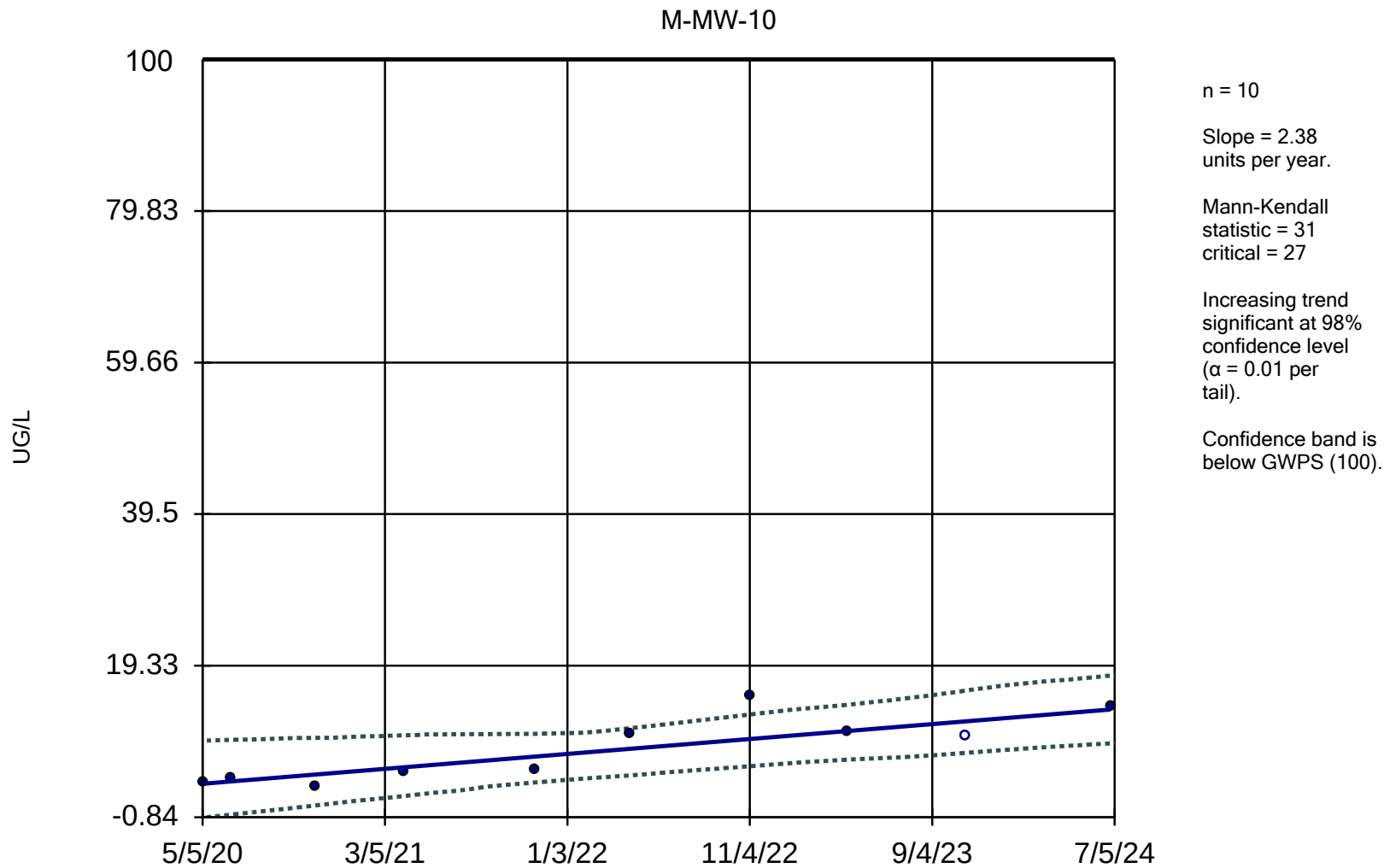
Sen's Slope and 95% Confidence Band



Constituent: LITHIUM, TOTAL Analysis Run 9/4/2024 1:33 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

