REPORT

2022 Annual Groundwater Monitoring and Corrective Action Report

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

Submitted to:

Ameren Missouri

1901 Chouteau Avenue, St. Louis, Missouri 63103

Submitted by:

WSP USA Inc.

701 Emerson Road, Suite 250, Creve Coeur, Missouri 63141

+1 314 984-8800

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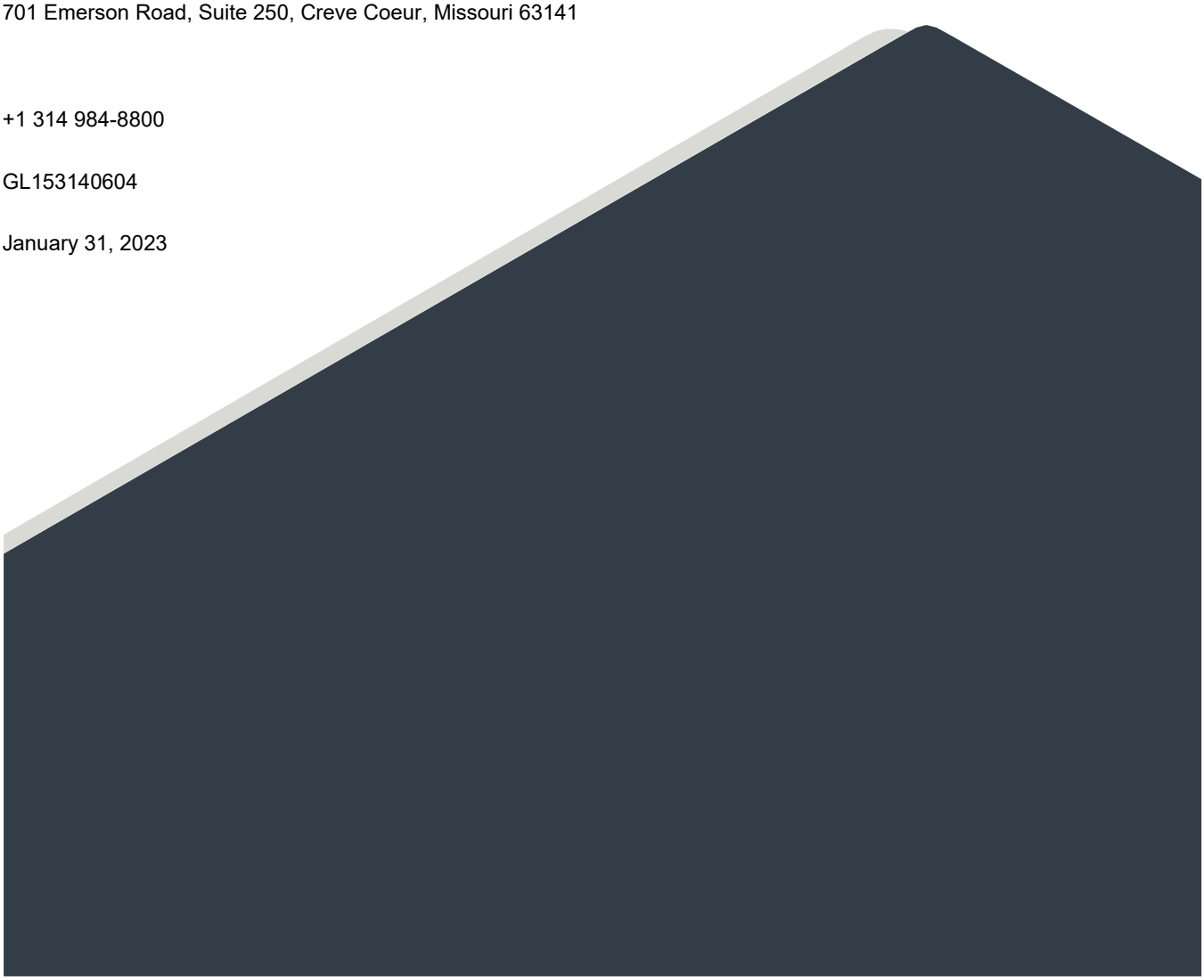

EXECUTIVE SUMMARY AND STATUS OF THE MEC SURFACE IMPOUNDMENTS GROUNDWATER MONITORING PROGRAM

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, 2022 through December 31, 2022 including verification results related to late 2021 sampling.

Throughout 2022, the multi-unit monitoring well network for the Meramec Surface Impoundments has been in Corrective Action Monitoring with Detection and Assessment Monitoring continuing concurrently. Semi-annual groundwater sampling associated with Detection Monitoring has been ongoing since it was initiated on October 17, 2017 as required by the CCR Rule. As a part of Detection Monitoring, statistical evaluations are completed after each sampling event to determine if there are any values at 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 values 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 2022 MEC Sampling Events, Previous Year Verification, and Statistical Evaluations

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSLs	SSI & SSL Determination Date
November 2021 Sampling Event	Detection & Assessment Monitoring, November 15, 2021 (See Note 7)	December 21, 2021	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions	**Boron:** MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 **Calcium:** MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 **Sulfate:** MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 **TDS:** MW-4, MW-5, MW-6, MW-7, MW-8	**Arsenic:** MW-4, MW-5 **Lithium:** MW-6, MW-7 **Molybdenum:** MW-6, MW-7, MW-8	March 18, 2022
	Verification Sampling, February 11, 2022	February 28, 2022	Detected Appendix III parameters (See Note 2)			
April 2022 Sampling Event	Detection & Assessment Monitoring, April 18-19, 2022	May 17, 2022	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters	**Boron:** MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 **Calcium:** MW-1, MW-3, MW-4, MW-6, MW-7, MW-8 **Sulfate:** MW-2, MW-3, MW-4, MW-6, MW-7, MW-8 **TDS:** MW-4, MW-6, MW-7, MW-8	**Arsenic:** MW-4, MW-5 **Lithium:** MW-6, MW-7 **Molybdenum:** MW-6, MW-7, MW-8	August 15, 2022
	No Verification Sampling was required. No new SSIs were observed in the April 2022 sampling event.					

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSLs	SSI & SSL Determination Date
November 2022 Sampling Event	Detection & Assessment Monitoring, November 4-8, 2022	December 7, 2022	Appendix III, Detected Appendix IV (See Note 3), & Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2023.		

Notes:
1) Testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the April 2021 sampling event.
2) Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.
3) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2022 sampling event.
4) SSI – Statistically Significant Increase.
5) SSL – Statistically Significant Level
6) TDS – Total Dissolved Solids.
7) Confirmatory testing was completed for monitoring wells and Appendix IV analyte combinations that were determined to be outliers from the November 2021 Corrective Action Sampling.
8) MNA – Monitored Natural Attenuation.

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

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

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

Historically, the MEC has managed CCR generated from the facility at nine surface impoundments. A figure displaying the names and locations of these impoundments is provided in **Figure 1**. The following provides the status of the different surface impoundments:

- Active Surface Impoundments in 2022 – MCPA, MCPB, and MCPC
- Closed Surface Impoundments – MCPD (closed), and MCPE (closed)
- Exempt Surface Impoundments – MOPF, MOPG, MOPH (closed), and MOPI (closed)

On August 28, 2020, the USEPA issued revisions to the CCR Rule (40 C.F.R. § 257.101(a)(1), or “Part A”) that require all unlined surface impoundments to initiate closure by April 11, 2021 unless an alternative deadline is requested and approved. To comply with these regulations, Ameren completed and posted to its website a

"Request for a Site-Specific Alternative Closure Date" where closure of the MCPA, MCPB, and MCPC CCR units was scheduled to be completed by October 17, 2023. On November 21, 2021, Ameren posted an Annual Progress Report on the Part A request. The USEPA on January 11, 2022 posted to its website (https://www.epa.gov/coalash/coal-combustion-residuals-ccr-part-implementation) a Prepublication Copy of its decision on the Part A request titled "Proposed Date to Cease Receipt of Waste for Meramec Energy Center Based on Interim Determination of Incompleteness of Demonstration" (Interim Decision).

Within the Interim Decision, the USEPA determined the following:

"The Demonstration does not meet the standard for completeness in 40 C.F.R. § 257.103(f)(3)(ii) and therefore is incomplete. Because this interim determination is being made after the April 11, 2021 deadline to cease receipt of waste, EPA is proposing that the new deadline for the MCPA, MCPB, and MCPC would be 135 days after EPA's final decision in this matter after close of the comment period. (Page 1)."

A comment period for the Interim Decision was from January 25, 2022 until February 23, 2022. During this timeframe the USEPA accepted comments only on the revised deadline and stated that it would not accept or respond to any comments on whether the Demonstration is complete. Six comments were received during the comment period, which are available online at https://www.regulations.gov/docket/EPA-HQ-OLEM-2021-0594. Comments were received from the following parties:

1) Ameren Missouri
2) Washington University in St. Louis School of Law Interdisciplinary Environmental Clinic
3) Utility Solid Waste Activities Group (USWAG)
4) Environmental Protection Network (EPN)
5) Midcontinent Independent System Operator (MISO)
6) Mike Shimmelpfennig

At this time, the USEPA has not issued its final decision. However, Ameren has ceased operation of the Meramec Energy Center as of December 31, 2022. Additionally, closure design has been initiated for the remaining Meramec Surface Impoundments. Further information on the closure of the MEC Surface Impoundments will be included in the 2023 Annual Report.

As part of phase 1 of the corrective measures remedial plan as outlined in the Remedy Selection Report, the corrective action monitoring well network was sampled during 2022. These sampling events are summarized in **Table 2**. Once the MEC Surface Impoundments are all closed, phase 2 of the corrective measures remedial plan will go into effect and statistical evaluations will be completed to determine if there are any values in the corrective action monitoring well network that are statistically exceeding the GWPS. 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).

Table 2 - Summary of 2022 MEC Sampling Events for Corrective Action Monitoring Well Network

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt Date	Parameters Collected
November 2021 Sampling Event	Phase 1 – Corrective Action Sampling November 12, 2021	December 27, 2021	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions
April 2022 Sampling Event	Phase 1 – Corrective Action Sampling April 18-19, 2022	June 1, 2022	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters
November 2022 Sampling Event	Phase 1 – Corrective Action Sampling November 7-8, 2022	December 7, 2022	Appendix III, Detected Appendix IV (See Note 2), & Major Cations and Anions

Notes:

1) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2021 sampling event.
2) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2022 sampling event.

Supplemental Corrective Measures

In addition to MNA as a Corrective Action Remedy at Meramec, Ameren is currently evaluating the implementation of a groundwater treatment system similar to the system implemented at the Rush Island Energy Center (RIEC). Results of the groundwater treatment system at the RIEC have shown treatment to be effective at significantly reducing key CCR parameters. A pilot study for groundwater treatment at the MEC is planned to commence in 2023 or 2024.

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1.0 INTSTALLATION OR DECOMISSIONING OF MONITORING WELLS

There are currently two different networks used for monitoring the MEC Surface Impoundments and 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 2022. A summary of the well construction details for monitoring wells in both networks is provided in **Table 3**. Further details including well construction diagrams for these wells are provided in previous Annual Reports for the MEC Surface Impoundments.

2.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the MEC Surface Impoundments in 2022. **Tables 4** and **5** provide a summary of the groundwater samples collected in 2022 including the number of samples, the date of the sample collection, and the monitoring program for which the samples were collected. **Appendix A** provides laboratory analytical data for CCR Rule sampling events.

2.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 15, 2021. Verification sampling and the statistical analysis to evaluate for SSIs for the November 2021 event were not completed until 2022 and are therefore included in this report. New detections of Appendix III analytes triggered a verification sampling event, which was completed on February 11, 2022 and verified SSIs. **Table 6** summarizes the results and the statistical analysis of the November 2021 Detection Monitoring event.

Detection Monitoring samples were collected April 18-19, 2022 and testing was completed for all Appendix III analytes, as well as major cations and anions. There were no new initial exceedances for the April 2022 event, therefore, no verification sampling was necessary. **Table 7** summarizes the results and the statistical analysis of the April 2022 Detection Monitoring event.

A Detection Monitoring sampling event was completed November 4-8, 2022 and testing was performed for all Appendix III analytes, as well as major cations and anions. Statistical analyses to evaluate for SSIs in the November 2022 data were not completed in 2022 and will be included in the 2023 Annual Report. **Table 8** summarizes the results of the November 2022 Detection Monitoring event.

2.2 Assessment Monitoring Program

An Assessment Monitoring sampling event was completed November 15, 2021 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 2022 and is included in this report. During review of the November 2021 data, it was discovered that there were outliers for cobalt and lithium at some monitoring wells due to laboratory errors. Therefore, select samples were re-analyzed. For those samples that did not have sufficient sample volume to have the original sample re-analyzed, confirmatory samples were collected on February 11, 2022. These results are discussed more in Section 2.5. **Table 9** summarizes the results of the November 2021 Assessment Monitoring event. The results from this analysis and a table that displays the site-specific GWPS are provided in **Appendix B** and determined there were no new SSLs. The SSLs for the MEC CCR Units continue to be:

- Arsenic at MW-4 and MW-5

- Lithium at MW-6 and MW-7
- Molybdenum at MW-6, MW-7, and MW-8

An Assessment Monitoring sampling event was completed April 18-19, 2022 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 April 2022 Assessment Monitoring event. The statistical evaluation for this event was completed in 2022 and is included in this report. The results from this analysis and a table that displays the site specific GWPS are provided in **Appendix C** and determined that there were no new SSLs.

An Assessment Monitoring sampling event was completed November 4-8, 2022 and testing was completed for Appendix IV analytes that were detected above the PQL during the April 2022 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 November 2022 Assessment Monitoring event; however, statistical analysis to evaluate SSLs was not completed in 2022. Results of the statistical evaluation will be included in the 2023 Annual Report.

2.3 Corrective Action Monitoring

A Corrective Action sampling event was completed November 12, 2021, 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. During review of the November 2021 data, it was discovered that there were outliers for lithium and cobalt at some monitoring wells due to laboratory errors, therefore, select samples were re-analyzed and these results are discussed more in Section 2.5. The statistical evaluation for this event was completed in 2022 and is included in this report. A summary of the November 2021 Corrective Action sampling event results is provided in **Table 12**.

A Corrective Action sampling event was completed April 18-19, 2022 and testing was completed for Appendix III analytes, Appendix IV analytes, major cations and anions, and other selected MNA parameters. **Table 13** summarizes the results of the April 2022 Corrective Action sampling event.

A Corrective Action sampling event was completed November 4-8, 2022 and testing was completed for Appendix III analytes, Appendix IV analytes that were detected above the PQL during the April 2022 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. **Table 14** summarizes the results of the November 2022 Corrective Action sampling event.

2.4 Groundwater Elevation, Flow Rate and Direction

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

Groundwater elevations were used to generate potentiometric surface maps included in **Appendix D**. As shown on the potentiometric surface maps, groundwater flow within the uppermost aquifer is dynamic and influenced by seasonal changes in the water level in the adjacent Mississippi and Meramec Rivers. Water flows into and out of the alluvial aquifer due to fluctuating river water levels that produce “bank recharge” and “bank discharge” conditions. Overall, based on potentiometric surface maps, a general flow direction from the northeast (bluffs) to the southwest (Mississippi and Meramec Rivers) under normal river conditions is expected. 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.

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 is somewhat variable, the overall net groundwater flow at the Meramec Surface Impoundments is from the bluffs toward the rivers. Horizontal gradients calculated by the program for the wells range from 0.0002 to 0.004 feet/foot with an estimated net annual groundwater movement of approximately 79 feet per year in the prevailing downgradient direction.

2.5 Sampling Issues

During review of the November 2021 Corrective Action sampling data and the statistical evaluation of the November 2021 Assessment Monitoring event data (**Appendix B**), outliers were identified at multiple monitoring wells for cobalt and lithium. The outliers were primarily caused by higher than usual dilution factors (laboratory error). This resulted in erroneous lithium and cobalt results. For example, the diluted high PQLs resulted in non-detect results for lithium with PQLs above the GWPS of 40 micrograms per liter (µg/L) in multiple wells. Therefore, for samples with sufficient sample volume remaining, the laboratory re-analyzed the samples with lower dilution factors to determine if results were below the GWPS. For MW-2, MW-3, and MW-5, the laboratory incorrectly identified that there was insufficient sample volume remaining to re-analyze the samples, so a confirmatory sample was collected on February 11, 2022. However, the laboratory did have sufficient volume for these samples from the November 2021 sampling event to complete a re-test. As a result, there are two results for these samples. Results from this testing displayed that the majority of the erroneous results were outliers since the re-test results were generally within historical ranges at each well. The results of these tests are included in **Table 15** and the laboratory data packets with revised results are provided in **Appendix A**.

No other notable sampling issues were encountered at the MEC in 2022.

3.0 ACTIVITIES PLANNED FOR 2023

Detection and Assessment Monitoring are scheduled to continue on a semi-annual basis in the second and fourth quarters of 2023. Statistical analysis of the November 2022 Detection and Assessment Monitoring data will be completed in 2022 and will be included in the 2023 Annual Report.

The MEC Surface Impoundments are currently in phase 1 of the corrective measures remedial plan as outlined in the Remedy Selection Report. Therefore, semi-annual baseline sampling of the Corrective Action Monitoring Well Network is scheduled to continue in second and fourth quarters of 2023. Once closure of the MEC Surface Impoundments is completed, the MEC will begin following the post-closure care requirements and move into phase 2 of the corrective measures remedial plan discussed in the Remedy Selection Report.

Additionally, a pilot study for a groundwater treatment system is expected to begin in 2023 or 2024. Pending the results of this pilot study, drilling and implementation of a groundwater treatment system may commence in 2023 or 2024.

Tables

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

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

Notes:

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

2) FT MSL- Feet above mean sea level.

3) FT BGS - Feet below ground surface.

4) Vertical Datum: NAVD88 feet.

Prepared By: BTT
Checked By: RJF
Reviewed By: MNH

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

Groundwater Monitoring Wells	Date of Sample Collection			
	February 2022 Verification and Confirmatory Sampling	April 2022 Sampling Event	November 2022 Sampling Event	Total Number of Samples
CCR Rule Compliance Monitoring Well Network				
BMW-1	-	4/18/2022	11/7/2022	2
BMW-2	-	4/18/2022	11/8/2022	2
MW-1	-	4/18/2022	11/4/2022	2
MW-2	2/11/2022	4/19/2022	11/4/2022	3
MW-3	2/11/2022	4/19/2022	11/4/2022	3
MW-4	-	4/18/2022	11/7/2022	2
MW-5	2/11/2022	4/18/2022	11/7/2022	3
MW-6	-	4/18/2022	11/4/2022	2
MW-7	-	4/18/2022	11/4/2022	2
MW-8	-	4/18/2022	11/4/2022	2
Detection or Assessment Monitoring	Assessment/ Detection	Assessment/ Detection	Assessment/ Detection	NA

Notes:

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

2.) Verification Sampling results provided in Table 6.

3.) Assessment Monitoring results provided in Tables 9-11 and Table 15.

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

5.) NA - Not Applicable.

6.) Confirmatory sampling completed in February 2022 at monitoring wells with outliers for Appendix IV parameters during the November 2021 sampling event. Results are provided in Table 15.

Prepared by: SSS
Checked by: JAB
Reviewed by: MNH

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

Groundwater Monitoring Wells	Date of Sample Collection		
	April 2022 Sampling Event	November 2022 Sampling Event	Number of Samples
Corrective Action Monitoring Well Network			
MW-9 (AMW-1)	4/19/2022	11/7/2022	2
MW-10 (AMW-2)	4/18/2022	11/7/2022	2
MW-11S	4/18/2022	11/7/2022	2
MW-11D	4/18/2022	11/8/2022	2
TP-1	4/19/2022	11/7/2022	2
TP-2	4/18/2022	11/7/2022	2
Event Type	Corrective Action	Corrective Action	NA

Notes:
1.) Corrective Action sampling results provided in Tables 12-15.
2.) NA - Not Applicable.

Prepared by: SSS
Checked by: JAB
Reviewed by: MNH

Table 6
November 2021 Detection Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
November 2021 Detection Monitoring Event												
DATE	NA	NA	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021
pH	SU	6.443-7.611	6.91	6.62	6.71	6.45	6.64	6.90	7.19	6.65	7.04	6.65
BORON, TOTAL	µg/L	660.8	219	123	ND	4,850	11,500	12,100	6,510	7,940	32,000	10,000
CALCIUM, TOTAL	µg/L	127,529	124,000	116,000	143,000	138,000	166,000	201,000	164,000	403,000	501,000	213,000
CHLORIDE, TOTAL	mg/L	248	119 J	14.3	44.4	33.6	36.4	51.7	44.2	14.1	58.0	27.8
FLUORIDE, TOTAL	mg/L	0.504	0.31 J	0.32	0.18 J	ND	0.18 J	0.11 J	0.23	ND	ND	0.15 J
SULFATE, TOTAL	mg/L	201.4	54.1 J	35.1	111	328	407	572	325	604	1,150	428
TOTAL DISSOLVED SOLIDS	mg/L	832	596	489	615	804	926	1,090	919	1,380	2,210	961
February 2022 Verification Sampling Event												
DATE	NA	NA				2/11/2022	2/11/2022		2/11/2022			
pH	SU	6.443-7.611										
BORON, TOTAL	µg/L	660.8										
CALCIUM, TOTAL	µg/L	127,529				108,000						
CHLORIDE, TOTAL	mg/L	248										
FLUORIDE, TOTAL	mg/L	0.504										
SULFATE, TOTAL	mg/L	201.4										
TOTAL DISSOLVED SOLIDS	mg/L	832					702 J		857			

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

Prepared By: EMS
Checked By: BTT
Reviewed By: MNH

Table 7
April 2022 Detection Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
April 2022 Detection Monitoring Event												
DATE	NA	NA	4/18/2022	4/18/2022	4/18/2022	4/19/2022	4/19/2022	4/18/2022	4/18/2022	4/18/2022	4/18/2022	4/18/2022
pH	SU	6.443-7.611	7.02	6.83	6.96	6.54	6.69	7.21	7.31	6.72	7.32	6.87
BORON, TOTAL	µg/L	660.8	147	85.8 J	46.5 J	2,470	5,790	13,700	4,320	10,400	28,800 J	8,170
CALCIUM, TOTAL	µg/L	127,529	114,000	107,000	132,000	100,000	142,000	201,000	117,000	359,000	423,000 J	230,000
CHLORIDE, TOTAL	mg/L	248	108	13.9	44.9	24.3	35.6	44.8	46.9	19.2	60.6	49.1
FLUORIDE, TOTAL	mg/L	0.504	ND	ND	0.34	ND	ND	ND	ND	ND	ND	ND
SULFATE, TOTAL	mg/L	201.4	76.3	26.0	114	216	241	554	165	580	1,080	603
TOTAL DISSOLVED SOLIDS	mg/L	832	627	486	644	636	754	1,190	635	1,400	2,040	1,200

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units.
2. J - Result is an estimated value.
3. NA - Not applicable.
4. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
4. Prediction Limits calculated using Sanitas Software.
5. Values highlighted in yellow indicate a Statistically Significant Increase (SSI).
6. Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.
7. There were no new initial exceedances for the April 2022 event; therefore, no Verification Sampling was necessary.

Prepared By: GTM
Checked By: BTT
Reviewed By: MNH

Table 8
November 2022 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
November 2022 Detection Monitoring Event											
DATE	NA	11/7/2022	11/8/2022	11/4/2022	11/4/2022	11/4/2022	11/7/2022	11/7/2022	11/4/2022	11/4/2022	11/4/2022
pH	SU	6.98	6.87	6.75	6.49	6.61	6.84	6.96	6.73	7.12	6.79
BORON, TOTAL	µg/L	122	75.4 J	43.5 J	1,860	2,860	15,100	6,920	4,300	20,300	9,770
CALCIUM, TOTAL	µg/L	149,000	121,000	139,000	94,400	115,000	214,000	161,000	364,000	385,000	205,000
CHLORIDE, TOTAL	mg/L	189	13.9	52.0	23.3	42.4	48.2	45.2	10.2	90.1	34.5
FLUORIDE, TOTAL	mg/L	ND	ND	0.24	ND	ND	ND	ND	ND	0.58	ND
SULFATE, TOTAL	mg/L	64.3	50.5	137	166	182	542	307	633	859	495
TOTAL DISSOLVED SOLIDS	mg/L	773	550	678	587	647	1,130	849	1,390	1,680	1,440

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

Prepared By: GTM
Checked By: PCS
Reviewed By: MNH

Table 9
November 2021 Assessment Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
FIELD PARAMETERS											
DATE	NA	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021	11/15/2021
DISSOLVED OXYGEN	mg/L	0.48	0.26	1.41	0.34	0.13	0.14	0.12	0.70	2.23	5.26
pH	SU	6.91	6.62	6.71	6.45	6.64	6.90	7.19	6.65	7.04	6.65
REDOX POTENTIAL	mV	-34.4	-117.0	-116.2	-101.1	-111.9	-135.2	-154.8	-35.0	-12.9	-78.0
SPECIFIC CONDUCTIVITY	mS/cm	1.108	0.932	1.116	1.289	1.389	1.585	1.366	1.887	2.483	1.363
TURBIDITY	NTU	4.23	2.82	4.12	4.89	4.09	10.9	5.21	9.00	0.60	9.51
APPENDIX IV PARAMETERS											
ARSENIC, TOTAL	µg/L	2.8	2.0	0.61 J	1.8	8.3	14.1	22.2	2.0	2.7	5.9
BARIUM, TOTAL	µg/L	210	599	366	270	218	188	220	50.6	43.1	167
CHROMIUM, TOTAL	µg/L	0.34 J	0.46 J	0.28 J	0.36 J	0.58 J	0.34 J	0.29 J	0.28 J	0.52 J	0.45 J
COBALT, TOTAL	µg/L	4.4 J	11.3	6.3	4.6 J	4.6 J	3.8 J	4.1 J	7.4	1.6 J	3.2 J
FLUORIDE, TOTAL	mg/L	0.31 J	0.32	0.18 J	ND	0.18 J	0.11 J	0.23	ND	ND	0.15 J
LITHIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	92.7 J	42.4	32.7
MOLYBDENUM, TOTAL	µg/L	4.5 J	ND	ND	ND	6.1 J	62.8	83.1	122	416	218
RADIUM [226 + 228]	pCi/L	1.081	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	1.3	ND	ND	ND	ND	ND	ND	ND	9.1	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.
6. Statistical Analysis for the November 2021 Assessment Monitoring data is provided in Appendix B.

Prepared By: EMS
Checked By: GTM
Reviewed By: MNH

Table 10
April 2022 Assessment Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
FIELD PARAMETERS											
DATE	NA	4/18/2022	4/18/2022	4/18/2022	4/19/2022	4/19/2022	4/18/2022	4/18/2022	4/18/2022	4/18/2022	4/18/2022
DISSOLVED OXYGEN	mg/L	0.36	0.12	0.07	0.67	0.13	0.30	0.03	0.11	0.27	0.13
pH	SU	7.02	6.83	6.96	6.54	6.69	7.21	7.31	6.72	7.32	6.87
REDOX POTENTIAL	mV	81.9	-140.0	24.3	9.0	-5.9	-188.1	39.5	-86.9	66.1	-91.2
SPECIFIC CONDUCTIVITY	mS/cm	1.002	0.826	1.099	1.031	1.188	1.566	1.057	1.652	2.323	1.450
TURBIDITY	NTU	2.84	2.58	4.96	9.97	7.35	4.93	4.09	4.02	1.34	17.8
APPENDIX IV PARAMETERS											
ANTIMONY, TOTAL	µg/L	0.36 J	ND	ND	ND	ND	ND	ND	ND	0.43 J	ND
ARSENIC, TOTAL	µg/L	2.9	1.3	0.69 J	1.8	8.0	15.2	21.3	6.3	3.3	5.6
BARIUM, TOTAL	µg/L	211	570	362	228	205	194	159	54.6	42.3	76.8
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	0.071 J	ND	ND	ND	ND	0.055 J	0.27 J	ND
CHROMIUM, TOTAL	µg/L	ND	0.43 J	0.55 J	0.48 J	ND	0.65 J	0.34 J	0.35 J	0.38 J	0.32 J
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	3.4 J	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	0.34	ND	ND	ND	ND	ND	ND	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	11.8	7.7 J	ND	ND	6.7 J	23.5	16.0	137	46.0	36.0
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	4.6 J	ND	1.5 J	1.7 J	3.5 J	74.2	79.2	114	456	178
RADIUM [226 + 228]	pCi/L	1.326	ND	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	7.6	ND	ND	ND	ND	ND	ND	ND	1.6	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.
6. Statistical Analysis for the April 2022 Assessment Monitoring data is provided in Appendix C.

Prepared By: GTM
Checked By: SMA
Reviewed By: MNH

Table 11
November 2022 Assessment Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

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

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

Prepared By: GTM
Checked By: PCS
Reviewed By: MNH

Table 12
November 2021 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	11/12/2021	11/12/2021	11/12/2021	11/12/2021	11/12/2021	11/12/2021
DISSOLVED OXYGEN	mg/L	1.10	0.57	0.16	0.42	0.29	1.97
REDOX POTENTIAL	mV	-134.8	-149.6	-117.0	-128.1	-114.9	-144.6
SPECIFIC CONDUCTIVITY	mS/cm	1.368	0.796	1.805	2.400	1.850	1.687
TURBIDITY	NTU	2.41	0.97	8.82	0.31	0.51	0.83
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	6,330	440	1,870	2,590	191	11,200
CALCIUM, TOTAL	µg/L	168,000	71,300	237,000	250,000	293,000	247,000
CHLORIDE, TOTAL	mg/L	37.7	26.9	78.3	280	12.1	44.2
pH	SU	6.92	7.12	6.77	6.83	6.33	6.82
SULFATE, TOTAL	mg/L	305	1.3	315	532	0.46 J	592
TOTAL DISSOLVED SOLIDS	mg/L	888	414	1,200	1,590	976	1,160
APPENDIX IV PARAMETERS							
ARSENIC, TOTAL	µg/L	ND	20.0	18.0	4.2	4.3	11.1 J
BARIUM, TOTAL	µg/L	306	347	123	68.0	630	149
CHROMIUM, TOTAL	µg/L	0.31 J	0.25 J	0.25 J	0.33 J	0.45 J	ND
COBALT, TOTAL	µg/L	1.4 J	1.3 J	5.3	ND	1.6 J	1.7 J
FLUORIDE, TOTAL	mg/L	0.25	0.45	0.24	0.27	0.18 J	0.30
LITHIUM, TOTAL	µg/L	ND	24.7	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	35.7	3.6 J	5.5 J	11.0 J	3.4 J	289
RADIUM [226 + 228]	pCi/L	ND	ND	1.397 J	ND	1.431 J	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	0.19 J	ND
ADDITIONAL PARAMETERS							
ALKALINITY	mg/L	327	355	538	375	968	292
IRON, TOTAL	µg/L	19,600	3,280	11,800	17,600	41,900	21,800
MAGNESIUM, TOTAL	µg/L	56,000	30,100	60,300	67,000	64,200	59,700
MANGANESE, TOTAL	µg/L	529	67.5	650	627	2,590	761
POTASSIUM, TOTAL	µg/L	4,890	3,050	10,200	8,580	6,920	6,540
SODIUM, TOTAL	µg/L	41,300	49,900	84,600	191,000	17,200	46,800

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

Prepared By: EMS
Checked By: GTM
Reviewed By: MNH

Table 13
April 2022 Corrective Action Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

ANALYTE	UNITS	MW-9 (AMW-1)	TP-1	MW-10 (AMW-2)	TP-2	MW-11S	MW-11D
FIELD PARAMETERS							
DATE	NA	4/19/2022	4/19/2022	4/18/2022	4/18/2022	4/18/2022	4/18/2022
DISSOLVED OXYGEN	mg/L	0.12	0.07	0.09	0.33	0.29	0.38
REDOX POTENTIAL	mV	3.1	-16.4	-140.1	-145.0	28.3	2.7
SPECIFIC CONDUCTIVITY	mS/cm	1.348	0.771	1.449	2.159	1.715	1.564
TURBIDITY	NTU	3.04	1.83	9.86	0.64	3.58	2.85
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	7,110	399	2,220	2,550	1,010	11,200
CALCIUM, TOTAL	µg/L	176,000	71,000	197,000	240,000	246,000 J	220,000
CHLORIDE, TOTAL	mg/L	40.1	23.0	89.7	257	13.8	48.0
pH	SU	6.98	7.49	6.93	7.04	6.62	7.27
SULFATE, TOTAL	mg/L	360	1.2	273	551	0.77 J	586
TOTAL DISSOLVED SOLIDS	mg/L	941	403	1,040	1,610	943	1,170
APPENDIX IV PARAMETERS							
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	19.0	21.3	12.8	4.0	5.3	11.6
BARIUM, TOTAL	µg/L	326	344	153	64.1	675	117
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.087 J
CHROMIUM, TOTAL	µg/L	ND	ND	0.44 J	ND	0.47 J	ND
COBALT, TOTAL	µg/L	ND	ND	2.0 J	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	18.5	20.7	36.5	43.6	20.7	40.5
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	34.3	0.99 J	10.2 J	10.5 J	ND	297
RADIUM [226 + 228]	pCi/L	ND	ND	1.732	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	322	376	437	393	916	246
IRON, FERRIC, TOTAL	mg/L	20.4	2.9	14.8	17.6	52.1	17.5
IRON, FERROUS, TOTAL	mg/L	1.3 J	0.34 J	0.68 J	0.71 J	2.8 J	1.1 J
IRON, TOTAL	µg/L	21,600	3,240	15,500	18,300	54,900	18,700
MAGNESIUM, TOTAL	µg/L	56,200	29,500	47,100	62,800	67,200	52,100
MANGANESE, TOTAL	µg/L	603	61.1	594	648	1,670	610
POTASSIUM, TOTAL	µg/L	5,080	2,870	8,760	8,790	8,440	5,640
SODIUM, TOTAL	µg/L	44,200	47,100	78,100	192,000	23,400	48,200
SULFIDE, TOTAL	mg/L	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 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: SMA
Reviewed By: MNH

Table 14
November 2022 Corrective Action Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

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

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

Prepared By: GTM
Checked By: PCS
Reviewed By: MNH

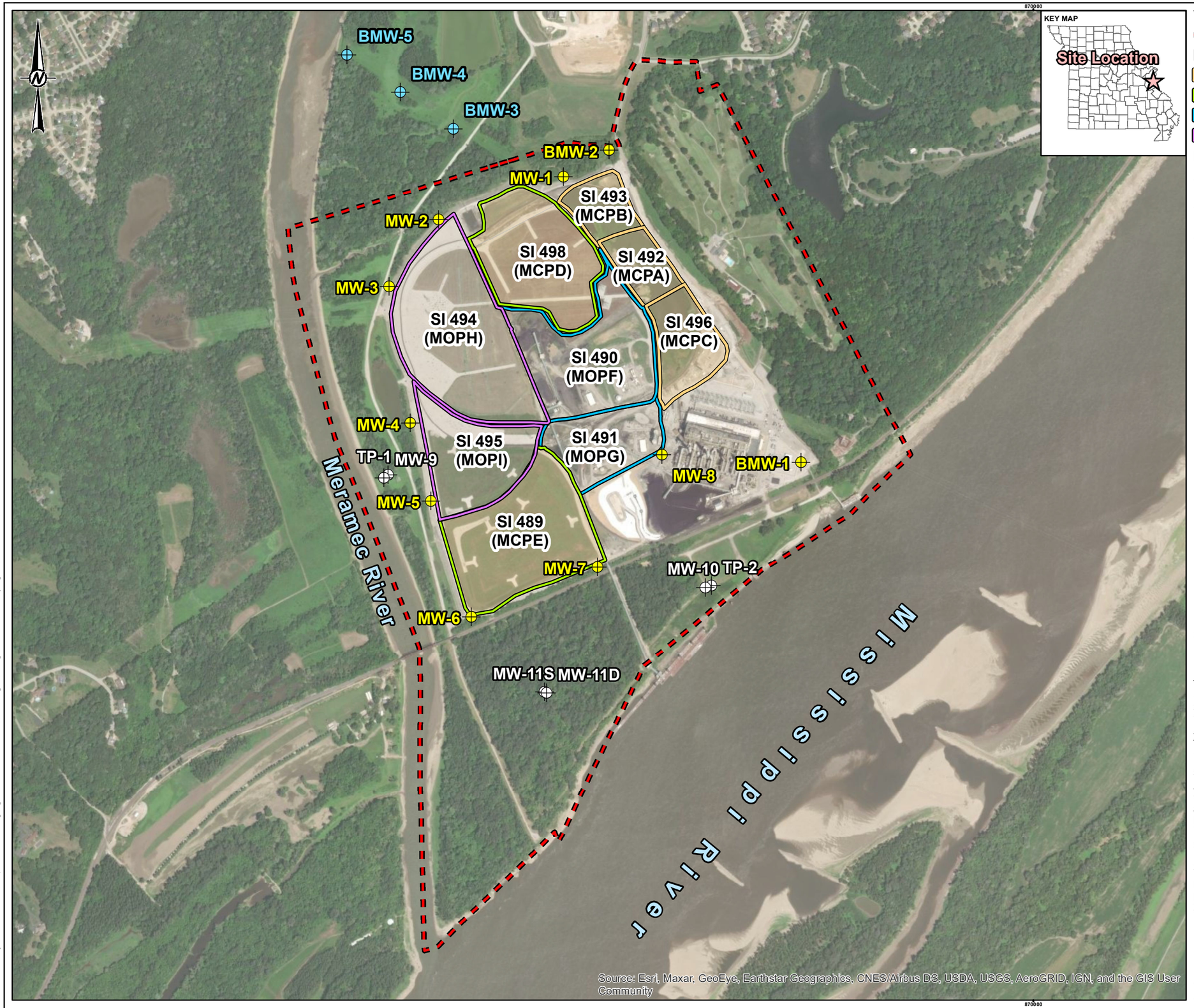
Table 15
November 2021 Re-testing and February 2022 Confirmatory Sampling Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Monitoring Network	Well ID	Sample Date	Units	Lithium, Total		Cobalt, Total	
				Result	PQL	Result	PQL
Assessment Monitoring	BMW-1	11/15/2021	µg/L	ND	30.0	ND	15.0
	BMW-2	11/15/2021	µg/L	ND	30.0	ND	15.0
	MW-1	11/15/2021	µg/L	ND	30.0	ND	15.0
	MW-2	11/15/2021	µg/L	ND	30.0	ND	15.0
	MW-2[5]	2/11/2022	µg/L	ND	20.0	1.6 J	5.0
	MW-3	11/15/2021	µg/L	ND	30.0	ND	15.0
	MW-3[5]	2/11/2022	µg/L	ND	20.0	1.7 J	5.0
	MW-4	11/15/2021	µg/L	ND	30.0	ND	15.0
	MW-5	11/15/2021	µg/L	ND	30.0	ND	15.0
	MW-5[5]	2/11/2022	µg/L	ND	30.0	ND	5.0
	MW-7	11/15/2021	µg/L	42.4 J	50.0	ND	15.0
	MW-8	11/15/2021	µg/L	32.7 J	30.0	ND	15.0
Corrective Action	MW-9	11/12/2021	µg/L	ND	20.0	ND	10.0
	MW-10	11/12/2021	µg/L	40.6	30.0	5.0 J	15.0
	MW-11S	11/12/2021	µg/L	ND	40.0	3.2 J	15.0
	MW-11D	11/12/2021	µg/L	41.6	30.0	ND	15.0
	TP-2	11/12/2021	µg/L	41.1 J	30.0	-	-

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter.
2. "-" Sample not re-analyzed for this analyte.
3. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
4. J - Result is an estimated value.
5. Re-sampled in February 2022 due to laboratory uncertainty (error) regarding having sufficient sample volume to re-analyze the sample collected in November 2021.

Prepared By: JAB
Checked By: GTM
Reviewed By: MNH

Figures



KEY MAP

LEGEND

- Meramec Energy Center Property Boundary
- Regulated Surface Impoundment
- Active in 2022 Surface Impoundment
- Capped and Closed Surface Impoundment
- Exempt Surface Impoundment
- Capped and Closed Exempt Surface Impoundment

Monitoring Well Networks

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

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

Feet

NOTE(S)

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.

REFERENCE(S)

1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2,401 FEET.

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

PROJECT
GROUNDWATER MONITORING PROGRAM

TITLE
MERAMEC ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-13
DESIGNED	JSI
PREPARED	BTT
REVIEWED	EMS
APPROVED	MNH

PROJECT NO.
153140604

FIGURE
1

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

PATH: C:\Users\EVFonney\Golder Associates\153140602, Ameren GW Monitoring Program 2020 - 5 Technical Work\00004-MEC\4.4-Figures-Drawings\PRODUCTION\Other Maps\Figure 1 - MEC Site Aerial.mxd PRINTED ON: 2023-01-20 AT: 1:40:32 PM

APPENDIX A

Laboratory Analytical Data

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

March 21, 2022

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

RE: Project: AMEREN MEC
Pace Project No.: 60386287

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on November 17, 2021. 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 - Indianapolis
- Pace Analytical Services - Kansas City
- Pace Analytical Services - Greensburg

REV-1, 3/21/22: Lithium reanalyzed at lower dilution to meet action limit. Duplicate Cobalt results reported for select samples.

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: Ryan Feldmann, Golder
Mark Haddock, Golder Associates
Eric Schneider, Golder Associates
Brendan Talbert, Golder Associates

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

CERTIFICATIONS

Project: AMEREN MEC
Pace Project No.: 60386287

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

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Soil Permit #: P330-19-00257

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60386287001	**M-MW-1**	Water	11/15/21 11:31	11/17/21 03:47
60386287002	**M-MW-2**	Water	11/15/21 09:32	11/17/21 03:47
60386287003	**M-MW-3**	Water	11/15/21 11:10	11/17/21 03:47
60386287004	**M-MW-4**	Water	11/15/21 13:31	11/17/21 03:47
60386287005	**M-MW-5**	Water	11/15/21 14:46	11/17/21 03:47
60386287006	**M-MW-6**	Water	11/15/21 16:21	11/17/21 03:47
60386287007	**M-MW-7**	Water	11/15/21 15:03	11/17/21 03:47
60386287008	**M-MW-8**	Water	11/15/21 10:02	11/17/21 03:47
60386287009	**M-BMW-1**	Water	11/15/21 12:45	11/17/21 03:47
60386287010	**M-BMW-2**	Water	11/15/21 13:54	11/17/21 03:47
60386287011	**M-DUP-1**	Water	11/15/21 00:00	11/17/21 03:47
60386287012	**M-FB-1**	Water	11/15/21 12:00	11/17/21 03:47
60386287013	**M-MS-1**	Water	11/15/21 11:10	11/17/21 03:47
60386287014	**M-MSD-1**	Water	11/15/21 11:10	11/17/21 03:47

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60386287001	M-MW-1	EPA 200.7	JLH, MA1, MRV	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287002	M-MW-2	EPA 200.7	JLH, MA1, MRV	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287003	M-MW-3	EPA 200.7	JLH, MA1, MRV	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287004	M-MW-4	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287005	M-MW-5	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287006	M-MW-6	EPA 200.7	JLH, MA1	11	PASI-K

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287007	**M-MW-7**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287008	**M-MW-8**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60386287009	**M-BMW-1**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60386287010	**M-BMW-2**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60386287011	**M-DUP-1**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386287012	**M-FB-1**	EPA 200.7	JLH	11	PASI-K
		EPA 200.8	JGP	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386287013	**M-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60386287014	**M-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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

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

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-1 **Lab ID: 60386287001** Collected: 11/15/21 11:31 Received: 11/17/21 03:47 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	**366**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:03	7440-39-3	
Boron	**31.2J**	ug/L	100	8.6	1	12/08/21 15:58	12/10/21 12:25	7440-42-8	
Calcium	**143000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:03	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 17:43	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:20	7440-48-4	D3
Iron	**16300**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:03	7439-89-6	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:20	7439-93-2	D3
Magnesium	**45100**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:03	7439-95-4	
Manganese	**1980**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:03	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:03	7439-98-7	
Potassium	**1620**	ug/L	500	146	1	12/08/21 15:58	12/10/21 12:25	7440-09-7	
Sodium	**29300**	ug/L	500	254	1	12/08/21 15:58	12/10/21 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	**0.61J**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:36	7440-38-2	
Chromium	**0.28J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:36	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**400**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**615**	mg/L	10.0	10.0	1		11/19/21 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**44.4**	mg/L	10.0	3.9	10		11/23/21 15:41	16887-00-6	B
Fluoride	**0.18J**	mg/L	0.20	0.086	1		11/23/21 15:28	16984-48-8	
Sulfate	**111**	mg/L	10.0	4.2	10		11/23/21 15:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-2 **Lab ID: 60386287002** Collected: 11/15/21 09:32 Received: 11/17/21 03:47 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	**270**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:05	7440-39-3	
Boron	**4850**	ug/L	100	8.6	1	12/08/21 15:58	12/10/21 12:27	7440-42-8	
Calcium	**138000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:05	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 17:45	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:23	7440-48-4	D3
Iron	**55600**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:05	7439-89-6	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:23	7439-93-2	D3
Magnesium	**43100**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:05	7439-95-4	
Manganese	**6390**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:05	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:05	7439-98-7	
Potassium	**2350**	ug/L	500	146	1	12/08/21 15:58	12/10/21 12:27	7440-09-7	
Sodium	**47500**	ug/L	500	254	1	12/08/21 15:58	12/10/21 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	**1.8**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:38	7440-38-2	
Chromium	**0.36J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:38	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:38	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**271**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**804**	mg/L	10.0	10.0	1		11/19/21 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**33.6**	mg/L	2.0	0.78	2		11/23/21 16:33	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/23/21 16:20	16984-48-8	
Sulfate	**328**	mg/L	50.0	21.0	50		11/23/21 16:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-3 **Lab ID: 60386287003** Collected: 11/15/21 11:10 Received: 11/17/21 03:47 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	**218**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:08	7440-39-3	
Boron	**11500**	ug/L	100	8.6	1	12/08/21 15:58	12/10/21 12:29	7440-42-8	
Calcium	**166000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:08	7440-70-2	M1
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 17:47	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:25	7440-48-4	D3
Iron	**36400**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:08	7439-89-6	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:25	7439-93-2	D3
Magnesium	**47000**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:08	7439-95-4	
Manganese	**2010**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:08	7439-96-5	
Molybdenum	**6.1J**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:08	7439-98-7	
Potassium	**4520**	ug/L	500	146	1	12/08/21 15:58	12/10/21 12:29	7440-09-7	
Sodium	**42800**	ug/L	500	254	1	12/08/21 15:58	12/10/21 12:29	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**8.3**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:40	7440-38-2	
Chromium	**0.58J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:40	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:40	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**259**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**926**	mg/L	10.0	10.0	1		11/19/21 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**36.4**	mg/L	5.0	1.9	5		11/23/21 17:51	16887-00-6	B
Fluoride	**0.18J**	mg/L	0.20	0.086	1		11/23/21 16:59	16984-48-8	
Sulfate	**407**	mg/L	50.0	21.0	50		11/23/21 19:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-4 **Lab ID: 60386287004** Collected: 11/15/21 13:31 Received: 11/17/21 03:47 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	**188**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:24	7440-39-3	
Boron	**12100**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:24	7440-42-8	
Calcium	**201000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:24	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 17:54	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:32	7440-48-4	D3
Iron	**28100**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:24	7439-89-6	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:32	7439-93-2	D3
Magnesium	**54600**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:24	7439-95-4	
Manganese	**814**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:24	7439-96-5	
Molybdenum	**62.8**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:24	7439-98-7	
Potassium	**7110**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:24	7440-09-7	
Sodium	**56000**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:24	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**14.1**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:51	7440-38-2	
Chromium	**0.34J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:51	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:51	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**205**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1090**	mg/L	13.3	13.3	1		11/19/21 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**51.7**	mg/L	5.0	1.9	5		11/23/21 20:15	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.086	1		11/23/21 20:02	16984-48-8	
Sulfate	**572**	mg/L	50.0	21.0	50		11/23/21 20:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-5 **Lab ID: 60386287005** Collected: 11/15/21 14:46 Received: 11/17/21 03:47 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	**220**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:27	7440-39-3	
Boron	**6510**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:27	7440-42-8	
Calcium	**164000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:27	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 17:56	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:35	7440-48-4	D3
Iron	**16700**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:27	7439-89-6	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:35	7439-93-2	D3
Magnesium	**51400**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:27	7439-95-4	
Manganese	**419**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:27	7439-96-5	
Molybdenum	**83.1**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:27	7439-98-7	
Potassium	**5590**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:27	7440-09-7	
Sodium	**46000**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:27	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**22.2**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:53	7440-38-2	
Chromium	**0.29J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:53	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:53	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**334**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**919**	mg/L	10.0	10.0	1		11/19/21 10:04		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**44.2**	mg/L	5.0	1.9	5		11/23/21 21:20	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.086	1		11/23/21 20:41	16984-48-8	
Sulfate	**325**	mg/L	50.0	21.0	50		11/23/21 21:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-6 **Lab ID: 60386287006** Collected: 11/15/21 16:21 Received: 11/17/21 03:47 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	**50.6**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:30	7440-39-3	
Boron	**7940**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:30	7440-42-8	
Calcium	**403000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:30	7440-70-2	
Cobalt	**7.4**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:30	7440-48-4	
Iron	**6950**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:30	7439-89-6	
Lithium	**92.7J**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 17:58	7439-93-2	
Magnesium	**29400**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:30	7439-95-4	
Manganese	**1200**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:30	7439-96-5	
Molybdenum	**122**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:30	7439-98-7	
Potassium	**14900**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:30	7440-09-7	
Sodium	**18100**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:30	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**2.0**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:55	7440-38-2	
Chromium	**0.28J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:55	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:55	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**491**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1380**	mg/L	13.3	13.3	1		11/20/21 10:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**14.1**	mg/L	1.0	0.39	1		11/23/21 21:46	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/23/21 21:46	16984-48-8	
Sulfate	**604**	mg/L	50.0	21.0	50		11/23/21 21:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-7 **Lab ID: 60386287007** Collected: 11/15/21 15:03 Received: 11/17/21 03:47 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	**43.1**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:33	7440-39-3	
Boron	**32000**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:33	7440-42-8	
Calcium	**501000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:33	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 18:00	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:37	7440-48-4	
Iron	**<21.4**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:33	7439-89-6	
Lithium	**42.4J**	ug/L	50.0	38.4	5	02/08/22 13:18	02/11/22 10:11	7439-93-2	D3
Magnesium	**38000**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:33	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:33	7439-96-5	
Molybdenum	**416**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:33	7439-98-7	
Potassium	**22900**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:33	7440-09-7	
Sodium	**112000**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:33	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**2.7**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:57	7440-38-2	
Chromium	**0.52J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:57	7440-47-3	
Selenium	**9.1**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:57	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**242**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**2210**	mg/L	20.0	20.0	1		11/20/21 10:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**58.0**	mg/L	10.0	3.9	10		11/23/21 22:26	16887-00-6	B
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/23/21 22:13	16984-48-8	
Sulfate	**1150**	mg/L	100	42.1	100		11/23/21 22:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-8 **Lab ID: 60386287008** Collected: 11/15/21 10:02 Received: 11/17/21 03:47 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	**167**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:35	7440-39-3	
Boron	**10000**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:35	7440-42-8	
Calcium	**213000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:35	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 18:03	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:40	7440-48-4	D3
Iron	**11200**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:35	7439-89-6	
Lithium	**32.7**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:40	7439-93-2	
Magnesium	**43600**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:35	7439-95-4	
Manganese	**1940**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:35	7439-96-5	
Molybdenum	**218**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:35	7439-98-7	
Potassium	**8690**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:35	7440-09-7	
Sodium	**36900**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:35	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**5.9**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:58	7440-38-2	
Chromium	**0.45J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:58	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:58	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**236**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**961**	mg/L	13.3	13.3	1		11/20/21 10:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**27.8**	mg/L	2.0	0.78	2		12/03/21 12:29	16887-00-6	
Fluoride	**0.15J**	mg/L	0.20	0.086	1		12/03/21 12:16	16984-48-8	
Sulfate	**428**	mg/L	50.0	21.0	50		12/03/21 12:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-BMW-1 **Lab ID: 60386287009** Collected: 11/15/21 12:45 Received: 11/17/21 03:47 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	**210**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:38	7440-39-3	
Boron	**219**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:38	7440-42-8	
Calcium	**124000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:38	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 18:09	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:47	7440-48-4	D3
Iron	**383**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:38	7439-89-6	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:47	7439-93-2	D3
Magnesium	**30600**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:38	7439-95-4	
Manganese	**185**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:38	7439-96-5	
Molybdenum	**4.5J**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:38	7439-98-7	
Potassium	**3200**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:38	7440-09-7	
Sodium	**66000**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**2.8**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 18:00	7440-38-2	
Chromium	**0.34J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 18:00	7440-47-3	
Selenium	**1.3**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 18:00	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**318**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**596**	mg/L	10.0	10.0	1		11/20/21 10:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**119**	mg/L	10.0	3.9	10		11/30/21 15:41	16887-00-6	M1
Fluoride	**0.31**	mg/L	0.20	0.086	1		11/29/21 20:00	16984-48-8	M1
Sulfate	**54.1**	mg/L	10.0	4.2	10		11/30/21 15:41	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-BMW-2 **Lab ID: 60386287010** Collected: 11/15/21 13:54 Received: 11/17/21 03:47 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	**599**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:41	7440-39-3	
Boron	**123**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:41	7440-42-8	
Calcium	**116000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:41	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	12/08/21 15:58	12/10/21 18:11	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:50	7440-48-4	D3
Iron	**16400**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:41	7439-89-6	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:50	7439-93-2	D3
Magnesium	**37400**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:41	7439-95-4	
Manganese	**4520**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:41	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:41	7439-98-7	
Potassium	**1850**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:41	7440-09-7	
Sodium	**21800**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:41	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**2.0**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 18:02	7440-38-2	
Chromium	**0.46J**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 18:02	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 18:02	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**412**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**489**	mg/L	10.0	10.0	1		11/20/21 10:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**14.3**	mg/L	1.0	0.39	1		11/23/21 10:15	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.086	1		11/23/21 10:15	16984-48-8	
Sulfate	**35.1**	mg/L	5.0	2.1	5		11/29/21 21:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-DUP-1 **Lab ID: 60386287011** Collected: 11/15/21 00:00 Received: 11/17/21 03:47 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	**156**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:46	7440-39-3	
Boron	**9770**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:46	7440-42-8	
Calcium	**204000**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:46	7440-70-2	
Cobalt	**3.2J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:46	7440-48-4	
Iron	**10500**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:46	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 18:15	7439-93-2	
Magnesium	**41100**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:46	7439-95-4	
Manganese	**1920**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:46	7439-96-5	
Molybdenum	**225**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:46	7439-98-7	
Potassium	**8090**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:46	7440-09-7	
Sodium	**35600**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**6.1**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 18:04	7440-38-2	
Chromium	**<0.23**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 18:04	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 18:04	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**216**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**981**	mg/L	13.3	13.3	1		11/20/21 10:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.9**	mg/L	5.0	1.9	5		11/23/21 11:08	16887-00-6	B
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/23/21 10:28	16984-48-8	
Sulfate	**494**	mg/L	50.0	21.0	50		11/23/21 11:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-FB-1 **Lab ID: 60386287012** Collected: 11/15/21 12:00 Received: 11/17/21 03:47 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	**<1.8**	ug/L	5.0	1.8	1	12/08/21 15:58	12/09/21 20:57	7440-39-3	
Boron	**31.8J**	ug/L	100	8.6	1	12/08/21 15:58	12/09/21 20:57	7440-42-8	
Calcium	**<75.4**	ug/L	200	75.4	1	12/08/21 15:58	12/09/21 20:57	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	02/08/22 13:18	02/11/22 10:06	7440-48-4	
Iron	**<21.4**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:57	7439-89-6	
Lithium	**<7.7**	ug/L	10.0	7.7	1	02/08/22 13:18	02/11/22 10:06	7439-93-2	
Magnesium	**<31.4**	ug/L	50.0	31.4	1	12/08/21 15:58	12/09/21 20:57	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	12/08/21 15:58	12/09/21 20:57	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	12/08/21 15:58	12/09/21 20:57	7439-98-7	
Potassium	**<146**	ug/L	500	146	1	12/08/21 15:58	12/09/21 20:57	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	12/08/21 15:58	12/09/21 20:57	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**<0.11**	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 18:11	7440-38-2	
Chromium	**<0.23**	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 18:11	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 18:11	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**2.2**	mg/L	2.0	2.0	1		11/20/21 11:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/20/21 10:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.39**	mg/L	1.0	0.39	1		11/23/21 11:35	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/23/21 11:35	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		11/23/21 11:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 760478
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