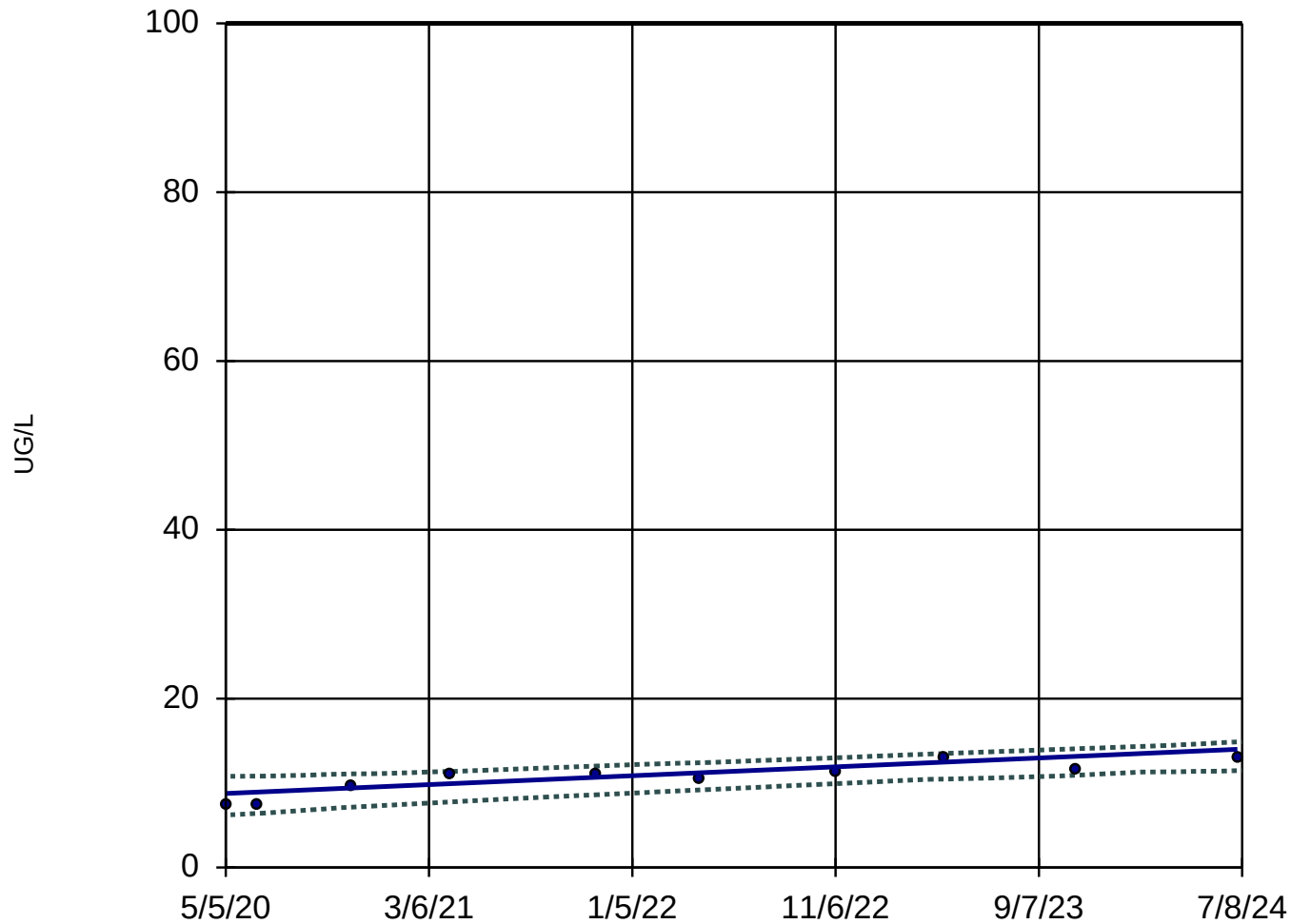
Sen's Slope and 95% Confidence Band



Constituent: MOLYBDENUM, TOTAL Analysis Run 9/4/2024 1:33 PM View: Corrective Action
Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-TP-2



n = 10

Slope = 1.259
units per year.

Mann-Kendall
statistic = 36
critical = 27

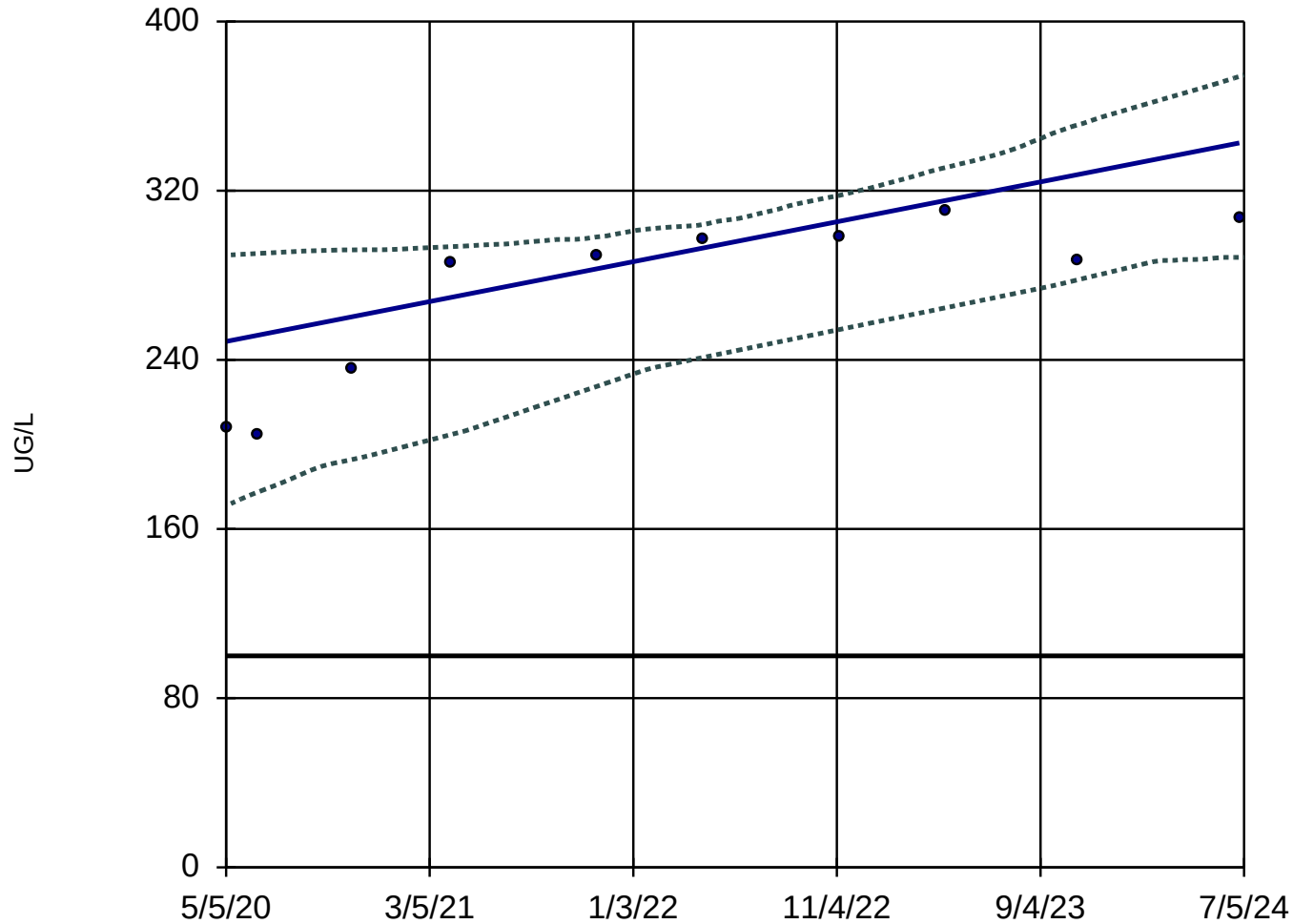
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band is
below GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 9/4/2024 1:33 PM View: Corrective Action
Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-11D



n = 10

Slope = 22.62
units per year.

Mann-Kendall
statistic = 33
critical = 27

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band is
above GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 9/4/2024 1:45 PM View: Corrective Action