METHOD BLANK: 3042580 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/09/21 19:57	
Boron	ug/L	<8.6	100	8.6	12/10/21 12:21	
Calcium	ug/L	150J	200	75.4	12/10/21 12:21	
Cobalt	ug/L	<0.95	5.0	0.95	12/09/21 19:57	
Iron	ug/L	<21.4	50.0	21.4	12/09/21 19:57	
Lithium	ug/L	<7.7	10.0	7.7	12/10/21 12:21	
Magnesium	ug/L	<31.4	50.0	31.4	12/09/21 19:57	
Manganese	ug/L	<0.74	5.0	0.74	12/09/21 19:57	
Molybdenum	ug/L	<2.2	20.0	2.2	12/09/21 19:57	
Potassium	ug/L	<146	500	146	12/10/21 12:21	
Sodium	ug/L	<254	500	254	12/10/21 12:21	

LABORATORY CONTROL SAMPLE: 3042581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	985	98	85-115	
Boron	ug/L	1000	969	97	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Cobalt	ug/L	1000	968	97	85-115	
Iron	ug/L	10000	10400	104	85-115	
Lithium	ug/L	1000	911	91	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	980	98	85-115	
Molybdenum	ug/L	1000	1000	100	85-115	
Potassium	ug/L	10000	9820	98	85-115	
Sodium	ug/L	10000	10000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3042582 3042583

Parameter	Units	60386287003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	218	1000	1000	1190	1180	97	97	70-130	0	20	
Boron	ug/L	11500	1000	1000	12600	12600	111	107	70-130	0	20	
Calcium	ug/L	166000	10000	10000	175000	180000	96	145	70-130	3	20	M1
Cobalt	ug/L	<2.9	1000	1000	942	940	94	94	70-130	0	20	
Iron	ug/L	36400	10000	10000	45800	47300	94	108	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3042582 3042583

Parameter	Units	60386287003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	<23.0			831	819				1	20	
Magnesium	ug/L	47000	10000	10000	56100	57500	92	106	70-130	2	20	
Manganese	ug/L	2010	1000	1000	2940	3010	93	100	70-130	2	20	
Molybdenum	ug/L	6.1J	1000	1000	1020	1020	102	101	70-130	0	20	
Potassium	ug/L	4520	10000	10000	14600	14500	101	100	70-130	0	20	
Sodium	ug/L	42800	10000	10000	53700	53300	109	104	70-130	1	20	

MATRIX SPIKE SAMPLE: 3042584

Parameter	Units	60386287010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	599	1000	1550	95	70-130	
Boron	ug/L	123	1000	1090	97	70-130	
Calcium	ug/L	116000	10000	128000	119	70-130	
Cobalt	ug/L	<2.9	1000	954	95	70-130	
Iron	ug/L	16400	10000	27000	106	70-130	
Lithium	ug/L	<23.0		802			
Magnesium	ug/L	37400	10000	47400	100	70-130	
Manganese	ug/L	4520	1000	5490	97	70-130	
Molybdenum	ug/L	<2.2	1000	1010	101	70-130	
Potassium	ug/L	1850	10000	12100	103	70-130	
Sodium	ug/L	21800	10000	32200	104	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 770156
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287007, 60386287008, 60386287009, 60386287010, 60386287012

METHOD BLANK: 3075365 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287007, 60386287008, 60386287009, 60386287010, 60386287012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	<0.95	5.0	0.95	02/09/22 16:10	
Lithium	ug/L	<7.7	10.0	7.7	02/09/22 16:10	

LABORATORY CONTROL SAMPLE: 3075366

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	1000	928	93	85-115	
Lithium	ug/L	1000	892	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3075367 3075368

Parameter	Units	60386287003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	<2.9	1000	1000	1020	973	102	97	70-130	5	20	
Lithium	ug/L	<23.0	1000	1000	1050	1000	105	100	70-130	5	20	

MATRIX SPIKE SAMPLE: 3075369

Parameter	Units	60386287010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	<2.9	1000	915	91	70-130	
Lithium	ug/L	<23.0	1000	924	92	70-130	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 759891
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

METHOD BLANK: 3040552 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	12/07/21 17:06	
Chromium	ug/L	<0.23	1.0	0.23	12/07/21 17:06	
Selenium	ug/L	<0.18	1.0	0.18	12/07/21 17:06	

LABORATORY CONTROL SAMPLE: 3040553

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	39.5	99	85-115	
Chromium	ug/L	40	39.4	98	85-115	
Selenium	ug/L	40	39.4	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040554 3040555

Parameter	Units	60385860004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.67J	40	40	40.9	40.5	101	100	70-130	1	20	
Chromium	ug/L	0.36J	40	40	39.5	39.0	98	97	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.8	37.0	94	92	70-130	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040556 3040557

Parameter	Units	60386287003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	8.3	40	40	49.1	49.0	102	102	70-130	0	20	
Chromium	ug/L	0.58J	40	40	39.7	39.4	98	97	70-130	1	20	
Selenium	ug/L	<0.18	40	40	38.0	38.3	95	96	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3041447 3041448

Parameter	Units	60385853004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	2.9	40	40	43.9	43.2	102	101	70-130	1	20	
Chromium	ug/L	0.29J	40	40	39.3	38.8	98	96	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3041447 3041448

Parameter	Units	60385853004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Selenium	ug/L	<0.18	40	40	37.7	37.7	94	94	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 651725 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

METHOD BLANK: 3004158 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/20/21 11:39	

LABORATORY CONTROL SAMPLE: 3004159

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.5	97	90-110	

SAMPLE DUPLICATE: 3004160

Parameter	Units	60386287003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	259	265	2	20	

SAMPLE DUPLICATE: 3004161

Parameter	Units	50303060001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	187	184	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 757386 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005

METHOD BLANK: 3030795 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/19/21 10:00	

LABORATORY CONTROL SAMPLE: 3030796

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	993	99	80-120	

SAMPLE DUPLICATE: 3030797

Parameter	Units	60386031001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	976	988	1	10	

SAMPLE DUPLICATE: 3030798

Parameter	Units	60386287003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	926	917	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 757504 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

METHOD BLANK: 3031253 Matrix: Water
Associated Lab Samples: 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/20/21 10:25	

LABORATORY CONTROL SAMPLE: 3031254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	987	99	80-120	

SAMPLE DUPLICATE: 3031255

Parameter	Units	60386287006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1380	1380	0	10	

SAMPLE DUPLICATE: 3031256

Parameter	Units	60386496005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1010	1020	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 757940
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007

METHOD BLANK: 3033276 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.74J	1.0	0.39	11/23/21 10:35	
Fluoride	mg/L	<0.086	0.20	0.086	11/23/21 10:35	
Sulfate	mg/L	<0.42	1.0	0.42	11/23/21 10:35	

METHOD BLANK: 3036338 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/25/21 10:33	
Fluoride	mg/L	<0.086	0.20	0.086	11/25/21 10:33	
Sulfate	mg/L	<0.42	1.0	0.42	11/25/21 10:33	

METHOD BLANK: 3036530 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.71J	1.0	0.39	11/27/21 09:35	
Fluoride	mg/L	<0.086	0.20	0.086	11/27/21 09:35	
Sulfate	mg/L	<0.42	1.0	0.42	11/27/21 09:35	

METHOD BLANK: 3037289 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.65J	1.0	0.39	11/29/21 17:45	
Fluoride	mg/L	<0.086	0.20	0.086	11/29/21 17:45	
Sulfate	mg/L	<0.42	1.0	0.42	11/29/21 17:45	

LABORATORY CONTROL SAMPLE: 3033277

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	2.7	107	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

LABORATORY CONTROL SAMPLE: 3033277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 3036339

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	2.7	108	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 3036531

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 3037290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE SAMPLE: 3033278

Parameter	Units	60386186001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	21.9	25	49.7	111	80-120	
Fluoride	mg/L	ND	12.5	14.9	119	80-120	
Sulfate	mg/L	166	100	286	120	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033279 3033280

Parameter	Units	60386287003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	36.4	25	25	65.8	66.2	117	119	80-120	1	15	
Fluoride	mg/L	0.18J	2.5	2.5	2.9	3.0	110	114	80-120	4	15	
Sulfate	mg/L	407	250	250	690	701	113	118	80-120	2	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

SAMPLE DUPLICATE: 3033281

Parameter	Units	60386287003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	36.4	36.3	0	15	
Fluoride	mg/L	0.18J	<0.086		15	
Sulfate	mg/L	407	400	2	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 757941
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287009, 60386287010, 60386287011, 60386287012

METHOD BLANK: 3033283 Matrix: Water
Associated Lab Samples: 60386287009, 60386287010, 60386287011, 60386287012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/23/21 07:41	
Fluoride	mg/L	<0.086	0.20	0.086	11/23/21 07:41	
Sulfate	mg/L	<0.42	1.0	0.42	11/23/21 07:41	

METHOD BLANK: 3037308 Matrix: Water
Associated Lab Samples: 60386287009, 60386287010, 60386287011, 60386287012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.65J	1.0	0.39	11/29/21 17:45	
Fluoride	mg/L	<0.086	0.20	0.086	11/29/21 17:45	
Sulfate	mg/L	<0.42	1.0	0.42	11/29/21 17:45	

LABORATORY CONTROL SAMPLE: 3033284

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	2.5	99	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 3037309

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033285 3033286

Parameter	Units	60386287009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	119	100	100	277	276	158	157	80-120	0	15	M1
Fluoride	mg/L	0.31	2.5	2.5	9.9	9.8	383	381	80-120	1	15	M1
Sulfate	mg/L	54.1	50	50	146	146	184	184	80-120	0	15	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

MATRIX SPIKE SAMPLE: 3033287

Parameter	Units	60386364006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	177	100	336	159	80-120	M1
Fluoride	mg/L	2.2J	50	76.1	148	80-120	M1
Sulfate	mg/L	6120	5000	14700	171	80-120	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 759634
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386287008

METHOD BLANK: 3039249 Matrix: Water
Associated Lab Samples: 60386287008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.45J	1.0	0.39	12/03/21 09:07	
Fluoride	mg/L	<0.086	0.20	0.086	12/03/21 09:07	
Sulfate	mg/L	<0.42	1.0	0.42	12/03/21 09:07	

METHOD BLANK: 3042636 Matrix: Water
Associated Lab Samples: 60386287008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.67J	1.0	0.39	12/08/21 08:32	
Fluoride	mg/L	<0.086	0.20	0.086	12/08/21 08:32	
Sulfate	mg/L	<0.42	1.0	0.42	12/08/21 08:32	

METHOD BLANK: 3044318 Matrix: Water
Associated Lab Samples: 60386287008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.66J	1.0	0.39	12/06/21 11:31	
Fluoride	mg/L	<0.086	0.20	0.086	12/06/21 11:31	
Sulfate	mg/L	<0.42	1.0	0.42	12/06/21 11:31	

METHOD BLANK: 3044328 Matrix: Water
Associated Lab Samples: 60386287008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.67J	1.0	0.39	12/08/21 08:32	
Fluoride	mg/L	<0.086	0.20	0.086	12/08/21 08:32	
Sulfate	mg/L	<0.42	1.0	0.42	12/08/21 08:32	

METHOD BLANK: 3046809 Matrix: Water
Associated Lab Samples: 60386287008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.66J	1.0	0.39	12/10/21 08:44	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

METHOD BLANK: 3046809 Matrix: Water
Associated Lab Samples: 60386287008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	12/10/21 08:44	
Sulfate	mg/L	<0.42	1.0	0.42	12/10/21 08:44	

LABORATORY CONTROL SAMPLE: 3039250

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	91	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3042637

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	2.3	93	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 3044319

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	2.3	90	90-110	
Sulfate	mg/L	5	4.8	95	90-110	

LABORATORY CONTROL SAMPLE: 3044329

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	2.3	93	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 3046810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.3	93	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60386287

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3039251 3039252

Parameter	Units	60387318002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	115	50	50	167	168	104	106	80-120	0	15	
Fluoride	mg/L	ND	12.5	12.5	13.0	13.2	104	105	80-120	1	15	
Sulfate	mg/L	21.2	25	25	45.3	45.5	96	97	80-120	1	15	

MATRIX SPIKE SAMPLE: 3039254

Parameter	Units	60387330001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	102	100	201	99	80-120	
Fluoride	mg/L	0.22J	5	0.22J	0	80-120	M1
Sulfate	mg/L	618	250	829	84	80-120	

SAMPLE DUPLICATE: 3039253

Parameter	Units	60387318002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	115	116	1	15	
Fluoride	mg/L	ND	<0.43		15	
Sulfate	mg/L	21.2	20.4	4	15	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-1 **Lab ID: 60386287001** Collected: 11/15/21 11:31 Received: 11/17/21 03:47 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	**0.377 ± 0.462 (0.754) C:NA T:91%**	pCi/L	12/13/21 11:54	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.728 ± 0.369 (0.642) C:72% T:92%**	pCi/L	12/13/21 11:48	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-2 **Lab ID: 60386287002** Collected: 11/15/21 09:32 Received: 11/17/21 03:47 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	**0.472 ± 0.607 (1.01) C:NA T:87%**	pCi/L	12/13/21 11:54	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.375 ± 0.305 (0.598) C:71% T:86%**	pCi/L	12/13/21 11:48	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-3 **Lab ID: 60386287003** Collected: 11/15/21 11:10 Received: 11/17/21 03:47 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	**0.300 ± 0.312 (0.464) C:NA T:91%**	pCi/L	12/13/21 12:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.802 ± 0.399 (0.707) C:75% T:92%**	pCi/L	12/13/21 11:49	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-4 **Lab ID: 60386287004** Collected: 11/15/21 13:31 Received: 11/17/21 03:47 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	**-0.0598 ± 0.423 (0.898) C:NA T:93%**	pCi/L	12/13/21 12:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.642 ± 0.394 (0.739) C:73% T:86%**	pCi/L	12/13/21 11:49	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-5 **Lab ID: 60386287005** Collected: 11/15/21 14:46 Received: 11/17/21 03:47 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	**0.182 ± 0.357 (0.652) C:NA T:94%**	pCi/L	12/13/21 12:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.780 ± 0.446 (0.830) C:71% T:88%**	pCi/L	12/13/21 11:49	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-6 **Lab ID: 60386287006** Collected: 11/15/21 16:21 Received: 11/17/21 03:47 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	**-0.190 ± 0.329 (0.830) C:NA T:92%**	pCi/L	12/13/21 12:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.664 ± 0.391 (0.734) C:70% T:98%**	pCi/L	12/13/21 11:49	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-7 **Lab ID: 60386287007** Collected: 11/15/21 15:03 Received: 11/17/21 03:47 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	**0.122 ± 0.378 (0.732) C:NA T:96%**	pCi/L	12/13/21 12:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.534 ± 0.422 (0.845) C:68% T:88%**	pCi/L	12/13/21 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MW-8 **Lab ID: 60386287008** Collected: 11/15/21 10:02 Received: 11/17/21 03:47 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	**0.258 ± 0.506 (0.909) C:NA T:94%**	pCi/L	12/13/21 12:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.264 ± 0.368 (0.790) C:65% T:89%**	pCi/L	12/13/21 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-BMW-1 **Lab ID: 60386287009** Collected: 11/15/21 12:45 Received: 11/17/21 03:47 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	**0.318 ± 0.292 (0.172) C:NA T:93%**	pCi/L	12/13/21 12:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.763 ± 0.386 (0.681) C:75% T:90%**	pCi/L	12/13/21 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-BMW-2 **Lab ID: 60386287010** Collected: 11/15/21 13:54 Received: 11/17/21 03:47 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	**0.812 ± 0.683 (1.02) C:NA T:88%**	pCi/L	12/13/21 12:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.698 ± 0.364 (0.648) C:74% T:99%**	pCi/L	12/13/21 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-DUP-1 **Lab ID: 60386287011** Collected: 11/15/21 00:00 Received: 11/17/21 03:47 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	**0.121 ± 0.376 (0.727) C:NA T:99%**	pCi/L	12/13/21 12:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.00901 ± 0.354 (0.819) C:68% T:91%**	pCi/L	12/13/21 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-FB-1 **Lab ID: 60386287012** Collected: 11/15/21 12:00 Received: 11/17/21 03:47 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	**0.175 ± 0.344 (0.629) C:NA T:98%**	pCi/L	12/13/21 12:23	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.0676 ± 0.287 (0.651) C:74% T:93%**	pCi/L	12/13/21 11:49	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MS-1 **Lab ID: 60386287013** Collected: 11/15/21 11:10 Received: 11/17/21 03:47 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	**77.15 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/13/21 12:23	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**108.81 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/13/21 11:49	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

Sample: M-MSD-1 **Lab ID: 60386287014** Collected: 11/15/21 11:10 Received: 11/17/21 03:47 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	**84.15 %REC 8.68 RPD ± NA (NA) C:NA T:NA**	pCi/L	12/13/21 12:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**121.12 %REC 10.7 RPD ± NA (NA) C:NA T:NA**	pCi/L	12/13/21 11:50	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 473894 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: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012, 60386287013, 60386287014

METHOD BLANK: 2289278 Matrix: Water

Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012, 60386287013, 60386287014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0546 ± 0.321 (0.655) C:NA T:91%	pCi/L	12/13/21 11:54	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60386287

QC Batch: 473895 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: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012, 60386287013, 60386287014

METHOD BLANK: 2289279 Matrix: Water
Associated Lab Samples: 60386287001, 60386287002, 60386287003, 60386287004, 60386287005, 60386287006, 60386287007, 60386287008, 60386287009, 60386287010, 60386287011, 60386287012, 60386287013, 60386287014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.433 ± 0.352 (0.703) C:68% T:94%	pCi/L	12/13/21 11:50	

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
Pace Project No.: 60386287

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.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60386287001	M-MW-1	EPA 200.7	760478	EPA 200.7	760631
60386287001	M-MW-1	EPA 200.7	770156	EPA 200.7	770287
60386287002	M-MW-2	EPA 200.7	760478	EPA 200.7	760631
60386287002	M-MW-2	EPA 200.7	770156	EPA 200.7	770287
60386287003	M-MW-3	EPA 200.7	760478	EPA 200.7	760631
60386287003	M-MW-3	EPA 200.7	770156	EPA 200.7	770287
60386287004	M-MW-4	EPA 200.7	760478	EPA 200.7	760631
60386287004	M-MW-4	EPA 200.7	770156	EPA 200.7	770287
60386287005	M-MW-5	EPA 200.7	760478	EPA 200.7	760631
60386287005	M-MW-5	EPA 200.7	770156	EPA 200.7	770287
60386287006	M-MW-6	EPA 200.7	760478	EPA 200.7	760631
60386287007	M-MW-7	EPA 200.7	760478	EPA 200.7	760631
60386287007	M-MW-7	EPA 200.7	770156	EPA 200.7	770287
60386287008	M-MW-8	EPA 200.7	760478	EPA 200.7	760631
60386287008	M-MW-8	EPA 200.7	770156	EPA 200.7	770287
60386287009	M-BMW-1	EPA 200.7	760478	EPA 200.7	760631
60386287009	M-BMW-1	EPA 200.7	770156	EPA 200.7	770287
60386287010	M-BMW-2	EPA 200.7	760478	EPA 200.7	760631
60386287010	M-BMW-2	EPA 200.7	770156	EPA 200.7	770287
60386287011	M-DUP-1	EPA 200.7	760478	EPA 200.7	760631
60386287012	M-FB-1	EPA 200.7	760478	EPA 200.7	760631
60386287012	M-FB-1	EPA 200.7	770156	EPA 200.7	770287
60386287001	M-MW-1	EPA 200.8	759891	EPA 200.8	760108
60386287002	M-MW-2	EPA 200.8	759891	EPA 200.8	760108
60386287003	M-MW-3	EPA 200.8	759891	EPA 200.8	760108
60386287004	M-MW-4	EPA 200.8	759891	EPA 200.8	760108
60386287005	M-MW-5	EPA 200.8	759891	EPA 200.8	760108
60386287006	M-MW-6	EPA 200.8	759891	EPA 200.8	760108
60386287007	M-MW-7	EPA 200.8	759891	EPA 200.8	760108
60386287008	M-MW-8	EPA 200.8	759891	EPA 200.8	760108
60386287009	M-BMW-1	EPA 200.8	759891	EPA 200.8	760108
60386287010	M-BMW-2	EPA 200.8	759891	EPA 200.8	760108
60386287011	M-DUP-1	EPA 200.8	759891	EPA 200.8	760108
60386287012	M-FB-1	EPA 200.8	759891	EPA 200.8	760108
60386287001	M-MW-1	EPA 903.1	473894		
60386287002	M-MW-2	EPA 903.1	473894		
60386287003	M-MW-3	EPA 903.1	473894		
60386287004	M-MW-4	EPA 903.1	473894		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60386287005	**M-MW-5**	EPA 903.1	473894		
60386287006	**M-MW-6**	EPA 903.1	473894		
60386287007	**M-MW-7**	EPA 903.1	473894		
60386287008	**M-MW-8**	EPA 903.1	473894		
60386287009	**M-BMW-1**	EPA 903.1	473894		
60386287010	**M-BMW-2**	EPA 903.1	473894		
60386287011	**M-DUP-1**	EPA 903.1	473894		
60386287012	**M-FB-1**	EPA 903.1	473894		
60386287013	**M-MS-1**	EPA 903.1	473894		
60386287014	**M-MSD-1**	EPA 903.1	473894		
60386287001	**M-MW-1**	EPA 904.0	473895		
60386287002	**M-MW-2**	EPA 904.0	473895		
60386287003	**M-MW-3**	EPA 904.0	473895		
60386287004	**M-MW-4**	EPA 904.0	473895		
60386287005	**M-MW-5**	EPA 904.0	473895		
60386287006	**M-MW-6**	EPA 904.0	473895		
60386287007	**M-MW-7**	EPA 904.0	473895		
60386287008	**M-MW-8**	EPA 904.0	473895		
60386287009	**M-BMW-1**	EPA 904.0	473895		
60386287010	**M-BMW-2**	EPA 904.0	473895		
60386287011	**M-DUP-1**	EPA 904.0	473895		
60386287012	**M-FB-1**	EPA 904.0	473895		
60386287013	**M-MS-1**	EPA 904.0	473895		
60386287014	**M-MSD-1**	EPA 904.0	473895		
60386287001	**M-MW-1**	SM 2320B	651725		
60386287002	**M-MW-2**	SM 2320B	651725		
60386287003	**M-MW-3**	SM 2320B	651725		
60386287004	**M-MW-4**	SM 2320B	651725		
60386287005	**M-MW-5**	SM 2320B	651725		
60386287006	**M-MW-6**	SM 2320B	651725		
60386287007	**M-MW-7**	SM 2320B	651725		
60386287008	**M-MW-8**	SM 2320B	651725		
60386287009	**M-BMW-1**	SM 2320B	651725		
60386287010	**M-BMW-2**	SM 2320B	651725		
60386287011	**M-DUP-1**	SM 2320B	651725		
60386287012	**M-FB-1**	SM 2320B	651725		
60386287001	**M-MW-1**	SM 2540C	757386		
60386287002	**M-MW-2**	SM 2540C	757386		
60386287003	**M-MW-3**	SM 2540C	757386		
60386287004	**M-MW-4**	SM 2540C	757386		
60386287005	**M-MW-5**	SM 2540C	757386		
60386287006	**M-MW-6**	SM 2540C	757504		
60386287007	**M-MW-7**	SM 2540C	757504		
60386287008	**M-MW-8**	SM 2540C	757504		
60386287009	**M-BMW-1**	SM 2540C	757504		
60386287010	**M-BMW-2**	SM 2540C	757504		
60386287011	**M-DUP-1**	SM 2540C	757504		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60386287012	**M-FB-1**	SM 2540C	757504		
60386287001	**M-MW-1**	EPA 300.0	757940		
60386287002	**M-MW-2**	EPA 300.0	757940		
60386287003	**M-MW-3**	EPA 300.0	757940		
60386287004	**M-MW-4**	EPA 300.0	757940		
60386287005	**M-MW-5**	EPA 300.0	757940		
60386287006	**M-MW-6**	EPA 300.0	757940		
60386287007	**M-MW-7**	EPA 300.0	757940		
60386287008	**M-MW-8**	EPA 300.0	759634		
60386287009	**M-BMW-1**	EPA 300.0	757941		
60386287010	**M-BMW-2**	EPA 300.0	757941		
60386287011	**M-DUP-1**	EPA 300.0	757941		
60386287012	**M-FB-1**	EPA 300.0	757941		

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Sample Condition Upon Receipt

WO# : 60386287

60386287

Client Name: GOLDER ASSOCIATES

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 ☒ ZPLC

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

Cooler Temperature (°C): **As-read** 1.6 **Corr. Factor** +0.2 **Corrected** 1.4

Temperature should be above freezing to 6°C 14.5 - 0.2 = 14.3

Date and initials of person examining contents: SM 11/17/21

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: SOIL	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 603173	☒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: _____

REVIEWED
By jchurch at 12:11 pm, 11/17/21

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section A Required Client Information:

Company:	Golder Associates
Address:	13515 Barrett Parkway Drive, Ste 260
	Ballwin, MO 63021
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren MEC
Project Number:	153-140603.0004A (COC #13)

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285

REGULATORY AGENCY

NPDES / GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **		Radium 226	Radium 228					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N		N	N							6038628 7
1	M-MW-1	WT	G			11-15-21	1131		4	1		3							/	/	/	/	/		/	/							
2	M-MW-2	WT	G			"	0932		1	1		1							1	1	1	1	1		1	1							
3	M-MW-3	WT	G			"	1110		1	1		1							1	1	1	1	1		1	1							
4	M-MW-4	WT	G			"	1331		1	1		1							1	1	1	1	1		1	1							
5	M-MW-5	WT	G			"	1446		1	1		1							1	1	1	1	1		1	1							
6	M-MW-6	WT	G			"	1621		1	1		1							1	1	1	1	1		1	1							
7	M-MW-7	WT	G			"	1503		1	1		1							1	1	1	1	1		1	1							
8	M-MW-8	WT	G			"	1002		1	1		1							1	1	1	1	1		1	1							
9	M-BMW-1	WT	G			"	1245		1	1		1							1	1	1	1	1		1	1							
10	M-BMW-2	WT	G			"	1354		1	1		1							1	1	1	1	1		1	1							
11	M-DUP-1	WT	G			"	—		1	1		1							1	1	1	1	1		1	1							
12	M-FB-1	WT	G			"	1200		1	1		1							1	1	1	1	1		1	1							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert/Golder	11-16-21	0900	Malone/Pace	11/17	0342	14.3	Y	Y	Y
**EPA 200.7: Ba, Co, Li, Mo ** EPA 200.8: As, Cr, Se										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert

DATE Signed (MM/DD/YY): 11-16-21

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

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Pace Analytical™ www.pacelabs.com

Page: 2 of 2

Section A Required Client Information:

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	Ballwin, MO 63021
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Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren MEC
Project Number:	153-140603.0004A (COC #13)

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285

REGULATORY AGENCY

NPDES / GROUND WATER DRINKING WATER

UST RCRA OTHER ____

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Radium 226	Radium 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
										Requested Analysis Filtered (Y/N)									N	N	N	N	N		N	N		60386287
1	M-MS-1	WT	G			11-15-21	1110		4	1		3							1	1	1	1	1		1	1		
2	M-MSD-1	WT	G			1	1		4	1		3							1	1	1	1	1		1	1		
3		WT	G																									
4		WT	G																									
5		WT	G																									
6		WT	G																									
7		WT	G																									
8		WT	G																									
9		WT	G																									
10		WT	G																									
11		WT	G																									
12		WT	G																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Tulhert/Golder	11-15-21	0900	Smalae/Pace	11/17	0340	1.4	Y	Y	Y
**EPA 200.7: Ba, Co, Li, Mo ** EPA 200.8: As, Cr, Se										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Tulhert

SIGNATURE of SAMPLER: Brendan Tulhert DATE Signed (MM/DD/YY): 11/15/21

MEMORANDUM

DATE January 13, 2023 **Project No.** 153140603

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60386287REV1

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
Project Manager: J. Ingram
Project Name: Ameren -MEC
Project Number: 153140604
Reviewer: R. Pommerenke
Validation Date: 1/13/2023

Laboratory: Pace Analytical Services, LLC
SDG #: 60386287rev1
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW-7, M-MW-8, M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MS-1, M-MSD-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			11/15/2021
b) Sampling team indicated?	x			BTT/SS
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-DUP-1 @ M-MW-8
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			See Notes
d) Were lab dup. precision criteria met (note RPD)?	x			Max RPD: 4% [<15%]

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

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

Comments/Notes:

Lithium and Cobalt were reanalyzed at a lower dilution to meet action limit.

Dilutions:

Lithium, chloride, and sulfate analyzed at a dilution in multiple samples, no qualification necessary.

Blanks:

3042580: Calcium (150J). Associated with samples -001 through -012. Associated results >10x blank or ND, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

3033276: Chloride (0.74J), associated with samples -001 through -007. Associated results >10x blank, no qualification necessary.

3036530: Chloride (0.71J), associated with samples -001 through -007. Associated results >10x blank, no qualification necessary.

3037289: Chloride (0.65J), associated with samples -001 through -007. Associated results >10x blank, no qualification necessary.

3037308: Chloride (0.65J), associated with samples -009 through -012. Associated results >10x blank or ND, no qualification necessary.

3039249: Chloride (0.45J), associated with sample -008. Associated result >10x blank, no qualification necessary.

3042636: Chloride (0.67J), associated with sample -008. Associated result >10x blank, no qualification necessary.

3046809: Chloride (0.66J), associated with sample -008. Associated result >10x blank, no qualification necessary.

3044318: Chloride (0.66J), associated with sample -008. Associated result >10x blank, no qualification necessary.

3044328: Chloride (0.67J), associated with sample -008. Associated result >10x blank, no qualification necessary.

M-FB-1 @ M-MW-1: Boron (31.8J), alkalinity (2.2). Associated results <RL were qualified as ND. Associated results >10x the blank were not qualified.

Duplicates:

M-DUP-1 @ M-MW-8: Chromium, fluoride detected in the sample, ND in the duplicate. Lithium detected in parent sample, ND in duplicate. Cobalt detected in duplicate, ND in parent sample.

Lab analyzed sample duplicates for alkalinity and TDS.

MS/MSD:

3042582/3042583: MSD % recovery high for calcium. Associated with sample -003. Only 1 QC indicator outside of control limits, no qualification necessary.

3033285/3033286: MS/MSD % recovery high for chloride, fluoride, and sulfate. Associated with sample -009.

3033287: MS % recovery high for chloride, fluoride, and sulfate. MS performed on unrelated sample, no qualification necessary.

3039254: MS % recovery low (0%) for fluoride. MS performed on unrelated sample, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-1	Boron	100	U	Detected in blank, RL > Result > MDL
M-MW-8	Chromium	0.45	J	Detected in sample, ND in duplicate
"	Fluoride	0.15	J	"
M-DUP-1	Chromium	0.23	UJ	"
"	Fluoride	0.086	UJ	"
M-BMW-1	Chloride	119	J+	MS/MSD % recovery high
"	Fluoride	0.31	J+	"
"	Sulfate	54.1	J+	"
M-DUP-1	Lithium	76.7	UJ	Detected in parent sample, ND in duplicate.
M-MW-8	"	32.7	J	"
M-DUP-1	Cobalt	3.2	J	Detected in duplicate, ND in parent sample.
M-MW-8	"	2.9	UJ	"

Signature: _____ _____ Date: 1/13/2023

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

March 21, 2022

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

RE: Project: AMEREN MEC-CA
Pace Project No.: 60386031

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2021. 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 - Indianapolis
- Pace Analytical Services - Kansas City
- Pace Analytical Services - Greensburg

REV-1, 3/21/22: Lithium reanalyzed at lower dilution to meet action limit. Duplicate Cobalt results reported for select samples.

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: Ryan Feldmann, Golder
Mark Haddock, Golder Associates
Eric Schneider, Golder Associates
Brendan Talbert, Golder Associates

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

CERTIFICATIONS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

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

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Soil Permit #: P330-19-00257

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60386031001	**M-MW-11S**	Water	11/12/21 11:00	11/13/21 03:30
60386031002	**M-MW-11D**	Water	11/12/21 11:00	11/13/21 03:30
60386031003	**M-TP-1**	Water	11/12/21 14:45	11/13/21 03:30
60386031004	**M-TP-2**	Water	11/12/21 12:47	11/13/21 03:30
60386031005	**M-MW-9**	Water	11/12/21 14:50	11/13/21 03:30
60386031006	**M-MW-10**	Water	11/12/21 13:45	11/13/21 03:30
60386031007	**M-CA-DUP-1**	Water	11/12/21 08:00	11/13/21 03:30
60386031008	**M-CA-FB-1**	Water	11/12/21 10:20	11/13/21 03:30
60386031009	**M-CA-MS-1**	Water	11/12/21 11:00	11/13/21 03:30
60386031010	**M-CA-MSD-1**	Water	11/12/21 11:00	11/13/21 03:30

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60386031001	**M-MW-11S**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386031002	**M-MW-11D**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386031003	**M-TP-1**	EPA 200.7	MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386031004	**M-TP-2**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386031005	**M-MW-9**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386031006	**M-MW-10**	EPA 200.7	JLH, MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386031007	**M-CA-DUP-1**	EPA 200.7	MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60386031008	**M-CA-FB-1**	EPA 200.7	MA1	11	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60386031009	**M-CA-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60386031010	**M-CA-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-11S **Lab ID: 60386031001** Collected: 11/12/21 11:00 Received: 11/13/21 03:30 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	**630**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 18:58	7440-39-3	
Boron	**191**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 18:58	7440-42-8	
Calcium	**293000**	ug/L	2000	754	10	11/29/21 10:59	12/01/21 14:58	7440-70-2	M1
Cobalt	**<9.5**	ug/L	50.0	9.5	10	11/29/21 10:59	12/01/21 14:58	7440-48-4	
Cobalt	**3.2J**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 15:53	7440-48-4	
Iron	**41900**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 18:58	7439-89-6	
Lithium	**<30.7**	ug/L	40.0	30.7	4	02/08/22 13:18	02/09/22 19:15	7439-93-2	D3
Magnesium	**64200**	ug/L	500	314	10	11/29/21 10:59	12/01/21 14:58	7439-95-4	
Manganese	**2590**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 18:58	7439-96-5	
Molybdenum	**3.4J**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 18:58	7439-98-7	
Potassium	**6920**	ug/L	500	146	1	11/29/21 10:59	11/30/21 18:58	7440-09-7	
Sodium	**17200**	ug/L	500	254	1	11/29/21 10:59	11/30/21 18:58	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	0.11	1	11/27/21 16:56	11/30/21 14:16	7440-38-2	
Chromium	**0.45J**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:16	7440-47-3	
Selenium	**0.19J**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:16	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**968**	mg/L	2.0	2.0	1		11/18/21 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**976**	mg/L	13.3	13.3	1		11/19/21 10:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**12.1**	mg/L	1.0	0.39	1		11/19/21 17:40	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.086	1		11/19/21 17:40	16984-48-8	
Sulfate	**0.46J**	mg/L	1.0	0.42	1		11/19/21 17:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-11D **Lab ID: 60386031002** Collected: 11/12/21 11:00 Received: 11/13/21 03:30 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	**149**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 19:04	7440-39-3	
Boron	**11200**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 19:04	7440-42-8	
Calcium	**247000**	ug/L	2000	754	10	11/29/21 10:59	12/01/21 15:04	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	11/29/21 10:59	12/01/21 15:04	7440-48-4	
Cobalt	**<2.9**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:00	7440-48-4	
Iron	**21800**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 19:04	7439-89-6	
Lithium	**41.6**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:00	7439-93-2	
Magnesium	**59700**	ug/L	500	314	10	11/29/21 10:59	12/01/21 15:04	7439-95-4	
Manganese	**761**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 19:04	7439-96-5	
Molybdenum	**289**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 19:04	7439-98-7	
Potassium	**6540**	ug/L	500	146	1	11/29/21 10:59	11/30/21 19:04	7440-09-7	
Sodium	**46800**	ug/L	500	254	1	11/29/21 10:59	11/30/21 19:04	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**11.1**	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:23	7440-38-2	
Chromium	**0.45J**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:23	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:23	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**292**	mg/L	2.0	2.0	1		11/18/21 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1160**	mg/L	13.3	13.3	1		11/19/21 10:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**44.2**	mg/L	5.0	1.9	5		11/19/21 19:49	16887-00-6	
Fluoride	**0.30**	mg/L	0.20	0.086	1		11/19/21 19:30	16984-48-8	
Sulfate	**592**	mg/L	50.0	21.0	50		11/19/21 20:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-TP-1 **Lab ID: 60386031003** Collected: 11/12/21 14:45 Received: 11/13/21 03:30 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	**347**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 19:07	7440-39-3	
Boron	**440**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 19:07	7440-42-8	
Calcium	**71300**	ug/L	200	75.4	1	11/29/21 10:59	11/30/21 19:07	7440-70-2	
Cobalt	**1.3J**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 19:07	7440-48-4	
Iron	**3280**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 19:07	7439-89-6	
Lithium	**24.7**	ug/L	10.0	7.7	1	11/29/21 10:59	11/30/21 19:07	7439-93-2	
Magnesium	**30100**	ug/L	50.0	31.4	1	11/29/21 10:59	11/30/21 19:07	7439-95-4	
Manganese	**67.5**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 19:07	7439-96-5	
Molybdenum	**3.6J**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 19:07	7439-98-7	
Potassium	**3050**	ug/L	500	146	1	11/29/21 10:59	11/30/21 19:07	7440-09-7	
Sodium	**49900**	ug/L	500	254	1	11/29/21 10:59	11/30/21 19:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**20.0**	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:24	7440-38-2	M1
Chromium	**0.25J**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:24	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**355**	mg/L	2.0	2.0	1		11/18/21 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**414**	mg/L	10.0	10.0	1		11/19/21 10:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**26.9**	mg/L	2.0	0.78	2		11/19/21 20:44	16887-00-6	
Fluoride	**0.45**	mg/L	0.20	0.086	1		11/19/21 20:25	16984-48-8	
Sulfate	**1.3**	mg/L	1.0	0.42	1		11/19/21 20:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-TP-2 **Lab ID: 60386031004** Collected: 11/12/21 12:47 Received: 11/13/21 03:30 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	**68.0**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 19:13	7440-39-3	
Boron	**2590**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 19:13	7440-42-8	
Calcium	**250000**	ug/L	2000	754	10	11/29/21 10:59	12/01/21 15:06	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 19:13	7440-48-4	
Iron	**17600**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 19:13	7439-89-6	
Lithium	**41.1**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:03	7439-93-2	
Magnesium	**67000**	ug/L	500	314	10	11/29/21 10:59	12/01/21 15:06	7439-95-4	
Manganese	**627**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 19:13	7439-96-5	
Molybdenum	**11.0J**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 19:13	7439-98-7	
Potassium	**8580**	ug/L	500	146	1	11/29/21 10:59	11/30/21 19:13	7440-09-7	
Sodium	**191000**	ug/L	500	254	1	11/29/21 10:59	11/30/21 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	**4.2**	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:26	7440-38-2	
Chromium	**0.33J**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:26	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:26	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**375**	mg/L	2.0	2.0	1		11/18/21 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1590**	mg/L	20.0	20.0	1		11/19/21 10:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**280**	mg/L	50.0	19.4	50		11/19/21 21:20	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.086	1		11/19/21 21:02	16984-48-8	
Sulfate	**532**	mg/L	50.0	21.0	50		11/19/21 21:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-9 **Lab ID: 60386031005** Collected: 11/12/21 14:50 Received: 11/13/21 03:30 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	**306**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 19:15	7440-39-3	
Boron	**6330**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 19:15	7440-42-8	
Calcium	**168000**	ug/L	2000	754	10	11/29/21 10:59	12/01/21 15:12	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	11/29/21 10:59	12/01/21 15:12	7440-48-4	
Cobalt	**<1.9**	ug/L	10.0	1.9	2	02/08/22 13:18	02/09/22 16:05	7440-48-4	
Iron	**19600**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 19:15	7439-89-6	
Lithium	**<15.3**	ug/L	20.0	15.3	2	02/08/22 13:18	02/09/22 16:05	7439-93-2	D3
Magnesium	**56000**	ug/L	500	314	10	11/29/21 10:59	12/01/21 15:12	7439-95-4	
Manganese	**529**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 19:15	7439-96-5	
Molybdenum	**35.7**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 19:15	7439-98-7	
Potassium	**4890**	ug/L	500	146	1	11/29/21 10:59	11/30/21 19:15	7440-09-7	
Sodium	**41300**	ug/L	500	254	1	11/29/21 10:59	11/30/21 19:15	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**<0.11**	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:33	7440-38-2	
Chromium	**0.31J**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:33	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:33	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**327**	mg/L	2.0	2.0	1		11/18/21 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**888**	mg/L	10.0	10.0	1		11/19/21 10:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**37.7**	mg/L	5.0	1.9	5		11/19/21 21:57	16887-00-6	
Fluoride	**0.25**	mg/L	0.20	0.086	1		11/19/21 21:39	16984-48-8	
Sulfate	**305**	mg/L	20.0	8.4	20		11/19/21 22:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-10 **Lab ID: 60386031006** Collected: 11/12/21 13:45 Received: 11/13/21 03:30 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	**123**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 19:17	7440-39-3	
Boron	**1870**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 19:17	7440-42-8	
Calcium	**237000**	ug/L	2000	754	10	11/29/21 10:59	12/01/21 15:14	7440-70-2	
Cobalt	**11.0J**	ug/L	50.0	9.5	10	11/29/21 10:59	12/01/21 15:14	7440-48-4	
Cobalt	**5.0J**	ug/L	15.0	2.9	3	02/08/22 13:18	02/09/22 16:08	7440-48-4	
Iron	**11800**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 19:17	7439-89-6	
Lithium	**40.6**	ug/L	30.0	23.0	3	02/08/22 13:18	02/09/22 16:08	7439-93-2	
Magnesium	**60300**	ug/L	500	314	10	11/29/21 10:59	12/01/21 15:14	7439-95-4	
Manganese	**650**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 19:17	7439-96-5	
Molybdenum	**5.5J**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 19:17	7439-98-7	
Potassium	**10200**	ug/L	500	146	1	11/29/21 10:59	11/30/21 19:17	7440-09-7	
Sodium	**84600**	ug/L	500	254	1	11/29/21 10:59	11/30/21 19:17	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**18.0**	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:34	7440-38-2	
Chromium	**0.25J**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:34	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:34	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**538**	mg/L	2.0	2.0	1		11/18/21 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1200**	mg/L	13.3	13.3	1		11/19/21 10:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**78.3**	mg/L	20.0	7.8	20		11/19/21 23:29	16887-00-6	B
Fluoride	**0.24**	mg/L	0.20	0.086	1		11/19/21 23:11	16984-48-8	
Sulfate	**315**	mg/L	20.0	8.4	20		11/19/21 23:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-CA-DUP-1 **Lab ID: 60386031007** Collected: 11/12/21 08:00 Received: 11/13/21 03:30 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	**67.3**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 19:19	7440-39-3	
Boron	**2550**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 19:19	7440-42-8	
Calcium	**248000**	ug/L	2000	754	10	11/29/21 10:59	12/01/21 15:17	7440-70-2	
Cobalt	**<9.5**	ug/L	50.0	9.5	10	11/29/21 10:59	12/01/21 15:17	7440-48-4	
Iron	**17700**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 19:19	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	11/29/21 10:59	12/01/21 15:17	7439-93-2	
Magnesium	**66300**	ug/L	500	314	10	11/29/21 10:59	12/01/21 15:17	7439-95-4	
Manganese	**628**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 19:19	7439-96-5	
Molybdenum	**10.5J**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 19:19	7439-98-7	
Potassium	**8450**	ug/L	500	146	1	11/29/21 10:59	11/30/21 19:19	7440-09-7	
Sodium	**187000**	ug/L	500	254	1	11/29/21 10:59	11/30/21 19:19	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	0.11	1	11/27/21 16:56	11/30/21 14:36	7440-38-2	
Chromium	**<0.23**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:36	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**373**	mg/L	2.0	2.0	1		11/18/21 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1570**	mg/L	20.0	20.0	1		11/19/21 10:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**258**	mg/L	20.0	7.8	20		11/20/21 01:19	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.086	1		11/20/21 00:06	16984-48-8	
Sulfate	**494**	mg/L	50.0	21.0	50		11/30/21 11:40	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-CA-FB-1 **Lab ID: 60386031008** Collected: 11/12/21 10:20 Received: 11/13/21 03:30 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	**<1.8**	ug/L	5.0	1.8	1	11/29/21 10:59	11/30/21 19:22	7440-39-3	
Boron	**<8.6**	ug/L	100	8.6	1	11/29/21 10:59	11/30/21 19:22	7440-42-8	
Calcium	**<75.4**	ug/L	200	75.4	1	11/29/21 10:59	11/30/21 19:22	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 19:22	7440-48-4	
Iron	**<21.4**	ug/L	50.0	21.4	1	11/29/21 10:59	11/30/21 19:22	7439-89-6	
Lithium	**<7.7**	ug/L	10.0	7.7	1	11/29/21 10:59	11/30/21 19:22	7439-93-2	
Magnesium	**<31.4**	ug/L	50.0	31.4	1	11/29/21 10:59	11/30/21 19:22	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	11/29/21 10:59	11/30/21 19:22	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	11/29/21 10:59	11/30/21 19:22	7439-98-7	
Potassium	**<146**	ug/L	500	146	1	11/29/21 10:59	11/30/21 19:22	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	11/29/21 10:59	11/30/21 19:22	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**10.2**	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:31	7440-38-2	
Chromium	**0.37J**	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:31	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:31	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**2.6**	mg/L	2.0	2.0	1		11/18/21 14:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/19/21 10:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**0.54J**	mg/L	1.0	0.39	1		11/20/21 01:56	16887-00-6	B
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/20/21 01:56	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		11/20/21 01:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 758553
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

METHOD BLANK: 3035915 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	11/30/21 18:54	
Boron	ug/L	<8.6	100	8.6	11/30/21 18:54	
Calcium	ug/L	<75.4	200	75.4	11/30/21 18:54	
Cobalt	ug/L	<0.95	5.0	0.95	11/30/21 18:54	
Iron	ug/L	<21.4	50.0	21.4	11/30/21 18:54	
Lithium	ug/L	<7.7	10.0	7.7	11/30/21 18:54	
Magnesium	ug/L	<31.4	50.0	31.4	11/30/21 18:54	
Manganese	ug/L	<0.74	5.0	0.74	11/30/21 18:54	
Molybdenum	ug/L	<2.2	20.0	2.2	11/30/21 18:54	
Potassium	ug/L	<146	500	146	11/30/21 18:54	
Sodium	ug/L	<254	500	254	11/30/21 18:54	

LABORATORY CONTROL SAMPLE: 3035916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	992	99	85-115	
Boron	ug/L	1000	982	98	85-115	
Calcium	ug/L	10000	9900	99	85-115	
Cobalt	ug/L	1000	989	99	85-115	
Iron	ug/L	10000	9910	99	85-115	
Lithium	ug/L	1000	971	97	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Manganese	ug/L	1000	993	99	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9900	99	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3035917 3035918

Parameter	Units	60386031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	630	1000	1000	1600	1620	97	99	70-130	2	20	
Boron	ug/L	191	1000	1000	1170	1190	98	100	70-130	1	20	
Calcium	ug/L	293000	10000	10000	302000	309000	93	167	70-130	2	20	M1
Cobalt	ug/L	3.2J	1000	1000	965	972	97	97	70-130	1	20	
Iron	ug/L	41900	10000	10000	51100	52800	93	109	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3035917 3035918

Parameter	Units	60386031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	<30.7			845	889				5	20	
Magnesium	ug/L	64200	10000	10000	73800	76000	96	118	70-130	3	20	
Manganese	ug/L	2590	1000	1000	3530	3610	95	102	70-130	2	20	
Molybdenum	ug/L	3.4J	1000	1000	1010	1020	101	102	70-130	1	20	
Potassium	ug/L	6920	10000	10000	17000	17300	100	104	70-130	2	20	
Sodium	ug/L	17200	10000	10000	27000	27600	98	104	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 770157
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386031001, 60386031002, 60386031004, 60386031005, 60386031006