Meramec E.C. Client: Ameren Data: MEC Data

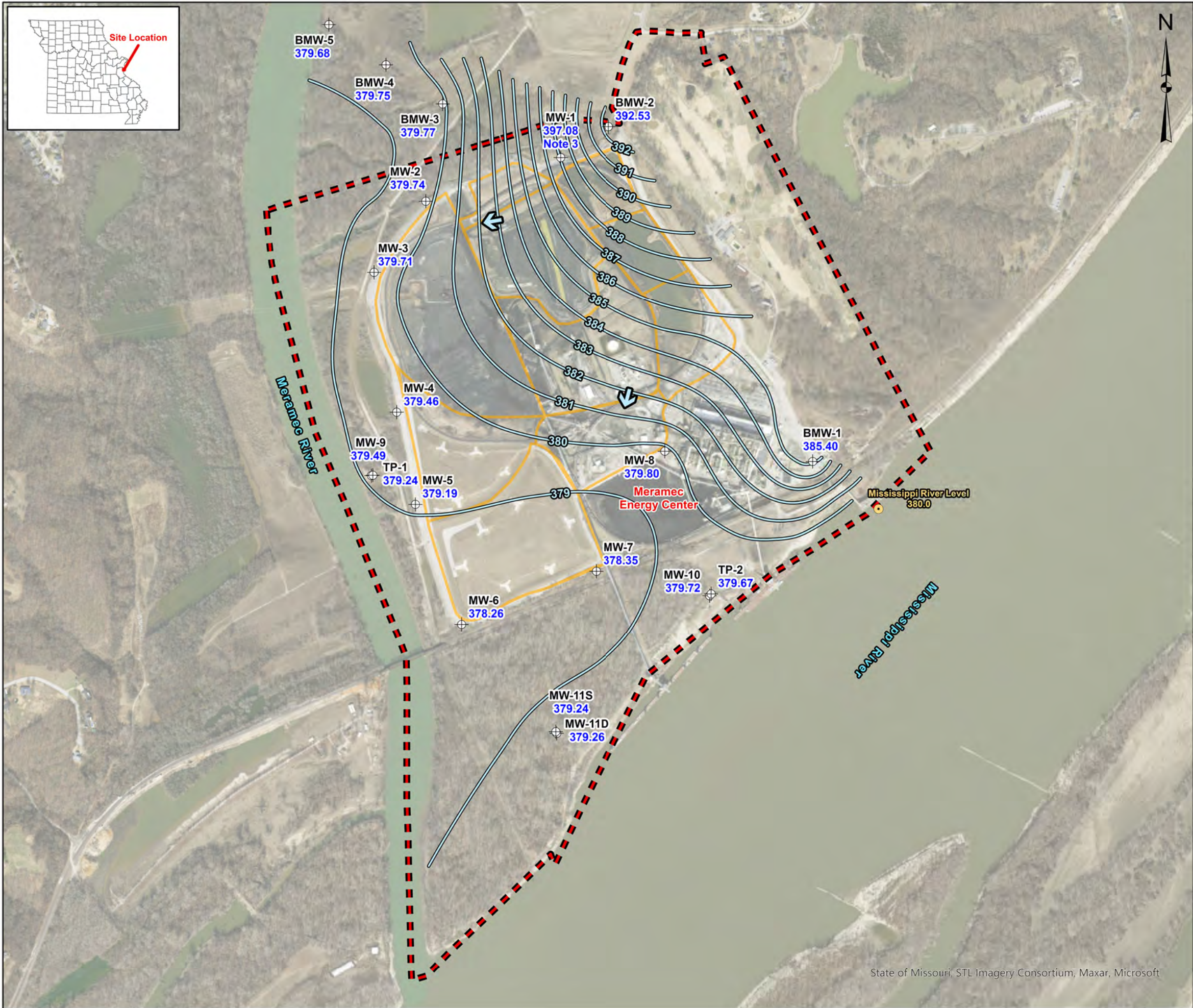
Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 9/4/2024, 1:34 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
ARSENIC, TOTAL (UG/L)	M-MW-9	0.4327	4	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-10	0.2535	1	27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-TP-1	1.825	25	27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-TP-2	-0.00...	0	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-11D	0.1669	9	20	No	8	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-11S	-0.5708	-13	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-9	22.91	11	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-10	-11.89	-22	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-TP-1	-5.392	-15	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-TP-2	-3.568	-33	-27	Yes	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-11D	-23.83	-37	-27	Yes	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-11S	6.518	13	27	No	10	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-9	-0.04018	-8	-20	No	8	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-10	-0.9554	-12	-20	No	8	12.5	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-TP-1	-0.04018	-8	-20	No	8	75	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-TP-2	-0.04598	-11	-20	No	8	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-11D	-0.03929	-8	-20	No	8	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	M-MW-11S	-0.04126	-9	-17	No	7	100	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-9	-0.08337	-28	-27	Yes	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-10	-0.02156	-10	-27	No	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-TP-1	-0.04883	-15	-27	No	10	20	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-TP-2	-0.03019	-19	-27	No	10	30	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-11D	-0.01925	-9	-27	No	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-11S	-0.03483	-25	-27	No	10	50	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-9	1.25	21	27	No	10	10	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-10	-2.662	-26	-27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-TP-1	-1.475	-1	-27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-TP-2	0	0	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-11D	0	1	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-11S	4.102	39	27	Yes	10	10	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-9	0.3943	2	20	No	8	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-10	2.38	31	27	Yes	10	10	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-TP-1	0.004562	5	27	No	10	40	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-TP-2	1.259	36	27	Yes	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-11D	22.62	33	27	Yes	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-11S	0.05084	7	27	No	10	70	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-9	0.01742	8	23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-10	-0.1241	-21	-27	No	10	60	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-TP-1	-0.07304	-12	-20	No	8	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-TP-2	-0.03392	-8	-23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-11D	-0.1728	-23	-27	No	10	70	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-11S	-0.052	-1	-27	No	10	40	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-9	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-10	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-TP-1	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-TP-2	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-11D	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-11S	-0.0119	-18	-27	No	10	40	n/a	n/a	0.02	NP