METHOD BLANK: 3075370 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031004, 60386031005, 60386031006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	<0.95	5.0	0.95	02/09/22 15:47	
Lithium	ug/L	<7.7	10.0	7.7	02/09/22 15:47	

LABORATORY CONTROL SAMPLE: 3075371

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	1000	1060	106	85-115	
Lithium	ug/L	1000	1030	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3075372 3075373

Parameter	Units	60386031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	3.2J	1000	1000	982	976	98	97	70-130	4	20	
Cobalt	ug/L	3.2J	1000	1000	1010	976	101	97	70-130	4	20	
Lithium	ug/L	<30.7	1000	1000	1020	1020	100	101	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 758170
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

METHOD BLANK: 3034261 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 14:11	
Chromium	ug/L	<0.23	1.0	0.23	11/30/21 14:11	
Selenium	ug/L	<0.18	1.0	0.18	11/30/21 14:11	

LABORATORY CONTROL SAMPLE: 3034262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	41.0	103	85-115	
Chromium	ug/L	40	40.5	101	85-115	
Selenium	ug/L	40	41.4	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034263 3034264

Parameter	Units	60386031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	4.3	40	40	43.2	42.6	97	96	70-130	2	20	
Chromium	ug/L	0.45J	40	40	39.9	39.3	99	97	70-130	2	20	
Selenium	ug/L	0.19J	40	40	37.2	36.5	93	91	70-130	2	20	

MATRIX SPIKE SAMPLE: 3034265

Parameter	Units	60386031003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	20.0	40	41.4	53	70-130	M1
Chromium	ug/L	0.25J	40	39.9	99	70-130	
Selenium	ug/L	<0.18	40	38.8	97	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 651174 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007

METHOD BLANK: 3001163 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/18/21 15:15	

LABORATORY CONTROL SAMPLE: 3001164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.2	96	90-110	

SAMPLE DUPLICATE: 3001165

Parameter	Units	50302797004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	566	589	4	20	

SAMPLE DUPLICATE: 3001166

Parameter	Units	60386031001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	968	962	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 651176
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 60386031008

METHOD BLANK: 3001171 Matrix: Water
Associated Lab Samples: 60386031008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/18/21 14:18	

LABORATORY CONTROL SAMPLE: 3001172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.5	99	90-110	

SAMPLE DUPLICATE: 3001173

Parameter	Units	50303006001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	508	496	2	20	

SAMPLE DUPLICATE: 3001174

Parameter	Units	50302801001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	382	374	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 757386 — Analysis Method: SM 2540C
QC Batch Method: SM 2540C — Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

METHOD BLANK: 3030795 — Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/19/21 10:00	

LABORATORY CONTROL SAMPLE: 3030796

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	993	99	80-120	

SAMPLE DUPLICATE: 3030797

Parameter	Units	60386031001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	976	988	1	10	

SAMPLE DUPLICATE: 3030798

Parameter	Units	60386287003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	926	917	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 757340
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

METHOD BLANK: 3030624 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.54J	1.0	0.39	11/19/21 15:50	
Fluoride	mg/L	<0.086	0.20	0.086	11/19/21 15:50	
Sulfate	mg/L	<0.42	1.0	0.42	11/19/21 15:50	

METHOD BLANK: 3037266 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/30/21 10:32	
Fluoride	mg/L	<0.086	0.20	0.086	11/30/21 10:32	
Sulfate	mg/L	<0.42	1.0	0.42	11/30/21 10:32	

LABORATORY CONTROL SAMPLE: 3030625

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	107	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

LABORATORY CONTROL SAMPLE: 3037267

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	2.3	94	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030626 3030627

Parameter	Units	60386031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.1	5	5	17.0	17.0	98	99	80-120	0	15	
Fluoride	mg/L	0.18J	2.5	2.5	2.8	2.9	106	107	80-120	2	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60386031

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030626 3030627

Parameter	Units	60386031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	0.46J	5	5	5.2	5.3	96	97	80-120	1	15	

MATRIX SPIKE SAMPLE: 3030629

Parameter	Units	60386031007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	258	100	351	93	80-120	
Fluoride	mg/L	0.27	2.5	3.0	108	80-120	
Sulfate	mg/L	494	250	993	200	80-120	M1

SAMPLE DUPLICATE: 3030628

Parameter	Units	60386031001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	12.1	12.0	0	15	
Fluoride	mg/L	0.18J	0.18J		15	
Sulfate	mg/L	0.46J	<0.42		15	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-11S **Lab ID: 60386031001** Collected: 11/12/21 11:00 Received: 11/13/21 03:30 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	**0.563 ± 0.436 (0.615) C:NA T:92%**	pCi/L	12/22/21 10:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.868 ± 0.400 (0.662) C:69% T:94%**	pCi/L	12/23/21 11:29	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-11D **Lab ID: 60386031002** Collected: 11/12/21 11:00 Received: 11/13/21 03:30 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 ± 0.305 (0.684) C:NA T:92%**	pCi/L	12/22/21 10:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.383 ± 0.400 (0.826) C:63% T:86%**	pCi/L	12/23/21 11:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-TP-1 **Lab ID: 60386031003** Collected: 11/12/21 14:45 Received: 11/13/21 03:30 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	**0.276 ± 0.429 (0.742) C:NA T:89%**	pCi/L	12/22/21 10:53	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.634 ± 0.363 (0.659) C:74% T:91%**	pCi/L	12/23/21 11:29	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-TP-2 **Lab ID: 60386031004** Collected: 11/12/21 12:47 Received: 11/13/21 03:30 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	**0.198 ± 0.467 (0.866) C:NA T:90%**	pCi/L	12/22/21 10:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.752 ± 0.447 (0.830) C:64% T:92%**	pCi/L	12/23/21 11:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-9 **Lab ID: 60386031005** Collected: 11/12/21 14:50 Received: 11/13/21 03:30 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 ± 0.437 (0.772) C:NA T:95%**	pCi/L	12/22/21 10:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.422 ± 0.402 (0.822) C:72% T:85%**	pCi/L	12/23/21 11:29	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-MW-10 **Lab ID: 60386031006** Collected: 11/12/21 13:45 Received: 11/13/21 03:30 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	**0.512 ± 0.401 (0.471) C:NA T:93%**	pCi/L	12/22/21 10:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.885 ± 0.402 (0.665) C:71% T:96%**	pCi/L	12/23/21 11:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-CA-DUP-1 **Lab ID: 60386031007** Collected: 11/12/21 08:00 Received: 11/13/21 03:30 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 ± 0.491 (0.993) C:NA T:90%**	pCi/L	12/22/21 10:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.231 ± 0.390 (0.851) C:63% T:88%**	pCi/L	12/23/21 11:29	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-CA-FB-1 **Lab ID: 60386031008** Collected: 11/12/21 10:20 Received: 11/13/21 03:30 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	**0.131 ± 0.300 (0.483) C:NA T:92%**	pCi/L	12/22/21 11:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.593 ± 0.371 (0.951) C:63% T:90%**	pCi/L	12/23/21 11:30	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-CA-MS-1 **Lab ID: 60386031009** Collected: 11/12/21 11:00 Received: 11/13/21 03:30 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	**105.46 %REC ± NA (NA) C:NA T:NA%**	pCi/L	12/22/21 11:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**82.28 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/23/21 11:30	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Sample: M-CA-MSD-1 **Lab ID: 60386031010** Collected: 11/12/21 11:00 Received: 11/13/21 03:30 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	**80.92 %REC 26.33 RPD ± NA (NA) C:NA T:NA%**	pCi/L	12/22/21 11:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**75.41 %REC 8.70 RPD ± NA (NA) C:NA T:NA**	pCi/L	12/23/21 11:30	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 475868
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008, 60386031009, 60386031010

METHOD BLANK: 2298538 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008, 60386031009, 60386031010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.242 (0.493) C:NA T:88%	pCi/L	12/22/21 11:03	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60386031

QC Batch: 475869
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008, 60386031009, 60386031010

METHOD BLANK: 2298539 Matrix: Water
Associated Lab Samples: 60386031001, 60386031002, 60386031003, 60386031004, 60386031005, 60386031006, 60386031007, 60386031008, 60386031009, 60386031010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.794 ± 0.391 (0.667) C:72% T:86%	pCi/L	12/23/21 11:29	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MEC-CA
Pace Project No.: 60386031

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.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60386031001	M-MW-11S	EPA 200.7	758553	EPA 200.7	758694
60386031001	M-MW-11S	EPA 200.7	770157	EPA 200.7	770286
60386031002	M-MW-11D	EPA 200.7	758553	EPA 200.7	758694
60386031002	M-MW-11D	EPA 200.7	770157	EPA 200.7	770286
60386031003	M-TP-1	EPA 200.7	758553	EPA 200.7	758694
60386031004	M-TP-2	EPA 200.7	758553	EPA 200.7	758694
60386031004	M-TP-2	EPA 200.7	770157	EPA 200.7	770286
60386031005	M-MW-9	EPA 200.7	758553	EPA 200.7	758694
60386031005	M-MW-9	EPA 200.7	770157	EPA 200.7	770286
60386031006	M-MW-10	EPA 200.7	758553	EPA 200.7	758694
60386031006	M-MW-10	EPA 200.7	770157	EPA 200.7	770286
60386031007	M-CA-DUP-1	EPA 200.7	758553	EPA 200.7	758694
60386031008	M-CA-FB-1	EPA 200.7	758553	EPA 200.7	758694
60386031001	M-MW-11S	EPA 200.8	758170	EPA 200.8	758548
60386031002	M-MW-11D	EPA 200.8	758170	EPA 200.8	758548
60386031003	M-TP-1	EPA 200.8	758170	EPA 200.8	758548
60386031004	M-TP-2	EPA 200.8	758170	EPA 200.8	758548
60386031005	M-MW-9	EPA 200.8	758170	EPA 200.8	758548
60386031006	M-MW-10	EPA 200.8	758170	EPA 200.8	758548
60386031007	M-CA-DUP-1	EPA 200.8	758170	EPA 200.8	758548
60386031008	M-CA-FB-1	EPA 200.8	758170	EPA 200.8	758548
60386031001	M-MW-11S	EPA 903.1	475868		
60386031002	M-MW-11D	EPA 903.1	475868		
60386031003	M-TP-1	EPA 903.1	475868		
60386031004	M-TP-2	EPA 903.1	475868		
60386031005	M-MW-9	EPA 903.1	475868		
60386031006	M-MW-10	EPA 903.1	475868		
60386031007	M-CA-DUP-1	EPA 903.1	475868		
60386031008	M-CA-FB-1	EPA 903.1	475868		
60386031009	M-CA-MS-1	EPA 903.1	475868		
60386031010	M-CA-MSD-1	EPA 903.1	475868		
60386031001	M-MW-11S	EPA 904.0	475869		
60386031002	M-MW-11D	EPA 904.0	475869		
60386031003	M-TP-1	EPA 904.0	475869		
60386031004	M-TP-2	EPA 904.0	475869		
60386031005	M-MW-9	EPA 904.0	475869		
60386031006	M-MW-10	EPA 904.0	475869		
60386031007	M-CA-DUP-1	EPA 904.0	475869		
60386031008	M-CA-FB-1	EPA 904.0	475869		
60386031009	M-CA-MS-1	EPA 904.0	475869		
60386031010	M-CA-MSD-1	EPA 904.0	475869		
60386031001	M-MW-11S	SM 2320B	651174		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60386031

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60386031002	**M-MW-11D**	SM 2320B	651174		
60386031003	**M-TP-1**	SM 2320B	651174		
60386031004	**M-TP-2**	SM 2320B	651174		
60386031005	**M-MW-9**	SM 2320B	651174		
60386031006	**M-MW-10**	SM 2320B	651174		
60386031007	**M-CA-DUP-1**	SM 2320B	651174		
60386031008	**M-CA-FB-1**	SM 2320B	651176		
60386031001	**M-MW-11S**	SM 2540C	757386		
60386031002	**M-MW-11D**	SM 2540C	757386		
60386031003	**M-TP-1**	SM 2540C	757386		
60386031004	**M-TP-2**	SM 2540C	757386		
60386031005	**M-MW-9**	SM 2540C	757386		
60386031006	**M-MW-10**	SM 2540C	757386		
60386031007	**M-CA-DUP-1**	SM 2540C	757386		
60386031008	**M-CA-FB-1**	SM 2540C	757386		
60386031001	**M-MW-11S**	EPA 300.0	757340		
60386031002	**M-MW-11D**	EPA 300.0	757340		
60386031003	**M-TP-1**	EPA 300.0	757340		
60386031004	**M-TP-2**	EPA 300.0	757340		
60386031005	**M-MW-9**	EPA 300.0	757340		
60386031006	**M-MW-10**	EPA 300.0	757340		
60386031007	**M-CA-DUP-1**	EPA 300.0	757340		
60386031008	**M-CA-FB-1**	EPA 300.0	757340		

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Sample Condition Upon Receipt

WO# : 60386031

60386031

Client Name: Golder Assoc.

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 ☑ ZPLC

Thermometer Used: T2QA **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.a 14.4 **Corr. Factor** -0.2 **Corrected** 1.7 14.2

Date and initials of person examining contents: EJ 11/15

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	TDS 11/18
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: Wt	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 603173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added. M-CA-MSD-1 250mL Initial 3.5 Final 1.0 HNO3 added 1mL. 11/15/21 1242 60BD19 M-CA-MS-1 initial 3.0 Final 1.0 added 1mL HNO3 11/15/21 1234 60BD19 M-MW-115 initial 3.0 Final 1.0 added 1mL HNO3 11/15/21 1236 60BD19
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: _____

REVIEWED
By jchurch at 3:09 pm, 11/15/21

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — Required Client Information:

Company:	Golder Associates
Address:	13515 Barrett Parkway Drive, Ste 260
	Ballwin, MO 63021
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B — Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren MEC-CA
Project Number:	153-140603.0004A (COC #14)

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285

REGULATORY AGENCY

NPDES / GROUND WATER DRINKING WATER
UST RCRA OTHER

Site Location STATE: MO

Section D — Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Radium 226	Radium 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N		60386031
1	M-MW-11S	WT	G			11-12-21	1100		4	1		3						/	/	/	/	/	/	/		001
2	M-MW-11D	WT	G				1000																				002
3	M-TP-1	WT	G				1445																				003
4	M-TP-2	WT	G				1247																				004
5	M-MW-9	WT	G				1450																				005
6	M-MW-10	WT	G				1345																				006
7	M-CA-DUP-1	WT	G				—																				007
8	M-CA-FB-1	WT	G				1020																				008
9	M-CA-MS-1	WT	G				1100																				—
10	M-CA-MSD-1	WT	G				1100																				—
11		WT	G																								
12		WT	G																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert/Golder	11-12-21	1640	ELynch/Pace	11/3	0330
**EPA 200.7: Ba, Co, Li, Mo **EPA 200.8: As, Cr, Se						

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.7	Y	Y	X
14.2	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert DATE Signed (MM/DD/YY): 11-12-21

MEMORANDUM

DATE January 13, 2023 **Project No.** 153140603

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC-CA – CORRECTIVE ACTION SAMPLING NOVEMBER 2021 - DATA PACKAGE 60386031REV1

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 sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).
- 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 duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
Project Manager: J. Ingram
Project Name: Ameren - MEC-CA
Project Number: 153140604
Reviewer: R. Pommerenke
Validation Date: 1/13/2023

Laboratory: Pace Analytical Services, LLC
SDG #: 60386031rev1
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names M-MW-11S, M-MW-11D, M-TP-1, M-TP-2, M-MW-9, M-MW-10, M-CA-DUP-1, M-CA-FB-1, M-CA-MS-1, M-CA-MSD-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			11/12/2021
b) Sampling team indicated?	x			ETF/BTT
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-CA-DUP-1 @ M-TP-2
b) Were field dup. precision criteria met (note RPD)?		x		See Notes.
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			See Notes
d) Were lab dup. precision criteria met (note RPD)?	x			Max RPD: 4% [<20%]

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

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

Comments/Notes:

Metals samples for M-CA-MSD-1, M-CA-MS-1, M-MW-11S received with pH >2. Additional HN03 added by lab and pH adjusted below 2, no qualification necessary.

Calcium, lithium, magnesium, chloride, and sulfate analyzed at a dilution in multiple samples, no qualification necessary.

Lithium and Cobalt were reanalyzed at a lower dilution to meet action limit.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Blanks:

3030624: Chloride (0.54J). Associated with samples -001 through -008. Sample results >RL and 10x blank not qualified. Results <RL were qualified as estimates.

2298539: Radium-228 (0.794 ± 0.391). Associated with samples -001 through -010. Detects were qualified as estimates.

M-CA-FB-1 @ M-MW-11D: Arsenic (10.2), chromium (0.37J), alkalinity (2.6), chloride (0.54J). Sample results <10x blank qualified as estimates. Sample results <RL qualified as ND. Results >RL and 10x blank not qualified.

Duplicates:

M-CA-DUP-1 @ M-TP-2: Lithium detected in parent sample but ND in duplicate.

Laboratory analyzed sample duplicates for alkalinity and TDS

MS/MSD:

3035917/3035918: MSD % recovery high for calcium. Associated with sample -001. Only 1 QC indicator out, no qualification necessary.

3034265: MS % recovery low for arsenic. Associated with sample -003. Only 1 QC indicator out, no qualification necessary.

3030629: MS % recovery high for sulfate. Associated with sample -007. Only 1 QC indicator out, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-CA-FB-1	Chloride	1.0	U	Detected in MB, RL > Result > MDL
M-MW-11S	Radium-228	0.868 ± 0.400	J	Detected in MB
M-MW-10	"	0.885 ± 0.402	J	"
M-MW-11D	Arsenic	11.1	J	Detected in FB, 10x blank > result
M-MW-11D	Chromium	0.45	U	Detected in FB, RL > Result > MDL
M-CA-DUP-1	Lithium	76.7	UJ	Detected in parent sample, ND in duplicate.
M-TP-2	"	41.1	J	"

Signature:  Date: 1/13/2023

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

February 28, 2022

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

RE: Project: AMEREN VS MEC
Pace Project No.: 60392712

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on February 12, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

cc: Ryan Feldmann, Golder
Mark Haddock, Golder Associates
Eric Schneider, Golder Associates
Brendan Talbert, Golder Associates

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

CERTIFICATIONS

Project: AMEREN VS MEC
Pace Project No.: 60392712

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: AMEREN VS MEC
Pace Project No.: 60392712

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60392712001	**M-MW-2**	Water	02/11/22 09:55	02/12/22 04:50
60392712002	**M-MW-3**	Water	02/11/22 11:37	02/12/22 04:50
60392712003	**M-MW-5**	Water	02/11/22 13:15	02/12/22 04:50
60392712004	**M-MEC-DUP-1**	Water	02/11/22 00:00	02/12/22 04:50
60392712005	**M-MEC-FB-1**	Water	02/11/22 13:25	02/12/22 04:50

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: AMEREN VS MEC
Pace Project No.: 60392712

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60392712001	**M-MW-2**	EPA 200.7	JLH	3	PASI-K
		SM 2540C	BLA	1	PASI-K
60392712002	**M-MW-3**	EPA 200.7	JLH	3	PASI-K
		SM 2540C	BLA	1	PASI-K
60392712003	**M-MW-5**	EPA 200.7	JLH	3	PASI-K
		SM 2540C	BLA	1	PASI-K
60392712004	**M-MEC-DUP-1**	EPA 200.7	JLH	1	PASI-K
		SM 2540C	BLA	1	PASI-K
60392712005	**M-MEC-FB-1**	EPA 200.7	JLH	1	PASI-K
		SM 2540C	BLA	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: AMEREN VS MEC
Pace Project No.: 60392712

Sample: M-MW-2 **Lab ID: 60392712001** Collected: 02/11/22 09:55 Received: 02/12/22 04:50 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								
Calcium	**108000**	ug/L	400	151	2	02/18/22 14:20	02/25/22 09:55	7440-70-2	
Cobalt	**1.6J**	ug/L	5.0	0.95	1	02/18/22 14:20	02/24/22 17:36	7440-48-4	
Lithium	**<15.3**	ug/L	20.0	15.3	2	02/18/22 14:20	02/25/22 09:55	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**674**	mg/L	10.0	10.0	1		02/17/22 09:33		

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN VS MEC
Pace Project No.: 60392712

Sample: M-MW-3 **Lab ID: 60392712002** Collected: 02/11/22 11:37 Received: 02/12/22 04:50 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								
Calcium	**128000**	ug/L	400	151	2	02/18/22 14:20	02/25/22 10:06	7440-70-2	
Cobalt	**1.7J**	ug/L	5.0	0.95	1	02/18/22 14:20	02/24/22 17:47	7440-48-4	
Lithium	**<15.3**	ug/L	20.0	15.3	2	02/18/22 14:20	02/25/22 10:06	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**702**	mg/L	10.0	10.0	1		02/17/22 09:34		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN VS MEC
Pace Project No.: 60392712

Sample: M-MW-5 **Lab ID: 60392712003** Collected: 02/11/22 13:15 Received: 02/12/22 04:50 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								
Calcium	**159000**	ug/L	600	226	3	02/18/22 14:20	02/25/22 10:08	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	02/18/22 14:20	02/24/22 17:50	7440-48-4	
Lithium	**<23.0**	ug/L	30.0	23.0	3	02/18/22 14:20	02/25/22 10:08	7439-93-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**857**	mg/L	10.0	10.0	1		02/17/22 09:34		

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN VS MEC
Pace Project No.: 60392712

Sample: M-MEC-DUP-1 **Lab ID: 60392712004** Collected: 02/11/22 00:00 Received: 02/12/22 04:50 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								
Calcium	**130000**	ug/L	400	151	2	02/15/22 14:27	02/28/22 14:19	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1480**	mg/L	10.0	10.0	1		02/17/22 09:34		

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN VS MEC
Pace Project No.: 60392712

Sample: M-MEC-FB-1 **Lab ID: 60392712005** Collected: 02/11/22 13:25 Received: 02/12/22 04:50 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								
Calcium	**<75.4**	ug/L	200	75.4	1	02/15/22 14:27	02/28/22 14:22	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**8.5**	mg/L	5.0	5.0	1		02/17/22 09:34		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN VS MEC
Pace Project No.: 60392712

QC Batch: 771128
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60392712004, 60392712005

METHOD BLANK: 3079100 Matrix: Water
Associated Lab Samples: 60392712004, 60392712005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<75.4	200	75.4	02/28/22 13:38	

LABORATORY CONTROL SAMPLE: 3079101

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3079102 3079103

Parameter	Units	60392702001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	278000	10000	10000	297000	304000	186	251	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN VS MEC
Pace Project No.: 60392712

QC Batch: 771841
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60392712001, 60392712002, 60392712003

METHOD BLANK: 3081693 Matrix: Water
Associated Lab Samples: 60392712001, 60392712002, 60392712003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	115J	200	75.4	02/24/22 17:25	
Cobalt	ug/L	<0.95	5.0	0.95	02/24/22 17:25	
Lithium	ug/L	<7.7	10.0	7.7	02/24/22 17:25	

LABORATORY CONTROL SAMPLE: 3081694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	9880	99	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Lithium	ug/L	1000	885	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3081695 3081696

Parameter	Units	60392712001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	108000	10000	10000	119000	117000	104	93	70-130	1	20	
Cobalt	ug/L	1.6J	1000	1000	983	985	98	98	70-130	0	20	
Lithium	ug/L	<15.3	1000	1000	989	977	98	97	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN VS MEC
Pace Project No.: 60392712

QC Batch: 771592 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60392712001, 60392712002, 60392712003, 60392712004, 60392712005

METHOD BLANK: 3080734 Matrix: Water
Associated Lab Samples: 60392712001, 60392712002, 60392712003, 60392712004, 60392712005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	02/17/22 09:32	

LABORATORY CONTROL SAMPLE: 3080735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	991	99	80-120	

SAMPLE DUPLICATE: 3080736

Parameter	Units	60392705006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	564	551	2	10	

SAMPLE DUPLICATE: 3080737

Parameter	Units	60392712001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	674	671	0	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN VS MEC
Pace Project No.: 60392712

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN VS MEC
Pace Project No.: 60392712

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60392712001	**M-MW-2**	EPA 200.7	771841	EPA 200.7	771969
60392712002	**M-MW-3**	EPA 200.7	771841	EPA 200.7	771969
60392712003	**M-MW-5**	EPA 200.7	771841	EPA 200.7	771969
60392712004	**M-MEC-DUP-1**	EPA 200.7	771128	EPA 200.7	771338
60392712005	**M-MEC-FB-1**	EPA 200.7	771128	EPA 200.7	771338
60392712001	**M-MW-2**	SM 2540C	771592		
60392712002	**M-MW-3**	SM 2540C	771592		
60392712003	**M-MW-5**	SM 2540C	771592		
60392712004	**M-MEC-DUP-1**	SM 2540C	771592		
60392712005	**M-MEC-FB-1**	SM 2540C	771592		

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample C	WO# : 60392712
	Revision: 2	Effective Date: 01/12/2022

Client Name: Golder

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 ☑ 2pl C

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

Cooler Temperature (°C): **As-read** 0.4 **Corr. Factor** -0.2 **Corrected** 0.2

Date and initials of person examining contents: 2-12-2022 MC

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 55192	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	Golder Associates
Address:	13515 Barrett Parkway Dr., Ste 260
	Ballwin, MO 63021
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman, Brendan Talbert
Purchase Order No.:	
Project Name:	Ameren - Verification Sampling - MEC
Project Number:	153140603 , 0004A

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates Inc
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ / Y/N ↓	Chloride	Fluoride	Sulfate	TDS	Calcium	Boron	Lithium	Cobalt				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N	N	N	N	N	N	N	N	60392712
1	M-MW-2	WT	G			2-11-22	0955		2	1		1							/	/		/	/						
2	M-MW-3	WT	G				1137		1	1		1							/	/		/	/						
3	M-MW-5	WT	G				1315												/	/		/	/						
4	M-MEC-DUP-1	WT	G				—												/	/									
5	M-MEC-FB-1	WT	G				1325												/	/									
6	M-MEC-MS-1	WT	G				0955												/	/									
7	M-MEC-MSD-1	WT	G			1	0955		1	1		1							/	/									
8		WT	G																										
9		WT	G																										
10		WT	G																										
11		WT	G																										
12		WT	G																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Brendan Talbert / Golder	2-11-22	1515	Angela Neman	2-11	1530				
	Angela Neman	2-11	1530		2.11.22	0450	0.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert DATE Signed (MM/DD/YY): 02/11/22

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

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

MEMORANDUM

DATE March 2, 2022 **Project No.** 153140604

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth **EMAIL AMuehlfarth@golder.com**

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC – VERIFICATION SAMPLING - DATA PACKAGE 60392712

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 sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).
- When 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: Golder Associates USA Inc / WSP
Project Manager: J. Ingram
Project Name: Ameren- Meramec - MEC
Project Number: 153140604
Reviewer: A. Muehlfarth
Validation Date: 3/2/2022

Laboratory: Pace Analytical Services - Kansas City
SDG #: 60392712
Analytical Method (type and no.): EPA 200.7 (Total Metals), SM 2540C (TDS)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names M-MW-2, M-MW-3, M-MW-5, M-MEC-DUP-1, M-MEC-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			2/11/2022
b) Sampling team indicated?	x			GTM
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-MEC-DUP-1 @ M-MW-3
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?	x			Max RPD: 2% [<10%]

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

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

Comments/Notes:

Calcium and lithium analyzed at a dilution in multiple samples, no qualification needed.

Blanks:

3081693: Calcium (115J). Associated with samples -001 through -003. Results >RL and >10x blank, no qualification necessary.

M-MEC-FB-1 @ M-MW-5: TDS (8.5). Result >RL and >10x blank, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Duplicates:

M-MEC-DUP-1 @ M-MW-3: Duplicate only analyzed for calcium and TDS. RPD for TDS (71.3%) exceeds limit (20%).

Results qualified as estimates.

MS/MSD:

3079102/3079103: MS/MSD % recovery high for calcium. MS/MSD performed on unrelated sample, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-3	TDS	702	J	Dup RPD exceeds limit
M-MEC-DUP-1	"	1480	J	"

Signature: Ann Muehlfarth Date: 3/2/2022

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

May 17, 2022

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

RE: Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on April 20, 2022. 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: Ryan Feldmann, Golder
Mark Haddock, Golder Associates
Eric Schneider, Golder Associates
Brendan Talbert, Golder Associates

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

CERTIFICATIONS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

SAMPLE SUMMARY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60398377001	**M-MW-1**	Water	04/18/22 11:03	04/20/22 04:25
60398377002	**M-MW-2**	Water	04/19/22 10:19	04/20/22 04:25
60398377003	**M-MW-3**	Water	04/19/22 11:50	04/20/22 04:25
60398377004	**M-MW-4**	Water	04/18/22 16:35	04/20/22 04:25
60398377005	**M-MW-5**	Water	04/18/22 15:25	04/20/22 04:25
60398377006	**M-MW-6**	Water	04/18/22 15:22	04/20/22 04:25
60398377007	**M-MW-7**	Water	04/18/22 14:30	04/20/22 04:25
60398377008	**M-MW-8**	Water	04/18/22 11:45	04/20/22 04:25
60398377009	**M-BMW-1**	Water	04/18/22 08:30	04/20/22 04:25
60398377010	**M-BMW-2**	Water	04/18/22 09:20	04/20/22 04:25
60398377011	**M-DUP-1**	Water	04/18/22 08:00	04/20/22 04:25
60398377012	**M-FB-1**	Water	04/18/22 12:00	04/20/22 04:25
60398377013	**M-MS-1**	Water	04/18/22 14:30	04/20/22 04:25
60398377014	**M-MSD-1**	Water	04/18/22 14:30	04/20/22 04:25

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60398377001	**M-MW-1**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60398377002	**M-MW-2**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377003	**M-MW-3**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377004	**M-MW-4**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377005	**M-MW-5**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377006	**M-MW-6**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377007	**M-MW-7**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377008	**M-MW-8**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377009	**M-BMW-1**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377010	**M-BMW-2**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377011	**M-DUP-1**	EPA 200.7	JDS	13	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377012	**M-FB-1**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398377013	**M-MS-1**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60398377014	**M-MSD-1**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-1 **Lab ID: 60398377001** Collected: 04/18/22 11:03 Received: 04/20/22 04:25 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	0.51	1	04/26/22 09:43	05/04/22 17:14	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:14	7440-41-7	
Boron	**46.5J**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:14	7440-42-8	
Calcium	**132000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:14	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:14	7440-48-4	
Iron	**14900**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:14	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:14	7439-92-1	
Lithium	**<5.6**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:14	7439-93-2	
Magnesium	**43100**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:14	7439-95-4	
Manganese	**1840**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:14	7439-96-5	
Molybdenum	**1.5J**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:14	7439-98-7	
Potassium	**1420**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:14	7440-09-7	
Sodium	**29100**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:14	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/22 09:43	04/29/22 20:46	7440-36-0	
Arsenic	**0.69J**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 20:46	7440-38-2	
Cadmium	**0.071J**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 20:46	7440-43-9	
Chromium	**0.55J**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 20:46	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 20:46	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 20:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:30	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**402**	mg/L	20.0	4.6	1		04/25/22 19:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**644**	mg/L	10.0	10.0	1		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**14.3**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.69**	mg/L	0.20	0.060	1		04/28/22 13:50	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-1 **Lab ID: 60398377001** Collected: 04/18/22 11:03 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:20	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**44.9**	mg/L	10.0	5.3	10		05/05/22 02:21	16887-00-6	
Fluoride	**0.34**	mg/L	0.20	0.12	1		05/05/22 02:07	16984-48-8	
Sulfate	**114**	mg/L	10.0	5.5	10		05/05/22 02:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-2 **Lab ID: 60398377002** Collected: 04/19/22 10:19 Received: 04/20/22 04:25 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	**228**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:16	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:16	7440-41-7	
Boron	**2470**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:16	7440-42-8	
Calcium	**100000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:16	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:16	7440-48-4	
Iron	**45200**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:16	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:16	7439-92-1	
Lithium	**<5.6**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:16	7439-93-2	
Magnesium	**33600**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:16	7439-95-4	
Manganese	**5010**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:16	7439-96-5	
Molybdenum	**1.7J**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:16	7439-98-7	
Potassium	**2060**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:16	7440-09-7	
Sodium	**42200**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:16	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	04/26/22 09:43	04/29/22 20:54	7440-36-0	
Arsenic	**1.8**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 20:54	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 20:54	7440-43-9	
Chromium	**0.48J**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 20:54	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 20:54	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 20:54	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:33	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**277**	mg/L	20.0	4.6	1		04/25/22 16:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**636**	mg/L	10.0	10.0	1		04/25/22 16:11		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**38.9**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**6.4**	mg/L	1.0	0.30	5		04/28/22 14:18	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-2 **Lab ID: 60398377002** Collected: 04/19/22 10:19 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/26/22 14:54	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.3**	mg/L	5.0	2.6	5		05/04/22 10:54	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 15:22	16984-48-8	
Sulfate	**216**	mg/L	50.0	27.5	50		05/03/22 16:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-3 **Lab ID: 60398377003** Collected: 04/19/22 11:50 Received: 04/20/22 04:25 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	**205**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:22	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:22	7440-41-7	
Boron	**5790**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:22	7440-42-8	
Calcium	**142000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:22	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:22	7440-48-4	
Iron	**33000**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:22	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:22	7439-92-1	
Lithium	**6.7J**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:22	7439-93-2	
Magnesium	**43100**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:22	7439-95-4	
Manganese	**2030**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:22	7439-96-5	
Molybdenum	**3.5J**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:22	7439-98-7	
Potassium	**3570**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:22	7440-09-7	
Sodium	**41100**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:22	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/22 09:43	04/29/22 20:57	7440-36-0	
Arsenic	**8.0**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 20:57	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 20:57	7440-43-9	
Chromium	**<0.31**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 20:57	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 20:57	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 20:57	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:35	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**342**	mg/L	20.0	4.6	1		04/25/22 16:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**754**	mg/L	10.0	10.0	1		04/25/22 16:11		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**30.7**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.3**	mg/L	0.40	0.12	2		04/28/22 14:21	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-3 **Lab ID: 60398377003** Collected: 04/19/22 11:50 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/26/22 14:54	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**35.6**	mg/L	5.0	2.6	5		05/04/22 11:08	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 16:18	16984-48-8	
Sulfate	**241**	mg/L	50.0	27.5	50		05/03/22 16:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-4 **Lab ID: 60398377004** Collected: 04/18/22 16:35 Received: 04/20/22 04:25 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	**194**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:24	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:24	7440-41-7	
Boron	**13700**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:24	7440-42-8	
Calcium	**201000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:24	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:24	7440-48-4	
Iron	**28100**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:24	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:24	7439-92-1	
Lithium	**23.5**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:24	7439-93-2	
Magnesium	**54600**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:24	7439-95-4	
Manganese	**966**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:24	7439-96-5	
Molybdenum	**74.2**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:24	7439-98-7	
Potassium	**6740**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:24	7440-09-7	
Sodium	**63000**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:24	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/22 09:43	04/29/22 21:01	7440-36-0	
Arsenic	**15.2**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 21:01	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 21:01	7440-43-9	
Chromium	**0.65J**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 21:01	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 21:01	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 21:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:37	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**220**	mg/L	20.0	4.6	1		04/25/22 19:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1190**	mg/L	13.3	13.3	1		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**25.2**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.9**	mg/L	0.40	0.12	2		04/28/22 14:17	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-4 **Lab ID: 60398377004** Collected: 04/18/22 16:35 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:20	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**44.8**	mg/L	5.0	2.6	5		05/03/22 17:00	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 16:46	16984-48-8	
Sulfate	**554**	mg/L	50.0	27.5	50		05/03/22 17:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-5 **Lab ID: 60398377005** Collected: 04/18/22 15:25 Received: 04/20/22 04:25 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	**159**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:26	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:26	7440-41-7	
Boron	**4320**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:26	7440-42-8	
Calcium	**117000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:26	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:26	7440-48-4	
Iron	**11700**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:26	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:26	7439-92-1	
Lithium	**16.0**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:26	7439-93-2	
Magnesium	**38600**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:26	7439-95-4	
Manganese	**317**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:26	7439-96-5	
Molybdenum	**79.2**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:26	7439-98-7	
Potassium	**4270**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:26	7440-09-7	
Sodium	**41600**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:26	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/22 09:43	04/29/22 21:05	7440-36-0	
Arsenic	**21.3**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 21:05	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 21:05	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 21:05	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 21:05	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 21:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:40	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**329**	mg/L	20.0	4.6	1		04/25/22 19:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**635**	mg/L	10.0	10.0	1		04/25/22 16:06		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**11.1**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.58**	mg/L	0.20	0.060	1		04/28/22 13:55	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-5 **Lab ID: 60398377005** Collected: 04/18/22 15:25 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:21	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**46.9**	mg/L	5.0	2.6	5		05/03/22 17:42	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 17:28	16984-48-8	
Sulfate	**165**	mg/L	50.0	27.5	50		05/03/22 17:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-6 **Lab ID: 60398377006** Collected: 04/18/22 15:22 Received: 04/20/22 04:25 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	**54.6**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:28	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:28	7440-41-7	
Boron	**10400**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:28	7440-42-8	
Calcium	**359000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:28	7440-70-2	
Cobalt	**3.4J**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:28	7440-48-4	
Iron	**17800**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:28	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:28	7439-92-1	
Lithium	**137**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:28	7439-93-2	
Magnesium	**24700**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:28	7439-95-4	
Manganese	**1370**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:28	7439-96-5	
Molybdenum	**114**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:28	7439-98-7	
Potassium	**13400**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:28	7440-09-7	
Sodium	**19900**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:28	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	04/26/22 09:43	04/29/22 21:12	7440-36-0	
Arsenic	**6.3**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 21:12	7440-38-2	
Cadmium	**0.055J**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 21:12	7440-43-9	
Chromium	**0.35J**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 21:12	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 21:12	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 21:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:42	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**477**	mg/L	20.0	4.6	1		04/25/22 19:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1400**	mg/L	13.3	13.3	1		04/25/22 16:06		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**16.0**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.7**	mg/L	0.20	0.060	1		04/28/22 13:55	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-6 **Lab ID: 60398377006** Collected: 04/18/22 15:22 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:21	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.2**	mg/L	1.0	0.53	1		05/03/22 18:11	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 18:11	16984-48-8	
Sulfate	**580**	mg/L	50.0	27.5	50		05/03/22 18:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-7 **Lab ID: 60398377007** Collected: 04/18/22 14:30 Received: 04/20/22 04:25 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	**42.3**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:30	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:30	7440-41-7	
Boron	**28800**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:30	7440-42-8	M1
Calcium	**423000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:30	7440-70-2	M1
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:30	7440-48-4	
Iron	**11.0J**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:30	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:30	7439-92-1	
Lithium	**46.0**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:30	7439-93-2	
Magnesium	**28300**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:30	7439-95-4	
Manganese	**0.94J**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:30	7439-96-5	
Molybdenum	**456**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:30	7439-98-7	
Potassium	**21200**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:30	7440-09-7	
Sodium	**115000**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:30	7440-23-5	M1
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.43J**	ug/L	1.0	0.12	1	04/26/22 09:43	04/29/22 21:15	7440-36-0	
Arsenic	**3.3**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 21:15	7440-38-2	
Cadmium	**0.27J**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 21:15	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 21:15	7440-47-3	
Selenium	**1.6**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 21:15	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 21:15	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 11:07	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**242**	mg/L	20.0	4.6	1		04/25/22 18:51		D6
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**2040**	mg/L	20.0	20.0	1		04/25/22 16:06		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.011J**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.060**	mg/L	0.20	0.060	1		05/03/22 11:33	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-7 **Lab ID: 60398377007** Collected: 04/18/22 14:30 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:21	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**60.6**	mg/L	10.0	5.3	10		05/03/22 20:04	16887-00-6	R1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 19:07	16984-48-8	
Sulfate	**1080**	mg/L	100	55.0	100		05/04/22 11:22	14808-79-8	R1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-8 **Lab ID: 60398377008** Collected: 04/18/22 11:45 Received: 04/20/22 04:25 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	**76.8**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:36	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:36	7440-41-7	
Boron	**8170**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:36	7440-42-8	
Calcium	**230000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:36	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:36	7440-48-4	
Iron	**7130**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:36	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:36	7439-92-1	
Lithium	**36.0**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:36	7439-93-2	
Magnesium	**49000**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:36	7439-95-4	
Manganese	**1450**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:36	7439-96-5	
Molybdenum	**178**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:36	7439-98-7	
Potassium	**5590**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:36	7440-09-7	
Sodium	**41200**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:36	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	04/26/22 09:43	04/29/22 21:26	7440-36-0	
Arsenic	**5.6**	ug/L	1.0	0.14	1	04/26/22 09:43	04/29/22 21:26	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	04/29/22 21:26	7440-43-9	
Chromium	**0.32J**	ug/L	1.0	0.31	1	04/26/22 09:43	04/29/22 21:26	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	04/29/22 21:26	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	04/29/22 21:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 11:14	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**225**	mg/L	20.0	4.6	1		04/25/22 19:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1200**	mg/L	13.3	13.3	1		04/25/22 16:06		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**6.6**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.54**	mg/L	0.20	0.060	1		04/28/22 13:50	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-8 **Lab ID: 60398377008** Collected: 04/18/22 11:45 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:22	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**49.1**	mg/L	10.0	5.3	10		05/04/22 12:17	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 22:25	16984-48-8	
Sulfate	**603**	mg/L	50.0	27.5	50		05/03/22 22:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-BMW-1 **Lab ID: 60398377009** Collected: 04/18/22 08:30 Received: 04/20/22 04:25 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	**211**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:38	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:38	7440-41-7	
Boron	**147**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:38	7440-42-8	
Calcium	**114000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:38	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:38	7440-48-4	
Iron	**491**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:38	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:38	7439-92-1	
Lithium	**11.8**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:38	7439-93-2	
Magnesium	**30200**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:38	7439-95-4	
Manganese	**306**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:38	7439-96-5	
Molybdenum	**4.6J**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:38	7439-98-7	
Potassium	**2330**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:38	7440-09-7	
Sodium	**55100**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.36J**	ug/L	1.0	0.12	1	04/26/22 09:43	05/02/22 15:03	7440-36-0	
Arsenic	**2.9**	ug/L	1.0	0.14	1	04/26/22 09:43	05/02/22 15:03	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	05/02/22 15:03	7440-43-9	
Chromium	**<0.31**	ug/L	1.0	0.31	1	04/26/22 09:43	05/02/22 15:03	7440-47-3	
Selenium	**7.6**	ug/L	1.0	0.18	1	04/26/22 09:43	05/02/22 15:03	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	05/02/22 15:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 11:16	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**311**	mg/L	20.0	4.6	1		04/25/22 19:54		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**627**	mg/L	10.0	10.0	1		04/25/22 16:06		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.49**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.060**	mg/L	0.20	0.060	1		04/28/22 13:43	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-BMW-1 **Lab ID: 60398377009** Collected: 04/18/22 08:30 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:23	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**108**	mg/L	20.0	10.5	20		05/03/22 23:08	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 22:53	16984-48-8	
Sulfate	**76.3**	mg/L	20.0	11.0	20		05/03/22 23:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-BMW-2 **Lab ID: 60398377010** Collected: 04/18/22 09:20 Received: 04/20/22 04:25 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	**570**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:40	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:40	7440-41-7	
Boron	**85.8J**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:40	7440-42-8	
Calcium	**107000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:40	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:40	7440-48-4	
Iron	**15500**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:40	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:40	7439-92-1	
Lithium	**7.7J**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:40	7439-93-2	
Magnesium	**35300**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:40	7439-95-4	
Manganese	**4430**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:40	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:40	7439-98-7	
Potassium	**1240**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:40	7440-09-7	
Sodium	**20100**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:40	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/22 09:43	05/02/22 15:07	7440-36-0	
Arsenic	**1.3**	ug/L	1.0	0.14	1	04/26/22 09:43	05/02/22 15:07	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	05/02/22 15:07	7440-43-9	
Chromium	**0.43J**	ug/L	1.0	0.31	1	04/26/22 09:43	05/02/22 15:07	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	05/02/22 15:07	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	05/02/22 15:07	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 11:18	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**422**	mg/L	20.0	4.6	1		04/25/22 20:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**486**	mg/L	10.0	10.0	1		04/25/22 16:07		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**14.8**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.62**	mg/L	0.20	0.060	1		04/28/22 13:44	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-BMW-2 **Lab ID: 60398377010** Collected: 04/18/22 09:20 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:23	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.9**	mg/L	1.0	0.53	1		05/03/22 23:22	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 23:22	16984-48-8	
Sulfate	**26.0**	mg/L	5.0	2.8	5		05/04/22 12:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-DUP-1 **Lab ID: 60398377011** Collected: 04/18/22 08:00 Received: 04/20/22 04:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**53.3**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:49	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:49	7440-41-7	
Boron	**10100**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:49	7440-42-8	
Calcium	**351000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:49	7440-70-2	M1
Cobalt	**3.1J**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:49	7440-48-4	
Iron	**17400**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:49	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:49	7439-92-1	
Lithium	**134**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:49	7439-93-2	
Magnesium	**24200**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:49	7439-95-4	
Manganese	**1350**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:49	7439-96-5	
Molybdenum	**111**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:49	7439-98-7	
Potassium	**13200**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:49	7440-09-7	
Sodium	**19500**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:49	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/22 09:43	05/02/22 15:11	7440-36-0	
Arsenic	**6.1**	ug/L	1.0	0.14	1	04/26/22 09:43	05/02/22 15:11	7440-38-2	
Cadmium	**0.063J**	ug/L	0.50	0.053	1	04/26/22 09:43	05/02/22 15:11	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.31	1	04/26/22 09:43	05/02/22 15:11	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	05/02/22 15:11	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	05/02/22 15:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 11:21	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**470**	mg/L	20.0	4.6	1		04/25/22 20:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1410**	mg/L	13.3	13.3	1		04/25/22 16:07		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**15.6**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.8**	mg/L	0.20	0.060	1		04/28/22 13:43	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-DUP-1 **Lab ID: 60398377011** Collected: 04/18/22 08:00 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:23	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.2**	mg/L	1.0	0.53	1		05/03/22 23:36	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 23:36	16984-48-8	
Sulfate	**598**	mg/L	50.0	27.5	50		05/04/22 00:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-FB-1 **Lab ID: 60398377012** Collected: 04/18/22 12:00 Received: 04/20/22 04:25 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	**<0.51**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 17:51	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 17:51	7440-41-7	
Boron	**26.1J**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 17:51	7440-42-8	
Calcium	**67.0J**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 17:51	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 17:51	7440-48-4	
Iron	**7.2J**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 17:51	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 17:51	7439-92-1	
Lithium	**<5.6**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 17:51	7439-93-2	
Magnesium	**<27.1**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 17:51	7439-95-4	
Manganese	**0.46J**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 17:51	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 17:51	7439-98-7	
Potassium	**<87.6**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 17:51	7440-09-7	
Sodium	**<73.2**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 17:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/22 09:43	05/02/22 15:22	7440-36-0	
Arsenic	**<0.14**	ug/L	1.0	0.14	1	04/26/22 09:43	05/02/22 15:22	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/26/22 09:43	05/02/22 15:22	7440-43-9	
Chromium	**<0.31**	ug/L	1.0	0.31	1	04/26/22 09:43	05/02/22 15:22	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/22 09:43	05/02/22 15:22	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/26/22 09:43	05/02/22 15:22	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 11:23	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		04/25/22 20:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		04/25/22 16:07		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0072J**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.060**	mg/L	0.20	0.060	1		04/28/22 13:51	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-FB-1 **Lab ID: 60398377012** Collected: 04/18/22 12:00 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:24	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		05/04/22 00:32	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/04/22 00:32	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		05/04/22 00:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 785877 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006

METHOD BLANK: 3133124 Matrix: Water
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.064	0.20	0.064	05/11/22 13:54	

LABORATORY CONTROL SAMPLE: 3133125

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3133126 3133127

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.064	5	5	4.6	4.6	92	93	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 785878 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3133131 Matrix: Water
Associated Lab Samples: 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.064	0.20	0.064	05/11/22 11:02	

LABORATORY CONTROL SAMPLE: 3133132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3133133 3133134

Parameter	Units	60398377007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.064	5	5	4.9	4.9	99	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783263
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3123352 Matrix: Water
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.51	5.0	0.51	05/04/22 17:10	
Beryllium	ug/L	<0.26	1.0	0.26	05/04/22 17:10	
Boron	ug/L	<4.2	100	4.2	05/04/22 17:10	
Calcium	ug/L	<33.7	200	33.7	05/04/22 17:10	
Cobalt	ug/L	<0.82	5.0	0.82	05/04/22 17:10	
Iron	ug/L	<5.6	50.0	5.6	05/04/22 17:10	
Lead	ug/L	<8.6	10.0	8.6	05/04/22 17:10	
Lithium	ug/L	<5.6	10.0	5.6	05/04/22 17:10	
Magnesium	ug/L	<27.1	50.0	27.1	05/04/22 17:10	
Manganese	ug/L	<0.24	5.0	0.24	05/04/22 17:10	
Molybdenum	ug/L	<0.90	20.0	0.90	05/04/22 17:10	
Potassium	ug/L	<87.6	500	87.6	05/04/22 17:10	
Sodium	ug/L	<73.2	500	73.2	05/04/22 17:10	

LABORATORY CONTROL SAMPLE: 3123353

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	996	100	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	945	95	85-115	
Calcium	ug/L	10000	10000	100	85-115	
Cobalt	ug/L	1000	983	98	85-115	
Iron	ug/L	10000	9960	100	85-115	
Lead	ug/L	1000	1000	100	85-115	
Lithium	ug/L	1000	995	99	85-115	
Magnesium	ug/L	10000	9780	98	85-115	
Manganese	ug/L	1000	998	100	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9490	95	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123354 3123355

Parameter	Units	60398377007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	42.3	1000	1000	1040	1040	100	100	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123354 3123355

Parameter	Units	60398377007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	<0.26	1000	1000	997	986	100	99	70-130	1	20	
Boron	ug/L	28800	1000	1000	28700	28700	-6	-8	70-130	0	20	M1
Calcium	ug/L	423000	10000	10000	418000	416000	-47	-66	70-130	0	20	M1
Cobalt	ug/L	<0.82	1000	1000	949	933	95	93	70-130	2	20	
Iron	ug/L	11.0J	10000	10000	9940	9900	99	99	70-130	0	20	
Lead	ug/L	<8.6	1000	1000	966	954	97	95	70-130	1	20	
Lithium	ug/L	46.0	1000	1000	1090	1080	104	104	70-130	0	20	
Magnesium	ug/L	28300	10000	10000	37200	36900	89	86	70-130	1	20	
Manganese	ug/L	0.94J	1000	1000	983	968	98	97	70-130	2	20	
Molybdenum	ug/L	456	1000	1000	1470	1440	101	99	70-130	2	20	
Potassium	ug/L	21200	10000	10000	30500	30500	93	93	70-130	0	20	
Sodium	ug/L	115000	10000	10000	121000	121000	64	57	70-130	1	20	M1

MATRIX SPIKE SAMPLE: 3123356

Parameter	Units	60398377011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	53.3	1000	1070	102	70-130	
Beryllium	ug/L	<0.26	1000	999	100	70-130	
Boron	ug/L	10100	1000	11300	116	70-130	
Calcium	ug/L	351000	10000	365000	141	70-130	M1
Cobalt	ug/L	3.1J	1000	948	95	70-130	
Iron	ug/L	17400	10000	27500	102	70-130	
Lead	ug/L	<8.6	1000	985	98	70-130	
Lithium	ug/L	134	1000	1190	106	70-130	
Magnesium	ug/L	24200	10000	34400	101	70-130	
Manganese	ug/L	1350	1000	2340	100	70-130	
Molybdenum	ug/L	111	1000	1120	101	70-130	
Potassium	ug/L	13200	10000	23700	105	70-130	
Sodium	ug/L	19500	10000	30400	109	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783262
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3123346 Matrix: Water
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/29/22 20:41	
Arsenic	ug/L	<0.14	1.0	0.14	04/29/22 20:41	
Cadmium	ug/L	<0.053	0.50	0.053	04/29/22 20:41	
Chromium	ug/L	<0.31	1.0	0.31	04/29/22 20:41	
Selenium	ug/L	<0.18	1.0	0.18	04/29/22 20:41	
Thallium	ug/L	<0.15	1.0	0.15	04/29/22 20:41	