Appendix G

2024 Potentiometric Surface Maps

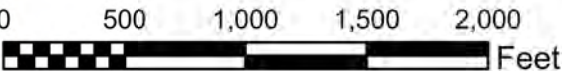


FEBRUARY 5, 2024 POTENTIOMETRIC
SURFACE MAP

- 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**
- ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
 - GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY ROCKSMITH.
 - WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
 - GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
 - MISSISSIPPI RIVER LEVEL CALCULATED USING USGS GAUGES AT ST. LOUIS, MO (07010000) AND CHESTER, IL (07020500).

- REFERENCES**
- AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
 - COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2401 FEET.



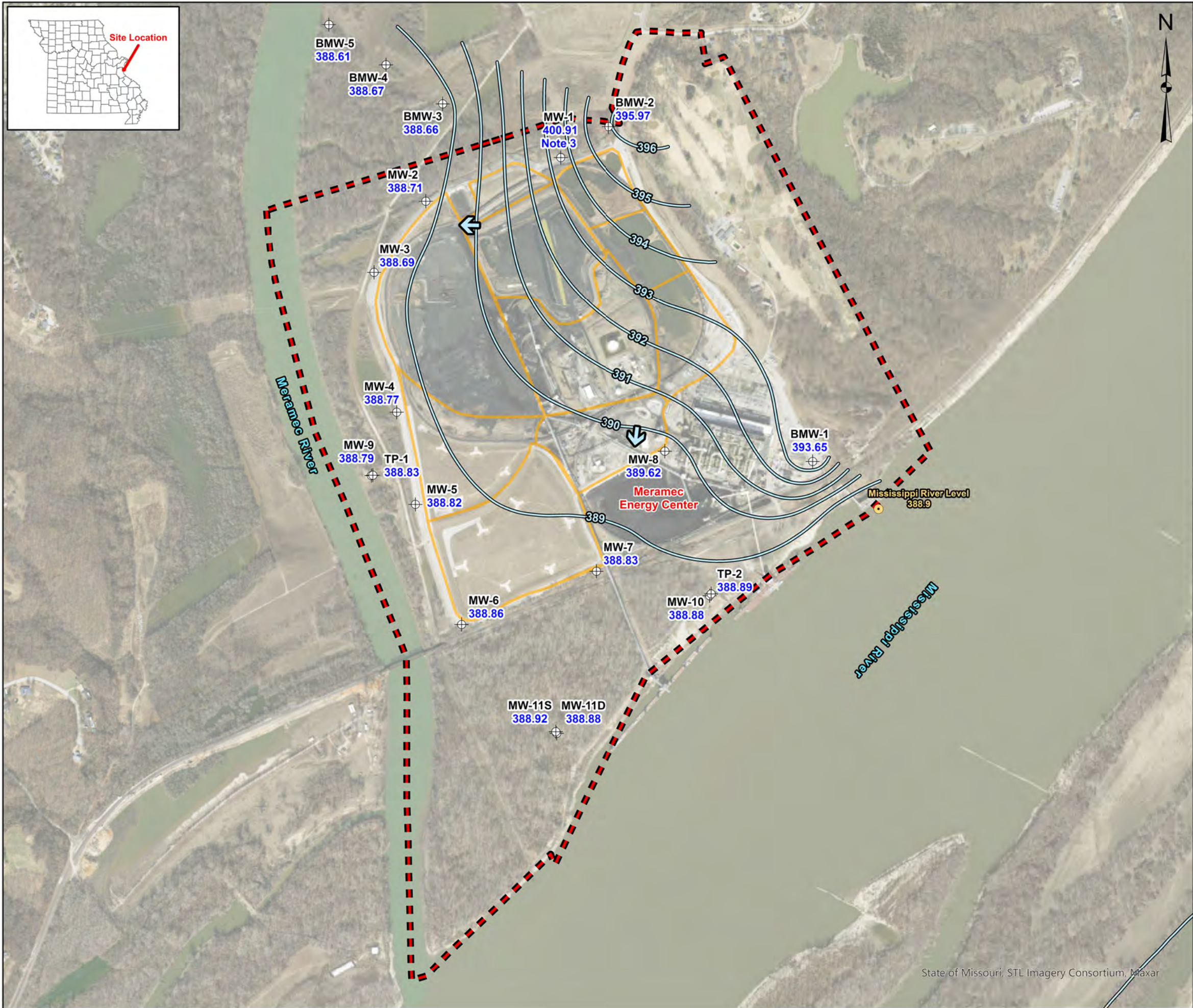
PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER



DESIGN	JSI	YYYY-MM-DD	2024-07-03
PREPARED	JTA	PROJECT No.	23010-24
REVIEW	GTM		
APPROVED	MNH		

FIGURE G1



JUNE 27, 2024 POTENTIOMETRIC SURFACE MAP

LEGEND

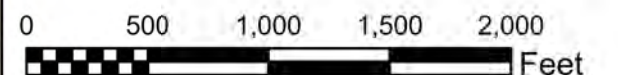
- Meramec Energy Center Property Boundary
- All Surface Impoundments
- Ground/Surface Water Measurement Locations
 - Groundwater Monitoring Well
 - Mississippi River Gauge
- Groundwater Elevation Contours
 - Groundwater Elevation Contours (FT MSL)
 - Inferred Groundwater Elevation Contours (FT MSL)
 - Groundwater Flow Direction

NOTES

- ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
- GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY ROCKSMITH.
- WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
- GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
- MISSISSIPPI RIVER LEVEL CALCULATED USING USGS GAUGES AT ST. LOUIS, MO (07010000) AND CHESTER, IL (07020500).

REFERENCES

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



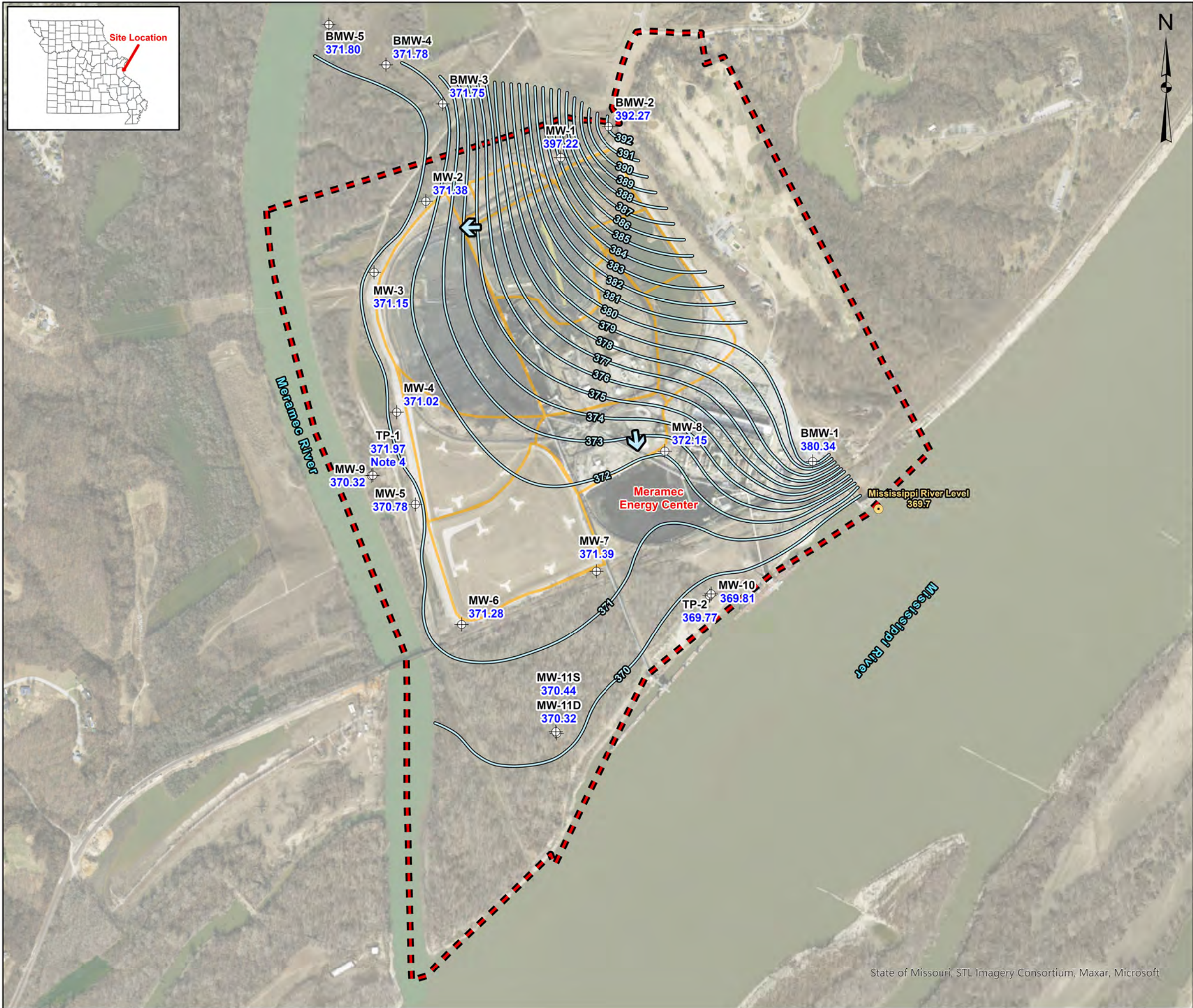
PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER



DESIGN	JSI	YYYY-MM-DD	2024-07-05
PREPARED	JTA	PROJECT No.	23010-24
REVIEW	GTM	FIGURE G2	
APPROVED	MNH		

State of Missouri, STL Imagery Consortium, Maxar

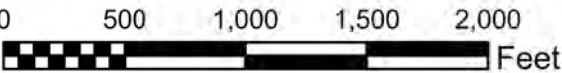


OCTOBER 3, 2024 POTENTIOMETRIC
SURFACE MAP

- 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**
- ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
 - GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY ROCKSMITH.
 - WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
 - WELL TP-1 NOT USED FOR POTENTIOMETRIC SURFACE CONTOURING DUE TO LOCALIZED VERTICAL GRADIENT.
 - GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
 - MISSISSIPPI RIVER LEVEL CALCULATED USING USGS GAUGES AT ST. LOUIS, MO (07010000) AND CHESTER, IL (07020500).

- REFERENCES**
- AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
 - COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2401 FEET.



PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT AMEREN MISSOURI MERAMEC ENERGY CENTER			
	DESIGN	JSI	YYYY-MM-DD 2024-09-11
	PREPARED	JTR	PROJECT No. 23010-24
	REVIEW	GTM	
	APPROVED	MNH	FIGURE G4