LABORATORY CONTROL SAMPLE: 3123347

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.9	100	85-115	
Arsenic	ug/L	40	41.6	104	85-115	
Cadmium	ug/L	40	41.1	103	85-115	
Chromium	ug/L	40	41.9	105	85-115	
Selenium	ug/L	40	41.0	103	85-115	
Thallium	ug/L	40	37.6	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123348 3123349

Parameter	Units	60398377007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.43J	40	40	39.1	39.3	97	97	70-130	1	20	
Arsenic	ug/L	3.3	40	40	46.4	46.5	108	108	70-130	0	20	
Cadmium	ug/L	0.27J	40	40	36.6	36.7	91	91	70-130	0	20	
Chromium	ug/L	0.38J	40	40	39.6	40.3	98	100	70-130	2	20	
Selenium	ug/L	1.6	40	40	40.7	40.8	98	98	70-130	0	20	
Thallium	ug/L	<0.15	40	40	36.7	37.1	92	93	70-130	1	20	

MATRIX SPIKE SAMPLE: 3123350

Parameter	Units	60398377011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	38.6	96	70-130	
Arsenic	ug/L	6.1	40	47.9	105	70-130	
Cadmium	ug/L	0.063J	40	37.7	94	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

MATRIX SPIKE SAMPLE: 3123350

Parameter	Units	60398377011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	0.34J	40	39.7	98	70-130	
Selenium	ug/L	<0.18	40	38.7	97	70-130	
Thallium	ug/L	<0.15	40	41.5	104	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783000 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377001, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3122470 — Matrix: Water
Associated Lab Samples: 60398377001, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/25/22 18:04	

LABORATORY CONTROL SAMPLE: 3122471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	480	96	90-110	

SAMPLE DUPLICATE: 3122472

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	916	909	1	10	

SAMPLE DUPLICATE: 3122473

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	242	217	11	10	D6

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783002
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377002, 60398377003

METHOD BLANK: 3122478 Matrix: Water
Associated Lab Samples: 60398377002, 60398377003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/25/22 15:25	

LABORATORY CONTROL SAMPLE: 3122479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	485	97	90-110	

SAMPLE DUPLICATE: 3122480

Parameter	Units	60396735010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	473	470	1	10	

SAMPLE DUPLICATE: 3122481

Parameter	Units	60398358002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	418	422	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783186 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377001, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3123040 Matrix: Water
Associated Lab Samples: 60398377001, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/25/22 16:04	

LABORATORY CONTROL SAMPLE: 3123041

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

SAMPLE DUPLICATE: 3123042

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	943	939	0	10	

SAMPLE DUPLICATE: 3123043

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2040	2090	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783189
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377002, 60398377003

METHOD BLANK: 3123049 Matrix: Water
Associated Lab Samples: 60398377002, 60398377003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/25/22 16:08	

LABORATORY CONTROL SAMPLE: 3123050

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

SAMPLE DUPLICATE: 3123051

Parameter	Units	60398333006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	875	868	1	10	

SAMPLE DUPLICATE: 3123052

Parameter	Units	60396735010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	595	592	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783444
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3124147 Matrix: Water
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/28/22 13:41	H6

LABORATORY CONTROL SAMPLE: 3124148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	101	90-110	H6

SAMPLE DUPLICATE: 3124149

Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.060	<0.060		20	H6

SAMPLE DUPLICATE: 3124150

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	2.8	2.8	0	20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 784597
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60398377007

METHOD BLANK: 3128288 Matrix: Water
Associated Lab Samples: 60398377007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	05/03/22 11:32	H6

LABORATORY CONTROL SAMPLE: 3128289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.2	110	90-110	H6

SAMPLE DUPLICATE: 3128290

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.060	<0.060		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783014
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377001, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3122515 Matrix: Water
Associated Lab Samples: 60398377001, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/25/22 14:17	

LABORATORY CONTROL SAMPLE: 3122516

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122518 3122519

Parameter	Units	60398376001 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	<0.026	0.5	0.5	0.49	0.49	94	94	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122521 3122522

Parameter	Units	60398377007 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	<0.026	0.5	0.5	0.46	0.46	90	90	75-125	0	20	

SAMPLE DUPLICATE: 3122517

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

SAMPLE DUPLICATE: 3122520

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 783255
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398377002, 60398377003

METHOD BLANK: 3123307 Matrix: Water
Associated Lab Samples: 60398377002, 60398377003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/26/22 14:39	

LABORATORY CONTROL SAMPLE: 3123308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123309 3123310

Parameter	Units	60398376003 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	<0.026	0.5	0.5	0.43	0.43	85	85	75-125	0	20	

SAMPLE DUPLICATE: 3123311

Parameter	Units	60398376005 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

SAMPLE DUPLICATE: 3123312

Parameter	Units	60398358003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 784408
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60398377001

METHOD BLANK: 3127658 Matrix: Water
Associated Lab Samples: 60398377001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.62J	1.0	0.53	05/04/22 18:16	
Fluoride	mg/L	<0.12	0.20	0.12	05/04/22 18:16	
Sulfate	mg/L	<0.55	1.0	0.55	05/04/22 18:16	

METHOD BLANK: 3133456 Matrix: Water
Associated Lab Samples: 60398377001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	05/09/22 08:57	
Fluoride	mg/L	<0.12	0.20	0.12	05/09/22 08:57	
Sulfate	mg/L	<0.55	1.0	0.55	05/09/22 08:57	

METHOD BLANK: 3133598 Matrix: Water
Associated Lab Samples: 60398377001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	05/10/22 09:02	
Fluoride	mg/L	<0.12	0.20	0.12	05/10/22 09:02	
Sulfate	mg/L	<0.55	1.0	0.55	05/10/22 09:02	

LABORATORY CONTROL SAMPLE: 3127659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3133457

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	99	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

LABORATORY CONTROL SAMPLE: 3133599

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	2.5	101	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3127660 3127661

Parameter	Units	60396735010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.5	5	5	11.4	11.5	98	100	80-120	1	15	
Fluoride	mg/L	0.37	2.5	2.5	2.9	3.0	102	103	80-120	1	15	
Sulfate	mg/L	44.8	50	50	93.4	92.2	97	95	80-120	1	15	

SAMPLE DUPLICATE: 3127662

Parameter	Units	60396735010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	6.5	6.5	0	15	
Fluoride	mg/L	0.37	0.37	2	15	
Sulfate	mg/L	44.8	42.1	6	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 784534 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: 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

METHOD BLANK: 3128137 Matrix: Water
Associated Lab Samples: 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.58J	1.0	0.53	05/03/22 08:55	
Fluoride	mg/L	<0.12	0.20	0.12	05/03/22 08:55	
Sulfate	mg/L	<0.55	1.0	0.55	05/03/22 08:55	

METHOD BLANK: 3129757 Matrix: Water
Associated Lab Samples: 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	05/04/22 09:09	
Fluoride	mg/L	<0.12	0.20	0.12	05/04/22 09:09	
Sulfate	mg/L	<0.55	1.0	0.55	05/04/22 09:09	

LABORATORY CONTROL SAMPLE: 3128138

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	2.4	97	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

LABORATORY CONTROL SAMPLE: 3129758

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	97	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3128139 3128140

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.8	5	5	21.0	18.9	144	101	80-120	11	15	E,M1
Fluoride	mg/L	<0.12	2.5	2.5	0.98	1.1	39	43	80-120	10	15	M1

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3128139 3128140

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	0.77J	5	5	5.2	5.2	88	90	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3128143 3128144

Parameter	Units	60398377007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	60.6	50	50	108	109	95	97	80-120	1	15	R1
Fluoride	mg/L	<0.12	2.5	2.5	2.0	2.2	81	89	80-120	9	15	
Sulfate	mg/L	1080	500	500	1610	1590	105	100	80-120	1	15	R1

SAMPLE DUPLICATE: 3128142

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	13.8	13.8	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	0.77J	0.62J		15	

SAMPLE DUPLICATE: 3128145

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	60.6	59.2	2	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	1080	1080	0	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-1 **Lab ID: 60398377001** Collected: 04/18/22 11:03 Received: 04/20/22 04:25 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	**0.679 ± 0.377 (0.141) C:NA T:99%**	pCi/L	05/13/22 15:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.348 ± 0.429 (0.911) C:74% T:84%**	pCi/L	05/11/22 16:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-2 **Lab ID: 60398377002** Collected: 04/19/22 10:19 Received: 04/20/22 04:25 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	**0.749 ± 0.499 (0.642) C:NA T:95%**	pCi/L	05/13/22 15:17	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.583 ± 0.414 (0.804) C:73% T:87%**	pCi/L	05/11/22 16:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-3 **Lab ID: 60398377003** Collected: 04/19/22 11:50 Received: 04/20/22 04:25 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	**0.112 ± 0.311 (0.604) C:NA T:95%**	pCi/L	05/13/22 15:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.441 ± 0.370 (0.744) C:72% T:91%**	pCi/L	05/11/22 16:42	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-4 **Lab ID: 60398377004** Collected: 04/18/22 16:35 Received: 04/20/22 04:25 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	**0.376 ± 0.462 (0.753) C:NA T:95%**	pCi/L	05/13/22 15:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.427 ± 0.427 (0.886) C:72% T:91%**	pCi/L	05/11/22 16:42	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-5 **Lab ID: 60398377005** Collected: 04/18/22 15:25 Received: 04/20/22 04:25 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	**0.211 ± 0.255 (0.388) C:NA T:93%**	pCi/L	05/13/22 15:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.640 ± 0.448 (0.871) C:71% T:85%**	pCi/L	05/11/22 16:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-6 **Lab ID: 60398377006** Collected: 04/18/22 15:22 Received: 04/20/22 04:25 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 ± 0.232 (0.520) C:NA T:96%**	pCi/L	05/13/22 15:17	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.347 ± 0.418 (0.880) C:76% T:87%**	pCi/L	05/11/22 18:52	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-7 **Lab ID: 60398377007** Collected: 04/18/22 14:30 Received: 04/20/22 04:25 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 ± 0.211 (0.473) C:NA T:96%**	pCi/L	05/13/22 15:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.35 ± 0.580 (0.918) C:69% T:86%**	pCi/L	05/11/22 18:52	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MW-8 **Lab ID: 60398377008** Collected: 04/18/22 11:45 Received: 04/20/22 04:25 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	**0.416 ± 0.326 (0.383) C:NA T:98%**	pCi/L	05/13/22 15:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.00752 ± 0.519 (1.21) C:66% T:85%**	pCi/L	05/11/22 18:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-BMW-1 **Lab ID: 60398377009** Collected: 04/18/22 08:30 Received: 04/20/22 04:25 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	**0.624 ± 0.376 (0.154) C:NA T:94%**	pCi/L	05/13/22 15:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.702 ± 0.493 (0.935) C:67% T:85%**	pCi/L	05/11/22 18:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-BMW-2 **Lab ID: 60398377010** Collected: 04/18/22 09:20 Received: 04/20/22 04:25 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	**0.408 ± 0.382 (0.542) C:NA T:99%**	pCi/L	05/13/22 15:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.234 ± 0.401 (0.874) C:66% T:87%**	pCi/L	05/11/22 18:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-DUP-1 **Lab ID: 60398377011** Collected: 04/18/22 08:00 Received: 04/20/22 04:25 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	**0.0610 ± 0.397 (0.799) C:NA T:90%**	pCi/L	05/13/22 15:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.546 ± 0.436 (1.14) C:65% T:85%**	pCi/L	05/11/22 18:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-FB-1 **Lab ID: 60398377012** Collected: 04/18/22 12:00 Received: 04/20/22 04:25 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	**0.241 ± 0.277 (0.164) C:NA T:94%**	pCi/L	05/13/22 15:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.347 ± 0.473 (1.01) C:68% T:86%**	pCi/L	05/11/22 18:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MS-1 **Lab ID: 60398377013** Collected: 04/18/22 14:30 Received: 04/20/22 04:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**107.54 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/13/22 15:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**73.42 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/11/22 18:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Sample: M-MSD-1 **Lab ID: 60398377014** Collected: 04/18/22 14:30 Received: 04/20/22 04:25 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	**79.01 %REC 30.59RPD ± NA (NA) C:NA T:NA**	pCi/L	05/13/22 15:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**64.25 %REC 13.32 RPD ± NA (NA) C:NA T:NA**	pCi/L	05/11/22 18:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 501331 | 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: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012, 60398377013, 60398377014

METHOD BLANK: 2426547 Matrix: Water

Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012, 60398377013, 60398377014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.491 ± 0.430 (0.865) C:64% T:82%	pCi/L	05/11/22 16:41	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

QC Batch: 501330 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: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012, 60398377013, 60398377014

METHOD BLANK: 2426546 Matrix: Water
Associated Lab Samples: 60398377001, 60398377002, 60398377003, 60398377004, 60398377005, 60398377006, 60398377007, 60398377008, 60398377009, 60398377010, 60398377011, 60398377012, 60398377013, 60398377014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0855 ± 0.195 (0.460) C:NA T:101%	pCi/L	05/13/22 14:54	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
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QUALIFIERS

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

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

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398377001	M-MW-1	EPA 200.7	783263	EPA 200.7	783394
60398377002	M-MW-2	EPA 200.7	783263	EPA 200.7	783394
60398377003	M-MW-3	EPA 200.7	783263	EPA 200.7	783394
60398377004	M-MW-4	EPA 200.7	783263	EPA 200.7	783394
60398377005	M-MW-5	EPA 200.7	783263	EPA 200.7	783394
60398377006	M-MW-6	EPA 200.7	783263	EPA 200.7	783394
60398377007	M-MW-7	EPA 200.7	783263	EPA 200.7	783394
60398377008	M-MW-8	EPA 200.7	783263	EPA 200.7	783394
60398377009	M-BMW-1	EPA 200.7	783263	EPA 200.7	783394
60398377010	M-BMW-2	EPA 200.7	783263	EPA 200.7	783394
60398377011	M-DUP-1	EPA 200.7	783263	EPA 200.7	783394
60398377012	M-FB-1	EPA 200.7	783263	EPA 200.7	783394
60398377001	M-MW-1	EPA 200.8	783262	EPA 200.8	783393
60398377002	M-MW-2	EPA 200.8	783262	EPA 200.8	783393
60398377003	M-MW-3	EPA 200.8	783262	EPA 200.8	783393
60398377004	M-MW-4	EPA 200.8	783262	EPA 200.8	783393
60398377005	M-MW-5	EPA 200.8	783262	EPA 200.8	783393
60398377006	M-MW-6	EPA 200.8	783262	EPA 200.8	783393
60398377007	M-MW-7	EPA 200.8	783262	EPA 200.8	783393
60398377008	M-MW-8	EPA 200.8	783262	EPA 200.8	783393
60398377009	M-BMW-1	EPA 200.8	783262	EPA 200.8	783393
60398377010	M-BMW-2	EPA 200.8	783262	EPA 200.8	783393
60398377011	M-DUP-1	EPA 200.8	783262	EPA 200.8	783393
60398377012	M-FB-1	EPA 200.8	783262	EPA 200.8	783393
60398377001	M-MW-1	EPA 7470	785877	EPA 7470	786085
60398377002	M-MW-2	EPA 7470	785877	EPA 7470	786085
60398377003	M-MW-3	EPA 7470	785877	EPA 7470	786085
60398377004	M-MW-4	EPA 7470	785877	EPA 7470	786085
60398377005	M-MW-5	EPA 7470	785877	EPA 7470	786085
60398377006	M-MW-6	EPA 7470	785877	EPA 7470	786085
60398377007	M-MW-7	EPA 7470	785878	EPA 7470	786086
60398377008	M-MW-8	EPA 7470	785878	EPA 7470	786086
60398377009	M-BMW-1	EPA 7470	785878	EPA 7470	786086
60398377010	M-BMW-2	EPA 7470	785878	EPA 7470	786086
60398377011	M-DUP-1	EPA 7470	785878	EPA 7470	786086
60398377012	M-FB-1	EPA 7470	785878	EPA 7470	786086
60398377001	M-MW-1	EPA 903.1	501330		
60398377002	M-MW-2	EPA 903.1	501330		
60398377003	M-MW-3	EPA 903.1	501330		
60398377004	M-MW-4	EPA 903.1	501330		
60398377005	M-MW-5	EPA 903.1	501330		
60398377006	M-MW-6	EPA 903.1	501330		
60398377007	M-MW-7	EPA 903.1	501330		
60398377008	M-MW-8	EPA 903.1	501330		
60398377009	M-BMW-1	EPA 903.1	501330		
60398377010	M-BMW-2	EPA 903.1	501330		
60398377011	M-DUP-1	EPA 903.1	501330		

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398377012	M-FB-1	EPA 903.1	501330		
60398377013	M-MS-1	EPA 903.1	501330		
60398377014	M-MSD-1	EPA 903.1	501330		
60398377001	M-MW-1	EPA 904.0	501331		
60398377002	M-MW-2	EPA 904.0	501331		
60398377003	M-MW-3	EPA 904.0	501331		
60398377004	M-MW-4	EPA 904.0	501331		
60398377005	M-MW-5	EPA 904.0	501331		
60398377006	M-MW-6	EPA 904.0	501331		
60398377007	M-MW-7	EPA 904.0	501331		
60398377008	M-MW-8	EPA 904.0	501331		
60398377009	M-BMW-1	EPA 904.0	501331		
60398377010	M-BMW-2	EPA 904.0	501331		
60398377011	M-DUP-1	EPA 904.0	501331		
60398377012	M-FB-1	EPA 904.0	501331		
60398377013	M-MS-1	EPA 904.0	501331		
60398377014	M-MSD-1	EPA 904.0	501331		
60398377001	M-MW-1	SM 2320B	783000		
60398377002	M-MW-2	SM 2320B	783002		
60398377003	M-MW-3	SM 2320B	783002		
60398377004	M-MW-4	SM 2320B	783000		
60398377005	M-MW-5	SM 2320B	783000		
60398377006	M-MW-6	SM 2320B	783000		
60398377007	M-MW-7	SM 2320B	783000		
60398377008	M-MW-8	SM 2320B	783000		
60398377009	M-BMW-1	SM 2320B	783000		
60398377010	M-BMW-2	SM 2320B	783000		
60398377011	M-DUP-1	SM 2320B	783000		
60398377012	M-FB-1	SM 2320B	783000		
60398377001	M-MW-1	SM 2540C	783186		
60398377002	M-MW-2	SM 2540C	783189		
60398377003	M-MW-3	SM 2540C	783189		
60398377004	M-MW-4	SM 2540C	783186		
60398377005	M-MW-5	SM 2540C	783186		
60398377006	M-MW-6	SM 2540C	783186		
60398377007	M-MW-7	SM 2540C	783186		
60398377008	M-MW-8	SM 2540C	783186		
60398377009	M-BMW-1	SM 2540C	783186		
60398377010	M-BMW-2	SM 2540C	783186		
60398377011	M-DUP-1	SM 2540C	783186		
60398377012	M-FB-1	SM 2540C	783186		
60398377001	M-MW-1	SM 3500-Fe B#4	786066		
60398377002	M-MW-2	SM 3500-Fe B#4	786066		
60398377003	M-MW-3	SM 3500-Fe B#4	786066		
60398377004	M-MW-4	SM 3500-Fe B#4	786066		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC COC #13
Pace Project No.: 60398377

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398377005	M-MW-5	SM 3500-Fe B#4	786066		
60398377006	M-MW-6	SM 3500-Fe B#4	786066		
60398377007	M-MW-7	SM 3500-Fe B#4	786066		
60398377008	M-MW-8	SM 3500-Fe B#4	786066		
60398377009	M-BMW-1	SM 3500-Fe B#4	786066		
60398377010	M-BMW-2	SM 3500-Fe B#4	786066		
60398377011	M-DUP-1	SM 3500-Fe B#4	786066		
60398377012	M-FB-1	SM 3500-Fe B#4	786066		
60398377001	M-MW-1	SM 3500-Fe B#4	783444		
60398377002	M-MW-2	SM 3500-Fe B#4	783444		
60398377003	M-MW-3	SM 3500-Fe B#4	783444		
60398377004	M-MW-4	SM 3500-Fe B#4	783444		
60398377005	M-MW-5	SM 3500-Fe B#4	783444		
60398377006	M-MW-6	SM 3500-Fe B#4	783444		
60398377007	M-MW-7	SM 3500-Fe B#4	784597		
60398377008	M-MW-8	SM 3500-Fe B#4	783444		
60398377009	M-BMW-1	SM 3500-Fe B#4	783444		
60398377010	M-BMW-2	SM 3500-Fe B#4	783444		
60398377011	M-DUP-1	SM 3500-Fe B#4	783444		
60398377012	M-FB-1	SM 3500-Fe B#4	783444		
60398377001	M-MW-1	SM 4500-S-2 D	783014		
60398377002	M-MW-2	SM 4500-S-2 D	783255		
60398377003	M-MW-3	SM 4500-S-2 D	783255		
60398377004	M-MW-4	SM 4500-S-2 D	783014		
60398377005	M-MW-5	SM 4500-S-2 D	783014		
60398377006	M-MW-6	SM 4500-S-2 D	783014		
60398377007	M-MW-7	SM 4500-S-2 D	783014		
60398377008	M-MW-8	SM 4500-S-2 D	783014		
60398377009	M-BMW-1	SM 4500-S-2 D	783014		
60398377010	M-BMW-2	SM 4500-S-2 D	783014		
60398377011	M-DUP-1	SM 4500-S-2 D	783014		
60398377012	M-FB-1	SM 4500-S-2 D	783014		
60398377001	M-MW-1	EPA 300.0	784408		
60398377002	M-MW-2	EPA 300.0	784534		
60398377003	M-MW-3	EPA 300.0	784534		
60398377004	M-MW-4	EPA 300.0	784534		
60398377005	M-MW-5	EPA 300.0	784534		
60398377006	M-MW-6	EPA 300.0	784534		
60398377007	M-MW-7	EPA 300.0	784534		
60398377008	M-MW-8	EPA 300.0	784534		
60398377009	M-BMW-1	EPA 300.0	784534		
60398377010	M-BMW-2	EPA 300.0	784534		
60398377011	M-DUP-1	EPA 300.0	784534		
60398377012	M-FB-1	EPA 300.0	784534		

WO# : 60398377

60398377

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

Client Name: Golder

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: T301 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 2.6/2.0/2.4/3.4 **Corr. Factor** -1.0 **Corrected** 1.6/1.0/1.4/2.4 13.1/11.4/12.9

Date and initials of person examining contents: PV 4/22/22

Temperature should be above freezing to 6°C 14.1/12.4/13.9

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 55192/55193	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Page 1 of 1

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #13
Project Name:	Ameren Meramec Energy Center MEC
Project Number:	153140604. 0004

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, Inc
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)
																		Y/N	N	N	N	N	N	N	N	N	N	N		
1	M-MW-1	WT	G			4/18/22	1103		6	2		3		1				X	X	X	X	X	X	X	X	X	X	BP3U	BP3N BP3Z BP1N 2BP1N	
2	M-MW-2	WT	G			4/19/22	1019		1	1		1		1															
3	M-MW-3	WT	G			4/19/22	1150		1	1		1		1															
4	M-MW-4	WT	G			4/18/22	1635		6	2		3		1															
5	M-MW-5	WT	G			1	1525																						
6	M-MW-6	WT	G			4/19/22	1522																						
7	M-MW-7	WT	G			1	1430																				3BP3U	3BP3N 3BP3Z 3BP1U	
8	M-MW-8	WT	G				1145																				BP3U	BP3N BP3Z BP1U	
9	M-BMW-1	WT	G				0830																						
10	M-BMW-2	WT	G				0920																						
11	M-DUP-1	WT	G				—																						
12	M-FB-1	WT	G			+	1200		1	1		1		1															

Residual Chlorine (Y/N): 6019837 7 — Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B		4/19/22	1600		4/19	1600	
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl		4/19	1600		4/20	0425	1.6 Y Y Y
							1.0
							1.4 2.4
							3.0 11.4 12.9 Temp °C

Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 04/19/22

*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.

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #13
Project Name:	Ameren Meramec Energy Center MEC
Project Number:	153140604. 0004

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, Inc
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other
1	M-MS-1	WT	G			4/18/22	1430		6	2		3		1			
2	M-MSD-1	WT	G			4/18/22	1430		1	1		1	1				
3		WT	G														
4		WT	G														
5		WT	G														
6		WT	G														
7		WT	G														
8		WT	G														
9		WT	G														
10		WT	G														
11		WT	G														
12		WT	G														

Requested Analysis Filtered (Y/N)

Y/N	Analysis Test	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
N		X	X	X	X	X	X	X	X	X	X				60398877
1		1	1	1	1	1	1	1	1	1	1				60 pw4/22
															2BPIN

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[signature]	4/19/22	1600	Angela McManus	4/19	1600
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Angela McManus	4/19	1600	[signature]	4/20	0425

SAMPLE CONDITIONS

Temp	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.6	Y	Y	Y
1.0			
1.4			
2.4			
13.1 °C			
11.3			
12.9			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 04/19/22

*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.

MEMORANDUM

DATE June 22, 2022 **Project No.** 153140604.0004

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth **EMAIL ann.muehlfarth@wsp.com**

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60398377

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

GOLDER
701 Emerson Road, Suite 250,
Creve Coeur, Missouri, USA 63141

T: +1 314 984-8800 F: +1 314 984-8770

golder.com

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc / WSP
Project Manager: J. Ingram
Project Name: Ameren- Meramec - MEC
Project Number: 153140604.0004
Reviewer: A. Muehlfarth
Validation Date: 6/22/2022

Laboratory: Pace Analytical Services
SDG #: 60398377
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide)
Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW-7, M-MW-8, M-MW-9, M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MS-1, M-MSD-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			4/18/2022
b) Sampling team indicated?	x			EMS/BTT/JSI
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	x			See Notes
b) Were analytes detected in the field blank(s)?	x			M-FB-1 @ M-MW-8
c) Were analytes detected in the equipment blank(s)?			x	
d) Were analytes detected in the trip blank(s)?			x	

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-DUP-1 @ M-MW-6
b) Were field dup. precision criteria met (note RPD)?	x			Max RPD: 13.6% [<20%]
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See Notes

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

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

Comments/Notes:

Ferrous iron, chloride, and sulfate analyzed at a dilution in several samples. No qualification necessary.

Blanks:

3127658/3133456: Chloride (0.62J/0.60J). Associated with sample -001. Result >RL and 10x blank, no qualification necessary.

3128137: Chloride (0.58J). Associated with sample -002 through -012. Results >RL and 10x blank not qualified. ND results not qualified.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

M-FB-1 @ M-MW-8: Boron (26.1J), calcium (67.0J), iron (7.2J), manganese (0.46J), ferric iron (0.0072J), radium-226 (0.241 ± 0.277). Results >RL and 10x blank were not qualified. Radium-226 result qualified as an estimate.

Duplicates:

Sample duplicate 3122473: RPD exceeds limit (11%) for alkalinity (10%). Associated with sample -007.

MS/MSD:

3123354/3123355: MS/MSD % recovery low for boron, calcium, and sodium. Associated with sample -007. Results qualified as estimates.

3123356: MS % recovery high for calcium. Associated with sample -011. Only 1 QC indicator out, no qualification necessary.

3128139/3128139: MS % recovery high for chloride; MS/MSD % recovery low for fluoride. MS/MSD performed on unrelated sample, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-8	Radium-226	0.416 ± 0.326	J	Detected in MB
M-MW-7	Alkalinity	242	J	Lab dup RPD exceeds limit
"	Boron	28800	J-	MS/MSD % recovery low
"	Calcium	423000	J-	"
"	Sodium	115000	J-	"

Signature: Ann Muehlfarth Date: 6/22/2022

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

June 01, 2022

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

RE: Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on April 20, 2022. 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: Ryan Feldmann, Golder
Mark Haddock, Golder Associates
Eric Schneider, Golder Associates
Brendan Talbert, Golder Associates

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

CERTIFICATIONS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

SAMPLE SUMMARY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60398376001	**M-MW-11S**	Water	04/18/22 12:10	04/20/22 04:25
60398376002	**M-MW-11D**	Water	04/18/22 13:15	04/20/22 04:25
60398376003	**M-TP-1**	Water	04/19/22 13:30	04/20/22 04:25
60398376004	**M-TP-2**	Water	04/18/22 14:00	04/20/22 04:25
60398376005	**M-MW-9**	Water	04/19/22 12:47	04/20/22 04:25
60398376006	**M-MW-10**	Water	04/18/22 13:22	04/20/22 04:25
60398376007	**M-CA-DUP-1**	Water	04/18/22 08:00	04/20/22 04:25
60398376008	**M-CA-FB-1**	Water	04/18/22 14:15	04/20/22 04:25
60398376009	**M-CA-MS-1**	Water	04/18/22 12:10	04/20/22 04:25
60398376010	**M-CA-MSD-1**	Water	04/18/22 12:10	04/20/22 04:25

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60398376001	**M-MW-11S**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398376002	**M-MW-11D**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60398376003	**M-TP-1**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398376004	**M-TP-2**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398376005	**M-MW-9**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398376006	**M-MW-10**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398376007	**M-CA-DUP-1**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398376008	**M-CA-FB-1**	EPA 200.7	JDS	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60398376009	**M-CA-MS-1**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60398376010	**M-CA-MSD-1**	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-11S **Lab ID: 60398376001** Collected: 04/18/22 12:10 Received: 04/20/22 04:25 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	**675**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 18:15	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:15	7440-41-7	
Boron	**1010**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:15	7440-42-8	
Calcium	**246000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:15	7440-70-2	M1
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:15	7440-48-4	
Iron	**54900**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:15	7439-89-6	M1
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:15	7439-92-1	
Lithium	**20.7**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:15	7439-93-2	
Magnesium	**67200**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:15	7439-95-4	M1
Manganese	**1670**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:15	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:15	7439-98-7	
Potassium	**8440**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:15	7440-09-7	
Sodium	**23400**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:15	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/25/22 14:00	04/29/22 19:59	7440-36-0	
Arsenic	**5.3**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 19:59	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 19:59	7440-43-9	
Chromium	**0.47J**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 19:59	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 19:59	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 19:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:03	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**916**	mg/L	20.0	4.6	1		04/25/22 18:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**943**	mg/L	13.3	13.3	1		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**52.1**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.8**	mg/L	0.20	0.060	1		04/28/22 13:52	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-11S **Lab ID: 60398376001** Collected: 04/18/22 12:10 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:18	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.8**	mg/L	1.0	0.53	1		05/03/22 10:54	16887-00-6	M1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 10:54	16984-48-8	M1
Sulfate	**0.77J**	mg/L	1.0	0.55	1		05/03/22 10:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-11D **Lab ID: 60398376002** Collected: 04/18/22 13:15 Received: 04/20/22 04:25 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	**117**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 18:21	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:21	7440-41-7	
Boron	**11200**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:21	7440-42-8	
Calcium	**220000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:21	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:21	7440-48-4	
Iron	**18700**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:21	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:21	7439-92-1	
Lithium	**40.5**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:21	7439-93-2	
Magnesium	**52100**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:21	7439-95-4	
Manganese	**610**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:21	7439-96-5	
Molybdenum	**297**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:21	7439-98-7	
Potassium	**5640**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:21	7440-09-7	
Sodium	**48200**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:21	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	04/25/22 14:00	04/29/22 20:10	7440-36-0	
Arsenic	**11.6**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 20:10	7440-38-2	
Cadmium	**0.087J**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 20:10	7440-43-9	
Chromium	**<0.31**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 20:10	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 20:10	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 20:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:10	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**246**	mg/L	20.0	4.6	1		04/25/22 18:32		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1170**	mg/L	13.3	13.3	1		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**17.5**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.1**	mg/L	0.20	0.060	1		04/28/22 13:52	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-11D **Lab ID: 60398376002** Collected: 04/18/22 13:15 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:19	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**48.0**	mg/L	10.0	5.3	10		05/05/22 01:39	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/05/22 00:58	16984-48-8	
Sulfate	**586**	mg/L	50.0	27.5	50		05/05/22 01:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-TP-1 **Lab ID: 60398376003** Collected: 04/19/22 13:30 Received: 04/20/22 04:25 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	**344**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 18:23	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:23	7440-41-7	
Boron	**399**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:23	7440-42-8	
Calcium	**71000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:23	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:23	7440-48-4	
Iron	**3240**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:23	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:23	7439-92-1	
Lithium	**20.7**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:23	7439-93-2	
Magnesium	**29500**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:23	7439-95-4	
Manganese	**61.1**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:23	7439-96-5	
Molybdenum	**0.99J**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:23	7439-98-7	
Potassium	**2870**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:23	7440-09-7	
Sodium	**47100**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:23	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	04/25/22 14:00	04/29/22 20:17	7440-36-0	
Arsenic	**21.3**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 20:17	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 20:17	7440-43-9	
Chromium	**<0.31**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 20:17	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 20:17	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 20:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:12	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**376**	mg/L	20.0	4.6	1		04/25/22 15:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**403**	mg/L	10.0	10.0	1		04/25/22 16:10		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**2.9**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.34**	mg/L	0.20	0.060	1		04/28/22 14:22	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-TP-1 **Lab ID: 60398376003** Collected: 04/19/22 13:30 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/26/22 14:53	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**23.0**	mg/L	5.0	2.6	5		05/03/22 12:04	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 11:50	16984-48-8	
Sulfate	**1.2**	mg/L	1.0	0.55	1		05/03/22 11:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-TP-2 **Lab ID: 60398376004** Collected: 04/18/22 14:00 Received: 04/20/22 04:25 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	**64.1**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 18:25	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:25	7440-41-7	
Boron	**2550**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:25	7440-42-8	
Calcium	**240000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:25	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:25	7440-48-4	
Iron	**18300**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:25	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:25	7439-92-1	
Lithium	**43.6**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:25	7439-93-2	
Magnesium	**62800**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:25	7439-95-4	
Manganese	**648**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:25	7439-96-5	
Molybdenum	**10.5J**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:25	7439-98-7	
Potassium	**8790**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:25	7440-09-7	
Sodium	**192000**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:25	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/25/22 14:00	04/29/22 20:21	7440-36-0	
Arsenic	**4.0**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 20:21	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 20:21	7440-43-9	
Chromium	**0.32J**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 20:21	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 20:21	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 20:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:14	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**393**	mg/L	20.0	4.6	1		04/25/22 18:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1610**	mg/L	20.0	20.0	1		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**17.6**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.71**	mg/L	0.20	0.060	1		04/28/22 13:54	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-TP-2 **Lab ID: 60398376004** Collected: 04/18/22 14:00 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:19	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**257**	mg/L	50.0	26.4	50		05/03/22 12:32	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 12:18	16984-48-8	
Sulfate	**551**	mg/L	50.0	27.5	50		05/03/22 12:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-9 **Lab ID: 60398376005** Collected: 04/19/22 12:47 Received: 04/20/22 04:25 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	**326**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 18:27	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:27	7440-41-7	
Boron	**7110**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:27	7440-42-8	M1
Calcium	**176000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:27	7440-70-2	M1
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:27	7440-48-4	
Iron	**21600**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:27	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:27	7439-92-1	
Lithium	**18.5**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:27	7439-93-2	
Magnesium	**56200**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:27	7439-95-4	
Manganese	**603**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:27	7439-96-5	
Molybdenum	**34.3**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:27	7439-98-7	
Potassium	**5080**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:27	7440-09-7	
Sodium	**44200**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:27	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/25/22 14:00	04/29/22 20:24	7440-36-0	
Arsenic	**19.0**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 20:24	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 20:24	7440-43-9	
Chromium	**<0.31**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 20:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 20:24	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 20:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:17	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**322**	mg/L	20.0	4.6	1		04/25/22 16:06		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**941**	mg/L	13.3	13.3	1		04/25/22 16:10		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**20.4**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.3**	mg/L	0.20	0.060	1		04/28/22 14:21	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-9 **Lab ID: 60398376005** Collected: 04/19/22 12:47 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/26/22 14:54	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**40.1**	mg/L	10.0	5.3	10		05/03/22 13:28	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 13:14	16984-48-8	
Sulfate	**360**	mg/L	20.0	11.0	20		05/03/22 13:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-10 **Lab ID: 60398376006** Collected: 04/18/22 13:22 Received: 04/20/22 04:25 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	0.51	1	04/26/22 09:43	05/04/22 18:36	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:36	7440-41-7	
Boron	**2220**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:36	7440-42-8	
Calcium	**197000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:36	7440-70-2	
Cobalt	**2.0J**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:36	7440-48-4	
Iron	**15500**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:36	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:36	7439-92-1	
Lithium	**36.5**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:36	7439-93-2	
Magnesium	**47100**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:36	7439-95-4	
Manganese	**594**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:36	7439-96-5	
Molybdenum	**10.2J**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:36	7439-98-7	
Potassium	**8760**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:36	7440-09-7	
Sodium	**78100**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:36	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	04/25/22 14:00	04/29/22 20:28	7440-36-0	
Arsenic	**12.8**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 20:28	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 20:28	7440-43-9	
Chromium	**0.44J**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 20:28	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 20:28	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 20:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:19	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**437**	mg/L	20.0	4.6	1		04/25/22 18:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1040**	mg/L	13.3	13.3	1		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**14.8**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.68**	mg/L	0.20	0.060	1		04/28/22 13:53	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-10 **Lab ID: 60398376006** Collected: 04/18/22 13:22 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:19	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**89.7**	mg/L	20.0	10.5	20		05/03/22 14:11	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 13:57	16984-48-8	
Sulfate	**273**	mg/L	20.0	11.0	20		05/03/22 14:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-DUP-1 **Lab ID: 60398376007** Collected: 04/18/22 08:00 Received: 04/20/22 04:25 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	**115**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 18:38	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:38	7440-41-7	
Boron	**11000**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:38	7440-42-8	
Calcium	**216000**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:38	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:38	7440-48-4	
Iron	**18300**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:38	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:38	7439-92-1	
Lithium	**39.4**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:38	7439-93-2	
Magnesium	**51300**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:38	7439-95-4	
Manganese	**601**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:38	7439-96-5	
Molybdenum	**294**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:38	7439-98-7	
Potassium	**5540**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:38	7440-09-7	
Sodium	**47000**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/25/22 14:00	04/29/22 20:32	7440-36-0	
Arsenic	**11.6**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 20:32	7440-38-2	
Cadmium	**0.084J**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 20:32	7440-43-9	
Chromium	**<0.31**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 20:32	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 20:32	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 20:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:21	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**242**	mg/L	20.0	4.6	1		04/25/22 18:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1170**	mg/L	13.3	13.3	1		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**17.0**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.3**	mg/L	0.20	0.060	1		04/28/22 13:42	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-DUP-1 **Lab ID: 60398376007** Collected: 04/18/22 08:00 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:19	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**47.3**	mg/L	10.0	5.3	10		05/03/22 14:39	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 14:25	16984-48-8	
Sulfate	**547**	mg/L	50.0	27.5	50		05/03/22 14:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-FB-1 **Lab ID: 60398376008** Collected: 04/18/22 14:15 Received: 04/20/22 04:25 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	**<0.51**	ug/L	5.0	0.51	1	04/26/22 09:43	05/04/22 18:40	7440-39-3	
Beryllium	**<0.26**	ug/L	1.0	0.26	1	04/26/22 09:43	05/04/22 18:40	7440-41-7	
Boron	**18.0J**	ug/L	100	4.2	1	04/26/22 09:43	05/04/22 18:40	7440-42-8	
Calcium	**40.9J**	ug/L	200	33.7	1	04/26/22 09:43	05/04/22 18:40	7440-70-2	
Cobalt	**<0.82**	ug/L	5.0	0.82	1	04/26/22 09:43	05/04/22 18:40	7440-48-4	
Iron	**<5.6**	ug/L	50.0	5.6	1	04/26/22 09:43	05/04/22 18:40	7439-89-6	
Lead	**<8.6**	ug/L	10.0	8.6	1	04/26/22 09:43	05/04/22 18:40	7439-92-1	
Lithium	**<5.6**	ug/L	10.0	5.6	1	04/26/22 09:43	05/04/22 18:40	7439-93-2	
Magnesium	**<27.1**	ug/L	50.0	27.1	1	04/26/22 09:43	05/04/22 18:40	7439-95-4	
Manganese	**<0.24**	ug/L	5.0	0.24	1	04/26/22 09:43	05/04/22 18:40	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	04/26/22 09:43	05/04/22 18:40	7439-98-7	
Potassium	**<87.6**	ug/L	500	87.6	1	04/26/22 09:43	05/04/22 18:40	7440-09-7	
Sodium	**<73.2**	ug/L	500	73.2	1	04/26/22 09:43	05/04/22 18:40	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/25/22 14:00	04/29/22 20:39	7440-36-0	
Arsenic	**<0.14**	ug/L	1.0	0.14	1	04/25/22 14:00	04/29/22 20:39	7440-38-2	
Cadmium	**<0.053**	ug/L	0.50	0.053	1	04/25/22 14:00	04/29/22 20:39	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.31	1	04/25/22 14:00	04/29/22 20:39	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/25/22 14:00	04/29/22 20:39	7782-49-2	
Thallium	**<0.15**	ug/L	1.0	0.15	1	04/25/22 14:00	04/29/22 20:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.064**	ug/L	0.20	0.064	1	05/10/22 15:57	05/11/22 14:23	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		04/25/22 18:57		
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		04/25/22 16:05		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0046J**	mg/L	0.050		1		05/10/22 17:15	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.060**	mg/L	0.20	0.060	1		04/28/22 13:55	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-FB-1 **Lab ID: 60398376008** Collected: 04/18/22 14:15 Received: 04/20/22 04:25 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	**<0.026**	mg/L	0.050	0.026	1		04/25/22 14:20	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		05/03/22 15:07	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/22 15:07	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		05/03/22 15:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 785877 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3133124 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.064	0.20	0.064	05/11/22 13:54	

LABORATORY CONTROL SAMPLE: 3133125

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3133126 3133127

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.064	5	5	4.6	4.6	92	93	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783264
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3123357 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.51	5.0	0.51	05/05/22 15:37	
Beryllium	ug/L	<0.26	1.0	0.26	05/05/22 15:37	
Boron	ug/L	<4.2	100	4.2	05/05/22 15:37	
Calcium	ug/L	<33.7	200	33.7	05/05/22 15:37	
Cobalt	ug/L	<0.82	5.0	0.82	05/05/22 15:37	
Iron	ug/L	<5.6	50.0	5.6	05/05/22 15:37	
Lead	ug/L	<8.6	10.0	8.6	05/05/22 15:37	
Lithium	ug/L	<5.6	10.0	5.6	05/05/22 15:37	
Magnesium	ug/L	<27.1	50.0	27.1	05/05/22 15:37	
Manganese	ug/L	<0.24	5.0	0.24	05/05/22 15:37	
Molybdenum	ug/L	<0.90	20.0	0.90	05/05/22 15:37	
Potassium	ug/L	<87.6	500	87.6	05/05/22 15:37	
Sodium	ug/L	<73.2	500	73.2	05/05/22 15:37	

LABORATORY CONTROL SAMPLE: 3123358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	978	98	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	989	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1010	101	85-115	
Lithium	ug/L	1000	1010	101	85-115	
Magnesium	ug/L	10000	9950	99	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9750	97	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123359 3123360

Parameter	Units	60396735010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	238	1000	1000	1250	1220	102	99	70-130	2	20	

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123359 3123360

Parameter	Units	60396735010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	<0.26	1000	1000	1030	1010	103	101	70-130	2	20	
Boron	ug/L	113	1000	1000	1090	1050	97	94	70-130	3	20	
Calcium	ug/L	158000	10000	10000	169000	165000	112	75	70-130	2	20	
Cobalt	ug/L	2.8J	1000	1000	969	946	97	94	70-130	2	20	
Iron	ug/L	41.4J	10000	10000	10100	9840	101	98	70-130	3	20	
Lead	ug/L	<8.6	1000	1000	1000	977	100	98	70-130	2	20	
Lithium	ug/L	38.7	1000	1000	1080	1050	105	101	70-130	3	20	
Magnesium	ug/L	31400	10000	10000	41300	40500	100	92	70-130	2	20	
Manganese	ug/L	751	1000	1000	1750	1720	100	97	70-130	2	20	
Molybdenum	ug/L	4.4J	1000	1000	1030	1010	102	100	70-130	2	20	
Potassium	ug/L	10200	10000	10000	20700	20000	105	99	70-130	3	20	
Sodium	ug/L	5540	10000	10000	16100	15600	105	101	70-130	3	20	

MATRIX SPIKE SAMPLE: 3123361

Parameter	Units	60398376005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	326	1000	1330	100	70-130	
Beryllium	ug/L	<0.26	1000	1020	102	70-130	
Boron	ug/L	7110	1000	7750	63	70-130	M1
Calcium	ug/L	176000	10000	177000	8	70-130	M1
Cobalt	ug/L	<0.82	1000	964	96	70-130	
Iron	ug/L	21600	10000	30400	87	70-130	
Lead	ug/L	<8.6	1000	1000	100	70-130	
Lithium	ug/L	18.5	1000	1060	104	70-130	
Magnesium	ug/L	56200	10000	64000	78	70-130	
Manganese	ug/L	603	1000	1580	98	70-130	
Molybdenum	ug/L	34.3	1000	1070	103	70-130	
Potassium	ug/L	5080	10000	14900	99	70-130	
Sodium	ug/L	44200	10000	52300	81	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123418 3123419

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	675	1000	1000	1610	1660	94	99	70-130	3	20	
Beryllium	ug/L	<0.26	1000	1000	994	1020	99	102	70-130	2	20	
Boron	ug/L	1010	1000	1000	1870	1950	86	94	70-130	4	20	
Calcium	ug/L	246000	10000	10000	241000	251000	-45	50	70-130	4	20	M1
Cobalt	ug/L	<0.82	1000	1000	930	948	93	95	70-130	2	20	
Iron	ug/L	54900	10000	10000	61600	63800	67	89	70-130	4	20	M1
Lead	ug/L	<8.6	1000	1000	962	992	96	99	70-130	3	20	
Lithium	ug/L	20.7	1000	1000	1030	1070	101	105	70-130	3	20	
Magnesium	ug/L	67200	10000	10000	72700	75300	55	81	70-130	4	20	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123418 3123419

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese	ug/L	1670	1000	1000	2540	2610	87	94	70-130	3	20	
Molybdenum	ug/L	<0.90	1000	1000	993	1010	99	101	70-130	2	20	
Potassium	ug/L	8440	10000	10000	17800	18500	94	101	70-130	4	20	
Sodium	ug/L	23400	10000	10000	32100	33200	86	98	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783073
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3122676 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/29/22 19:23	
Arsenic	ug/L	<0.14	1.0	0.14	04/29/22 19:23	
Cadmium	ug/L	<0.053	0.50	0.053	04/29/22 19:23	
Chromium	ug/L	<0.31	1.0	0.31	04/29/22 19:23	
Selenium	ug/L	<0.18	1.0	0.18	04/29/22 19:23	
Thallium	ug/L	<0.15	1.0	0.15	04/29/22 19:23	

LABORATORY CONTROL SAMPLE: 3122677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.1	103	85-115	
Arsenic	ug/L	40	43.0	107	85-115	
Cadmium	ug/L	40	42.9	107	85-115	
Chromium	ug/L	40	42.7	107	85-115	
Selenium	ug/L	40	43.3	108	85-115	
Thallium	ug/L	40	39.4	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122678 3122679

Parameter	Units	60396735010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.19J	40	40	40.1	38.9	100	97	70-130	3	20	
Arsenic	ug/L	0.61J	40	40	43.2	42.4	107	105	70-130	2	20	
Cadmium	ug/L	0.084J	40	40	39.5	38.4	99	96	70-130	3	20	
Chromium	ug/L	<0.31	40	40	41.3	40.6	102	101	70-130	2	20	
Selenium	ug/L	2.6	40	40	43.4	42.5	102	100	70-130	2	20	
Thallium	ug/L	<0.15	40	40	38.2	37.5	95	94	70-130	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122680 3122681

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	39.0	39.5	98	99	70-130	1	20	
Arsenic	ug/L	5.3	40	40	45.8	46.7	101	103	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122680 3122681

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	<0.053	40	40	37.5	37.8	94	95	70-130	1	20	
Chromium	ug/L	0.47J	40	40	40.7	41.6	101	103	70-130	2	20	
Selenium	ug/L	<0.18	40	40	38.8	39.2	97	98	70-130	1	20	
Thallium	ug/L	<0.15	40	40	38.1	38.4	95	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783000 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376001, 60398376002, 60398376004, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3122470 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376004, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/25/22 18:04	

LABORATORY CONTROL SAMPLE: 3122471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	480	96	90-110	

SAMPLE DUPLICATE: 3122472

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	916	909	1	10	

SAMPLE DUPLICATE: 3122473

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	242	217	11	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783002
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376003, 60398376005

METHOD BLANK: 3122478 Matrix: Water
Associated Lab Samples: 60398376003, 60398376005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/25/22 15:25	

LABORATORY CONTROL SAMPLE: 3122479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	485	97	90-110	

SAMPLE DUPLICATE: 3122480

Parameter	Units	60396735010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	473	470	1	10	

SAMPLE DUPLICATE: 3122481

Parameter	Units	60398358002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	418	422	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783186 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376001, 60398376002, 60398376004, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3123040 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376004, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/25/22 16:04	

LABORATORY CONTROL SAMPLE: 3123041

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

SAMPLE DUPLICATE: 3123042

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	943	939	0	10	

SAMPLE DUPLICATE: 3123043

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2040	2090	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783189
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376003, 60398376005

METHOD BLANK: 3123049 Matrix: Water
Associated Lab Samples: 60398376003, 60398376005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/25/22 16:08	

LABORATORY CONTROL SAMPLE: 3123050

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

SAMPLE DUPLICATE: 3123051

Parameter	Units	60398333006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	875	868	1	10	

SAMPLE DUPLICATE: 3123052

Parameter	Units	60396735010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	595	592	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783444 | 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: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3124147 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/28/22 13:41	H6

LABORATORY CONTROL SAMPLE: 3124148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	101	90-110	H6

SAMPLE DUPLICATE: 3124149

Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.060	<0.060		20	H6

SAMPLE DUPLICATE: 3124150

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	2.8	2.8	0	20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783014
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376001, 60398376002, 60398376004, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3122515 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376004, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/25/22 14:17	

LABORATORY CONTROL SAMPLE: 3122516

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122518 3122519

Parameter	Units	60398376001 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	<0.026	0.5	0.5	0.49	0.49	94	94	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122521 3122522

Parameter	Units	60398377007 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	<0.026	0.5	0.5	0.46	0.46	90	90	75-125	0	20	

SAMPLE DUPLICATE: 3122517

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

SAMPLE DUPLICATE: 3122520

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 783255
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376003, 60398376005

METHOD BLANK: 3123307 Matrix: Water
Associated Lab Samples: 60398376003, 60398376005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/26/22 14:39	

LABORATORY CONTROL SAMPLE: 3123308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123309 3123310

Parameter	Units	60398376003 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	<0.026	0.5	0.5	0.43	0.43	85	85	75-125	0	20	

SAMPLE DUPLICATE: 3123311

Parameter	Units	60398376005 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

SAMPLE DUPLICATE: 3123312

Parameter	Units	60398358003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 784408
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376002

METHOD BLANK: 3127658 Matrix: Water
Associated Lab Samples: 60398376002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.62J	1.0	0.53	05/04/22 18:16	
Fluoride	mg/L	<0.12	0.20	0.12	05/04/22 18:16	
Sulfate	mg/L	<0.55	1.0	0.55	05/04/22 18:16	

METHOD BLANK: 3133456 Matrix: Water
Associated Lab Samples: 60398376002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	05/09/22 08:57	
Fluoride	mg/L	<0.12	0.20	0.12	05/09/22 08:57	
Sulfate	mg/L	<0.55	1.0	0.55	05/09/22 08:57	

METHOD BLANK: 3133598 Matrix: Water
Associated Lab Samples: 60398376002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	05/10/22 09:02	
Fluoride	mg/L	<0.12	0.20	0.12	05/10/22 09:02	
Sulfate	mg/L	<0.55	1.0	0.55	05/10/22 09:02	

LABORATORY CONTROL SAMPLE: 3127659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3133457

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	99	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

LABORATORY CONTROL SAMPLE: 3133599

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	2.5	101	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3127660 3127661

Parameter	Units	60396735010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.5	5	5	11.4	11.5	98	100	80-120	1	15	
Fluoride	mg/L	0.37	2.5	2.5	2.9	3.0	102	103	80-120	1	15	
Sulfate	mg/L	44.8	50	50	93.4	92.2	97	95	80-120	1	15	

SAMPLE DUPLICATE: 3127662

Parameter	Units	60396735010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	6.5	6.5	0	15	
Fluoride	mg/L	0.37	0.37	2	15	
Sulfate	mg/L	44.8	42.1	6	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 784534
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60398376001, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

METHOD BLANK: 3128137 Matrix: Water
Associated Lab Samples: 60398376001, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.58J	1.0	0.53	05/03/22 08:55	
Fluoride	mg/L	<0.12	0.20	0.12	05/03/22 08:55	
Sulfate	mg/L	<0.55	1.0	0.55	05/03/22 08:55	

METHOD BLANK: 3129757 Matrix: Water
Associated Lab Samples: 60398376001, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	05/04/22 09:09	
Fluoride	mg/L	<0.12	0.20	0.12	05/04/22 09:09	
Sulfate	mg/L	<0.55	1.0	0.55	05/04/22 09:09	

LABORATORY CONTROL SAMPLE: 3128138

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	2.4	97	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

LABORATORY CONTROL SAMPLE: 3129758

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	97	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3128139 3128140

Parameter	Units	60398376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.8	5	5	21.0	18.9	144	101	80-120	11	15	E,M1
Fluoride	mg/L	<0.12	2.5	2.5	0.98	1.1	39	43	80-120	10	15	M1
Sulfate	mg/L	0.77J	5	5	5.2	5.2	88	90	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3128143 3128144

Parameter	Units	60398377007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	60.6	50	50	108	109	95	97	80-120	1	15	R1
Fluoride	mg/L	<0.12	2.5	2.5	2.0	2.2	81	89	80-120	9	15	
Sulfate	mg/L	1080	500	500	1610	1590	105	100	80-120	1	15	R1

SAMPLE DUPLICATE: 3128142

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	13.8	13.8	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	0.77J	0.62J		15	

SAMPLE DUPLICATE: 3128145

Parameter	Units	60398377007 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	60.6	59.2	2	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	1080	1080	0	15	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-11S **Lab ID: 60398376001** Collected: 04/18/22 12:10 Received: 04/20/22 04:25 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	**0.229 ± 0.450 (0.808) C:NA T:88%**	pCi/L	05/24/22 14:50	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.15 ± 0.721 (1.37) C:71% T:88%**	pCi/L	05/11/22 20:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-11D **Lab ID: 60398376002** Collected: 04/18/22 13:15 Received: 04/20/22 04:25 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	**0.759 ± 0.561 (0.759) C:NA T:83%**	pCi/L	05/24/22 14:50	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.839 ± 0.701 (1.41) C:72% T:83%**	pCi/L	05/11/22 20:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-TP-1 **Lab ID: 60398376003** Collected: 04/19/22 13:30 Received: 04/20/22 04:25 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	**0.421 ± 0.316 (0.163) C:NA T:78%**	pCi/L	05/24/22 14:50	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.0971 ± 0.645 (1.47) C:75% T:78%**	pCi/L	05/11/22 20:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-TP-2 **Lab ID: 60398376004** Collected: 04/18/22 14:00 Received: 04/20/22 04:25 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	**0.0582 ± 0.302 (0.627) C:NA T:88%**	pCi/L	05/24/22 14:50	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.928 ± 0.701 (1.39) C:72% T:88%**	pCi/L	05/11/22 20:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-9 **Lab ID: 60398376005** Collected: 04/19/22 12:47 Received: 04/20/22 04:25 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	**0.451 ± 0.521 (0.846) C:NA T:80%**	pCi/L	05/24/22 14:50	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.265 ± 0.705 (1.57) C:69% T:80%**	pCi/L	05/11/22 20:42	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-MW-10 **Lab ID: 60398376006** Collected: 04/18/22 13:22 Received: 04/20/22 04:25 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	**0.382 ± 0.324 (0.402) C:NA T:85%**	pCi/L	05/24/22 15:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.35 ± 0.720 (1.29) C:72% T:85%**	pCi/L	05/11/22 20:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-DUP-1 **Lab ID: 60398376007** Collected: 04/18/22 08:00 Received: 04/20/22 04:25 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	**0.845 ± 0.469 (0.176) C:NA T:78%**	pCi/L	05/24/22 15:06	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.462 ± 0.656 (1.41) C:73% T:78%**	pCi/L	05/11/22 20:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-FB-1 **Lab ID: 60398376008** Collected: 04/18/22 14:15 Received: 04/20/22 04:25 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	**0.230 ± 0.264 (0.156) C:NA T:92%**	pCi/L	05/24/22 15:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.18 ± 0.752 (1.44) C:67% T:92%**	pCi/L	05/11/22 20:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-MS-1 **Lab ID: 60398376009** Collected: 04/18/22 12:10 Received: 04/20/22 04:25 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	**103.10 %REC ± NA (NA) C:NA T:NA%**	pCi/L	05/24/22 15:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**97.73 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/11/22 20:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Sample: M-CA-MSD-1 **Lab ID: 60398376010** Collected: 04/18/22 12:10 Received: 04/20/22 04:25 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	**75.79 %REC 30.53 RPD ± NA (NA) C:NA T:NA%**	pCi/L	05/24/22 15:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**93.77 %REC 4.14 RPD ± NA (NA) C:NA T:NA**	pCi/L	05/11/22 20:43	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 501395
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008, 60398376009, 60398376010

METHOD BLANK: 2426721 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008, 60398376009, 60398376010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.133 ± 0.321 (0.714) C:75% T:91%	pCi/L	05/11/22 13:27	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

QC Batch: 501394
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008, 60398376009, 60398376010

METHOD BLANK: 2426718 Matrix: Water
Associated Lab Samples: 60398376001, 60398376002, 60398376003, 60398376004, 60398376005, 60398376006, 60398376007, 60398376008, 60398376009, 60398376010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.325 (0.687) C:NA T:91%	pCi/L	05/24/22 14:40	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

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.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398376001	**M-MW-11S**	EPA 200.7	783264	EPA 200.7	783395
60398376002	**M-MW-11D**	EPA 200.7	783264	EPA 200.7	783395
60398376003	**M-TP-1**	EPA 200.7	783264	EPA 200.7	783395
60398376004	**M-TP-2**	EPA 200.7	783264	EPA 200.7	783395
60398376005	**M-MW-9**	EPA 200.7	783264	EPA 200.7	783395
60398376006	**M-MW-10**	EPA 200.7	783264	EPA 200.7	783395
60398376007	**M-CA-DUP-1**	EPA 200.7	783264	EPA 200.7	783395
60398376008	**M-CA-FB-1**	EPA 200.7	783264	EPA 200.7	783395
60398376001	**M-MW-11S**	EPA 200.8	783073	EPA 200.8	783208
60398376002	**M-MW-11D**	EPA 200.8	783073	EPA 200.8	783208
60398376003	**M-TP-1**	EPA 200.8	783073	EPA 200.8	783208
60398376004	**M-TP-2**	EPA 200.8	783073	EPA 200.8	783208
60398376005	**M-MW-9**	EPA 200.8	783073	EPA 200.8	783208
60398376006	**M-MW-10**	EPA 200.8	783073	EPA 200.8	783208
60398376007	**M-CA-DUP-1**	EPA 200.8	783073	EPA 200.8	783208
60398376008	**M-CA-FB-1**	EPA 200.8	783073	EPA 200.8	783208
60398376001	**M-MW-11S**	EPA 7470	785877	EPA 7470	786085
60398376002	**M-MW-11D**	EPA 7470	785877	EPA 7470	786085
60398376003	**M-TP-1**	EPA 7470	785877	EPA 7470	786085
60398376004	**M-TP-2**	EPA 7470	785877	EPA 7470	786085
60398376005	**M-MW-9**	EPA 7470	785877	EPA 7470	786085
60398376006	**M-MW-10**	EPA 7470	785877	EPA 7470	786085
60398376007	**M-CA-DUP-1**	EPA 7470	785877	EPA 7470	786085
60398376008	**M-CA-FB-1**	EPA 7470	785877	EPA 7470	786085
60398376001	**M-MW-11S**	EPA 903.1	501394		
60398376002	**M-MW-11D**	EPA 903.1	501394		
60398376003	**M-TP-1**	EPA 903.1	501394		
60398376004	**M-TP-2**	EPA 903.1	501394		
60398376005	**M-MW-9**	EPA 903.1	501394		
60398376006	**M-MW-10**	EPA 903.1	501394		
60398376007	**M-CA-DUP-1**	EPA 903.1	501394		
60398376008	**M-CA-FB-1**	EPA 903.1	501394		
60398376009	**M-CA-MS-1**	EPA 903.1	501394		
60398376010	**M-CA-MSD-1**	EPA 903.1	501394		
60398376001	**M-MW-11S**	EPA 904.0	501395		
60398376002	**M-MW-11D**	EPA 904.0	501395		
60398376003	**M-TP-1**	EPA 904.0	501395		
60398376004	**M-TP-2**	EPA 904.0	501395		
60398376005	**M-MW-9**	EPA 904.0	501395		
60398376006	**M-MW-10**	EPA 904.0	501395		
60398376007	**M-CA-DUP-1**	EPA 904.0	501395		
60398376008	**M-CA-FB-1**	EPA 904.0	501395		
60398376009	**M-CA-MS-1**	EPA 904.0	501395		
60398376010	**M-CA-MSD-1**	EPA 904.0	501395		
60398376001	**M-MW-11S**	SM 2320B	783000		
60398376002	**M-MW-11D**	SM 2320B	783000		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398376003	M-TP-1	SM 2320B	783002		
60398376004	M-TP-2	SM 2320B	783000		
60398376005	M-MW-9	SM 2320B	783002		
60398376006	M-MW-10	SM 2320B	783000		
60398376007	M-CA-DUP-1	SM 2320B	783000		
60398376008	M-CA-FB-1	SM 2320B	783000		
60398376001	M-MW-11S	SM 2540C	783186		
60398376002	M-MW-11D	SM 2540C	783186		
60398376003	M-TP-1	SM 2540C	783189		
60398376004	M-TP-2	SM 2540C	783186		
60398376005	M-MW-9	SM 2540C	783189		
60398376006	M-MW-10	SM 2540C	783186		
60398376007	M-CA-DUP-1	SM 2540C	783186		
60398376008	M-CA-FB-1	SM 2540C	783186		
60398376001	M-MW-11S	SM 3500-Fe B#4	786066		
60398376002	M-MW-11D	SM 3500-Fe B#4	786066		
60398376003	M-TP-1	SM 3500-Fe B#4	786066		
60398376004	M-TP-2	SM 3500-Fe B#4	786066		
60398376005	M-MW-9	SM 3500-Fe B#4	786066		
60398376006	M-MW-10	SM 3500-Fe B#4	786066		
60398376007	M-CA-DUP-1	SM 3500-Fe B#4	786066		
60398376008	M-CA-FB-1	SM 3500-Fe B#4	786066		
60398376001	M-MW-11S	SM 3500-Fe B#4	783444		
60398376002	M-MW-11D	SM 3500-Fe B#4	783444		
60398376003	M-TP-1	SM 3500-Fe B#4	783444		
60398376004	M-TP-2	SM 3500-Fe B#4	783444		
60398376005	M-MW-9	SM 3500-Fe B#4	783444		
60398376006	M-MW-10	SM 3500-Fe B#4	783444		
60398376007	M-CA-DUP-1	SM 3500-Fe B#4	783444		
60398376008	M-CA-FB-1	SM 3500-Fe B#4	783444		
60398376001	M-MW-11S	SM 4500-S-2 D	783014		
60398376002	M-MW-11D	SM 4500-S-2 D	783014		
60398376003	M-TP-1	SM 4500-S-2 D	783255		
60398376004	M-TP-2	SM 4500-S-2 D	783014		
60398376005	M-MW-9	SM 4500-S-2 D	783255		
60398376006	M-MW-10	SM 4500-S-2 D	783014		
60398376007	M-CA-DUP-1	SM 4500-S-2 D	783014		
60398376008	M-CA-FB-1	SM 4500-S-2 D	783014		
60398376001	M-MW-11S	EPA 300.0	784534		
60398376002	M-MW-11D	EPA 300.0	784408		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC-CA
Pace Project No.: 60398376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398376003	**M-TP-1**	EPA 300.0	784534		
60398376004	**M-TP-2**	EPA 300.0	784534		
60398376005	**M-MW-9**	EPA 300.0	784534		
60398376006	**M-MW-10**	EPA 300.0	784534		
60398376007	**M-CA-DUP-1**	EPA 300.0	784534		
60398376008	**M-CA-FB-1**	EPA 300.0	784534		

WO# : 60398376

60398376

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

Client Name: Golder

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: T301 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 2.6/2.4/3.4 **Corr. Factor** -1.0 **Corrected** 1.6/1.4/2.4

Temperature should be above freezing to 6°C 13.9/12.4 12.9/11.4

Date and initials of person examining contents: PV 4/22/22

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 55192/55193	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Page 1 of 1

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #14
Project Name:	Ameren Meramec Energy Center MEC-CA
Project Number:	153140604. 0004

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, Inc
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	N	N	N	N	N				60398376
1	M-MW-11S	WT	G			4/18/22	1210		6	2		3		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	3BP3U	3BP3N 3BP3Z 3BP1U 2BP1N		
2	M-MW-11D	WT	G			4/18/22	1315		6	2		3		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	BP3U	BP3N BP3Z BP1U		
3	M-TP-1	WT	G			4/19/22	1330		6	2		3		1																	
4	M-TP-2	WT	G			4/18/22	1400		6	2		3		1																	
5	M-MW-9	WT	G			4/19/22	1247		6	2		3		1																	
6	M-MW-10	WT	G			4/18/22	1322		6	2		3		1																	
7	M-CA-DUP-1	WT	G				—																								
8	M-CA-FB-1	WT	G				1415																								
9	M-CA-MS-1	WT	G				1210																								
10	M-CA-MSD-1	WT	G				1210																								
11		WT	G																												
12		WT	G																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[signature]/Golder	4/19/22	1000	Angela McManus	4/19	1600	
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Angela McM	4/19	1600	[signature] PASI	4/20	0425	1.6 Y Y Y
							1.4
							2.4
							12.9 N 11.4

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: Eric Schneider

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 04/19/2022

*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.

MEMORANDUM

DATE June 22, 2022 **Project No.** 153140604.0004

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth **EMAIL ann.muehlfarth@wsp.com**

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC-CA – CORRECTIVE ACTION SAMPLING APRIL 2022 - DATA PACKAGE 60398376

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc / WSP
Project Manager: J. Ingram
Project Name: Ameren- Meramec - MEC-CA
Project Number: 153140604.0004
Reviewer: A. Muehlfarth
Validation Date: 6/22/2022

Laboratory: Pace Analytical Services
SDG #: 60398376
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide)
Sample Names: M-MW-11S, M-MW-11D, M-TP-1, M-TP-2, M-MW-9, M-MW-10, M-CA-DUP-1, M-CA-FB-1, M-CA-MS-1, M-CA-MSD-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			4/18/2022 - 4/19/2022
b) Sampling team indicated?	x			EMS/JSI/BTT
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-CA-DUP-1 @ MW-11D
b) Were field dup. precision criteria met (note RPD)?	x			Max RPD: 16.7% [<20%]
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See Notes

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

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

Comments/Notes:

Ferrous iron analyzed outside of hold time in all samples, results qualified as estimates.

Chloride and sulfate analyzed at a dilution in several samples, no qualification necessary.

Blanks:

3127658/3133456: Chloride (0.62J/0.60J). Associated with sample -002. Sample result >RL and 10x blank, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

3128137: Chloride (0.58J). Associated with sample -001, -003 through -008. Results >RL and 10x blank or ND were not qualified.

M-CA-FB-1 @ M-TP-2: Boron (18.0J), calcium (40.9J), chromium (0.38J), ferric iron (0.0046J), radium-226 (0.230 ± 0.264). Results >RL and 10x blank or ND were not qualified. Results <RL were reported at RL and qualified as ND.

Duplicates:

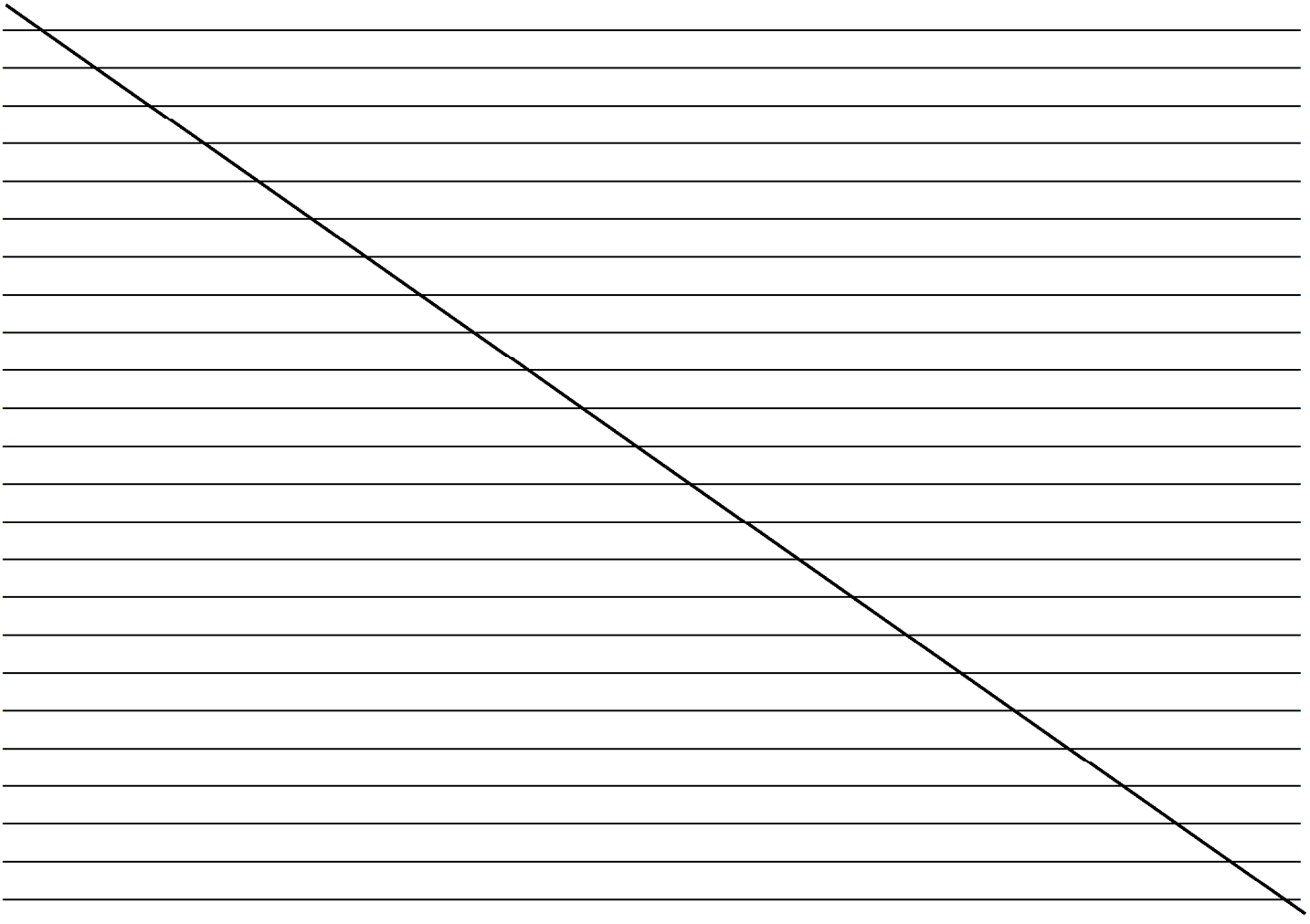
Sample duplicate 3122473: RPD exceeds limit (10%) for alkalinity (11%). Associated with unrelated sample, no qualification necessary.

MS/MSD:

3123418/3123419: MS % recovery low for iron and magnesium, only 1 QC indicator outside control limits, no qualification necessary; MS/MSD % recovery low for calcium, result qualified as an estimate. Associated with sample -001.

3123361: MS % recovery low for boron, calcium. Associated with sample -005. Only 1 QC indicator outside control limits, no qualification necessary.

3128139/3128140: MS % recovery high for chloride, only 1 QC indicator outside control limits, no qualification necessary; MS/MSD % low for fluoride, result qualified as an estimate. Associated with sample -001.



QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-CA-DUP-1	Ferrous Iron	1.3	J	Analyzed outside of hold time
M-MW-10	"	0.68	J	"
M-MW-11D	"	1.1	J	"
M-MW-11S	"	2.8	J	"
M-MW-9	"	1.3	J	"
M-TP-1	"	0.34	J	"
M-TP-2	"	0.71	J	"
M-CA-FB-1	"	0.20	UJ	Analyzed outside of hold time, non-detect
M-TP-2	Chromium	1.0	UJ	Detected in FB, RL > result
M-MW-11S	Calcium	246000	J-	MS/MSD % recovery low
M-MW-11S	Fluoride	0.12	UJ	"

Signature: Ann Muehlfarth Date: 6/22/2022

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

December 07, 2022

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

RE: Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between November 05, 2022 and November 09, 2022. 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: Mark Haddock, Golder Associates
Lisa Meyer, Ameren
Grant Morey, WSP Golder
Ann Muehlfarth, WSP Golder
Eric Schneider, WSP Golder

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

CERTIFICATIONS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

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

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

SAMPLE SUMMARY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60414980001	**M-MW-1**	Water	11/04/22 12:58	11/05/22 05:00
60414980002	**M-MW-2**	Water	11/04/22 09:38	11/05/22 05:00
60414980003	**M-MW-3**	Water	11/04/22 10:53	11/05/22 05:00
60414980004	**M-MW-6**	Water	11/04/22 12:54	11/05/22 05:00
60414980005	**M-MW-7**	Water	11/04/22 14:05	11/05/22 05:00
60414980006	**M-MW-8**	Water	11/04/22 14:40	11/05/22 05:00
60414980007	**M-DUP-1**	Water	11/04/22 00:00	11/05/22 05:00
60414980008	**M-FB-1**	Water	11/04/22 12:43	11/05/22 05:00
60414980009	**M-MS-1**	Water	11/04/22 14:05	11/05/22 11:15
60414980010	**M-MSD-1**	Water	11/04/22 14:05	11/05/22 11:15
60414980011	**M-MW-4**	Water	11/07/22 12:10	11/09/22 03:43
60414980012	**M-MW-5**	Water	11/07/22 10:37	11/09/22 03:43
60414980013	**M-BMW-1**	Water	11/07/22 09:10	11/09/22 03:43
60414980014	**M-BMW-2**	Water	11/08/22 10:05	11/09/22 03:43

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

SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60414980001	M-MW-1	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980002	M-MW-2	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980003	M-MW-3	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980004	M-MW-6	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980005	M-MW-7	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980006	M-MW-8	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980007	**M-DUP-1**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980008	**M-FB-1**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980009	**M-MS-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60414980010	**M-MSD-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60414980011	**M-MW-4**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980012	**M-MW-5**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980013	**M-BMW-1**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60414980014	**M-BMW-2**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-1 **Lab ID: 60414980001** Collected: 11/04/22 12:58 Received: 11/05/22 05:00 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	**377**	ug/L	5.0	0.51	1	11/21/22 16:35	11/29/22 18:49	7440-39-3	
Boron	**43.5J**	ug/L	100	4.2	1	11/21/22 16:35	11/29/22 18:49	7440-42-8	
Calcium	**139000**	ug/L	200	33.7	1	11/21/22 16:35	11/29/22 18:49	7440-70-2	
Iron	**15900**	ug/L	50.0	5.6	1	11/21/22 16:35	11/29/22 18:49	7439-89-6	
Lithium	**<5.6**	ug/L	10.0	5.6	1	11/21/22 16:35	11/29/22 18:49	7439-93-2	
Magnesium	**46700**	ug/L	50.0	27.1	1	11/21/22 16:35	11/29/22 18:49	7439-95-4	
Manganese	**1980**	ug/L	5.0	0.24	1	11/21/22 16:35	11/29/22 18:49	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	11/21/22 16:35	11/29/22 18:49	7439-98-7	
Potassium	**1640**	ug/L	500	87.6	1	11/21/22 16:35	11/29/22 18:49	7440-09-7	
Sodium	**30200**	ug/L	500	73.2	1	11/21/22 16:35	11/29/22 18:49	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**0.69J**	ug/L	1.0	0.14	1	11/21/22 16:35	11/30/22 14:32	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/21/22 16:35	11/30/22 14:32	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		11/17/22 18:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**678**	mg/L	10.0	10.0	1		11/10/22 14:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**52.0**	mg/L	10.0	5.3	10		11/18/22 21:04	16887-00-6	B
Fluoride	**0.24**	mg/L	0.20	0.12	1		11/18/22 20:51	16984-48-8	
Sulfate	**137**	mg/L	10.0	5.5	10		11/18/22 21:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-2 **Lab ID: 60414980002** Collected: 11/04/22 09:38 Received: 11/05/22 05:00 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	**202**	ug/L	5.0	0.51	1	11/21/22 16:35	11/29/22 18:51	7440-39-3	
Boron	**1860**	ug/L	100	4.2	1	11/21/22 16:35	11/29/22 18:51	7440-42-8	
Calcium	**94400**	ug/L	200	33.7	1	11/21/22 16:35	11/29/22 18:51	7440-70-2	
Iron	**42100**	ug/L	50.0	5.6	1	11/21/22 16:35	11/29/22 18:51	7439-89-6	
Lithium	**<5.6**	ug/L	10.0	5.6	1	11/21/22 16:35	11/29/22 18:51	7439-93-2	
Magnesium	**33000**	ug/L	50.0	27.1	1	11/21/22 16:35	11/29/22 18:51	7439-95-4	
Manganese	**4770**	ug/L	5.0	0.24	1	11/21/22 16:35	11/29/22 18:51	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	11/21/22 16:35	11/29/22 18:51	7439-98-7	
Potassium	**2180**	ug/L	500	87.6	1	11/21/22 16:35	11/29/22 18:51	7440-09-7	
Sodium	**40400**	ug/L	500	73.2	1	11/21/22 16:35	11/29/22 18:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**1.6**	ug/L	1.0	0.14	1	11/21/22 16:35	11/30/22 14:34	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/21/22 16:35	11/30/22 14:34	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		11/17/22 18:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**587**	mg/L	10.0	10.0	1		11/10/22 14:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**23.3**	mg/L	5.0	2.6	5		11/18/22 21:31	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/18/22 21:18	16984-48-8	
Sulfate	**166**	mg/L	50.0	27.5	50		11/18/22 22:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-3 **Lab ID: 60414980003** Collected: 11/04/22 10:53 Received: 11/05/22 05:00 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	0.51	1	11/21/22 16:35	11/29/22 18:53	7440-39-3	
Boron	**2860**	ug/L	100	4.2	1	11/21/22 16:35	11/29/22 18:53	7440-42-8	
Calcium	**115000**	ug/L	200	33.7	1	11/21/22 16:35	11/29/22 18:53	7440-70-2	
Iron	**32400**	ug/L	50.0	5.6	1	11/21/22 16:35	11/29/22 18:53	7439-89-6	
Lithium	**<5.6**	ug/L	10.0	5.6	1	11/21/22 16:35	11/29/22 18:53	7439-93-2	
Magnesium	**36400**	ug/L	50.0	27.1	1	11/21/22 16:35	11/29/22 18:53	7439-95-4	
Manganese	**2030**	ug/L	5.0	0.24	1	11/21/22 16:35	11/29/22 18:53	7439-96-5	
Molybdenum	**1.9J**	ug/L	20.0	0.90	1	11/21/22 16:35	11/29/22 18:53	7439-98-7	B
Potassium	**3610**	ug/L	500	87.6	1	11/21/22 16:35	11/29/22 18:53	7440-09-7	
Sodium	**41800**	ug/L	500	73.2	1	11/21/22 16:35	11/29/22 18:53	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**8.6**	ug/L	1.0	0.14	1	11/21/22 16:35	11/30/22 14:36	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/21/22 16:35	11/30/22 14:36	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		11/17/22 18:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**647**	mg/L	10.0	10.0	1		11/10/22 14:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**42.4**	mg/L	5.0	2.6	5		11/18/22 22:38	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/18/22 22:24	16984-48-8	
Sulfate	**182**	mg/L	50.0	27.5	50		11/18/22 22:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-6 **Lab ID: 60414980004** Collected: 11/04/22 12:54 Received: 11/05/22 05:00 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	**48.1**	ug/L	5.0	0.51	1	11/21/22 16:35	11/29/22 18:55	7440-39-3	
Boron	**4300**	ug/L	100	4.2	1	11/21/22 16:35	11/29/22 18:55	7440-42-8	
Calcium	**364000**	ug/L	200	33.7	1	11/21/22 16:35	11/29/22 18:55	7440-70-2	
Iron	**3290**	ug/L	50.0	5.6	1	11/21/22 16:35	11/29/22 18:55	7439-89-6	
Lithium	**100**	ug/L	10.0	5.6	1	11/21/22 16:35	11/29/22 18:55	7439-93-2	
Magnesium	**33400**	ug/L	50.0	27.1	1	11/21/22 16:35	11/29/22 18:55	7439-95-4	
Manganese	**2000**	ug/L	5.0	0.24	1	11/21/22 16:35	11/29/22 18:55	7439-96-5	
Molybdenum	**127**	ug/L	20.0	0.90	1	11/21/22 16:35	11/29/22 18:55	7439-98-7	
Potassium	**13100**	ug/L	500	87.6	1	11/21/22 16:35	11/29/22 18:55	7440-09-7	
Sodium	**14000**	ug/L	500	73.2	1	11/21/22 16:35	11/29/22 18:55	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**1.5**	ug/L	1.0	0.14	1	11/21/22 16:35	11/30/22 14:39	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/21/22 16:35	11/30/22 14:39	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		11/17/22 18:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1390**	mg/L	13.3	13.3	1		11/10/22 14:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.2**	mg/L	1.0	0.53	1		11/19/22 11:09	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/22 11:09	16984-48-8	
Sulfate	**633**	mg/L	50.0	27.5	50		11/19/22 11:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-7 **Lab ID: 60414980005** Collected: 11/04/22 14:05 Received: 11/05/22 05:00 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	**42.5**	ug/L	5.0	0.51	1	11/21/22 16:35	11/29/22 18:57	7440-39-3	
Boron	**20300**	ug/L	100	4.2	1	11/21/22 16:35	11/29/22 18:57	7440-42-8	M1
Calcium	**385000**	ug/L	200	33.7	1	11/21/22 16:35	11/29/22 18:57	7440-70-2	M1
Iron	**32.2J**	ug/L	50.0	5.6	1	11/21/22 16:35	11/29/22 18:57	7439-89-6	B
Lithium	**44.4**	ug/L	10.0	5.6	1	11/21/22 16:35	11/29/22 18:57	7439-93-2	
Magnesium	**24000**	ug/L	50.0	27.1	1	11/21/22 16:35	11/29/22 18:57	7439-95-4	
Manganese	**2.6J**	ug/L	5.0	0.24	1	11/21/22 16:35	11/29/22 18:57	7439-96-5	B
Molybdenum	**294**	ug/L	20.0	0.90	1	11/21/22 16:35	11/29/22 18:57	7439-98-7	
Potassium	**20700**	ug/L	500	87.6	1	11/21/22 16:35	11/29/22 18:57	7440-09-7	
Sodium	**108000**	ug/L	500	73.2	1	11/21/22 16:35	11/29/22 18:57	7440-23-5	M1
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**3.3**	ug/L	1.0	0.14	1	11/21/22 16:35	11/30/22 14:44	7440-38-2	
Selenium	**36.4**	ug/L	1.0	0.18	1	11/21/22 16:35	11/30/22 14:44	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**367**	mg/L	20.0	4.6	1		11/18/22 09:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1680**	mg/L	20.0	20.0	1		11/10/22 14:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**90.1**	mg/L	10.0	5.3	10		11/19/22 12:55	16887-00-6	M1
Fluoride	**0.58**	mg/L	0.20	0.12	1		11/19/22 11:36	16984-48-8	
Sulfate	**859**	mg/L	100	55.0	100		11/19/22 13:49	14808-79-8	B

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-8 **Lab ID: 60414980006** Collected: 11/04/22 14:40 Received: 11/05/22 05:00 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	**118**	ug/L	5.0	0.51	1	11/21/22 16:35	11/29/22 19:10	7440-39-3	
Boron	**9770**	ug/L	100	4.2	1	11/21/22 16:35	11/29/22 19:10	7440-42-8	
Calcium	**205000**	ug/L	200	33.7	1	11/21/22 16:35	11/29/22 19:10	7440-70-2	
Iron	**5500**	ug/L	50.0	5.6	1	11/21/22 16:35	11/29/22 19:10	7439-89-6	
Lithium	**31.9**	ug/L	10.0	5.6	1	11/21/22 16:35	11/29/22 19:10	7439-93-2	
Magnesium	**42500**	ug/L	50.0	27.1	1	11/21/22 16:35	11/29/22 19:10	7439-95-4	
Manganese	**1830**	ug/L	5.0	0.24	1	11/21/22 16:35	11/29/22 19:10	7439-96-5	
Molybdenum	**218**	ug/L	20.0	0.90	1	11/21/22 16:35	11/29/22 19:10	7439-98-7	
Potassium	**6980**	ug/L	500	87.6	1	11/21/22 16:35	11/29/22 19:10	7440-09-7	
Sodium	**35800**	ug/L	500	73.2	1	11/21/22 16:35	11/29/22 19:10	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**4.5**	ug/L	1.0	0.14	1	11/21/22 16:35	11/30/22 14:51	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/21/22 16:35	11/30/22 14:51	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**220**	mg/L	20.0	4.6	1		11/18/22 09:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1440**	mg/L	13.3	13.3	1		11/10/22 14:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**34.5**	mg/L	5.0	2.6	5		11/19/22 15:22	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/22 15:09	16984-48-8	
Sulfate	**495**	mg/L	50.0	27.5	50		11/19/22 15:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-DUP-1 **Lab ID: 60414980007** Collected: 11/04/22 00:00 Received: 11/05/22 05:00 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	**170**	ug/L	5.0	0.51	1	11/21/22 16:35	11/29/22 19:12	7440-39-3	
Boron	**2890**	ug/L	100	4.2	1	11/21/22 16:35	11/29/22 19:12	7440-42-8	
Calcium	**117000**	ug/L	200	33.7	1	11/21/22 16:35	11/29/22 19:12	7440-70-2	
Iron	**32400**	ug/L	50.0	5.6	1	11/21/22 16:35	11/29/22 19:12	7439-89-6	
Lithium	**<5.6**	ug/L	10.0	5.6	1	11/21/22 16:35	11/29/22 19:12	7439-93-2	
Magnesium	**36300**	ug/L	50.0	27.1	1	11/21/22 16:35	11/29/22 19:12	7439-95-4	
Manganese	**2130**	ug/L	5.0	0.24	1	11/21/22 16:35	11/29/22 19:12	7439-96-5	
Molybdenum	**2.1J**	ug/L	20.0	0.90	1	11/21/22 16:35	11/29/22 19:12	7439-98-7	B
Potassium	**3630**	ug/L	500	87.6	1	11/21/22 16:35	11/29/22 19:12	7440-09-7	
Sodium	**40900**	ug/L	500	73.2	1	11/21/22 16:35	11/29/22 19:12	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**8.6**	ug/L	1.0	0.14	1	11/21/22 16:35	11/30/22 14:54	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/21/22 16:35	11/30/22 14:54	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**293**	mg/L	20.0	4.6	1		11/18/22 10:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**652**	mg/L	10.0	10.0	1		11/10/22 14:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**41.9**	mg/L	5.0	2.6	5		11/19/22 16:02	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/22 15:49	16984-48-8	
Sulfate	**180**	mg/L	50.0	27.5	50		11/19/22 16:16	14808-79-8	B

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-FB-1 **Lab ID: 60414980008** Collected: 11/04/22 12:43 Received: 11/05/22 05:00 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	**<0.51**	ug/L	5.0	0.51	1	11/28/22 09:48	12/02/22 13:03	7440-39-3	
Boron	**<4.2**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 13:03	7440-42-8	
Calcium	**<33.7**	ug/L	200	33.7	1	11/28/22 09:48	12/02/22 13:03	7440-70-2	
Iron	**8.2J**	ug/L	50.0	5.6	1	11/28/22 09:48	12/02/22 13:03	7439-89-6	
Lithium	**<5.6**	ug/L	10.0	5.6	1	11/28/22 09:48	12/02/22 13:03	7439-93-2	
Magnesium	**<27.1**	ug/L	50.0	27.1	1	11/28/22 09:48	12/02/22 13:03	7439-95-4	
Manganese	**1.4J**	ug/L	5.0	0.24	1	11/28/22 09:48	12/02/22 13:03	7439-96-5	
Molybdenum	**1.9J**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 13:03	7439-98-7	
Potassium	**<87.6**	ug/L	500	87.6	1	11/28/22 09:48	12/02/22 13:03	7440-09-7	
Sodium	**<73.2**	ug/L	500	73.2	1	11/28/22 09:48	12/02/22 13:03	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**<0.14**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:30	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:30	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		11/18/22 10:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**5.0**	mg/L	5.0	5.0	1		11/10/22 14:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**0.70J**	mg/L	1.0	0.53	1		11/19/22 16:29	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/22 16:29	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/19/22 16:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-4 **Lab ID: 60414980011** Collected: 11/07/22 12:10 Received: 11/09/22 03:43 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	**188**	ug/L	5.0	0.51	1	11/28/22 09:48	12/02/22 13:05	7440-39-3	
Boron	**15100**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 13:05	7440-42-8	
Calcium	**214000**	ug/L	200	33.7	1	11/28/22 09:48	12/02/22 13:05	7440-70-2	
Iron	**28400**	ug/L	50.0	5.6	1	11/28/22 09:48	12/02/22 13:05	7439-89-6	
Lithium	**22.9**	ug/L	10.0	5.6	1	11/28/22 09:48	12/02/22 13:05	7439-93-2	
Magnesium	**55200**	ug/L	50.0	27.1	1	11/28/22 09:48	12/02/22 13:05	7439-95-4	
Manganese	**1070**	ug/L	5.0	0.24	1	11/28/22 09:48	12/02/22 13:05	7439-96-5	
Molybdenum	**96.6**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 13:05	7439-98-7	
Potassium	**7210**	ug/L	500	87.6	1	11/28/22 09:48	12/02/22 13:05	7440-09-7	
Sodium	**64800**	ug/L	500	73.2	1	11/28/22 09:48	12/02/22 13:05	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**14.5**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:33	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:33	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**253**	mg/L	20.0	4.6	1		11/18/22 10:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1130**	mg/L	13.3	13.3	1		11/11/22 14:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**48.2**	mg/L	5.0	2.6	5		11/23/22 14:11	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 13:58	16984-48-8	
Sulfate	**542**	mg/L	50.0	27.5	50		11/23/22 14:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-5 **Lab ID: 60414980012** Collected: 11/07/22 10:37 Received: 11/09/22 03:43 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	**226**	ug/L	5.0	0.51	1	11/28/22 09:48	12/02/22 13:07	7440-39-3	
Boron	**6920**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 13:07	7440-42-8	
Calcium	**161000**	ug/L	200	33.7	1	11/28/22 09:48	12/02/22 13:07	7440-70-2	
Iron	**15700**	ug/L	50.0	5.6	1	11/28/22 09:48	12/02/22 13:07	7439-89-6	
Lithium	**17.5**	ug/L	10.0	5.6	1	11/28/22 09:48	12/02/22 13:07	7439-93-2	
Magnesium	**53500**	ug/L	50.0	27.1	1	11/28/22 09:48	12/02/22 13:07	7439-95-4	
Manganese	**437**	ug/L	5.0	0.24	1	11/28/22 09:48	12/02/22 13:07	7439-96-5	
Molybdenum	**77.3**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 13:07	7439-98-7	
Potassium	**5100**	ug/L	500	87.6	1	11/28/22 09:48	12/02/22 13:07	7440-09-7	
Sodium	**47000**	ug/L	500	73.2	1	11/28/22 09:48	12/02/22 13:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**21.3**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:35	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:35	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**343**	mg/L	20.0	4.6	1		11/18/22 10:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**849**	mg/L	13.3	13.3	1		11/11/22 14:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**45.2**	mg/L	5.0	2.6	5		11/23/22 14:51	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 14:38	16984-48-8	
Sulfate	**307**	mg/L	50.0	27.5	50		11/23/22 15:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-BMW-1 **Lab ID: 60414980013** Collected: 11/07/22 09:10 Received: 11/09/22 03:43 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	**267**	ug/L	5.0	0.51	1	11/28/22 09:48	12/02/22 13:09	7440-39-3	
Boron	**122**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 13:09	7440-42-8	
Calcium	**149000**	ug/L	200	33.7	1	11/28/22 09:48	12/02/22 13:09	7440-70-2	
Iron	**756**	ug/L	50.0	5.6	1	11/28/22 09:48	12/02/22 13:09	7439-89-6	
Lithium	**11.9**	ug/L	10.0	5.6	1	11/28/22 09:48	12/02/22 13:09	7439-93-2	
Magnesium	**38100**	ug/L	50.0	27.1	1	11/28/22 09:48	12/02/22 13:09	7439-95-4	
Manganese	**303**	ug/L	5.0	0.24	1	11/28/22 09:48	12/02/22 13:09	7439-96-5	
Molybdenum	**3.2J**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 13:09	7439-98-7	
Potassium	**3140**	ug/L	500	87.6	1	11/28/22 09:48	12/02/22 13:09	7440-09-7	
Sodium	**70000**	ug/L	500	73.2	1	11/28/22 09:48	12/02/22 13:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**4.0**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:40	7440-38-2	
Selenium	**6.1**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:40	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**328**	mg/L	20.0	4.6	1		11/18/22 10:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**773**	mg/L	13.3	13.3	1		11/11/22 14:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**189**	mg/L	20.0	10.5	20		11/23/22 16:11	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 15:18	16984-48-8	
Sulfate	**64.3**	mg/L	10.0	5.5	10		11/23/22 15:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-BMW-2 **Lab ID: 60414980014** Collected: 11/08/22 10:05 Received: 11/09/22 03:43 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	**630**	ug/L	5.0	0.51	1	11/28/22 09:48	12/02/22 13:11	7440-39-3	
Boron	**75.4J**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 13:11	7440-42-8	
Calcium	**121000**	ug/L	200	33.7	1	11/28/22 09:48	12/02/22 13:11	7440-70-2	
Iron	**16100**	ug/L	50.0	5.6	1	11/28/22 09:48	12/02/22 13:11	7439-89-6	
Lithium	**8.8J**	ug/L	10.0	5.6	1	11/28/22 09:48	12/02/22 13:11	7439-93-2	
Magnesium	**39600**	ug/L	50.0	27.1	1	11/28/22 09:48	12/02/22 13:11	7439-95-4	
Manganese	**4580**	ug/L	5.0	0.24	1	11/28/22 09:48	12/02/22 13:11	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 13:11	7439-98-7	
Potassium	**1580**	ug/L	500	87.6	1	11/28/22 09:48	12/02/22 13:11	7440-09-7	
Sodium	**23200**	ug/L	500	73.2	1	11/28/22 09:48	12/02/22 13:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**1.5**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:43	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:43	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**462**	mg/L	20.0	4.6	1		11/21/22 15:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**550**	mg/L	10.0	10.0	1		11/11/22 14:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.9**	mg/L	1.0	0.53	1		11/23/22 16:25	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 16:25	16984-48-8	
Sulfate	**50.5**	mg/L	10.0	5.5	10		11/29/22 15:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 819429
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007

METHOD BLANK: 3258784 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	0.54J	5.0	0.51	11/29/22 18:21	
Boron	ug/L	<4.2	100	4.2	11/29/22 18:21	
Calcium	ug/L	<33.7	200	33.7	11/29/22 18:21	
Iron	ug/L	8.0J	50.0	5.6	11/29/22 18:21	
Lithium	ug/L	<5.6	10.0	5.6	11/29/22 18:21	
Magnesium	ug/L	<27.1	50.0	27.1	11/29/22 18:21	
Manganese	ug/L	0.55J	5.0	0.24	11/29/22 18:21	
Molybdenum	ug/L	0.90J	20.0	0.90	11/29/22 18:21	
Potassium	ug/L	<87.6	500	87.6	11/29/22 18:21	
Sodium	ug/L	186J	500	73.2	11/29/22 18:21	

LABORATORY CONTROL SAMPLE: 3258785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	989	99	85-115	
Boron	ug/L	1000	939	94	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Iron	ug/L	10000	9940	99	85-115	
Lithium	ug/L	1000	946	95	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	995	99	85-115	
Molybdenum	ug/L	1000	971	97	85-115	
Potassium	ug/L	10000	9800	98	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE SAMPLE: 3258786

Parameter	Units	60414795015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	38.4	1000	987	95	70-130	
Boron	ug/L	1700	1000	2570	87	70-130	
Calcium	ug/L	35400	10000	44300	90	70-130	
Iron	ug/L	401	10000	10200	98	70-130	
Lithium	ug/L	10.4	1000	966	96	70-130	
Magnesium	ug/L	6000	10000	15400	94	70-130	
Manganese	ug/L	263	1000	1250	98	70-130	
Molybdenum	ug/L	26.9	1000	999	97	70-130	
Potassium	ug/L	2100	10000	12100	100	70-130	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

MATRIX SPIKE SAMPLE: 3258786

Parameter	Units	60414795015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sodium	ug/L	399000	10000	406000	76	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3258787 3258788

Parameter	Units	60414980005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	42.5	1000	1000	1050	1010	101	96	70-130	4	20	
Boron	ug/L	20300	1000	1000	21300	20600	107	34	70-130	3	20	M1
Calcium	ug/L	385000	10000	10000	394000	382000	90	-34	70-130	3	20	M1
Iron	ug/L	32.2J	10000	10000	10400	10000	104	100	70-130	4	20	
Lithium	ug/L	44.4	1000	1000	1070	1030	103	98	70-130	4	20	
Magnesium	ug/L	24000	10000	10000	33300	32700	92	87	70-130	2	20	
Manganese	ug/L	2.6J	1000	1000	1010	982	101	98	70-130	3	20	
Molybdenum	ug/L	294	1000	1000	1290	1270	100	98	70-130	2	20	
Potassium	ug/L	20700	10000	10000	31400	30200	108	95	70-130	4	20	
Sodium	ug/L	108000	10000	10000	116000	112000	75	40	70-130	3	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 820131
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980008, 60414980011, 60414980012, 60414980013, 60414980014

METHOD BLANK: 3261298 Matrix: Water
Associated Lab Samples: 60414980008, 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.51	5.0	0.51	12/02/22 12:59	
Boron	ug/L	<4.2	100	4.2	12/02/22 12:59	
Calcium	ug/L	<33.7	200	33.7	12/02/22 12:59	
Iron	ug/L	<5.6	50.0	5.6	12/02/22 12:59	
Lithium	ug/L	<5.6	10.0	5.6	12/02/22 12:59	
Magnesium	ug/L	<27.1	50.0	27.1	12/02/22 12:59	
Manganese	ug/L	<0.24	5.0	0.24	12/02/22 12:59	
Molybdenum	ug/L	<0.90	20.0	0.90	12/02/22 12:59	
Potassium	ug/L	<87.6	500	87.6	12/02/22 12:59	
Sodium	ug/L	<73.2	500	73.2	12/02/22 12:59	

LABORATORY CONTROL SAMPLE: 3261299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1100	110	85-115	
Boron	ug/L	1000	1050	105	85-115	
Calcium	ug/L	10000	11200	112	85-115	
Iron	ug/L	10000	11000	110	85-115	
Lithium	ug/L	1000	1070	107	85-115	
Magnesium	ug/L	10000	10600	106	85-115	
Manganese	ug/L	1000	1090	109	85-115	
Molybdenum	ug/L	1000	1080	108	85-115	
Potassium	ug/L	10000	10800	108	85-115	
Sodium	ug/L	10000	11100	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261300 3261301

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	145	1000	1000	1160	1190	102	105	70-130	3	20	
Boron	ug/L	11000	1000	1000	12000	12500	104	157	70-130	4	20	M1
Calcium	ug/L	216000	10000	10000	227000	236000	106	196	70-130	4	20	M1
Iron	ug/L	19600	10000	10000	29700	30700	100	111	70-130	3	20	
Lithium	ug/L	41.8	1000	1000	1070	1090	102	105	70-130	2	20	
Magnesium	ug/L	53200	10000	10000	62400	65200	92	120	70-130	4	20	
Manganese	ug/L	657	1000	1000	1650	1700	99	105	70-130	4	20	
Molybdenum	ug/L	298	1000	1000	1310	1360	101	106	70-130	4	20	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261300 3261301

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	6380	10000	10000	16900	17300	105	110	70-130	3	20	
Sodium	ug/L	48700	10000	10000	59500	61400	108	127	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 819431 | 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: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007

METHOD BLANK: 3258793 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/30/22 14:01	
Selenium	ug/L	<0.18	1.0	0.18	11/30/22 14:01	

LABORATORY CONTROL SAMPLE: 3258794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	38.9	97	85-115	
Selenium	ug/L	40	40.2	101	85-115	

MATRIX SPIKE SAMPLE: 3258795

Parameter	Units	60414795019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	0.96J	40	39.8	97	70-130	
Selenium	ug/L	<0.18	40	39.6	99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3258796 3258797

Parameter	Units	60414980005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	3.3	40	40	42.5	42.6	98	98	70-130	0	20	
Selenium	ug/L	36.4	40	40	77.1	77.7	102	103	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 820132 | 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: 60414980008, 60414980011, 60414980012, 60414980013, 60414980014

METHOD BLANK: 3261302 Matrix: Water
Associated Lab Samples: 60414980008, 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/30/22 15:27	
Selenium	ug/L	<0.18	1.0	0.18	11/30/22 15:27	

LABORATORY CONTROL SAMPLE: 3261303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	37.8	95	85-115	
Selenium	ug/L	40	38.7	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261304 3261305

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	11.7	40	40	50.4	52.7	97	102	70-130	4	20	
Selenium	ug/L	<0.18	40	40	40.8	41.6	102	104	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 818572 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004

METHOD BLANK: 3255377 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/17/22 15:48	

LABORATORY CONTROL SAMPLE: 3255378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	492	98	90-110	

SAMPLE DUPLICATE: 3255379

Parameter	Units	60414790012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	582	588	1	10	

SAMPLE DUPLICATE: 3255380

Parameter	Units	60415020008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	242	241	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 818883 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980005, 60414980006, 60414980007, 60414980008, 60414980011, 60414980012, 60414980013

METHOD BLANK: 3256400 Matrix: Water
Associated Lab Samples: 60414980005, 60414980006, 60414980007, 60414980008, 60414980011, 60414980012, 60414980013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/18/22 09:34	

LABORATORY CONTROL SAMPLE: 3256401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	487	97	90-110	

SAMPLE DUPLICATE: 3256402

Parameter	Units	60414980005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	367	362	1	10	

SAMPLE DUPLICATE: 3256403

Parameter	Units	60415268006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	477	485	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 819349
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60414980014

METHOD BLANK: 3258615 Matrix: Water
Associated Lab Samples: 60414980014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	6.7J	20.0	4.6	11/21/22 14:56	

LABORATORY CONTROL SAMPLE: 3258616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	489	98	90-110	

SAMPLE DUPLICATE: 3258617

Parameter	Units	60415318008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	163	160	2	10	

SAMPLE DUPLICATE: 3258618

Parameter	Units	60415268002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	252	246	2	10	

SAMPLE DUPLICATE: 3258619

Parameter	Units	60415417015 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	285	287	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 817532
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980001, 60414980002

METHOD BLANK: 3251289 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/10/22 14:50	

LABORATORY CONTROL SAMPLE: 3251290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	999	100	80-120	

SAMPLE DUPLICATE: 3251291

Parameter	Units	60414795020 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	712	743	4	10	

SAMPLE DUPLICATE: 3251298

Parameter	Units	60415011002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1250	1250	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 817533 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980003, 60414980004, 60414980005, 60414980006, 60414980007, 60414980008