Appendix H

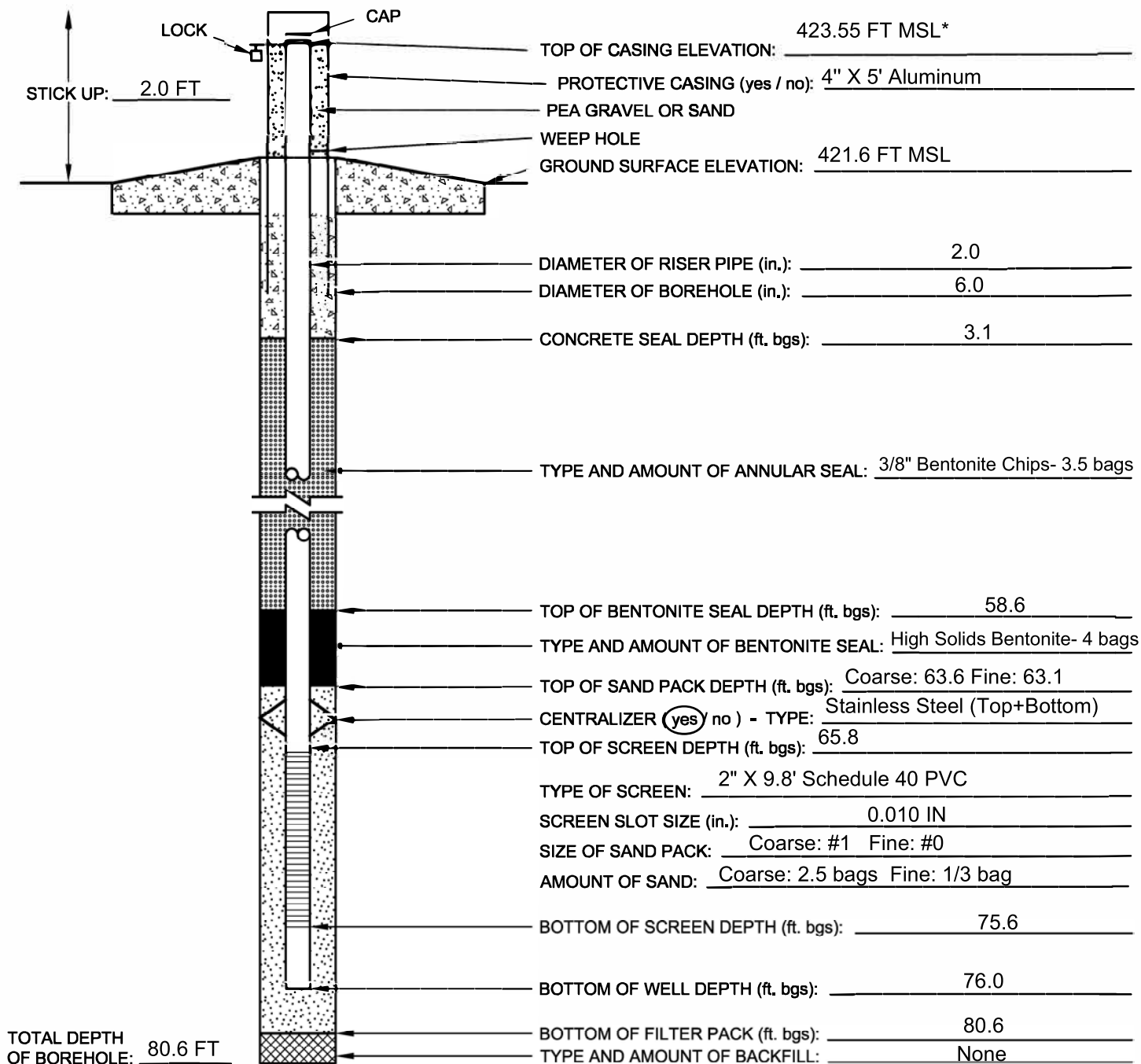
MW-8 Updated Well Construction Diagram



ABOVE GROUND MONITORING WELL CONSTRUCTION LOG

MW-8

PROJECT NAME: Ameren CCR GW Monitoring		PROJECT NUMBER: 23010-24	
SITE NAME: Meramec Energy Center		LOCATION: MW-8	
CLIENT: Ameren Missouri		SURFACE ELEVATION: 421.0 FT MSL*	
GEOLOGIST: J. Suozzi	NORTHING: 935303.6		EASTING: 866797.8
DRILLER: J. Drabek	STATIC WATER LEVEL: 38.20 FT BTOC		COMPLETION DATE: 1/24/2016*
DRILLING COMPANY: Cascade		DRILLING METHODS: Sonic	



ADDITIONAL NOTES: FT BGS = Feet Below Ground Surface. FT MSL = Feet Above Mean Sea Level. FT BTOC = Feet Below Top of Casing.

250 gallons of H₂O used during drilling. Horizontal Datum: State Plane Coordinates NAD83 US Survey FT (2000) Missouri East Zone.

Vertical datum: NAD88. Well Surveyed by Zahner and Associates, INC on February 4, 2016. Sand and Bentonite bags weight 50 lbs each.

*MW-8 repaired on July 13, 2024 and resurveyed on August 26, 2024. Diagram reflects updated depths and elevations.

CHECKED BY: G. Morey

DATE CHECKED: 01/09/2025

PREPARED BY: J. Rasmussen