METHOD BLANK: 3251299 Matrix: Water
Associated Lab Samples: 60414980003, 60414980004, 60414980005, 60414980006, 60414980007, 60414980008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/10/22 14:53	

LABORATORY CONTROL SAMPLE: 3251300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1030	103	80-120	

SAMPLE DUPLICATE: 3251302

Parameter	Units	60414980005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1680	1700	1	10	

SAMPLE DUPLICATE: 3251303

Parameter	Units	60415018007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	397	383	4	10	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 817754
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

METHOD BLANK: 3252193 Matrix: Water
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/22 14:31	

LABORATORY CONTROL SAMPLE: 3252194

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

SAMPLE DUPLICATE: 3252197

Parameter	Units	60415268002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1180	1280	8	10	

SAMPLE DUPLICATE: 3252357

Parameter	Units	60415268006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1120	1180	5	10	

SAMPLE DUPLICATE: 3252358

Parameter	Units	60415376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	360	390	8	10	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 819035
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980001, 60414980002, 60414980003

METHOD BLANK: 3257000 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	11/18/22 08:50	
Fluoride	mg/L	<0.12	0.20	0.12	11/18/22 08:50	
Sulfate	mg/L	<0.55	1.0	0.55	11/18/22 08:50	

METHOD BLANK: 3259951 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/21/22 09:09	
Fluoride	mg/L	<0.12	0.20	0.12	11/21/22 09:09	
Sulfate	mg/L	<0.55	1.0	0.55	11/21/22 09:09	

METHOD BLANK: 3261491 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.65J	1.0	0.53	11/22/22 08:55	
Fluoride	mg/L	<0.12	0.20	0.12	11/22/22 08:55	
Sulfate	mg/L	<0.55	1.0	0.55	11/22/22 08:55	

LABORATORY CONTROL SAMPLE: 3257001

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 3259952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	91	90-110	
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

LABORATORY CONTROL SAMPLE: 3261492

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	2.6	104	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3257003 3257004

Parameter	Units	60414790006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.9	5	5	11.7	11.7	96	95	80-120	1	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.9	2.9	113	115	80-120	2	15	
Sulfate	mg/L	16.2	5	5	21.2	21.3	100	103	80-120	1	15	E

SAMPLE DUPLICATE: 3257002

Parameter	Units	60414790006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	6.9	6.9	0	15	
Fluoride	mg/L	<0.12	0.32		15	
Sulfate	mg/L	16.2	16.0	1	15	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 819201
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980004, 60414980005, 60414980006, 60414980007, 60414980008

METHOD BLANK: 3257754 Matrix: Water
Associated Lab Samples: 60414980004, 60414980005, 60414980006, 60414980007, 60414980008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/19/22 09:36	
Fluoride	mg/L	<0.12	0.20	0.12	11/19/22 09:36	
Sulfate	mg/L	<0.55	1.0	0.55	11/19/22 09:36	

METHOD BLANK: 3261501 Matrix: Water
Associated Lab Samples: 60414980004, 60414980005, 60414980006, 60414980007, 60414980008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.65J	1.0	0.53	11/22/22 08:55	
Fluoride	mg/L	<0.12	0.20	0.12	11/22/22 08:55	
Sulfate	mg/L	<0.55	1.0	0.55	11/22/22 08:55	

METHOD BLANK: 3261513 Matrix: Water
Associated Lab Samples: 60414980004, 60414980005, 60414980006, 60414980007, 60414980008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/23/22 08:37	
Fluoride	mg/L	<0.12	0.20	0.12	11/23/22 08:37	
Sulfate	mg/L	<0.55	1.0	0.55	11/23/22 08:37	

METHOD BLANK: 3261523 Matrix: Water
Associated Lab Samples: 60414980004, 60414980005, 60414980006, 60414980007, 60414980008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/28/22 11:22	
Fluoride	mg/L	<0.12	0.20	0.12	11/28/22 11:22	
Sulfate	mg/L	0.88J	1.0	0.55	11/28/22 11:22	

LABORATORY CONTROL SAMPLE: 3257755

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	2.7	108	90-110	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

LABORATORY CONTROL SAMPLE: 3257755

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 3261502

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	2.6	104	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3261514

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	2.6	103	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3261524

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	98	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3257756 3257757

Parameter	Units	60414980005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	90.1	50	50	150	136	121	91	80-120	10	15	M1
Fluoride	mg/L	0.58	2.5	2.5	3.3	3.4	108	112	80-120	3	15	
Sulfate	mg/L	859	500	500	1300	1270	88	81	80-120	3	15	

SAMPLE DUPLICATE: 3257758

Parameter	Units	60414980005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	90.1	87.8	3	15	
Fluoride	mg/L	0.58	0.58	1	15	
Sulfate	mg/L	859	852	1	15	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 819851
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

METHOD BLANK: 3260152 Matrix: Water
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.67J	1.0	0.53	11/23/22 13:31	
Fluoride	mg/L	<0.12	0.20	0.12	11/23/22 13:31	
Sulfate	mg/L	<0.55	1.0	0.55	11/23/22 13:31	

METHOD BLANK: 3263157 Matrix: Water
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.58J	1.0	0.53	11/29/22 11:54	
Fluoride	mg/L	<0.12	0.20	0.12	11/29/22 11:54	
Sulfate	mg/L	<0.55	1.0	0.55	11/29/22 11:54	

METHOD BLANK: 3264825 Matrix: Water
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	12/01/22 09:01	
Fluoride	mg/L	<0.12	0.20	0.12	12/01/22 09:01	
Sulfate	mg/L	<0.55	1.0	0.55	12/01/22 09:01	

LABORATORY CONTROL SAMPLE: 3260153

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	2.5	102	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3263158

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

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QUALITY CONTROL DATA

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

LABORATORY CONTROL SAMPLE: 3264826

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	2.7	106	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3260154 3260155

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	45.9	50	50	90.7	89.8	90	88	80-120	1	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.0	3.0	119	120	80-120	1	15	
Sulfate	mg/L	549	250	250	794	793	98	98	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3260157 3260158

Parameter	Units	60415268006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	115	100	100	187	184	72	69	80-120	2	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	2.8	2.8	110	111	80-120	1	15	
Sulfate	mg/L	398	250	250	667	666	107	107	80-120	0	15	

SAMPLE DUPLICATE: 3260156

Parameter	Units	60415268002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	45.9	44.6	3	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	549	536	2	15	

SAMPLE DUPLICATE: 3260159

Parameter	Units	60415268006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	115	97.0	17	15	D6
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	398	418	5	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-1 **Lab ID: 60414980001** Collected: 11/04/22 12:58 Received: 11/05/22 05:00 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	**0.286 ± 0.486 (0.858) C:NA T:92%**	pCi/L	11/27/22 13:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.823 ± 0.366 (0.592) C:84% T:85%**	pCi/L	11/29/22 12:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-2 **Lab ID: 60414980002** Collected: 11/04/22 09:38 Received: 11/05/22 05:00 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	**0.640 ± 0.631 (0.960) C:NA T:87%**	pCi/L	11/27/22 13:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.746 ± 0.330 (0.515) C:83% T:88%**	pCi/L	11/29/22 12:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-3 **Lab ID: 60414980003** Collected: 11/04/22 10:53 Received: 11/05/22 05:00 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	**-0.135 ± 0.497 (1.07) C:NA T:93%**	pCi/L	11/27/22 13:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.459 ± 0.289 (0.533) C:84% T:88%**	pCi/L	11/29/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-6 **Lab ID: 60414980004** Collected: 11/04/22 12:54 Received: 11/05/22 05:00 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	**-0.0779 ± 0.592 (1.24) C:NA T:94%**	pCi/L	11/27/22 13:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.702 ± 0.381 (0.700) C:83% T:91%**	pCi/L	11/29/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-7 **Lab ID: 60414980005** Collected: 11/04/22 14:05 Received: 11/05/22 05:00 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	**0.119 ± 0.286 (0.552) C:NA T:94%**	pCi/L	11/27/22 13:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.791 ± 0.366 (0.623) C:84% T:90%**	pCi/L	11/29/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-8 **Lab ID: 60414980006** Collected: 11/04/22 14:40 Received: 11/05/22 05:00 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	**0.329 ± 0.377 (0.223) C:NA T:93%**	pCi/L	11/27/22 13:59	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.954 ± 0.421 (0.709) C:82% T:88%**	pCi/L	11/29/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-DUP-1 **Lab ID: 60414980007** Collected: 11/04/22 00:00 Received: 11/05/22 05:00 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	**-0.238 ± 0.680 (1.44) C:NA T:93%**	pCi/L	11/27/22 14:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.495 ± 0.396 (0.798) C:81% T:87%**	pCi/L	11/29/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-FB-1 **Lab ID: 60414980008** Collected: 11/04/22 12:43 Received: 11/05/22 05:00 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	**0.288 ± 0.491 (0.866) C:NA T:95%**	pCi/L	11/27/22 14:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.526 ± 0.351 (0.879) C:81% T:85%**	pCi/L	11/29/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MS-1 **Lab ID: 60414980009** Collected: 11/04/22 14:05 Received: 11/05/22 11:15 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	**75.33 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/27/22 14:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**78.67 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/29/22 12:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MSD-1 **Lab ID: 60414980010** Collected: 11/04/22 14:05 Received: 11/05/22 11:15 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	**85.08 %REC 12.15RPD ± NA (NA) C:NA T:NA**	pCi/L	11/27/22 14:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**81.94 %REC 4.07RPD ± NA (NA) C:NA T:NA**	pCi/L	11/29/22 12:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-4 **Lab ID: 60414980011** Collected: 11/07/22 12:10 Received: 11/09/22 03:43 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	**-0.0750 ± 0.530 (1.13) C:NA T:99%**	pCi/L	12/04/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.12 ± 0.374 (0.464) C:84% T:92%**	pCi/L	12/06/22 12:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.12 ± 0.904 (1.59)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-MW-5 **Lab ID: 60414980012** Collected: 11/07/22 10:37 Received: 11/09/22 03:43 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	**0.669 ± 0.606 (0.893) C:NA T:99%**	pCi/L	12/04/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.927 ± 0.350 (0.503) C:86% T:93%**	pCi/L	12/06/22 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.60 ± 0.956 (1.40)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-BMW-1 **Lab ID: 60414980013** Collected: 11/07/22 09:10 Received: 11/09/22 03:43 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	**0.316 ± 0.538 (0.949) C:NA T:100%**	pCi/L	12/04/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.16 ± 0.434 (0.676) C:84% T:92%**	pCi/L	12/06/22 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.48 ± 0.972 (1.63)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Sample: M-BMW-2 **Lab ID: 60414980014** Collected: 11/08/22 10:05 Received: 11/09/22 03:43 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	**-0.174 ± 0.637 (1.38) C:NA T:99%**	pCi/L	12/04/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.00 ± 0.423 (0.698) C:84% T:87%**	pCi/L	12/06/22 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.000 ± 1.06 (2.08)**	pCi/L	12/07/22 13:37	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 545774
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007, 60414980008, 60414980009, 60414980010

METHOD BLANK: 2649816 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007, 60414980008, 60414980009, 60414980010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0614 ± 0.280 (0.166) C:NA T:92%	pCi/L	11/27/22 13:59	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 545775
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007, 60414980008, 60414980009, 60414980010

METHOD BLANK: 2649817 Matrix: Water
Associated Lab Samples: 60414980001, 60414980002, 60414980003, 60414980004, 60414980005, 60414980006, 60414980007, 60414980008, 60414980009, 60414980010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.409 ± 0.288 (0.549) C:84% T:89%	pCi/L	11/29/22 12:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 546865
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

METHOD BLANK: 2655905 Matrix: Water
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.151 ± 0.345 (0.701) C:NA T:85%	pCi/L	12/04/22 15:42	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

QC Batch: 546867
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

METHOD BLANK: 2655911 Matrix: Water
Associated Lab Samples: 60414980011, 60414980012, 60414980013, 60414980014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0317 ± 0.200 (0.464) C:87% T:94%	pCi/L	12/06/22 12:16	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

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

Pace Analytical Services, LLC
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Lenexa, KS 66219
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60414980001	M-MW-1	EPA 200.7	819429	EPA 200.7	819565
60414980002	M-MW-2	EPA 200.7	819429	EPA 200.7	819565
60414980003	M-MW-3	EPA 200.7	819429	EPA 200.7	819565
60414980004	M-MW-6	EPA 200.7	819429	EPA 200.7	819565
60414980005	M-MW-7	EPA 200.7	819429	EPA 200.7	819565
60414980006	M-MW-8	EPA 200.7	819429	EPA 200.7	819565
60414980007	M-DUP-1	EPA 200.7	819429	EPA 200.7	819565
60414980008	M-FB-1	EPA 200.7	820131	EPA 200.7	820179
60414980011	M-MW-4	EPA 200.7	820131	EPA 200.7	820179
60414980012	M-MW-5	EPA 200.7	820131	EPA 200.7	820179
60414980013	M-BMW-1	EPA 200.7	820131	EPA 200.7	820179
60414980014	M-BMW-2	EPA 200.7	820131	EPA 200.7	820179
60414980001	M-MW-1	EPA 200.8	819431	EPA 200.8	819566
60414980002	M-MW-2	EPA 200.8	819431	EPA 200.8	819566
60414980003	M-MW-3	EPA 200.8	819431	EPA 200.8	819566
60414980004	M-MW-6	EPA 200.8	819431	EPA 200.8	819566
60414980005	M-MW-7	EPA 200.8	819431	EPA 200.8	819566
60414980006	M-MW-8	EPA 200.8	819431	EPA 200.8	819566
60414980007	M-DUP-1	EPA 200.8	819431	EPA 200.8	819566
60414980008	M-FB-1	EPA 200.8	820132	EPA 200.8	820180
60414980011	M-MW-4	EPA 200.8	820132	EPA 200.8	820180
60414980012	M-MW-5	EPA 200.8	820132	EPA 200.8	820180
60414980013	M-BMW-1	EPA 200.8	820132	EPA 200.8	820180
60414980014	M-BMW-2	EPA 200.8	820132	EPA 200.8	820180
60414980001	M-MW-1	EPA 903.1	545774		
60414980002	M-MW-2	EPA 903.1	545774		
60414980003	M-MW-3	EPA 903.1	545774		
60414980004	M-MW-6	EPA 903.1	545774		
60414980005	M-MW-7	EPA 903.1	545774		
60414980006	M-MW-8	EPA 903.1	545774		
60414980007	M-DUP-1	EPA 903.1	545774		
60414980008	M-FB-1	EPA 903.1	545774		
60414980009	M-MS-1	EPA 903.1	545774		
60414980010	M-MSD-1	EPA 903.1	545774		
60414980011	M-MW-4	EPA 903.1	546865		
60414980012	M-MW-5	EPA 903.1	546865		
60414980013	M-BMW-1	EPA 903.1	546865		
60414980014	M-BMW-2	EPA 903.1	546865		
60414980001	M-MW-1	EPA 904.0	545775		
60414980002	M-MW-2	EPA 904.0	545775		
60414980003	M-MW-3	EPA 904.0	545775		
60414980004	M-MW-6	EPA 904.0	545775		
60414980005	M-MW-7	EPA 904.0	545775		
60414980006	M-MW-8	EPA 904.0	545775		
60414980007	M-DUP-1	EPA 904.0	545775		
60414980008	M-FB-1	EPA 904.0	545775		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60414980009	M-MS-1	EPA 904.0	545775		
60414980010	M-MSD-1	EPA 904.0	545775		
60414980011	M-MW-4	EPA 904.0	546867		
60414980012	M-MW-5	EPA 904.0	546867		
60414980013	M-BMW-1	EPA 904.0	546867		
60414980014	M-BMW-2	EPA 904.0	546867		
60414980011	M-MW-4	Total Radium Calculation	552060		
60414980012	M-MW-5	Total Radium Calculation	552060		
60414980013	M-BMW-1	Total Radium Calculation	552060		
60414980014	M-BMW-2	Total Radium Calculation	552060		
60414980001	M-MW-1	SM 2320B	818572		
60414980002	M-MW-2	SM 2320B	818572		
60414980003	M-MW-3	SM 2320B	818572		
60414980004	M-MW-6	SM 2320B	818572		
60414980005	M-MW-7	SM 2320B	818883		
60414980006	M-MW-8	SM 2320B	818883		
60414980007	M-DUP-1	SM 2320B	818883		
60414980008	M-FB-1	SM 2320B	818883		
60414980011	M-MW-4	SM 2320B	818883		
60414980012	M-MW-5	SM 2320B	818883		
60414980013	M-BMW-1	SM 2320B	818883		
60414980014	M-BMW-2	SM 2320B	819349		
60414980001	M-MW-1	SM 2540C	817532		
60414980002	M-MW-2	SM 2540C	817532		
60414980003	M-MW-3	SM 2540C	817533		
60414980004	M-MW-6	SM 2540C	817533		
60414980005	M-MW-7	SM 2540C	817533		
60414980006	M-MW-8	SM 2540C	817533		
60414980007	M-DUP-1	SM 2540C	817533		
60414980008	M-FB-1	SM 2540C	817533		
60414980011	M-MW-4	SM 2540C	817754		
60414980012	M-MW-5	SM 2540C	817754		
60414980013	M-BMW-1	SM 2540C	817754		
60414980014	M-BMW-2	SM 2540C	817754		
60414980001	M-MW-1	EPA 300.0	819035		
60414980002	M-MW-2	EPA 300.0	819035		
60414980003	M-MW-3	EPA 300.0	819035		
60414980004	M-MW-6	EPA 300.0	819201		
60414980005	M-MW-7	EPA 300.0	819201		
60414980006	M-MW-8	EPA 300.0	819201		
60414980007	M-DUP-1	EPA 300.0	819201		
60414980008	M-FB-1	EPA 300.0	819201		
60414980011	M-MW-4	EPA 300.0	819851		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MERAMEC MEC
Pace Project No.: 60414980

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60414980012	**M-MW-5**	EPA 300.0	819851		
60414980013	**M-BMW-1**	EPA 300.0	819851		
60414980014	**M-BMW-2**	EPA 300.0	819851		

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sar	WO# : 60414980
	Revision: 2	Effective Date: 01/12/

Client Name: WSP Golder

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: T-299 0.3/0.1/0.5 **Type of Ice:** (Wet) Blue None 0.3/0.16.5

Cooler Temperature (°C): As-read 16.1/15.0/ Corr. Factor 0 **Corrected** 16.1/15.0/15.5 **Date and initials of person examining contents:** BC 11/5

Temperature should be above freezing to 6°C 15.5

Chain of Custody present:	☒Yes ☐No ☐N/A	BPW in coolers with temps
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	-16.1, 15.0, 15.5
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:	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 55192	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☒No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	
Samples from USDA Regulated Area: State:	☐Yes ☒No ☐N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☒No ☐N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — **Required** Client Information:

Company:	WSP Golder
Address:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B — **Required** Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider
Purchase Order No.:	COC #13
Project Name:	Ameren Meramec Energy Center MEC
Project Number:	153140604. 0004

Section C — Invoice Information:

Attention:	
Company Name:	WSP Golder
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location — **STATE:** MO

Section D — **Required** Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Radium 226	Radium 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N		
1	M-MW-1	WT	G			11/4/22	1258			1		3							1	1	1	1	1	1	1		60414986
2	M-MW-2	WT	G			11/4/22	938			1		3							1	1	1	1	1	1	1		
3	M-MW-3	WT	G			11/4/22	1053			1		3							1	1	1	1	1	1	1		
4	M-MW-4	WT	G																								
5	M-MW-5	WT	G																								
6	M-MW-6	WT	G			11/4/22	12:54			1		3							1	1	1	1	1	1	1		
7	M-MW-7	WT	G			11/4/22	1405			1		3							1	1	1	1	1	1	1		
8	M-MW-8	WT	G			11/4/22	1440			1		3							1	1	1	1	1	1	1		
9	M-BMW-1	WT	G																								
10	M-BMW-2	WT	G																								
11	M-DUP-1	WT	G			11/4/22	—			1		3							1	1	1	1	1	1	1		
12	M-FB-1	WT	G			11/4/22	1243			1		3							1	1	1	1	1	1	1		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Sarah Beavers	11-4-22	15:55	BE Pace	11/5	0500	a3	Y	Y	
**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - As, Se										

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: S Beavers

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11-4-22

*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.

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	WSP Golder
Address:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider
Purchase Order No.:	COC #13
Project Name:	Ameren Meramec Energy Center MEC
Project Number:	153140604. 0004

Section C Invoice Information:

Attention:	
Company Name:	WSP Golder
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Radium 226	Radium 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	M-MS-1	WT	G			11/4/22	1405			1		3							N	N	N	N	N	N	N		60414980
2	M-MSD-1	WT	G			11/4/22	1405			1		3							N	N	N	N	N	N	N		
3		WT	G																								
4		WT	G																								
5		WT	G																								
6		WT	G																								
7		WT	G																								
8		WT	G																								
9		WT	G																								
10		WT	G																								
11		WT	G																								
12		WT	G																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Jared Beaver	11-4-22	15:55	Pace	11/5	0500	0.3	Y	Y	
**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - As, Se										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jared Beaver

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11-4-22

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*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.

WO# : 60414980

60414980

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

Client Name: Golder

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

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

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

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

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

Cooler Temperature (°C): **As-read** 1.4/2.1 **Corr. Factor** 0.0 **Corrected** 1.4/2.1

Temperature should be above freezing to 6°C 15.2/14.7 15.2/14.7

Date and initials of person examining contents: PW 11/9/22

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 55192	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #13
Project Name:	Ameren Meramec Energy Center MEC
Project Number:	153140604. 0004

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, Inc
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Radium 226	Radium 228			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60414980
1	M-MW-1	WT	G																										
2	M-MW-2	WT	G																										
3	M-MW-3	WT	G																										
4	M-MW-4	WT	G			11-7-22	1210		4	1		3																	BP1U 2BP1N
5	M-MW-5	WT	G			11-7-22	1037		4	1		3																	
6	M-MW-6	WT	G																										
7	M-MW-7	WT	G																										
8	M-MW-8	WT	G																										
9	M-BMW-1	WT	G			11-7-22	0910		4	1		3																	
10	M-BMW-2	WT	G			11-8-22	0053		4	1		3																	
11	M-DUP-1	WT	G																										
12	M-FB-1	WT	G																										

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Jared Bowers	11-8-22	1115		11/9/22	0343
**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - As, Se						

SAMPLE CONDITIONS	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1	1.4	X	N	Y
2	1	X		
3	5.2	N		
4	4.7	N		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jared Bowers

SIGNATURE of SAMPLER: Jared Bowers

DATE Signed (MM/DD/YY): 11-8-22

*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.

MEMORANDUM

DATE December 09, 2022 **Project No.** 153140604.0004

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60414980

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder / WSP
Project Manager: J. Ingram
Project Name: Ameren MEC - MEC
Project Number: 153140604
Reviewer: R.Pommerenke
Validation Date: 12/08/2022

Laboratory: Pace Analytical Services
SDG #: 60414980
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 903.1/904.0 (Radium 226/228); SM2320B (Alkalinity); SM2540C (TDS);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ EPA 300.0 (Anions)
Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-6, M-MW-7, M-MW-8, M-DUP-1, M-FB-1, M-MS-1, M-MSD-1, M-MW-4, M-MW-5, M-BMW-1, M-BMW-2

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			11/04/2022, 11/072022 - 11/08/2022
b) Sampling team indicated?	x			GTM/JAB
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See notes.
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-DUP-1 @ M-MW-3
b) Were field dup. precision criteria met (note RPD)?		x		See notes.
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See notes.

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

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?		x		See notes.
Recovery could not be calculated since sample contained high concentration of analyte?			x	
b) Was MSD accuracy criteria met?		x		See notes.
Recovery could not be calculated since sample contained high concentration of analyte?			x	
c) Were MS/MSD precision criteria met?	x			Max RPD: 10% [<20%]

Comments/Notes:

Dilutions:

Chloride and sulfate analyzed at a dilution. No qualification necessary.

Blanks:

MB 3258784: Barium (0.54J), Iron (8.0J), Manganese (0.55J), and Molybdenum (0.90J), and Sodium (186J); associated with samples -001 through -007. Results > RL and x10 blank or non-detect, not qualified. Results < RL reported as ND at RL.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MB3258615: Alkalinity (6.7J). Associated with sample -014.
Result > RL and x10 blank, not qualified.

MB3257000: Chloride (0.60J). Associated with samples -001 through -003.
Result > RL and x10 blank, not qualified.

MB3261491: Chloride (0.65J). Associated with samples -001 through -003.
Result > RL and x10 blank, not qualified.

MB3261501: Chloride (0.65J). Associated with samples -004 through -008.
Results > RL and x10 blank, not qualified. Result < RL reported as ND at RL.

MB3261523: Sulfate (0.88J). Associated with samples -004 through -008.
Results ND or > RL and x10 blank, not qualified.

MB3260152: Chloride (0.67J). Associated with samples -011 through -014.
Results > RL and x10 blank, not qualified.

MB3263157: Chloride (0.58J). Associated with samples -011 through -014.
Results > RL and x10 blank, not qualified.

M-FB-1 @ M-MW-1: Iron (8.2J), Manganese (1.4J), Molybdenum (1.9J), Total Dissolved Solids (5.0), Chloride (0.70J).
Results > RL and x10 blank or non-detect, not qualified.

Duplicates:
M-DUP-1 @ M-MW-3: Alkalinity detected in duplicate sample and ND in parent sample.

Sample Duplicate 3257002: Fluroide detected in dup but not in parent sample. Performed on unrelated sample, no qualification necessary.

Sample Duplicate 3260159: RPD for chloride (17%) exceeds limit (15%). Performed on unrelated sample, no qualification necessary.

MS/MSD:
3258787/3258788: Low MSD % recovery for boron, calcium, and sodium. Associated with sample M-MW-7. Only one QC indicator outside of control limits, no qualification necessary.

3261300/3261301: High MSD % recovery for boron and calcium. Performed on unrelated sample, no qualification necessary.

3257003/3257004: Sulfate concentration exceeded the calibration range. Performed on unrelated sample, no qualification necessary.

3260157/3260158: Low MS/MSD % recovery. Performed on unrelated sample, no qualification necessary.

3257756/3257757: MS % recovery high for chloride, associated with sample M-MW-7. Only 1 QC indicator outside of control limits, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-7	Manganese	5.0	U	Detected in MB, result < RL
M-MW-7	Iron	50.0	U	"
M-MW-3	Molybdenum	20.0	U	"
M-DUP-1	Molybdenum	20.0	U	"
M-FB-1	Chloride	1.0	U	"
M-MW-3	Alkalinity	20	UJ	Detected in dup, ND in parent sample.
M-DUP-1	Alkalinity	293	J	"

Signature: _____ _____ Date: 12/08/2022

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

December 07, 2022

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

RE: Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2022. 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: Mark Haddock, Golder Associates
Lisa Meyer, Ameren
Grant Morey, WSP Golder
Ann Muehlfarth, WSP Golder
Eric Schneider, WSP Golder

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

CERTIFICATIONS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

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

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

SAMPLE SUMMARY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60415268001	**M-MW-11S**	Water	11/07/22 15:40	11/09/22 03:43
60415268002	**M-MW-11D**	Water	11/08/22 08:50	11/09/22 03:43
60415268003	**M-TP-1**	Water	11/07/22 14:03	11/09/22 03:43
60415268004	**M-TP-2**	Water	11/07/22 14:32	11/09/22 03:43
60415268005	**M-MW-9**	Water	11/07/22 13:00	11/09/22 03:43
60415268006	**M-MW-10**	Water	11/07/22 11:06	11/09/22 03:43
60415268007	**M-CA-DUP-1**	Water	11/07/22 00:00	11/09/22 03:43
60415268008	**M-CA-FB-1**	Water	11/07/22 14:42	11/09/22 03:43
60415268009	**M-CA-MS-1**	Water	11/07/22 11:06	11/09/22 03:43
60415268010	**M-CA-MSD-1**	Water	11/07/22 11:06	11/09/22 03:43

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

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60415268001	**M-MW-11S**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268002	**M-MW-11D**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268003	**M-TP-1**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268004	**M-TP-2**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268005	**M-MW-9**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268006	**M-MW-10**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268007	**M-CA-DUP-1**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268008	**M-CA-FB-1**	EPA 200.7	JDS	10	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60415268009	**M-CA-MS-1**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60415268010	**M-CA-MSD-1**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

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

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-11S **Lab ID: 60415268001** Collected: 11/07/22 15:40 Received: 11/09/22 03:43 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	**648**	ug/L	5.0	0.51	1	11/28/22 09:48	12/02/22 13:13	7440-39-3	
Boron	**1450**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 13:13	7440-42-8	
Calcium	**236000**	ug/L	200	33.7	1	11/28/22 09:48	12/02/22 13:13	7440-70-2	
Iron	**50400**	ug/L	50.0	5.6	1	11/28/22 09:48	12/02/22 13:13	7439-89-6	
Lithium	**19.1**	ug/L	10.0	5.6	1	11/28/22 09:48	12/02/22 13:13	7439-93-2	
Magnesium	**66300**	ug/L	50.0	27.1	1	11/28/22 09:48	12/02/22 13:13	7439-95-4	
Manganese	**1810**	ug/L	5.0	0.24	1	11/28/22 09:48	12/02/22 13:13	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 13:13	7439-98-7	
Potassium	**8920**	ug/L	500	87.6	1	11/28/22 09:48	12/02/22 13:13	7440-09-7	
Sodium	**24900**	ug/L	500	73.2	1	11/28/22 09:48	12/02/22 13:13	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**4.5**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:45	7440-38-2	
Selenium	**0.19J**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:45	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**887**	mg/L	20.0	4.6	1		11/18/22 10:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**996**	mg/L	13.3	13.3	1		11/11/22 14:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.4**	mg/L	1.0	0.53	1		11/23/22 16:51	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 16:51	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/23/22 16:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-11D **Lab ID: 60415268002** Collected: 11/08/22 08:50 Received: 11/09/22 03:43 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	**145**	ug/L	5.0	0.51	1	11/28/22 09:48	12/02/22 13:15	7440-39-3	
Boron	**11000**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 13:15	7440-42-8	M1
Calcium	**216000**	ug/L	200	33.7	1	11/28/22 09:48	12/02/22 13:15	7440-70-2	M1
Iron	**19600**	ug/L	50.0	5.6	1	11/28/22 09:48	12/02/22 13:15	7439-89-6	
Lithium	**41.8**	ug/L	10.0	5.6	1	11/28/22 09:48	12/02/22 13:15	7439-93-2	
Magnesium	**53200**	ug/L	50.0	27.1	1	11/28/22 09:48	12/02/22 13:15	7439-95-4	
Manganese	**657**	ug/L	5.0	0.24	1	11/28/22 09:48	12/02/22 13:15	7439-96-5	
Molybdenum	**298**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 13:15	7439-98-7	
Potassium	**6380**	ug/L	500	87.6	1	11/28/22 09:48	12/02/22 13:15	7440-09-7	
Sodium	**48700**	ug/L	500	73.2	1	11/28/22 09:48	12/02/22 13:15	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**11.7**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:47	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:47	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**252**	mg/L	20.0	4.6	1		11/21/22 15:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1180**	mg/L	13.3	13.3	1		11/11/22 14:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**45.9**	mg/L	10.0	5.3	10		11/23/22 18:11	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 17:18	16984-48-8	
Sulfate	**549**	mg/L	50.0	27.5	50		11/23/22 19:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-TP-1 **Lab ID: 60415268003** Collected: 11/07/22 14:03 Received: 11/09/22 03:43 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	**285**	ug/L	5.0	0.82	1	11/28/22 09:48	12/01/22 17:57	7440-39-3	
Boron	**305**	ug/L	100	7.6	1	11/28/22 09:48	12/01/22 17:57	7440-42-8	
Calcium	**61100**	ug/L	200	26.5	1	11/28/22 09:48	12/01/22 17:57	7440-70-2	
Iron	**2800**	ug/L	50.0	7.4	1	11/28/22 09:48	12/01/22 17:57	7439-89-6	
Lithium	**16.1**	ug/L	10.0	2.9	1	11/28/22 09:48	12/01/22 17:57	7439-93-2	B
Magnesium	**25200**	ug/L	50.0	24.1	1	11/28/22 09:48	12/01/22 17:57	7439-95-4	
Manganese	**49.8**	ug/L	5.0	0.38	1	11/28/22 09:48	12/01/22 17:57	7439-96-5	
Molybdenum	**1.0J**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 11:52	7439-98-7	
Potassium	**2570**	ug/L	500	90.1	1	11/28/22 09:48	12/01/22 17:57	7440-09-7	
Sodium	**36700**	ug/L	500	38.8	1	11/28/22 09:48	12/01/22 17:57	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**21.8**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:02	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:02	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**298**	mg/L	20.0	4.6	1		11/18/22 11:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**382**	mg/L	10.0	10.0	1		11/11/22 14:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.8**	mg/L	1.0	0.53	1		11/23/22 20:25	16887-00-6	
Fluoride	**0.33**	mg/L	0.20	0.12	1		11/23/22 20:25	16984-48-8	
Sulfate	**1.4**	mg/L	1.0	0.55	1		11/23/22 20:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-TP-2 **Lab ID: 60415268004** Collected: 11/07/22 14:32 Received: 11/09/22 03:43 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	**62.8**	ug/L	5.0	0.82	1	11/28/22 09:48	12/01/22 17:59	7440-39-3	
Boron	**2730**	ug/L	100	7.6	1	11/28/22 09:48	12/01/22 17:59	7440-42-8	
Calcium	**223000**	ug/L	200	26.5	1	11/28/22 09:48	12/01/22 17:59	7440-70-2	
Iron	**16600**	ug/L	50.0	7.4	1	11/28/22 09:48	12/01/22 17:59	7439-89-6	
Lithium	**51.7**	ug/L	10.0	2.9	1	11/28/22 09:48	12/01/22 17:59	7439-93-2	
Magnesium	**58600**	ug/L	50.0	24.1	1	11/28/22 09:48	12/01/22 17:59	7439-95-4	
Manganese	**584**	ug/L	5.0	0.38	1	11/28/22 09:48	12/01/22 17:59	7439-96-5	
Molybdenum	**11.2J**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 11:54	7439-98-7	
Potassium	**8580**	ug/L	500	90.1	1	11/28/22 09:48	12/01/22 17:59	7440-09-7	
Sodium	**186000**	ug/L	500	38.8	1	11/28/22 09:48	12/01/22 17:59	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	0.14	1	11/28/22 09:48	11/30/22 15:05	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:05	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**370**	mg/L	20.0	4.6	1		11/18/22 11:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1610**	mg/L	20.0	20.0	1		11/11/22 14:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**243**	mg/L	50.0	26.4	50		11/23/22 21:32	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 20:52	16984-48-8	
Sulfate	**525**	mg/L	50.0	27.5	50		11/23/22 21:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-9 **Lab ID: 60415268005** Collected: 11/07/22 13:00 Received: 11/09/22 03:43 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	**289**	ug/L	5.0	0.82	1	11/28/22 09:48	12/01/22 18:08	7440-39-3	
Boron	**9490**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 11:56	7440-42-8	
Calcium	**173000**	ug/L	200	26.5	1	11/28/22 09:48	12/01/22 18:08	7440-70-2	
Iron	**20900**	ug/L	50.0	7.4	1	11/28/22 09:48	12/01/22 18:08	7439-89-6	
Lithium	**21.7**	ug/L	10.0	2.9	1	11/28/22 09:48	12/01/22 18:08	7439-93-2	B
Magnesium	**53700**	ug/L	50.0	24.1	1	11/28/22 09:48	12/01/22 18:08	7439-95-4	
Manganese	**489**	ug/L	5.0	0.38	1	11/28/22 09:48	12/01/22 18:08	7439-96-5	
Molybdenum	**41.9**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 11:56	7439-98-7	
Potassium	**5210**	ug/L	500	90.1	1	11/28/22 09:48	12/01/22 18:08	7440-09-7	
Sodium	**45400**	ug/L	500	38.8	1	11/28/22 09:48	12/01/22 18:08	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**19.9**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:07	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:07	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**294**	mg/L	20.0	4.6	1		11/18/22 11:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**959**	mg/L	13.3	13.3	1		11/11/22 14:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**43.4**	mg/L	10.0	5.3	10		11/23/22 21:59	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 21:45	16984-48-8	
Sulfate	**518**	mg/L	100	55.0	100		11/29/22 15:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-10 **Lab ID: 60415268006** Collected: 11/07/22 11:06 Received: 11/09/22 03:43 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	**99.1**	ug/L	5.0	0.82	1	11/28/22 09:48	12/01/22 18:10	7440-39-3	
Boron	**2200**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 11:58	7440-42-8	
Calcium	**191000**	ug/L	200	26.5	1	11/28/22 09:48	12/01/22 18:10	7440-70-2	M1
Iron	**12800**	ug/L	50.0	7.4	1	11/28/22 09:48	12/01/22 18:10	7439-89-6	
Lithium	**38.9**	ug/L	10.0	2.9	1	11/28/22 09:48	12/01/22 18:10	7439-93-2	
Magnesium	**45700**	ug/L	50.0	24.1	1	11/28/22 09:48	12/01/22 18:10	7439-95-4	M1
Manganese	**592**	ug/L	5.0	0.38	1	11/28/22 09:48	12/01/22 18:10	7439-96-5	
Molybdenum	**15.4J**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 11:58	7439-98-7	
Potassium	**8460**	ug/L	500	90.1	1	11/28/22 09:48	12/01/22 18:10	7440-09-7	
Sodium	**103000**	ug/L	500	38.8	1	11/28/22 09:48	12/01/22 18:10	7440-23-5	M1
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**12.3**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:12	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:12	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**477**	mg/L	20.0	4.6	1		11/18/22 11:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1120**	mg/L	13.3	13.3	1		11/11/22 14:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**115**	mg/L	20.0	10.5	20		11/29/22 15:27	16887-00-6	B,D6, M1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/23/22 22:25	16984-48-8	
Sulfate	**398**	mg/L	50.0	27.5	50		11/29/22 16:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-CA-DUP-1 **Lab ID: 60415268007** Collected: 11/07/22 00:00 Received: 11/09/22 03:43 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	**277**	ug/L	5.0	0.82	1	11/28/22 09:48	12/01/22 18:16	7440-39-3	
Boron	**9120**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 12:04	7440-42-8	
Calcium	**167000**	ug/L	200	26.5	1	11/28/22 09:48	12/01/22 18:16	7440-70-2	
Iron	**20100**	ug/L	50.0	7.4	1	11/28/22 09:48	12/01/22 18:16	7439-89-6	
Lithium	**21.2**	ug/L	10.0	2.9	1	11/28/22 09:48	12/01/22 18:16	7439-93-2	B
Magnesium	**52100**	ug/L	50.0	24.1	1	11/28/22 09:48	12/01/22 18:16	7439-95-4	
Manganese	**471**	ug/L	5.0	0.38	1	11/28/22 09:48	12/01/22 18:16	7439-96-5	
Molybdenum	**41.7**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 12:04	7439-98-7	
Potassium	**5020**	ug/L	500	90.1	1	11/28/22 09:48	12/01/22 18:16	7440-09-7	
Sodium	**43600**	ug/L	500	38.8	1	11/28/22 09:48	12/01/22 18:16	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**19.2**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:19	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:19	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**298**	mg/L	20.0	4.6	1		11/18/22 11:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**983**	mg/L	13.3	13.3	1		11/11/22 14:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**47.1**	mg/L	10.0	5.3	10		11/29/22 17:54	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/29/22 17:40	16984-48-8	
Sulfate	**436**	mg/L	50.0	27.5	50		11/29/22 18:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-CA-FB-1 **Lab ID: 60415268008** Collected: 11/07/22 14:42 Received: 11/09/22 03:43 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	**<0.82**	ug/L	5.0	0.82	1	11/28/22 09:48	12/01/22 18:19	7440-39-3	
Boron	**4.5J**	ug/L	100	4.2	1	11/28/22 09:48	12/02/22 12:12	7440-42-8	B
Calcium	**85.2J**	ug/L	200	26.5	1	11/28/22 09:48	12/01/22 18:19	7440-70-2	
Iron	**10.7J**	ug/L	50.0	7.4	1	11/28/22 09:48	12/01/22 18:19	7439-89-6	
Lithium	**<2.9**	ug/L	10.0	2.9	1	11/28/22 09:48	12/01/22 18:19	7439-93-2	
Magnesium	**<24.1**	ug/L	50.0	24.1	1	11/28/22 09:48	12/01/22 18:19	7439-95-4	
Manganese	**<0.38**	ug/L	5.0	0.38	1	11/28/22 09:48	12/01/22 18:19	7439-96-5	
Molybdenum	**<0.90**	ug/L	20.0	0.90	1	11/28/22 09:48	12/02/22 12:12	7439-98-7	
Potassium	**<90.1**	ug/L	500	90.1	1	11/28/22 09:48	12/01/22 18:19	7440-09-7	
Sodium	**191J**	ug/L	500	38.8	1	11/28/22 09:48	12/01/22 18:19	7440-23-5	B
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**<0.14**	ug/L	1.0	0.14	1	11/28/22 09:48	11/30/22 15:22	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/28/22 09:48	11/30/22 15:22	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		11/18/22 11:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**8.0**	mg/L	5.0	5.0	1		11/11/22 14:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**0.57J**	mg/L	1.0	0.53	1		11/29/22 18:20	16887-00-6	B
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/29/22 18:20	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/29/22 18:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 820131
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60415268001, 60415268002

METHOD BLANK: 3261298 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.51	5.0	0.51	12/02/22 12:59	
Boron	ug/L	<4.2	100	4.2	12/02/22 12:59	
Calcium	ug/L	<33.7	200	33.7	12/02/22 12:59	
Iron	ug/L	<5.6	50.0	5.6	12/02/22 12:59	
Lithium	ug/L	<5.6	10.0	5.6	12/02/22 12:59	
Magnesium	ug/L	<27.1	50.0	27.1	12/02/22 12:59	
Manganese	ug/L	<0.24	5.0	0.24	12/02/22 12:59	
Molybdenum	ug/L	<0.90	20.0	0.90	12/02/22 12:59	
Potassium	ug/L	<87.6	500	87.6	12/02/22 12:59	
Sodium	ug/L	<73.2	500	73.2	12/02/22 12:59	

LABORATORY CONTROL SAMPLE: 3261299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1100	110	85-115	
Boron	ug/L	1000	1050	105	85-115	
Calcium	ug/L	10000	11200	112	85-115	
Iron	ug/L	10000	11000	110	85-115	
Lithium	ug/L	1000	1070	107	85-115	
Magnesium	ug/L	10000	10600	106	85-115	
Manganese	ug/L	1000	1090	109	85-115	
Molybdenum	ug/L	1000	1080	108	85-115	
Potassium	ug/L	10000	10800	108	85-115	
Sodium	ug/L	10000	11100	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261300 3261301

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	145	1000	1000	1160	1190	102	105	70-130	3	20	
Boron	ug/L	11000	1000	1000	12000	12500	104	157	70-130	4	20	M1
Calcium	ug/L	216000	10000	10000	227000	236000	106	196	70-130	4	20	M1
Iron	ug/L	19600	10000	10000	29700	30700	100	111	70-130	3	20	
Lithium	ug/L	41.8	1000	1000	1070	1090	102	105	70-130	2	20	
Magnesium	ug/L	53200	10000	10000	62400	65200	92	120	70-130	4	20	
Manganese	ug/L	657	1000	1000	1650	1700	99	105	70-130	4	20	
Molybdenum	ug/L	298	1000	1000	1310	1360	101	106	70-130	4	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261300 3261301

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	6380	10000	10000	16900	17300	105	110	70-130	3	20	
Sodium	ug/L	48700	10000	10000	59500	61400	108	127	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 820134
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

METHOD BLANK: 3261308 Matrix: Water
Associated Lab Samples: 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.82	5.0	0.82	12/01/22 17:53	
Boron	ug/L	14.1J	100	7.6	12/01/22 17:53	
Calcium	ug/L	<26.5	200	26.5	12/01/22 17:53	
Iron	ug/L	<7.4	50.0	7.4	12/01/22 17:53	
Lithium	ug/L	3.6J	10.0	2.9	12/01/22 17:53	
Magnesium	ug/L	<24.1	50.0	24.1	12/01/22 17:53	
Manganese	ug/L	<0.38	5.0	0.38	12/01/22 17:53	
Molybdenum	ug/L	<0.90	20.0	0.90	12/02/22 11:48	
Potassium	ug/L	<90.1	500	90.1	12/01/22 17:53	
Sodium	ug/L	279J	500	38.8	12/01/22 17:53	

LABORATORY CONTROL SAMPLE: 3261309

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	921	92	85-115	
Boron	ug/L	1000	882	88	85-115	
Calcium	ug/L	10000	9400	94	85-115	
Iron	ug/L	10000	9550	96	85-115	
Lithium	ug/L	1000	907	91	85-115	
Magnesium	ug/L	10000	9210	92	85-115	
Manganese	ug/L	1000	949	95	85-115	
Molybdenum	ug/L	1000	1000	100	85-115	
Potassium	ug/L	10000	9350	93	85-115	
Sodium	ug/L	10000	9620	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261310 3261311

Parameter	Units	60415268006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	99.1	1000	1000	1050	1040	95	95	70-130	0	20	
Boron	ug/L	2200	1000	1000	3230	3350	103	115	70-130	4	20	
Calcium	ug/L	191000	10000	10000	216000	219000	252	286	70-130	2	20	M1
Iron	ug/L	12800	10000	10000	23500	23800	107	110	70-130	1	20	
Lithium	ug/L	38.9	1000	1000	994	981	96	94	70-130	1	20	
Magnesium	ug/L	45700	10000	10000	58700	59500	130	138	70-130	1	20	M1
Manganese	ug/L	592	1000	1000	1610	1630	102	104	70-130	1	20	
Molybdenum	ug/L	15.4J	1000	1000	1060	1100	104	108	70-130	4	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261310 3261311

Parameter	Units	60415268006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	8460	10000	10000	19200	19200	107	107	70-130	0	20	
Sodium	ug/L	103000	10000	10000	122000	123000	187	206	70-130	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 820132
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60415268001, 60415268002

METHOD BLANK: 3261302 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/30/22 15:27	
Selenium	ug/L	<0.18	1.0	0.18	11/30/22 15:27	

LABORATORY CONTROL SAMPLE: 3261303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	37.8	95	85-115	
Selenium	ug/L	40	38.7	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261304 3261305

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	11.7	40	40	50.4	52.7	97	102	70-130	4	20	
Selenium	ug/L	<0.18	40	40	40.8	41.6	102	104	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 820135
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

METHOD BLANK: 3261312 Matrix: Water
Associated Lab Samples: 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/30/22 14:58	
Selenium	ug/L	<0.18	1.0	0.18	11/30/22 14:58	

LABORATORY CONTROL SAMPLE: 3261313

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	37.7	94	85-115	
Selenium	ug/L	40	39.2	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3261314 3261315

Parameter	Units	60415268006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	12.3	40	40	50.0	50.5	94	96	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.7	38.9	94	97	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 818883 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60415268001, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

METHOD BLANK: 3256400 Matrix: Water
Associated Lab Samples: 60415268001, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/18/22 09:34	

LABORATORY CONTROL SAMPLE: 3256401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	487	97	90-110	

SAMPLE DUPLICATE: 3256402

Parameter	Units	60414980005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	367	362	1	10	

SAMPLE DUPLICATE: 3256403

Parameter	Units	60415268006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	477	485	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 819349
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60415268002

METHOD BLANK: 3258615 Matrix: Water
Associated Lab Samples: 60415268002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	6.7J	20.0	4.6	11/21/22 14:56	

LABORATORY CONTROL SAMPLE: 3258616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	489	98	90-110	

SAMPLE DUPLICATE: 3258617

Parameter	Units	60415318008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	163	160	2	10	

SAMPLE DUPLICATE: 3258618

Parameter	Units	60415268002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	252	246	2	10	

SAMPLE DUPLICATE: 3258619

Parameter	Units	60415417015 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	285	287	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 817754 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

METHOD BLANK: 3252193 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/22 14:31	

LABORATORY CONTROL SAMPLE: 3252194

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

SAMPLE DUPLICATE: 3252197

Parameter	Units	60415268002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1180	1280	8	10	

SAMPLE DUPLICATE: 3252357

Parameter	Units	60415268006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1120	1180	5	10	

SAMPLE DUPLICATE: 3252358

Parameter	Units	60415376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	360	390	8	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 819851
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

METHOD BLANK: 3260152 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.67J	1.0	0.53	11/23/22 13:31	
Fluoride	mg/L	<0.12	0.20	0.12	11/23/22 13:31	
Sulfate	mg/L	<0.55	1.0	0.55	11/23/22 13:31	

METHOD BLANK: 3263157 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.58J	1.0	0.53	11/29/22 11:54	
Fluoride	mg/L	<0.12	0.20	0.12	11/29/22 11:54	
Sulfate	mg/L	<0.55	1.0	0.55	11/29/22 11:54	

METHOD BLANK: 3264825 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	12/01/22 09:01	
Fluoride	mg/L	<0.12	0.20	0.12	12/01/22 09:01	
Sulfate	mg/L	<0.55	1.0	0.55	12/01/22 09:01	

LABORATORY CONTROL SAMPLE: 3260153

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	2.5	102	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3263158

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	

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QUALITY CONTROL DATA

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

LABORATORY CONTROL SAMPLE: 3263158

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

LABORATORY CONTROL SAMPLE: 3264826

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	2.7	106	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3260154 3260155

Parameter	Units	60415268002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	45.9	50	50	90.7	89.8	90	88	80-120	1	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.0	3.0	119	120	80-120	1	15	
Sulfate	mg/L	549	250	250	794	793	98	98	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3260157 3260158

Parameter	Units	60415268006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	115	100	100	187	184	72	69	80-120	2	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	2.8	2.8	110	111	80-120	1	15	
Sulfate	mg/L	398	250	250	667	666	107	107	80-120	0	15	

SAMPLE DUPLICATE: 3260156

Parameter	Units	60415268002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	45.9	44.6	3	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	549	536	2	15	

SAMPLE DUPLICATE: 3260159

Parameter	Units	60415268006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	115	97.0	17	15	D6
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	398	418	5	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-11S **Lab ID: 60415268001** Collected: 11/07/22 15:40 Received: 11/09/22 03:43 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	**0.539 ± 0.661 (1.09) C:NA T:100%**	pCi/L	12/04/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.15 ± 0.580 (0.645) C:84% T:96%**	pCi/L	12/06/22 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.69 ± 1.24 (1.74)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-11D **Lab ID: 60415268002** Collected: 11/08/22 08:50 Received: 11/09/22 03:43 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	**-0.172 ± 0.583 (1.29) C:NA T:98%**	pCi/L	12/04/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.347 ± 0.358 (0.743) C:76% T:86%**	pCi/L	12/06/22 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.175 ± 0.941 (2.03)**	pCi/L	12/07/22 13:37	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-TP-1 **Lab ID: 60415268003** Collected: 11/07/22 14:03 Received: 11/09/22 03:43 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	**-0.0739 ± 0.383 (0.887) C:NA T:98%**	pCi/L	12/04/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.498 ± 0.305 (0.564) C:84% T:92%**	pCi/L	12/06/22 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.498 ± 0.688 (1.45)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-TP-2 **Lab ID: 60415268004** Collected: 11/07/22 14:32 Received: 11/09/22 03:43 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	**0.457 ± 0.561 (0.914) C:NA T:99%**	pCi/L	12/04/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.780 ± 0.326 (0.496) C:87% T:89%**	pCi/L	12/06/22 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.24 ± 0.887 (1.41)**	pCi/L	12/07/22 13:37	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-9 **Lab ID: 60415268005** Collected: 11/07/22 13:00 Received: 11/09/22 03:43 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	**0.445 ± 0.678 (1.17) C:NA T:99%**	pCi/L	12/04/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.581 ± 0.342 (0.630) C:84% T:86%**	pCi/L	12/06/22 12:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.03 ± 1.02 (1.80)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-MW-10 **Lab ID: 60415268006** Collected: 11/07/22 11:06 Received: 11/09/22 03:43 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	**0.250 ± 0.348 (0.581) C:NA T:92%**	pCi/L	12/04/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.743 ± 0.413 (0.736) C:83% T:72%**	pCi/L	12/06/22 12:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.993 ± 0.761 (1.32)**	pCi/L	12/07/22 13:37	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-CA-DUP-1 **Lab ID: 60415268007** Collected: 11/07/22 00:00 Received: 11/09/22 03:43 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.582 ± 0.675 (1.09) C:NA T:94%**	pCi/L	12/04/22 16:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.328 ± 0.340 (0.704) C:83% T:81%**	pCi/L	12/06/22 12:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.910 ± 1.02 (1.79)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-CA-FB-1 **Lab ID: 60415268008** Collected: 11/07/22 14:42 Received: 11/09/22 03:43 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	**0.176 ± 0.488 (0.947) C:NA T:87%**	pCi/L	12/04/22 16:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.20 ± 0.470 (0.754) C:85% T:86%**	pCi/L	12/06/22 12:18	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.38 ± 0.958 (1.70)**	pCi/L	12/07/22 13:37	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-CA-MS-1 **Lab ID: 60415268009** Collected: 11/07/22 11:06 Received: 11/09/22 03:43 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	**88.77 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/04/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**86.08 %REC ± NA (NA) C:NA T:NA**	pCi/L	12/06/22 12:18	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Sample: M-CA-MSD-1 **Lab ID: 60415268010** Collected: 11/07/22 11:06 Received: 11/09/22 03:43 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	**78.21 %REC 12.65RPD ± NA (NA) C:NA T:NA**	pCi/L	12/04/22 16:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**79.89 %REC 7.46RPD ± NA (NA) C:NA T:NA**	pCi/L	12/06/22 12:18	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 546865
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008, 60415268009, 60415268010

METHOD BLANK: 2655905 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008, 60415268009, 60415268010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.151 ± 0.345 (0.701) C:NA T:85%	pCi/L	12/04/22 15:42	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

QC Batch: 546867
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008, 60415268009, 60415268010

METHOD BLANK: 2655911 Matrix: Water
Associated Lab Samples: 60415268001, 60415268002, 60415268003, 60415268004, 60415268005, 60415268006, 60415268007, 60415268008, 60415268009, 60415268010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0317 ± 0.200 (0.464) C:87% T:94%	pCi/L	12/06/22 12:16	

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 MEC-CA
Pace Project No.: 60415268

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60415268001	**M-MW-11S**	EPA 200.7	820131	EPA 200.7	820179
60415268002	**M-MW-11D**	EPA 200.7	820131	EPA 200.7	820179
60415268003	**M-TP-1**	EPA 200.7	820134	EPA 200.7	820181
60415268004	**M-TP-2**	EPA 200.7	820134	EPA 200.7	820181
60415268005	**M-MW-9**	EPA 200.7	820134	EPA 200.7	820181
60415268006	**M-MW-10**	EPA 200.7	820134	EPA 200.7	820181
60415268007	**M-CA-DUP-1**	EPA 200.7	820134	EPA 200.7	820181
60415268008	**M-CA-FB-1**	EPA 200.7	820134	EPA 200.7	820181
60415268001	**M-MW-11S**	EPA 200.8	820132	EPA 200.8	820180
60415268002	**M-MW-11D**	EPA 200.8	820132	EPA 200.8	820180
60415268003	**M-TP-1**	EPA 200.8	820135	EPA 200.8	820184
60415268004	**M-TP-2**	EPA 200.8	820135	EPA 200.8	820184
60415268005	**M-MW-9**	EPA 200.8	820135	EPA 200.8	820184
60415268006	**M-MW-10**	EPA 200.8	820135	EPA 200.8	820184
60415268007	**M-CA-DUP-1**	EPA 200.8	820135	EPA 200.8	820184
60415268008	**M-CA-FB-1**	EPA 200.8	820135	EPA 200.8	820184
60415268001	**M-MW-11S**	EPA 903.1	546865		
60415268002	**M-MW-11D**	EPA 903.1	546865		
60415268003	**M-TP-1**	EPA 903.1	546865		
60415268004	**M-TP-2**	EPA 903.1	546865		
60415268005	**M-MW-9**	EPA 903.1	546865		
60415268006	**M-MW-10**	EPA 903.1	546865		
60415268007	**M-CA-DUP-1**	EPA 903.1	546865		
60415268008	**M-CA-FB-1**	EPA 903.1	546865		
60415268009	**M-CA-MS-1**	EPA 903.1	546865		
60415268010	**M-CA-MSD-1**	EPA 903.1	546865		
60415268001	**M-MW-11S**	EPA 904.0	546867		
60415268002	**M-MW-11D**	EPA 904.0	546867		
60415268003	**M-TP-1**	EPA 904.0	546867		
60415268004	**M-TP-2**	EPA 904.0	546867		
60415268005	**M-MW-9**	EPA 904.0	546867		
60415268006	**M-MW-10**	EPA 904.0	546867		
60415268007	**M-CA-DUP-1**	EPA 904.0	546867		
60415268008	**M-CA-FB-1**	EPA 904.0	546867		
60415268009	**M-CA-MS-1**	EPA 904.0	546867		
60415268010	**M-CA-MSD-1**	EPA 904.0	546867		
60415268001	**M-MW-11S**	Total Radium Calculation	552060		
60415268002	**M-MW-11D**	Total Radium Calculation	552060		
60415268003	**M-TP-1**	Total Radium Calculation	552060		
60415268004	**M-TP-2**	Total Radium Calculation	552060		
60415268005	**M-MW-9**	Total Radium Calculation	552060		
60415268006	**M-MW-10**	Total Radium Calculation	552060		
60415268007	**M-CA-DUP-1**	Total Radium Calculation	552060		
60415268008	**M-CA-FB-1**	Total Radium Calculation	552060		
60415268001	**M-MW-11S**	SM 2320B	818883		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC MEC-CA
Pace Project No.: 60415268

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60415268002	**M-MW-11D**	SM 2320B	819349		
60415268003	**M-TP-1**	SM 2320B	818883		
60415268004	**M-TP-2**	SM 2320B	818883		
60415268005	**M-MW-9**	SM 2320B	818883		
60415268006	**M-MW-10**	SM 2320B	818883		
60415268007	**M-CA-DUP-1**	SM 2320B	818883		
60415268008	**M-CA-FB-1**	SM 2320B	818883		
60415268001	**M-MW-11S**	SM 2540C	817754		
60415268002	**M-MW-11D**	SM 2540C	817754		
60415268003	**M-TP-1**	SM 2540C	817754		
60415268004	**M-TP-2**	SM 2540C	817754		
60415268005	**M-MW-9**	SM 2540C	817754		
60415268006	**M-MW-10**	SM 2540C	817754		
60415268007	**M-CA-DUP-1**	SM 2540C	817754		
60415268008	**M-CA-FB-1**	SM 2540C	817754		
60415268001	**M-MW-11S**	EPA 300.0	819851		
60415268002	**M-MW-11D**	EPA 300.0	819851		
60415268003	**M-TP-1**	EPA 300.0	819851		
60415268004	**M-TP-2**	EPA 300.0	819851		
60415268005	**M-MW-9**	EPA 300.0	819851		
60415268006	**M-MW-10**	EPA 300.0	819851		
60415268007	**M-CA-DUP-1**	EPA 300.0	819851		
60415268008	**M-CA-FB-1**	EPA 300.0	819851		

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Con		
	Revision: 2	Effective Date: 01/12/2022	Is

WO# : 60415268

60415268

Client Name: Golder

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

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

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

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

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

Cooler Temperature (°C): **As-read** 14/2.1 **Corr. Factor** 0.0 **Corrected** 14/2.1

Temperature should be above freezing to 6°C 15.2/14.7 15.2/14.7

Date and initials of person examining contents: PM 11/9/22

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 55192	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Page 1 of 1

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	WSP Golder
Address:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider
Purchase Order No.:	COC #14
Project Name:	Ameren Meramec Energy Center MEC-CA
Project Number:	153140604. 0004

Section C Invoice Information:

Attention:	
Company Name:	WSP Golder
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Radium 226	Radium 228					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60415268
																		Y/N	N	N	N	N	N	N	N							
1	M-MW-11S	WT	G			11-7-22	1540		4	1		3							✓	✓	✓	✓	✓	✓	✓	BP3N						BP1U 2BP1N
2	M-MW-11D ✱	WT	G			11-8-22	0850		4	1		3							✓	✓	✓	✓	✓	✓	✓	3BP3N						3BP1U
3	M-TP-1	WT	G			11-7-22	1403		4	1		3							✓	✓	✓	✓	✓	✓	✓	BP3N						BP1U
4	M-TP-2	WT	G			11-7-22	1432		4	1		3							✓	✓	✓	✓	✓	✓	✓							
5	M-MW-9	WT	G			11-7-22	1300		4	1		3							✓	✓	✓	✓	✓	✓	✓							
6	M-MW-10	WT	G			11-7-22	1106		4	1		3							✓	✓	✓	✓	✓	✓	✓							
7	M-CA-DUP-1	WT	G			11-7-22	—		4	1		3							✓	✓	✓	✓	✓	✓	✓							
8	M-CA-FB-1	WT	G			11-7-22	1442		4	1		3							✓	✓	✓	✓	✓	✓	✓							
9	M-CA-MS-1	WT	G			11-7-22	1106		4	1		3							✓	✓	✓	✓	✓	✓	✓	2BP1N						Collected @ M-MW-10
10	M-CA-MSD-1	WT	G			11-7-22	1106		4	1		3							✓	✓	✓	✓	✓	✓	✓							Collected @ M-MW-10
11		WT	G																												
12		WT	G																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Jared Beavers	11-8-22	11:15		11/9/22	0843
**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - As, Se						

SAMPLE CONDITIONS	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	1-4	X	N	X
	2-1	X		
	15-2	N		
	1-4-7	N		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jared Beavers

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11-8-22

*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.

MEMORANDUM

DATE January 10, 2023 **Project No.** 153140604.0004

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC-CA – CORRECTIVE ACTION SAMPLING NOVEMBER 2022 - DATA PACKAGE 60415268

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
Project Manager: J. Ingram
Project Name: Ameren MEC - MEC-CA
Project Number: 153140604
Reviewer: R.Pommerenke
Validation Date: 1/10/2023

Laboratory: Pace Analytical Services
SDG #: 60415268
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 903.1/904.0 (Radium 226/228); SM2320B (Alkalinity);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM2540C (TDS); EPA 300.0 (Anions)
Sample Names M-MW-11S, M-MW-11D, M-TP-1, M-TP-2, M-MW-9, M-MW-10, M-CA-DUP-1, M-CA-FB-1, M-CA-MS-1, M-CA-MSD-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			11/7/2022 - 11/8/2022
b) Sampling team indicated?	x			GTM/JAB
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-CA-DUP-1 @ M-MW-9
b) Were field dup. precision criteria met (note RPD)?	x			Max RPD (17.2%) < 20%
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See notes.

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

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

Comments/Notes:

Dilutions:

Chloride and Sulfate analyzed at a dilution. No qualification necessary.

Blanks:

MB3261308: Boron (14.1J), Lithium (3.6J), Sodium (279J). Associated with samples 60415268003 through -008.

Result > 10 x blank and > RL or ND: no qualification necessary. Result < RL, reported as non-detect at RL.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MB3258615: Alkalinity (6.7J). Associated with sample 60415268002.

Result > 10 x blank and > RL: no qualification necessary.

MB3260152: Chloride (0.67J). Associated with samples 60415268001 through -008.

Result > 10 x blank and > RL: no qualification necessary. Result < RL: reported as ND at RL.

MB3263157: Chloride (0.58J). Associated with 60415268001 through -008.

Result > 10 x blank and > RL: no qualification necessary. Result < RL: reported as ND at RL.

M-CA-FB-1 @ M-TP-2: Boron (4.5J), Calcium (85.2J), Iron (10.7J) Sodium (191J). Total Dissolved Solids (8.0J), Chloride (0.57J).

Radium-228 (1.20 ± 0.470). Radium-228 detection in sample qualified as an estimate.

Results > 10 x blank and > RL: no qualification necessary.

Duplicates:

Sample Duplicate 3260159: RPD limit (15%) exceeded for Chloride (17%). Associated with 60415268006.

MS/MSD:

3261300/3261301: MSD recovery high for Boron and Calcium. Associated with M-MW-11D.

Only one QC indicator out of control limits: no qualification necessary.

3261310/3261311: MS/MSD % recovery high for Calcium and Sodium. MSD % recovery high for Magnesium.

Associated with M-MW-10. Only one QC indicator out of control limits for Magnesium: no qualification necessary for Magnesium.

3260157/3260158: MS/MSD % recovery low for Chloride. Associated with M-MW-10.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-CA-DUP-1	Lithium	21.2	J	Detected in MB, 10 x blank > result > RL.
M-CA-FB-1	Boron	100	U	Detected in MB, result < RL.
"	Chloride	1.0	U	"
"	Sodium	500	U	"
M-MW-10	Calcium	191000	J+	MS/MSD % recovery exceeds control limits.
"	Chloride	115	J-	DUP RPD exceeds control limits; MS/MSD % recovery outside control limits.
"	Sodium	103000	J+	MS/MSD % recovery outside control limits.
M-MW-9	Lithium	21.7	J	Detected in MB, 10 x blank > result > RL.
M-TP-1	Lithium	16.1	J	"
M-TP-2	Radium-228	0.780	J	Detected in FB.

Signature: _____ Date: 1/10/2023

APPENDIX B

November 2021 Assessment Monitoring Statistical Evaluation

TECHNICAL MEMORANDUM

DATE March 18, 2022 **Project No.** 153140603

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock **EMAIL Jeffrey_Ingram@golder.com**

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 November 2021 sampling event at the Multi-unit Surface Impoundment Network of the Meramec Energy Center located in St. Louis County, Missouri. Included in the memorandum is a brief summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Statistical Analysis Plan (SAP). The following outliers were removed prior to the calculation of confidence limits:

- Arsenic
  - MW-1 at 1.2 micrograms per liter (µg/L) on 4/4/2018: Value is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
  - MW-4 at 10.5 µg/L on 3/29/2016: Value is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events.
  - MW-8 at 7.9 µg/L on 5/5/2020: Value is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
- Chromium
  - MW-2 at Non-Detect (ND) on 6/14/2017: Value is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events.
- Cobalt
  - MW-1 at 6.3 ug/L on 11/15/2021: Value is statistically higher than previous values at the same well. Re-analysis of the sample on 2/9/2022 did not confirm the high result.
  - MW-2 at 4.6 J ug/L on 11/15/2021: Value is statistically higher than previous values at the same well. Re-analysis of the sample on 2/9/2022 and a confirmatory sample on 2/11/2022 did not confirm the high result.
  - MW-3 at 4.6 J ug/L on 11/15/2021: Value is statistically higher than previous values at the same well. Re-analysis of the sample on 2/9/2022 and a confirmatory sample on 2/11/2022 did not confirm the high result.

  - MW-4 at 3.8 J ug/L on 11/15/2021: Value is statistically higher than previous values at the same well. Re-analysis of the sample on 2/9/2022 did not confirm the high result.
  - MW-5 at 4.1 J ug/L on 11/15/2021: Value is statistically higher than previous values at the same well. Re-analysis of the sample on 2/9/2022 and a confirmatory sample on 2/11/2022 did not confirm the high result.
  - MW-6 at 0.86 J and 0.74 J on 3/30/2016 and 5/13/2016: Values are statistically lower than other values at the same well. The low results have not been confirmed during subsequent sampling events.
  - MW-8 at 3.2 J on 11/15/2021: Value is statistically higher than previous values at the same well. Re-analysis of the sample on 2/9/2022 did not confirm the high result.
- Lead
  - MW-1 at 4.3 J and 4.9 J on 5/17/2016 and 7/18/2016: Values are statistically higher than other values at the same well. The high results were not confirmed during subsequent sampling events.
- Lithium
  - MW-1, MW-4, MW-7, and MW-8 at Non-Detect (ND) in November 2021. Analysis of the November 2021 sampling event data revealed that laboratory dilution was required for analysis of the samples. The sample dilution caused the Method Detection Limit (MDL) to be greater than the Groundwater Protection Standard (GWPS). The samples were re-analyzed on 2/9/2022 and the resultant data is consistent with historical results. The diluted results from November 2021 are outliers.
  - MW-2, MW-3, and MW-5 at Non-Detect (ND) in November 2021. Analysis of the November 2021 sampling event data revealed that laboratory dilution was required for analysis of the sample. This sample dilution caused the MDL to be greater than the GWPS. The sample was re-analyzed on 2/9/2022 and the resultant data is representative of the historical data trend at the well. Additionally, verification samples were collected on 2/11/2022 and the resultant data is representative of the historical data trend at the well. The diluted results from November 2021 are considered outliers.
- Radium 226 & 228
  - MW-1 at ND on 11/10/2021: Value is statistically higher than other results at the same well. The high result was not confirmed during subsequent sampling events.
  - MW-8 at 2.474 picocuries per liter (pCi/L) on 11/19/2018: Value is statistically higher than other results at the same well. The high result was not confirmed during subsequent sampling events.

An analysis of the outliers removed to date was completed and the statistical outliers that were previously removed are all still considered outliers and were not added back into the dataset.

- Barium
  - MW-4 at 168 µg/L and 175 µg/L on 8/12/2019 and 11/10/2020. Values were originally removed as part of the April 2020 event statistical analysis because the values were statistically lower than other results at the same well. Additional sampling results have displayed a larger spatial variability in this well so the 8/12/2019 and 11/10/2020 results are no longer considered statistical outliers.
- Beryllium
  - MW-7 at 0.35 J µg/L on 4/3/2018. Value was originally removed as part of the August 2019 event statistical analysis because the value was statistically higher than other results at the same well.

Additional sampling results have displayed a larger spatial variability in the well so the 4/3/2018 result is no longer considered a statistical outlier.

No New SSLs were noted, and a summary of the SSLs for November 2021 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

Golder appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please call our office at (314) 984-8800.

Sincerely,

Jeffrey Ingram
Senior Consultant, Geologist

Sean Paulsen
Senior Lead Consultant, Geologist

JSI/SCP/MNH

Attachments: Table 1 – MEC Groundwater Protection Standards
Appendix A – Sanitas Confidence Interval Statistical Output
Appendix B – Sanitas Trending Confidence Bands Statistical Output

Table 1 - MEC Groundwater Protection Standards
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring [6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	10	9.6
Barium	µg/L	2000	2000	598
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	2.344
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.5182
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	40	18.71
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	2.676
Selenium	µg/L	50	50	1.3
Thallium	µg/L	2	2	DQR

Notes:

Prepared by: JSI
Checked by: EMS
Reviewed by: SCP

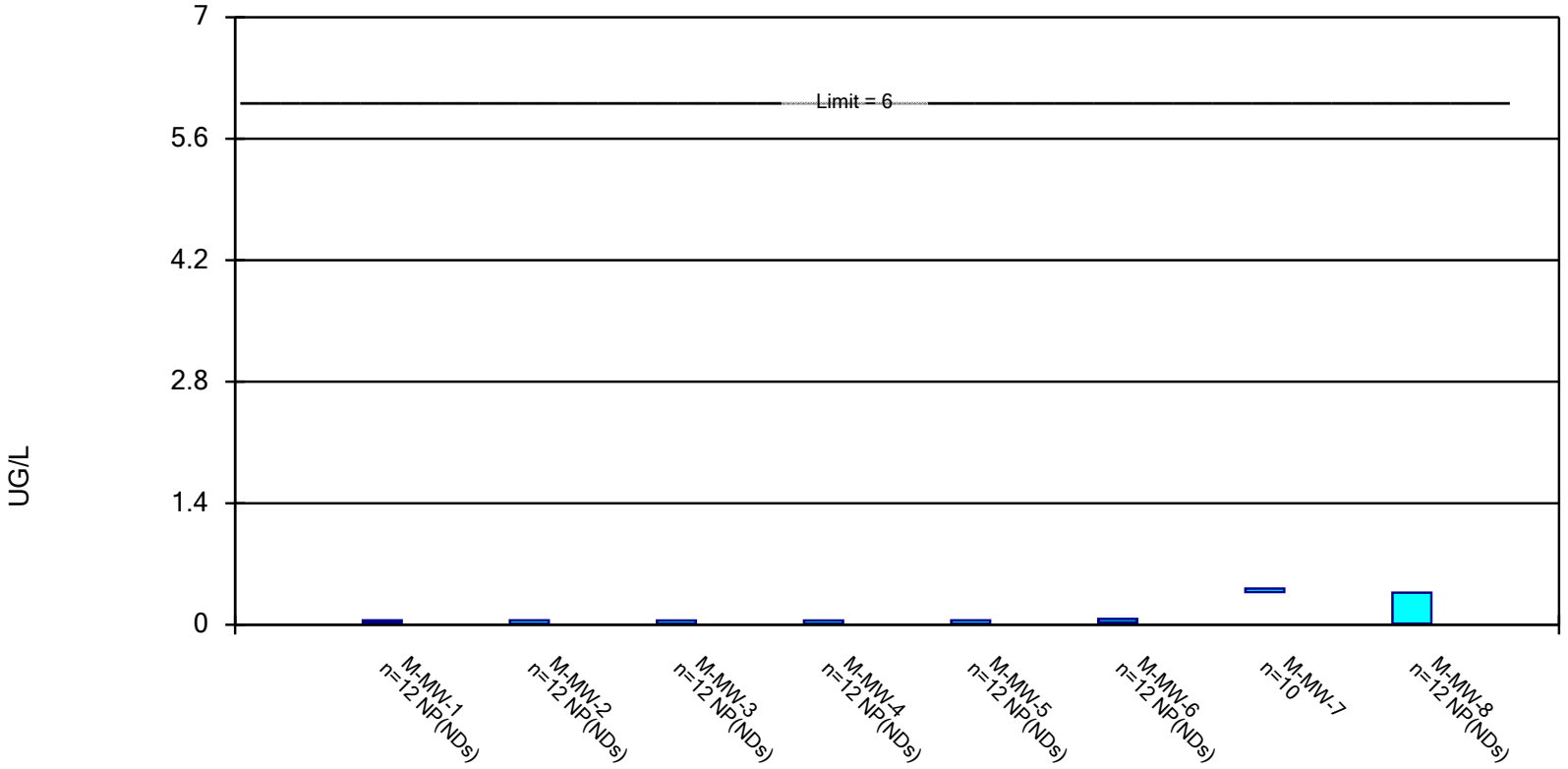
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA)Drinking Water Standards and Health Advisories. http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results up through April 2021 from monitoring wells BMW-1 and BMW-2.

APPENDIX A

Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

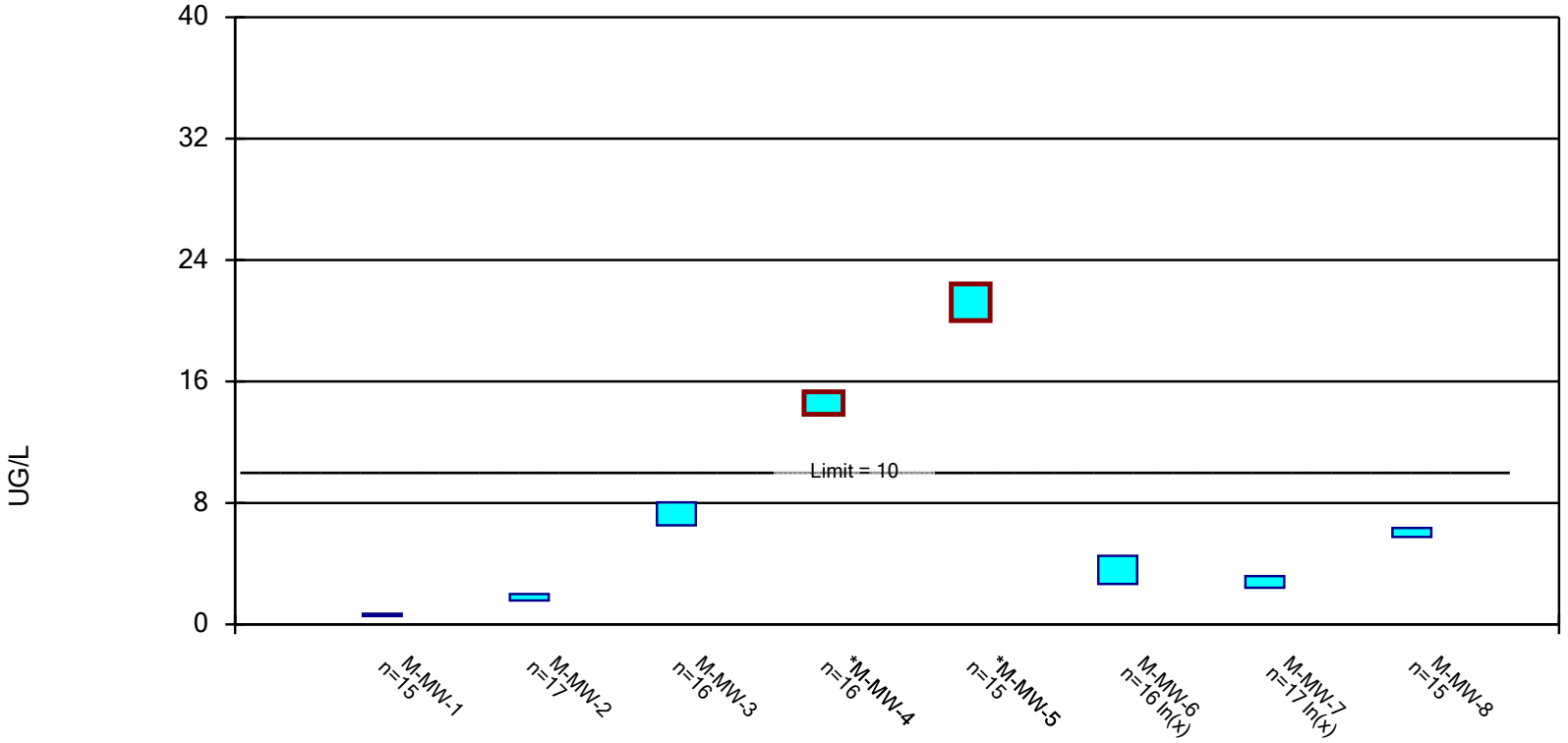


Constituent: ANTIMONY, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

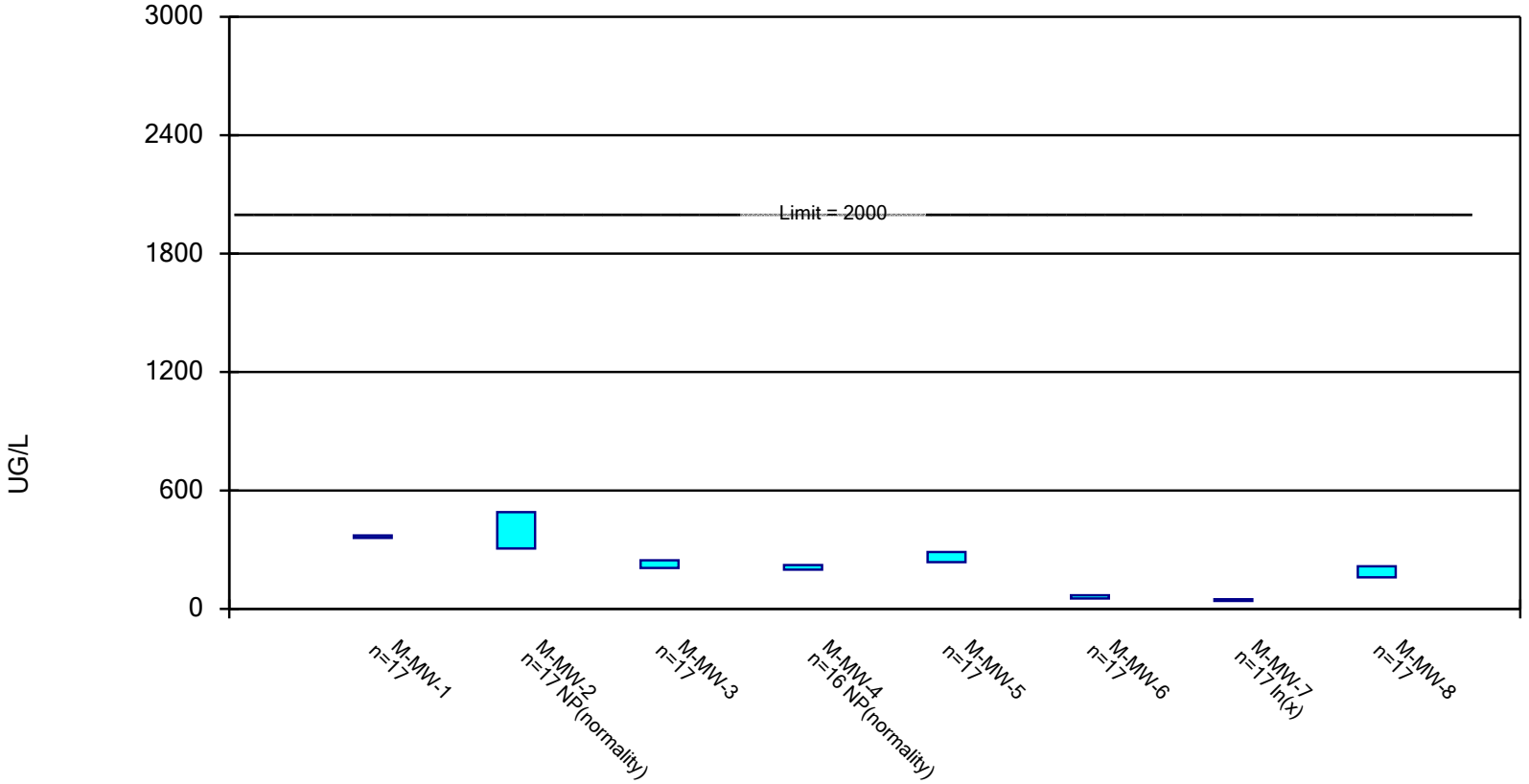


Constituent: ARSENIC, TOTAL Analysis Run 3/17/2022 8:05 AM

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

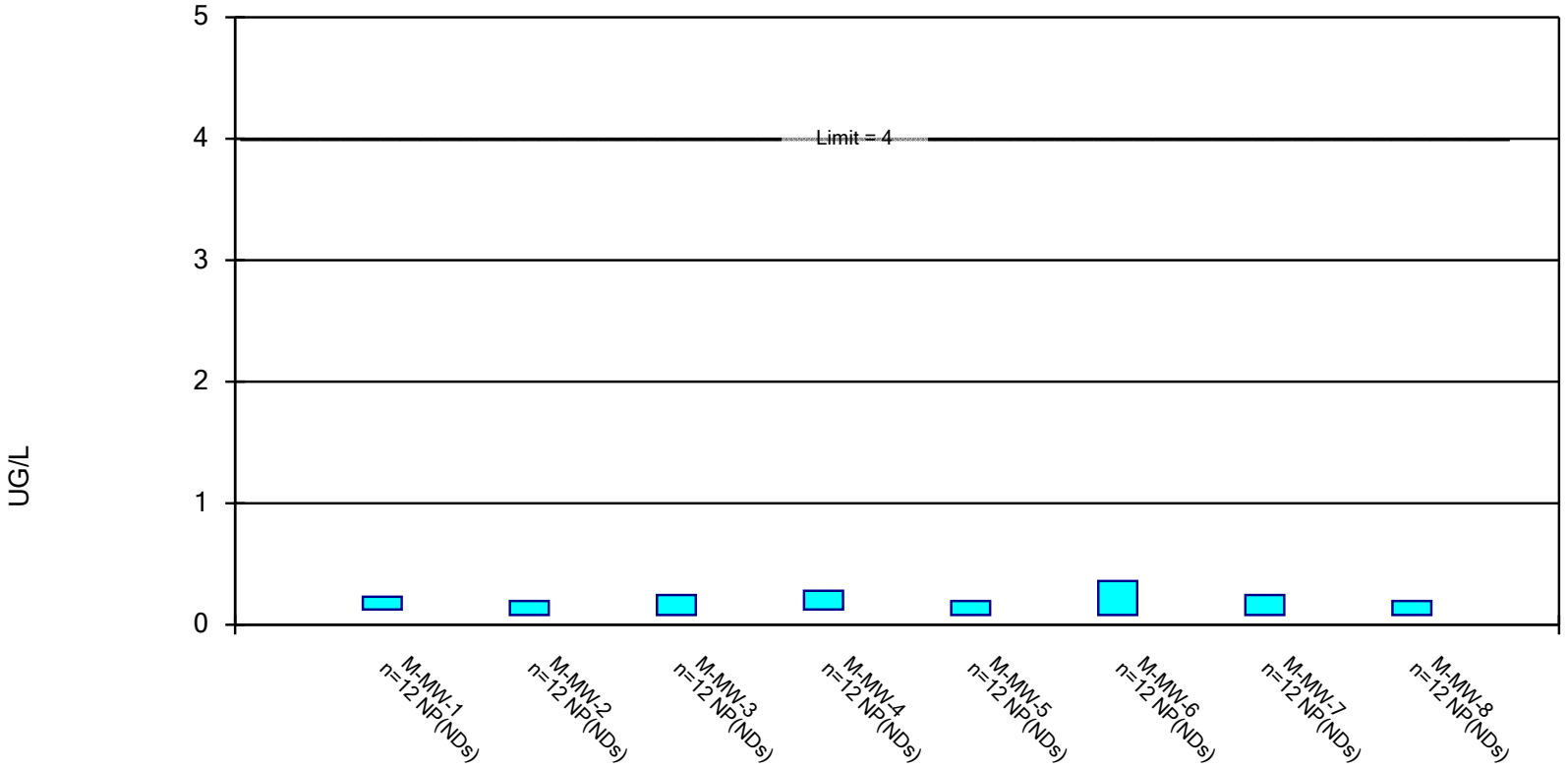


Constituent: BARIUM, TOTAL Analysis Run 3/17/2022 8:05 AM

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

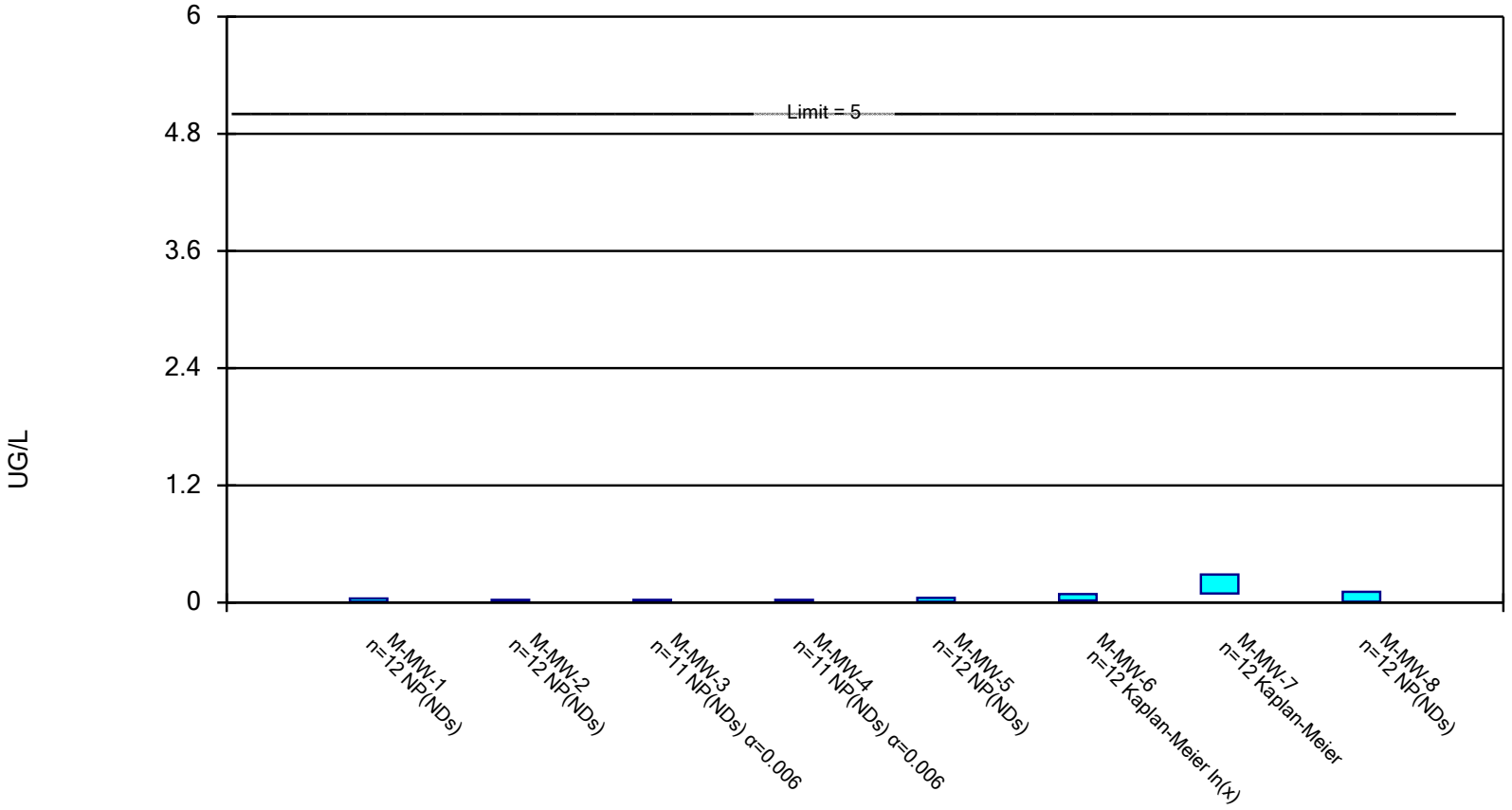


Constituent: BERYLLIUM, TOTAL Analysis Run 3/17/2022 8:05 AM

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 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

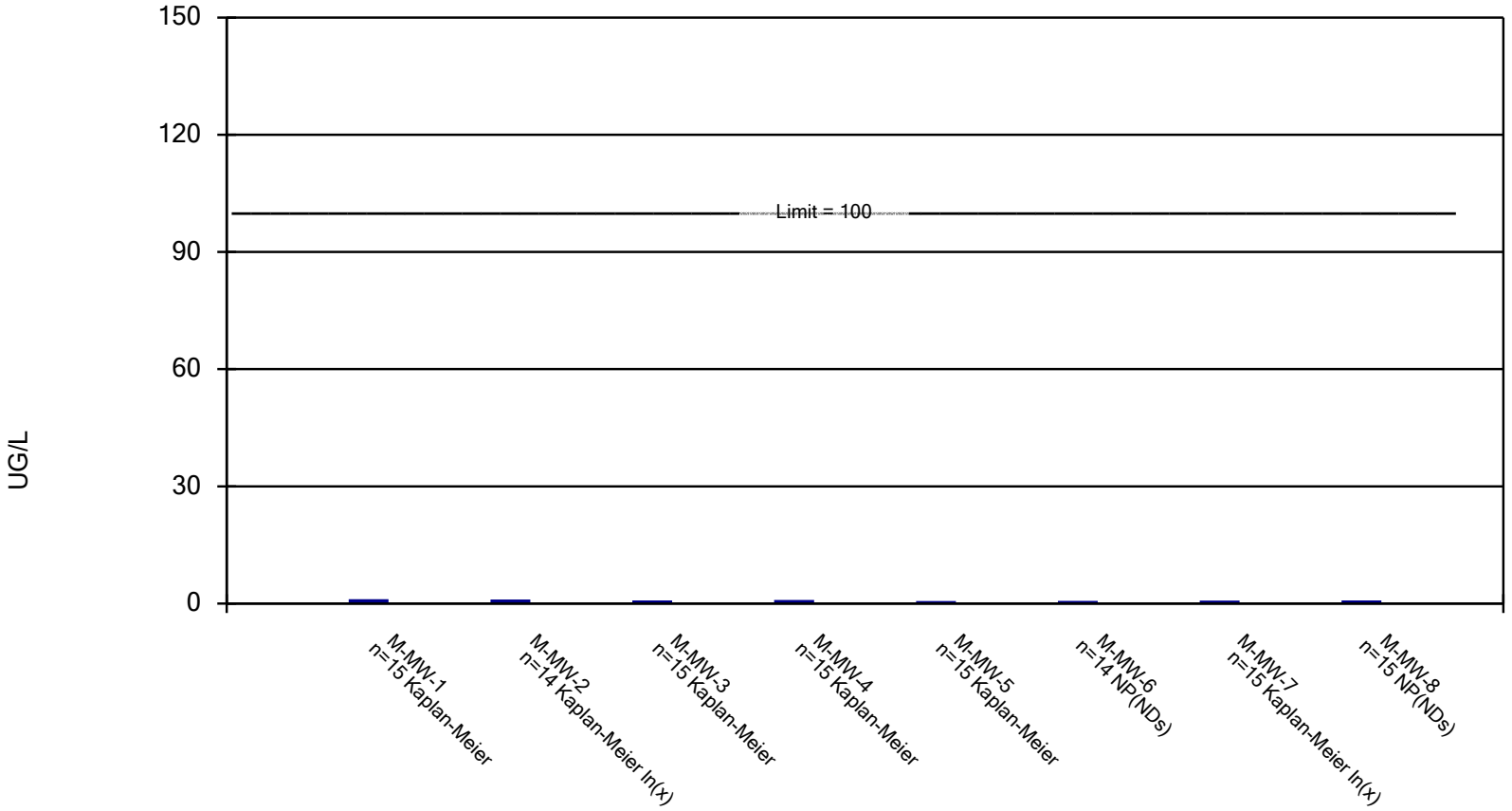


Constituent: CADMIUM, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

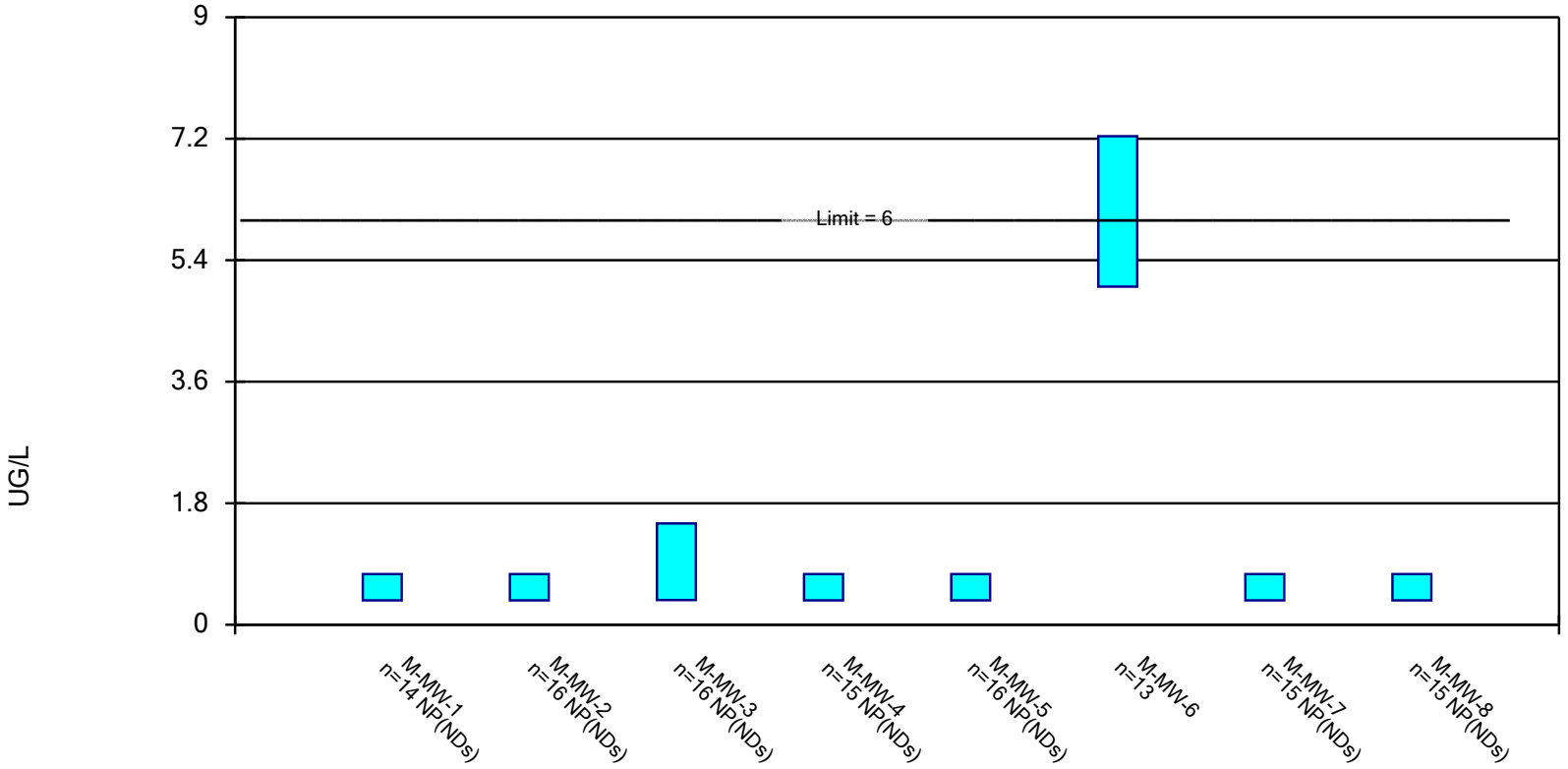


Constituent: CHROMIUM, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

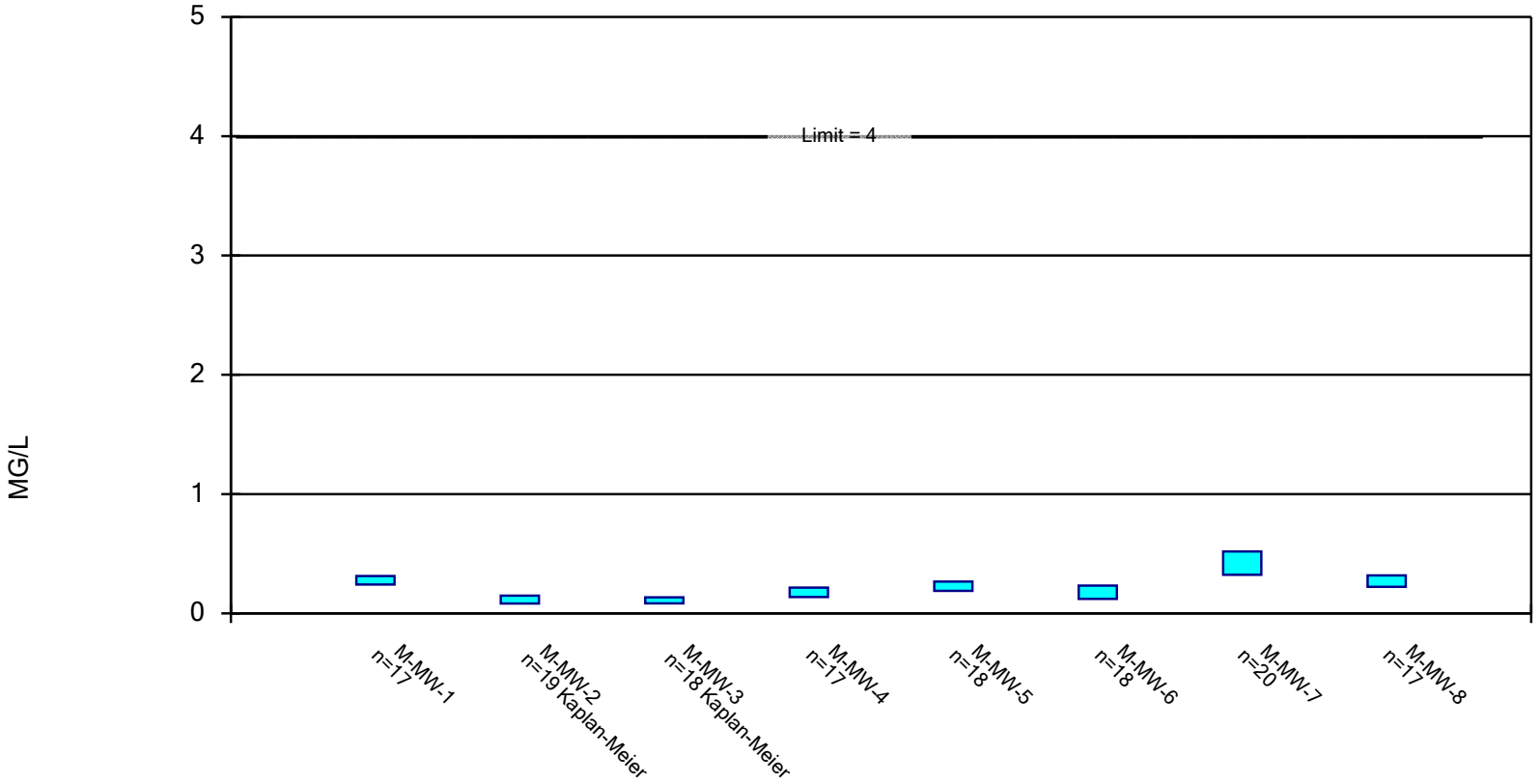


Constituent: COBALT, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

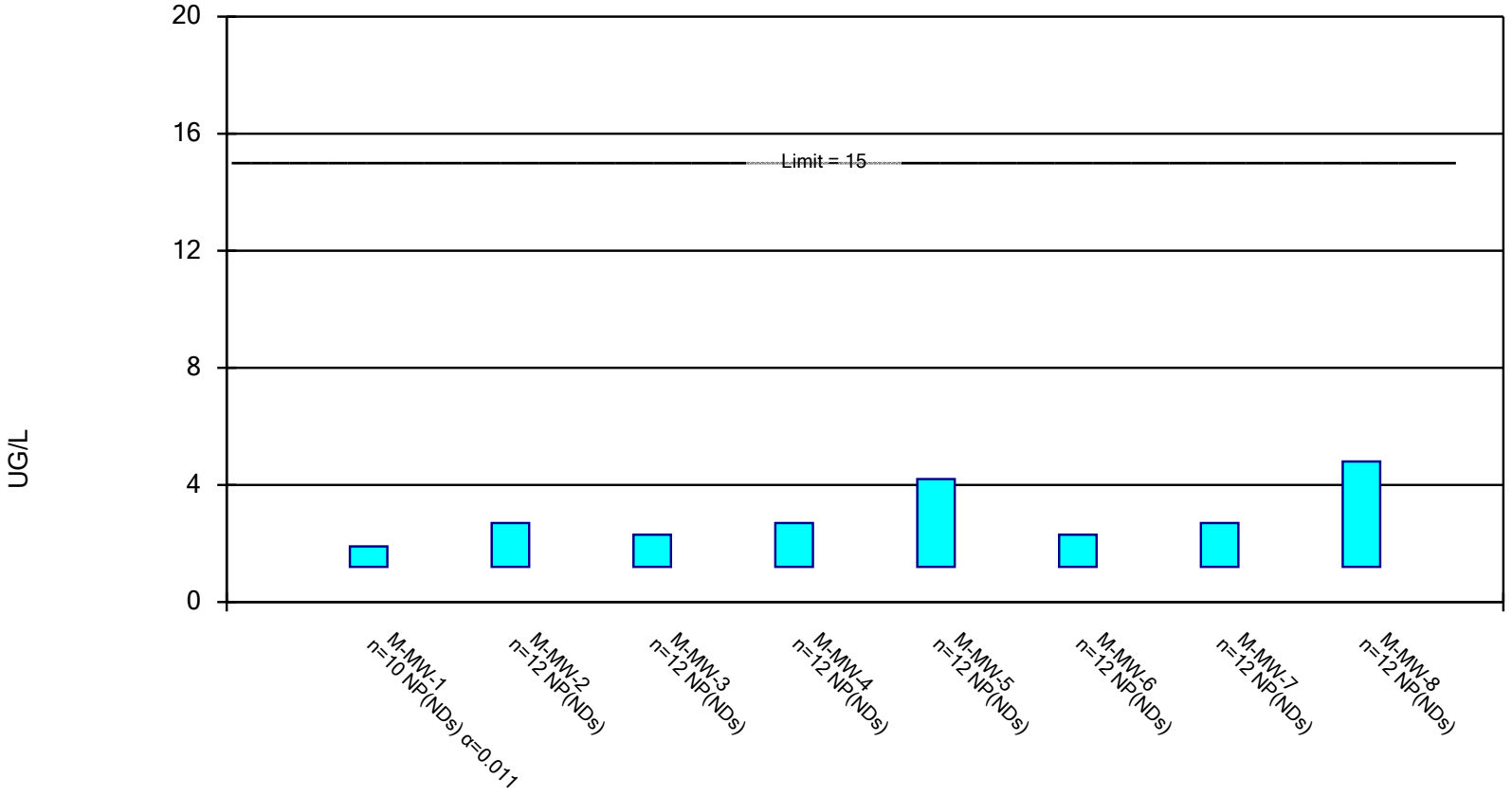


Constituent: FLUORIDE, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

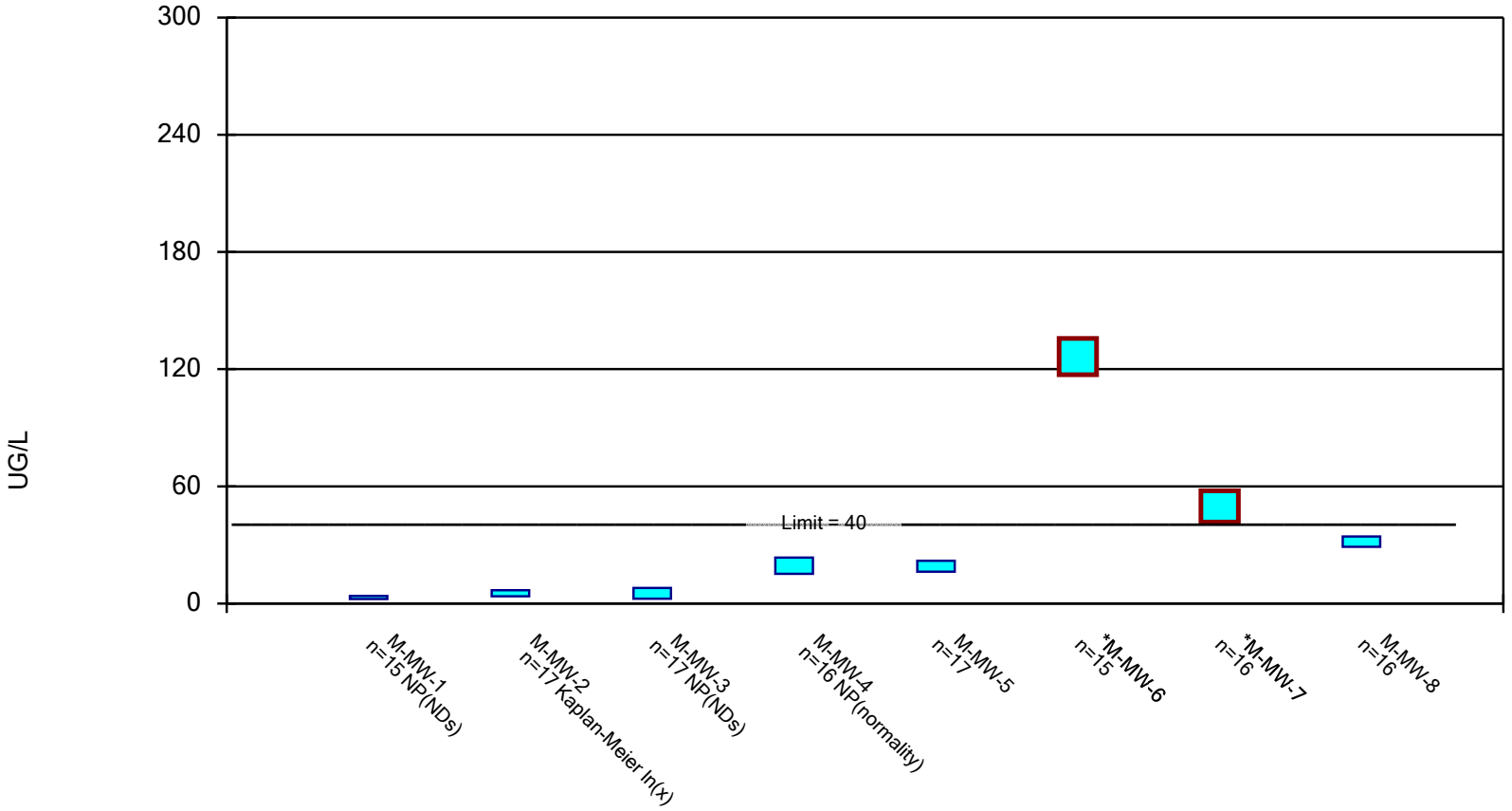


Constituent: LEAD, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

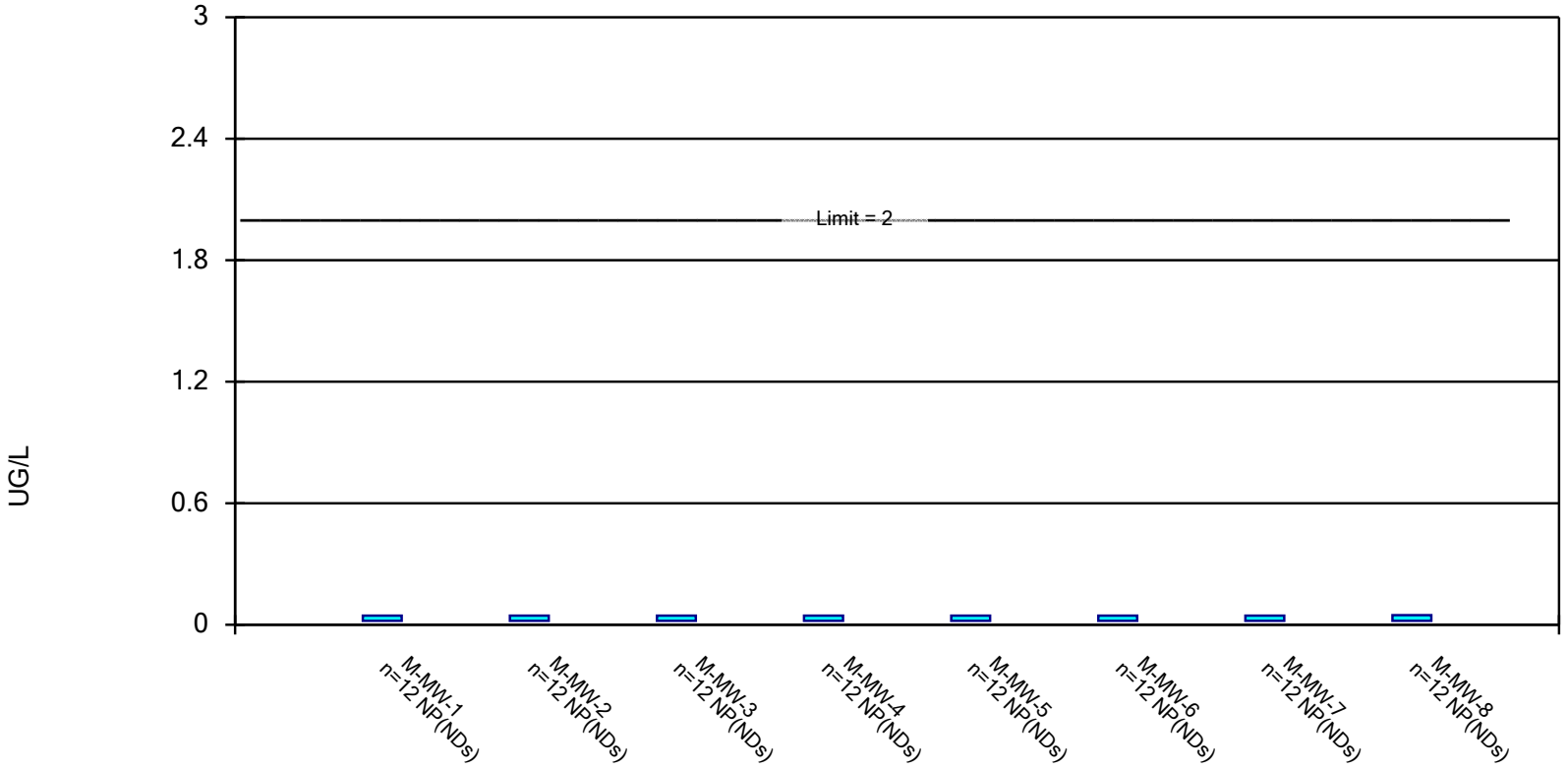


Constituent: LITHIUM, TOTAL Analysis Run 3/17/2022 8:05 AM

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

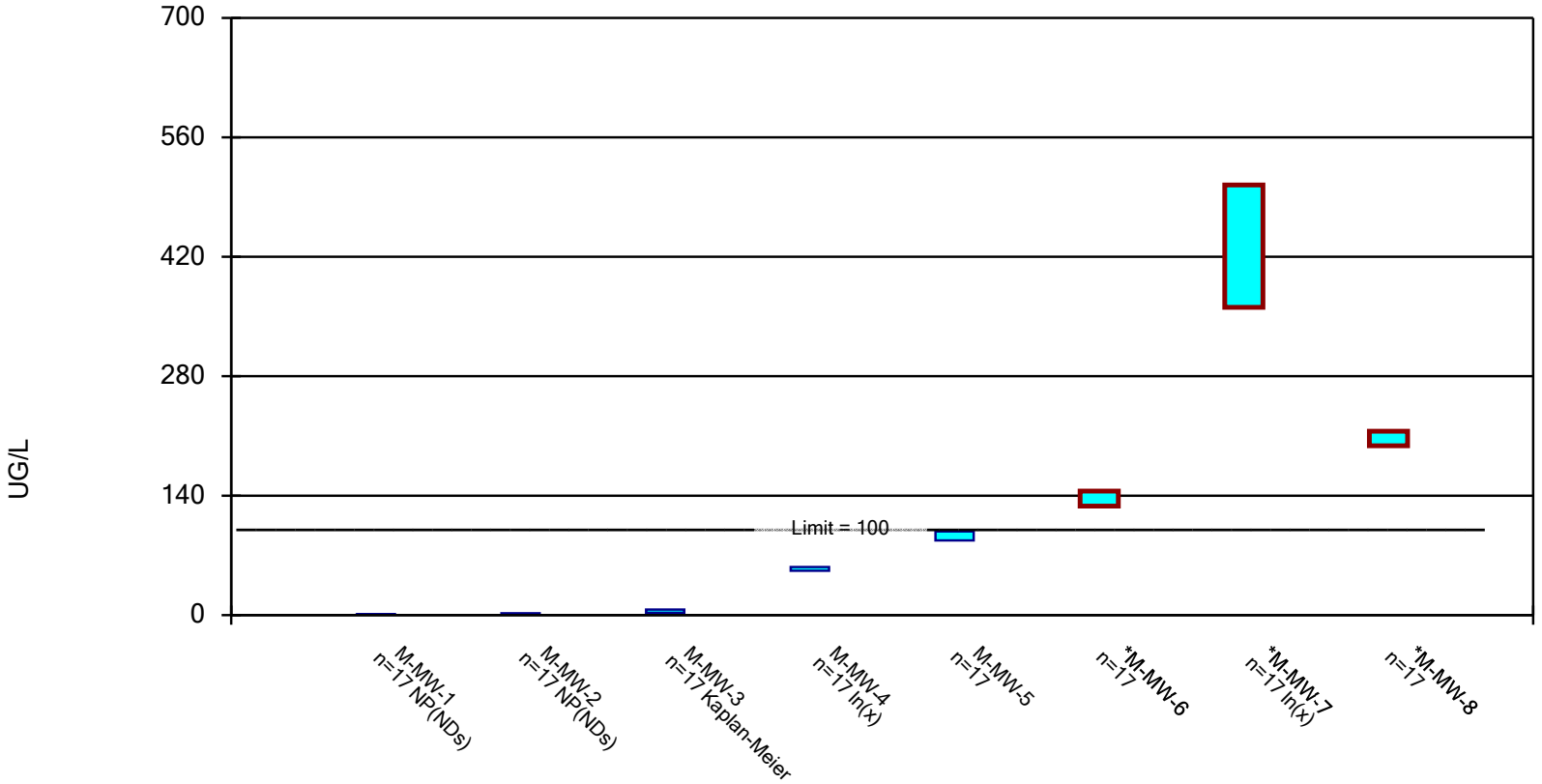


Constituent: MERCURY, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

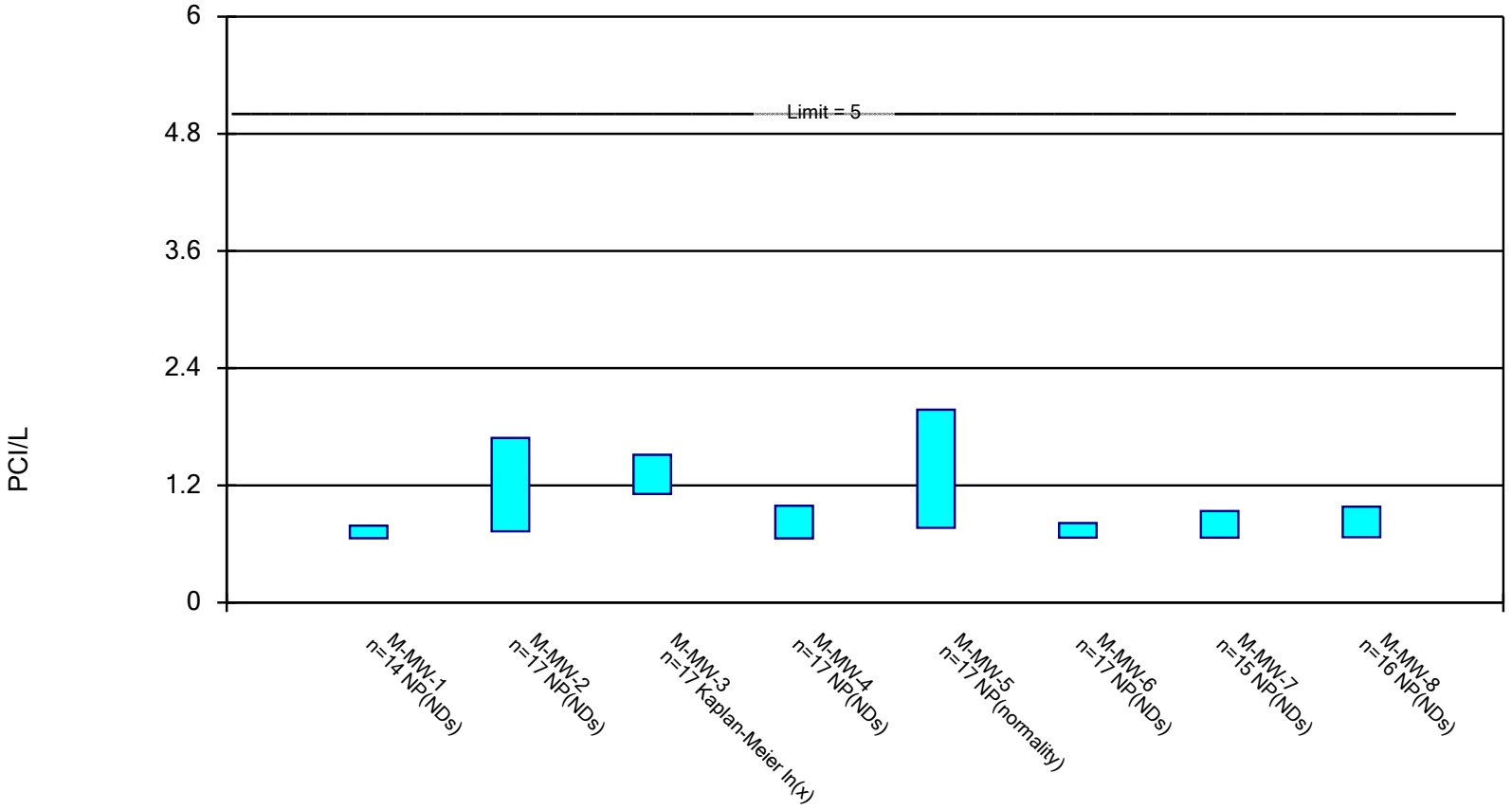


Constituent: MOLYBDENUM, TOTAL Analysis Run 3/17/2022 8:05 AM

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.

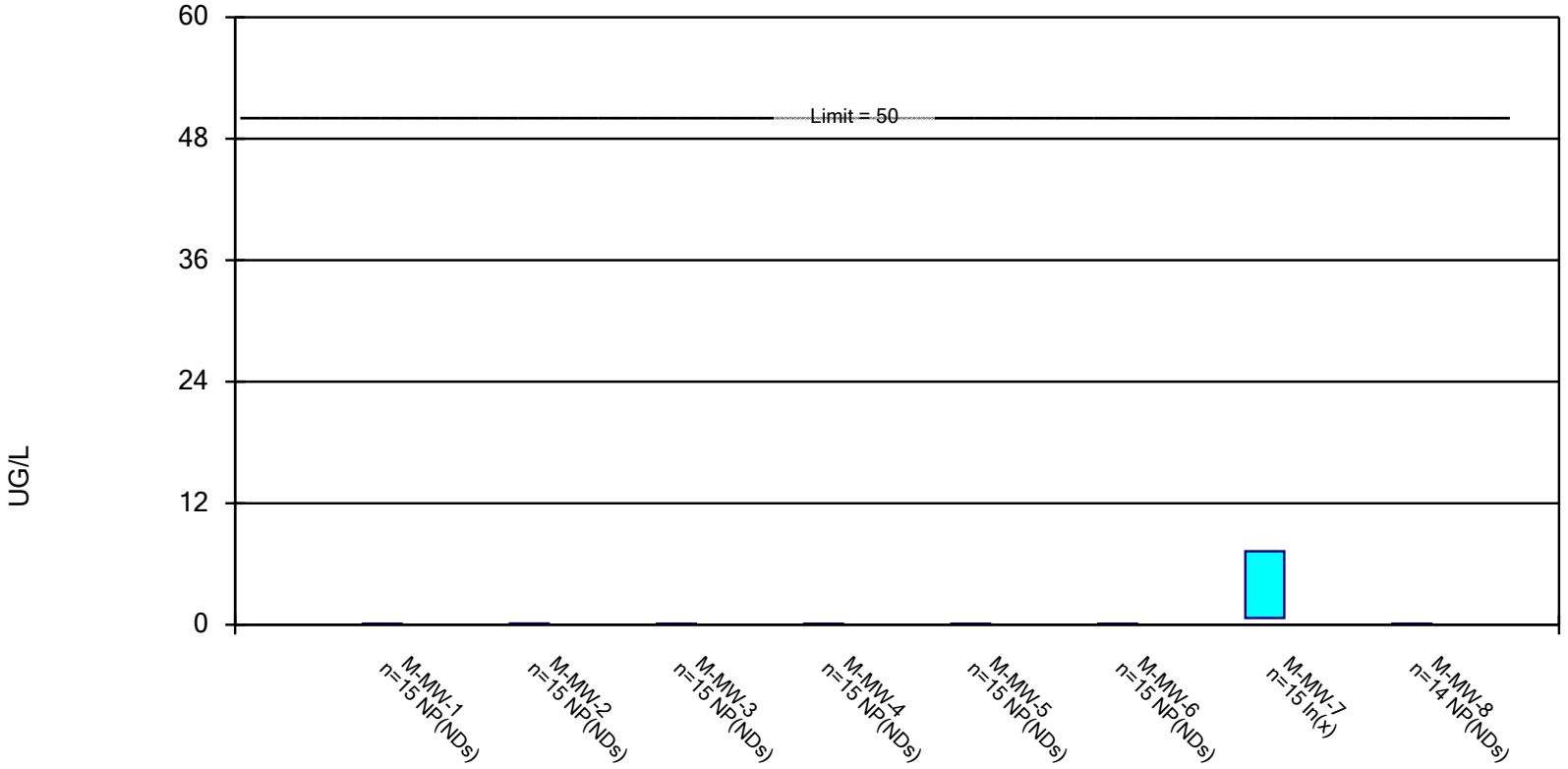


Constituent: Radium [226 + 228] Analysis Run 3/17/2022 8:05 AM

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.

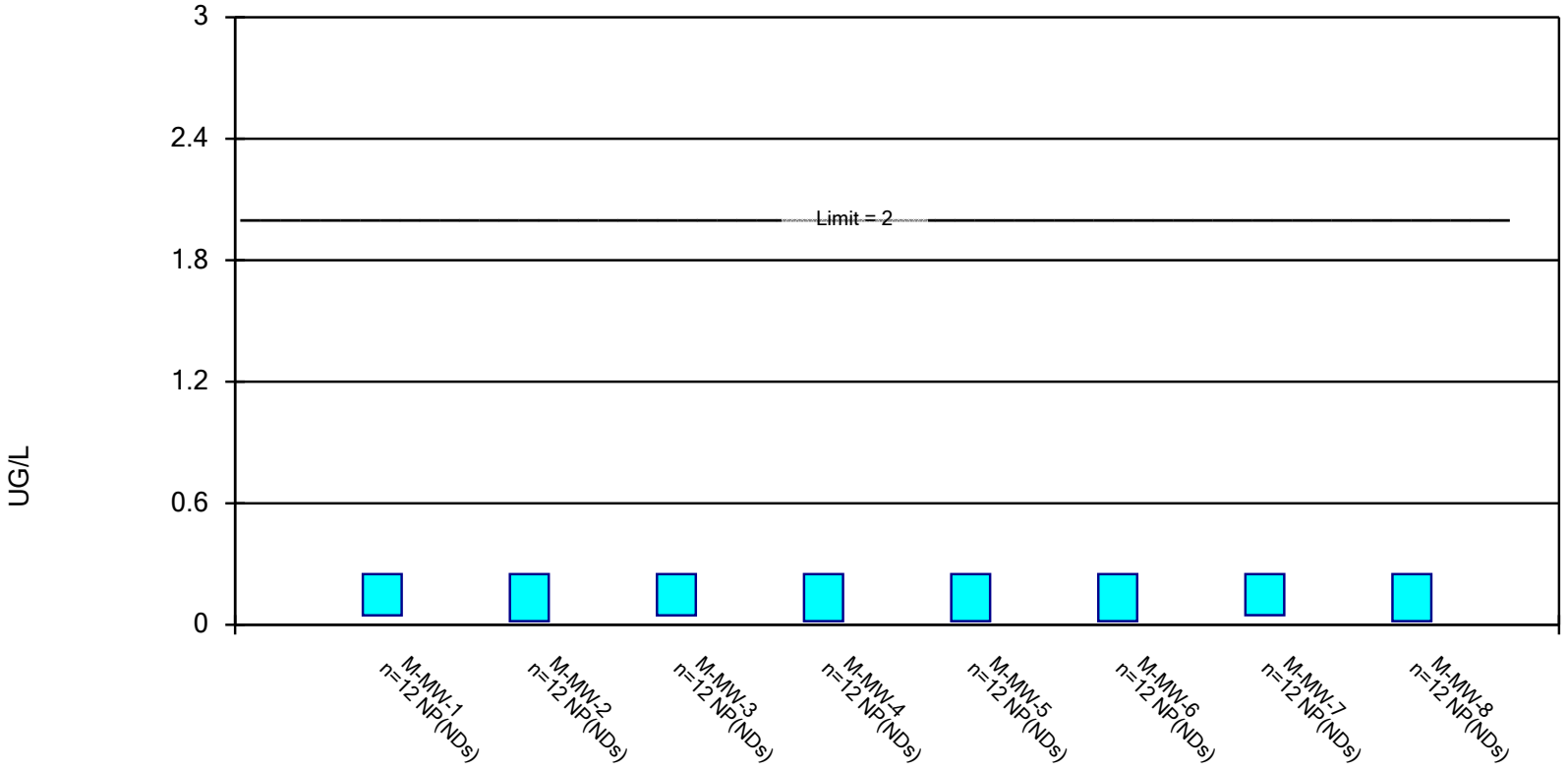


Constituent: SELENIUM, TOTAL Analysis Run 3/17/2022 8:05 AM

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 3/17/2022 8:05 AM

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 3/17/2022, 8:06 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.05	0.028	6	No	12	75	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.05	0.013	6	No	12	91.67	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.0485	0.013	6	No	12	91.67	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.0485	0.013	6	No	12	91.67	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.05	0.013	6	No	12	91.67	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.066	0.029	6	No	12	58.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.4158	0.3762	6	No	10	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.37	0.013	6	No	12	75	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-1	0.6973	0.5467	10	No	15	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	2.001	1.576	10	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	8.039	6.523	10	No	16	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**15.33**	**13.84**	**10**	**Yes**	**16**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**22.42**	**20.02**	**10**	**Yes**	**15**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	M-MW-6	4.511	2.66	10	No	16	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.174	2.412	10	No	17	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-8	6.346	5.76	10	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	372.1	359.5	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	490	306	2000	No	17	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	M-MW-3	246.4	207.5	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	222	199	2000	No	16	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	M-MW-5	288.4	236.8	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	68.61	52.74	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	48.78	40.15	2000	No	17	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-8	215.9	160	2000	No	17	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0.23	0.125	4	No	12	83.33	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0.245	0.08	4	No	12	91.67	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0.28	0.125	4	No	12	75	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0.36	0.08	4	No	12	83.33	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0.245	0.08	4	No	12	91.67	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-1	0.042	0.009	5	No	12	83.33	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-2	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-3	0.028	0.009	5	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-4	0.028	0.009	5	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-5	0.048	0.009	5	No	12	83.33	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-6	0.08671	0.02112	5	No	12	50	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-7	0.2865	0.09302	5	No	12	16.67	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-8	0.11	0.009	5	No	12	58.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-1	0.8201	0.2465	100	No	15	33.33	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.7183	0.2797	100	No	14	21.43	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-3	0.4929	0.1245	100	No	15	46.67	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.5942	0.1778	100	No	15	40	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.3408	0.106	100	No	15	46.67	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.37	0.039	100	No	14	57.14	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-7	0.4738	0.1042	100	No	15	46.67	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.5	0.039	100	No	15	66.67	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-1	0.75	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-2	0.75	0.36	6	No	16	93.75	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 3/17/2022, 8:06 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	16	62.5	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-4	0.75	0.36	6	No	15	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-5	0.75	0.36	6	No	16	93.75	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-6	7.238	5.008	6	No	13	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-7	0.75	0.36	6	No	15	93.33	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-8	0.75	0.36	6	No	15	93.33	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.3131	0.2422	4	No	17	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1483	0.08291	4	No	19	21.05	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.1339	0.08334	4	No	18	22.22	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.2158	0.1366	4	No	17	5.882	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.2664	0.1892	4	No	18	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.233	0.122	4	No	18	11.11	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.5193	0.323	4	No	20	5	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.3177	0.2223	4	No	17	0	No	0.01	Param.
LEAD, TOTAL (UG/L)	M-MW-1	1.9	1.2	15	No	10	100	No	0.011	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-2	2.7	1.2	15	No	12	66.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-3	2.3	1.2	15	No	12	91.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-4	2.7	1.2	15	No	12	83.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-5	4.2	1.2	15	No	12	66.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-6	2.3	1.2	15	No	12	91.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-7	2.7	1.2	15	No	12	83.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-8	4.8	1.2	15	No	12	75	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-1	3.85	2.3	40	No	15	93.33	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	6.786	3.71	40	No	17	41.18	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-3	8	2.45	40	No	17	52.94	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-4	23.5	15.2	40	No	16	6.25	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-5	21.88	16.28	40	No	17	11.76	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**M-MW-6**	**135.8**	**117.1**	**40**	**Yes**	**15**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	**M-MW-7**	**57.69**	**41.7**	**40**	**Yes**	**16**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	M-MW-8	34.32	29.06	40	No	16	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-1	0.045	0.0195	2	No	12	91.67	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-2	0.045	0.0195	2	No	12	91.67	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-3	0.045	0.0195	2	No	12	91.67	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-4	0.045	0.0195	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-5	0.045	0.0195	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-6	0.045	0.0195	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-7	0.045	0.0195	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-8	0.047	0.0195	2	No	12	91.67	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	1.1	0.26	100	No	17	94.12	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	2.1	0.26	100	No	17	82.35	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	6.444	2.757	100	No	17	17.65	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	56.29	52	100	No	17	0	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	97.96	87.52	100	No	17	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**M-MW-6**	**145.4**	**127.7**	**100**	**Yes**	**17**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-7**	**504.1**	**360.8**	**100**	**Yes**	**17**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-8**	**215.6**	**198.6**	**100**	**Yes**	**17**	**0**	**No**	**0.01**	**Param.**
Radium [226 + 228] (PCI/L)	M-MW-1	0.788	0.6585	5	No	14	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	1.686	0.7295	5	No	17	76.47	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.514	1.112	5	No	17	47.06	ln(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-4	0.991	0.657	5	No	17	82.35	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 3/17/2022, 8:06 AM

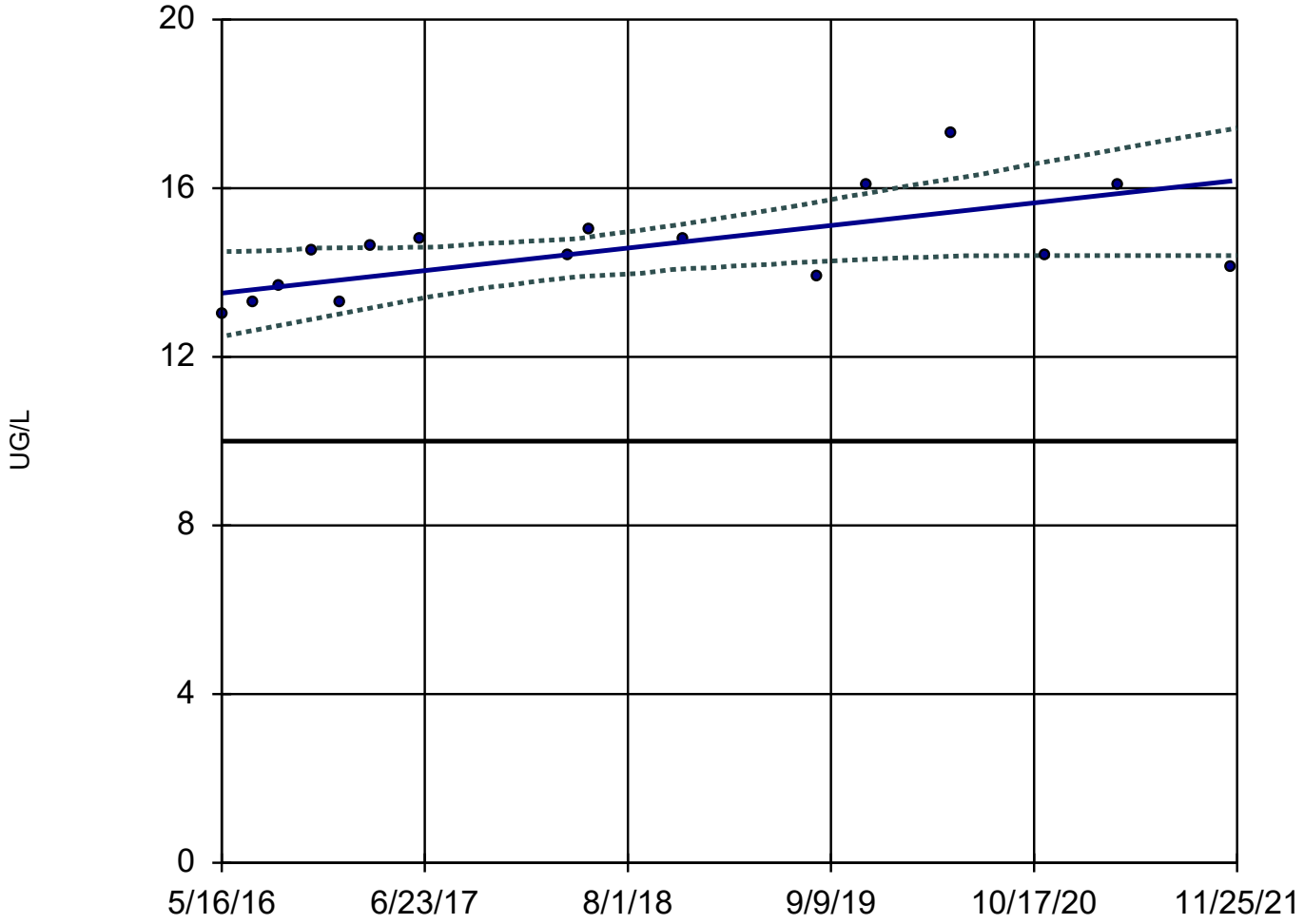
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	1.975	0.7655	5	No	17	47.06	No	0.01	NP (normality)
Radium [226 + 228] (PCI/L)	M-MW-6	0.814	0.664	5	No	17	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.937	0.6655	5	No	15	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	0.981	0.67	5	No	16	87.5	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	15	86.67	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	15	86.67	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.043	50	No	15	86.67	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	15	86.67	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	15	93.33	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.043	50	No	15	93.33	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	7.251	0.6624	50	No	15	13.33	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.043	50	No	14	85.71	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-1	0.25	0.0465	2	No	12	83.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-2	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-3	0.25	0.0465	2	No	12	83.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-4	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-5	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-6	0.25	0.018	2	No	12	91.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-7	0.25	0.047	2	No	12	75	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-8	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)

APPENDIX B

Sanitas Trending Confidence Bands Statistical Output

Sen's Slope and 95% Confidence Band

M-MW-4



n = 16

Slope = 0.4833 units per year.

Mann-Kendall statistic = 56
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

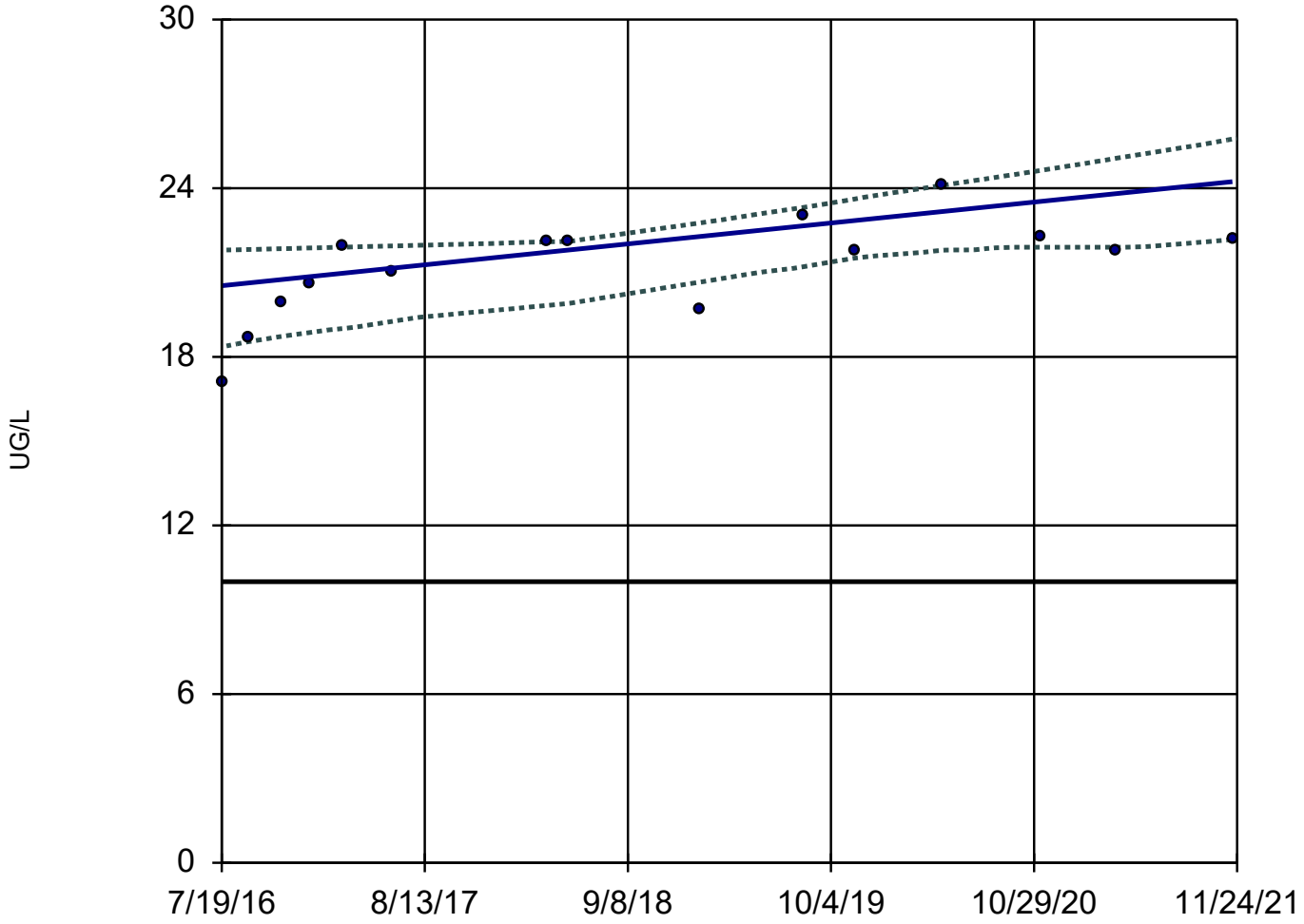
GWPS = 10.

Constituent: ARSENIC, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 15

Slope = 0.6946 units per year.

Mann-Kendall statistic = 59
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

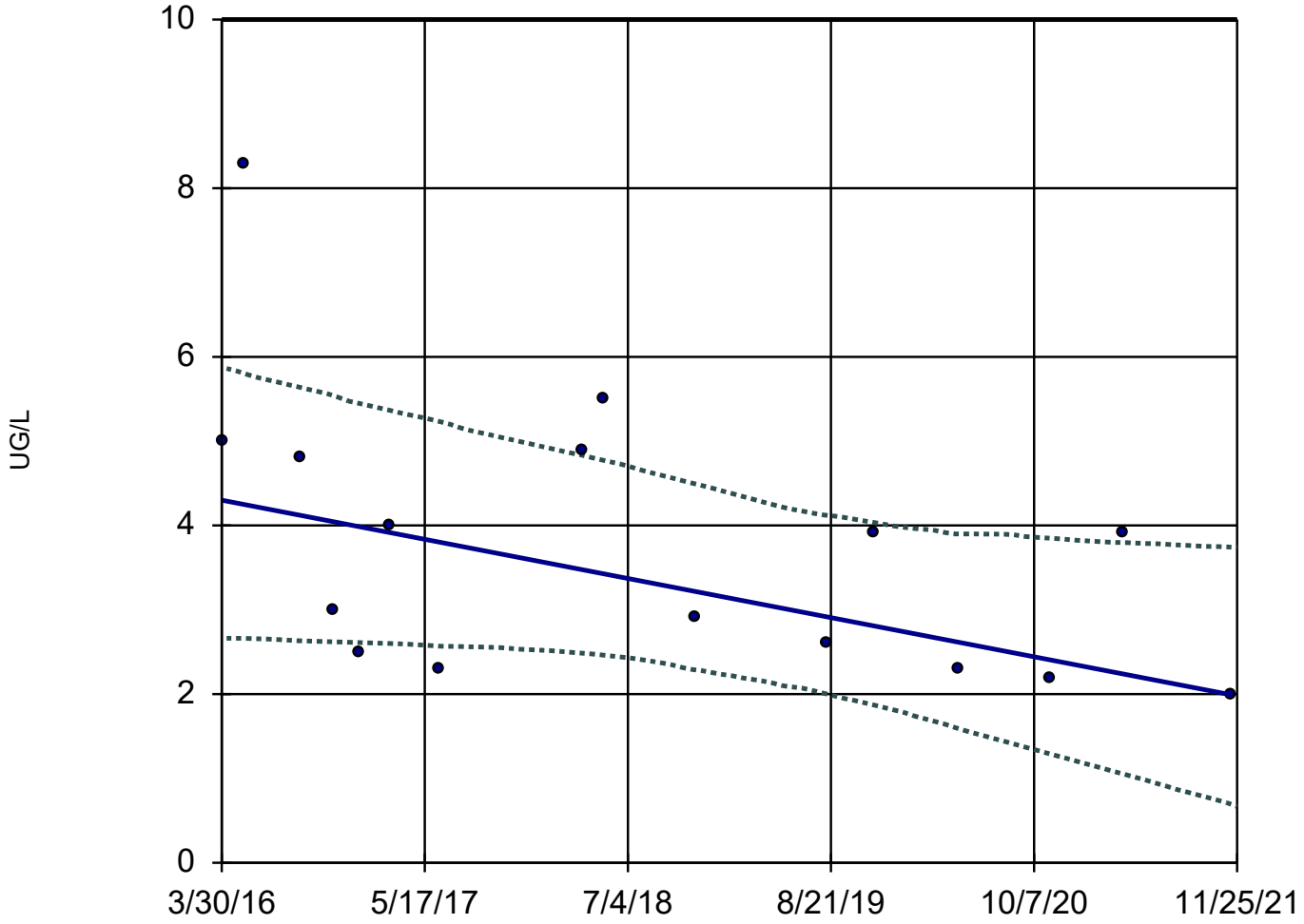
GWPS = 10.

Constituent: ARSENIC, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-6



n = 16

Slope = -0.4101 units per year.

Mann-Kendall statistic = -56
critical = -53

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

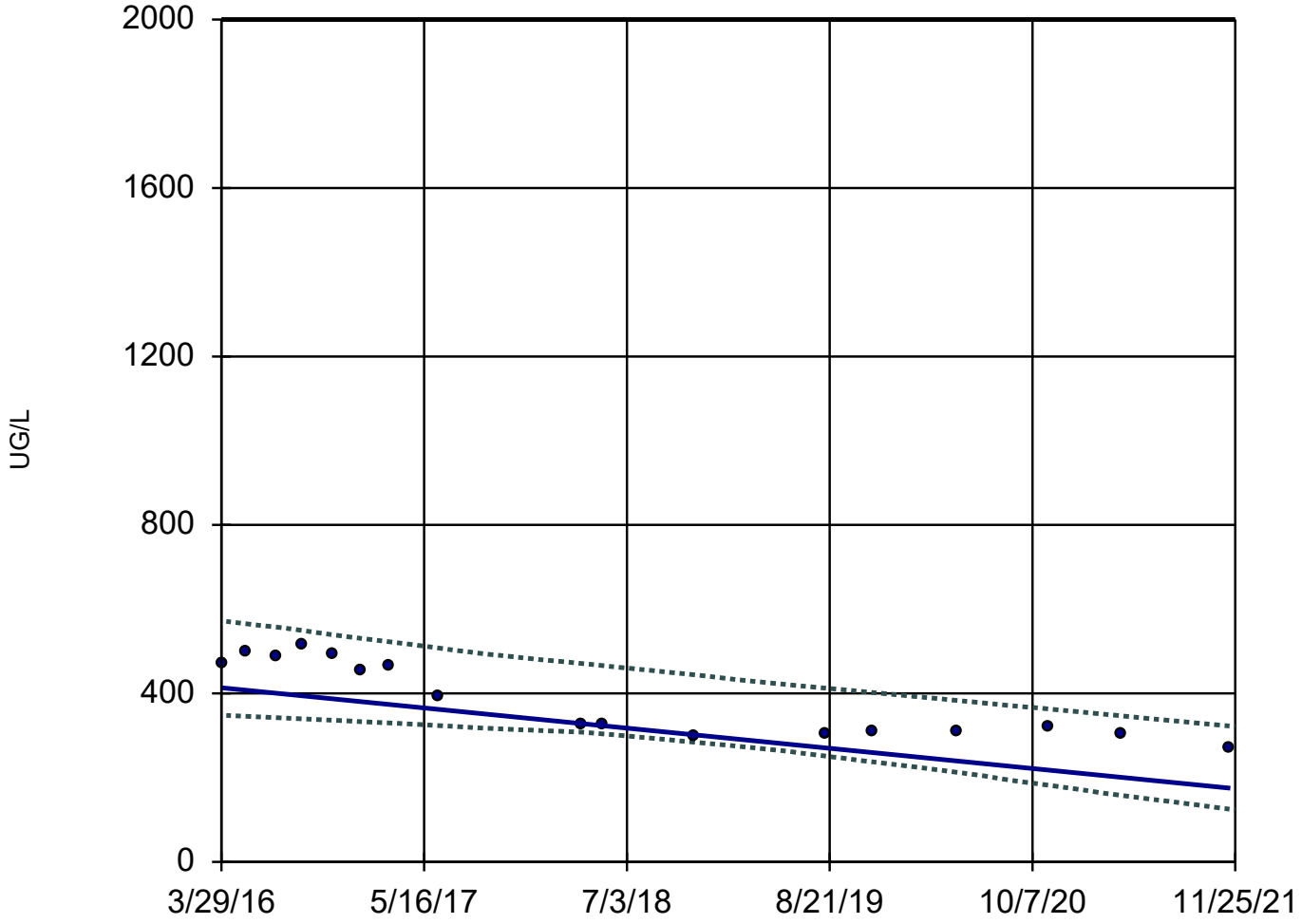
GWPS = 10.

Constituent: ARSENIC, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-2



n = 17

Slope = -42.31 units per year.

Mann-Kendall statistic = -96
critical = -58

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

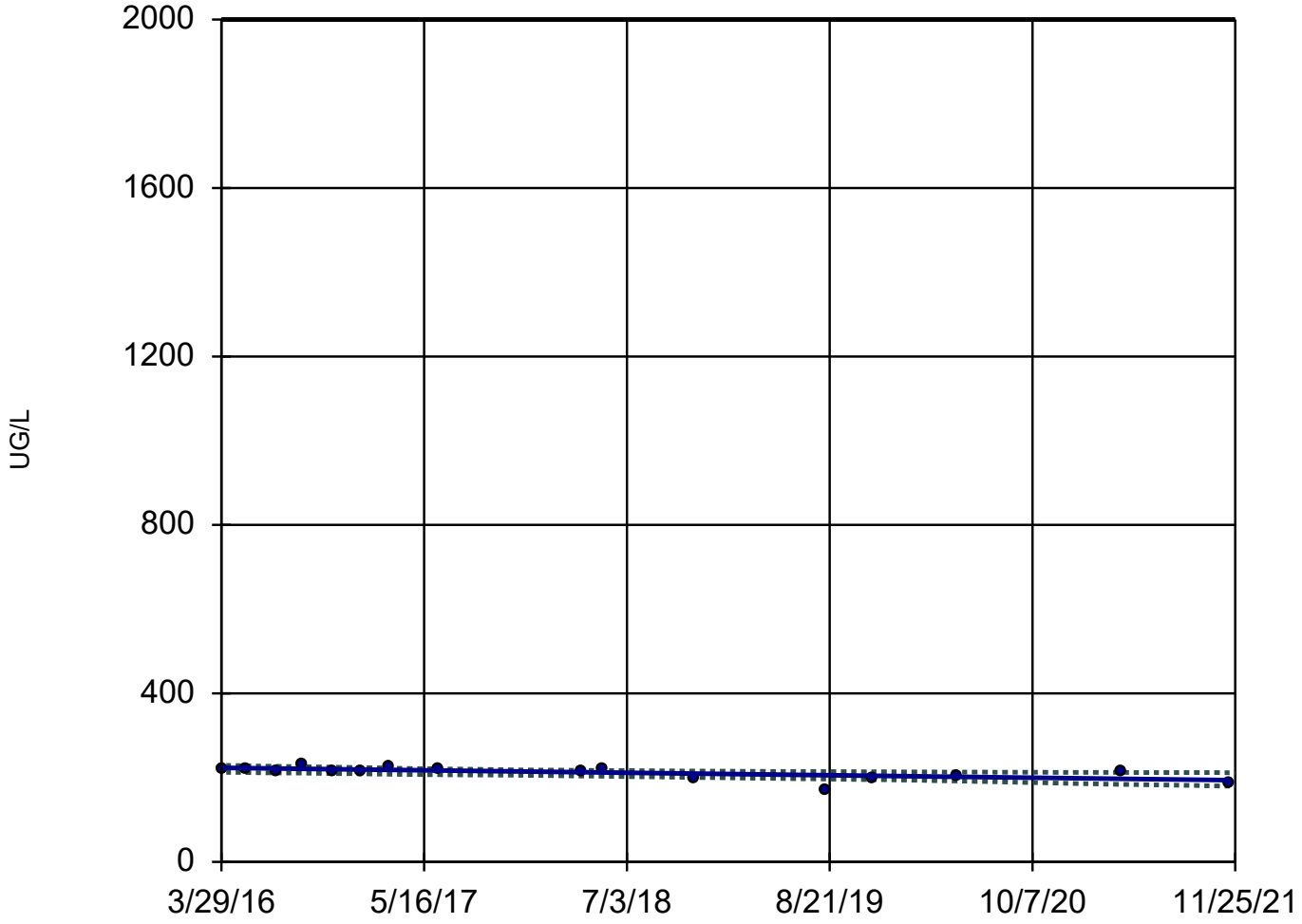
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 16

Slope = -5.166 units per year.

Mann-Kendall statistic = -59
critical = -53

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

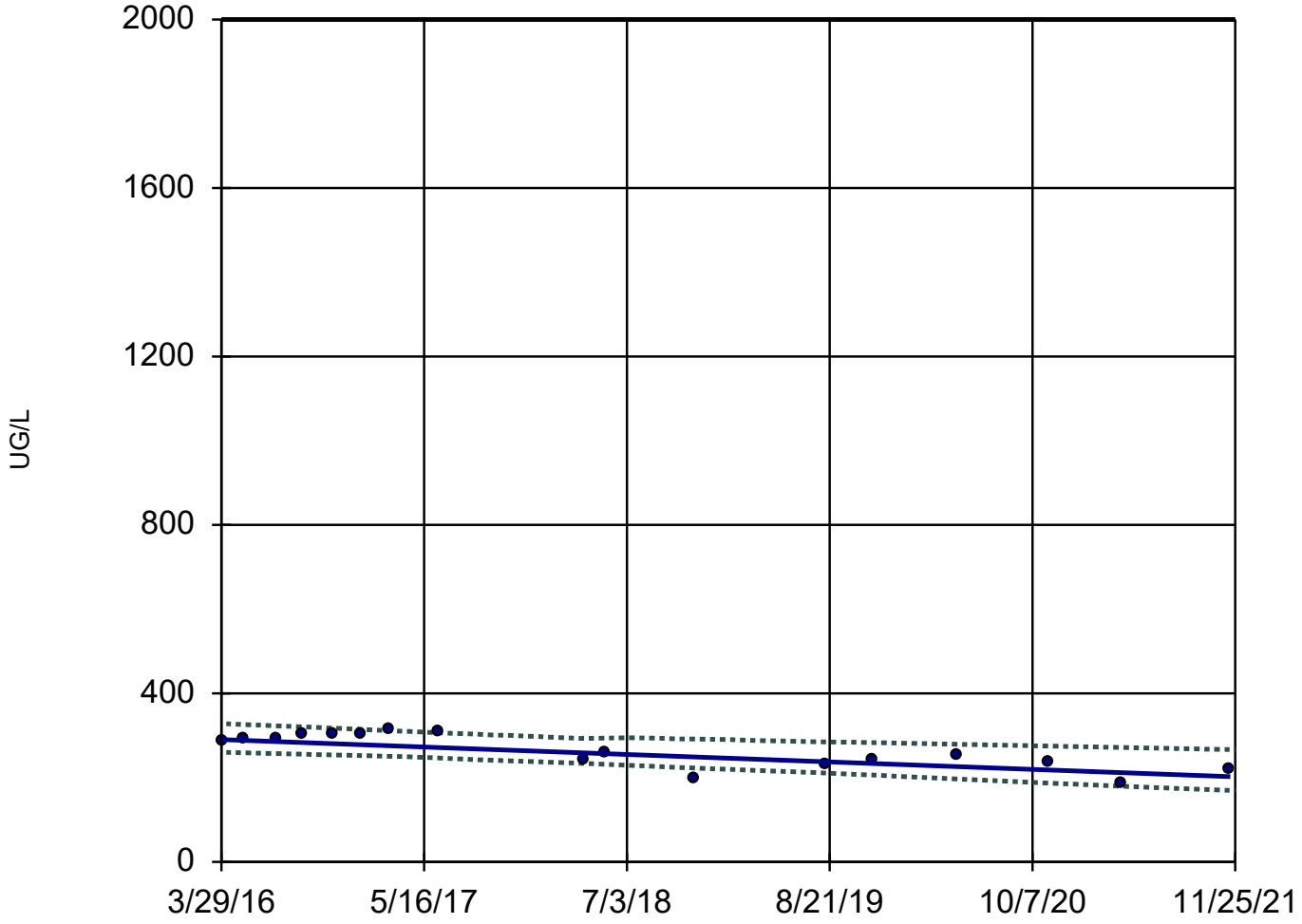
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 17

Slope = -15.61 units per year.

Mann-Kendall statistic = -60
critical = -58

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

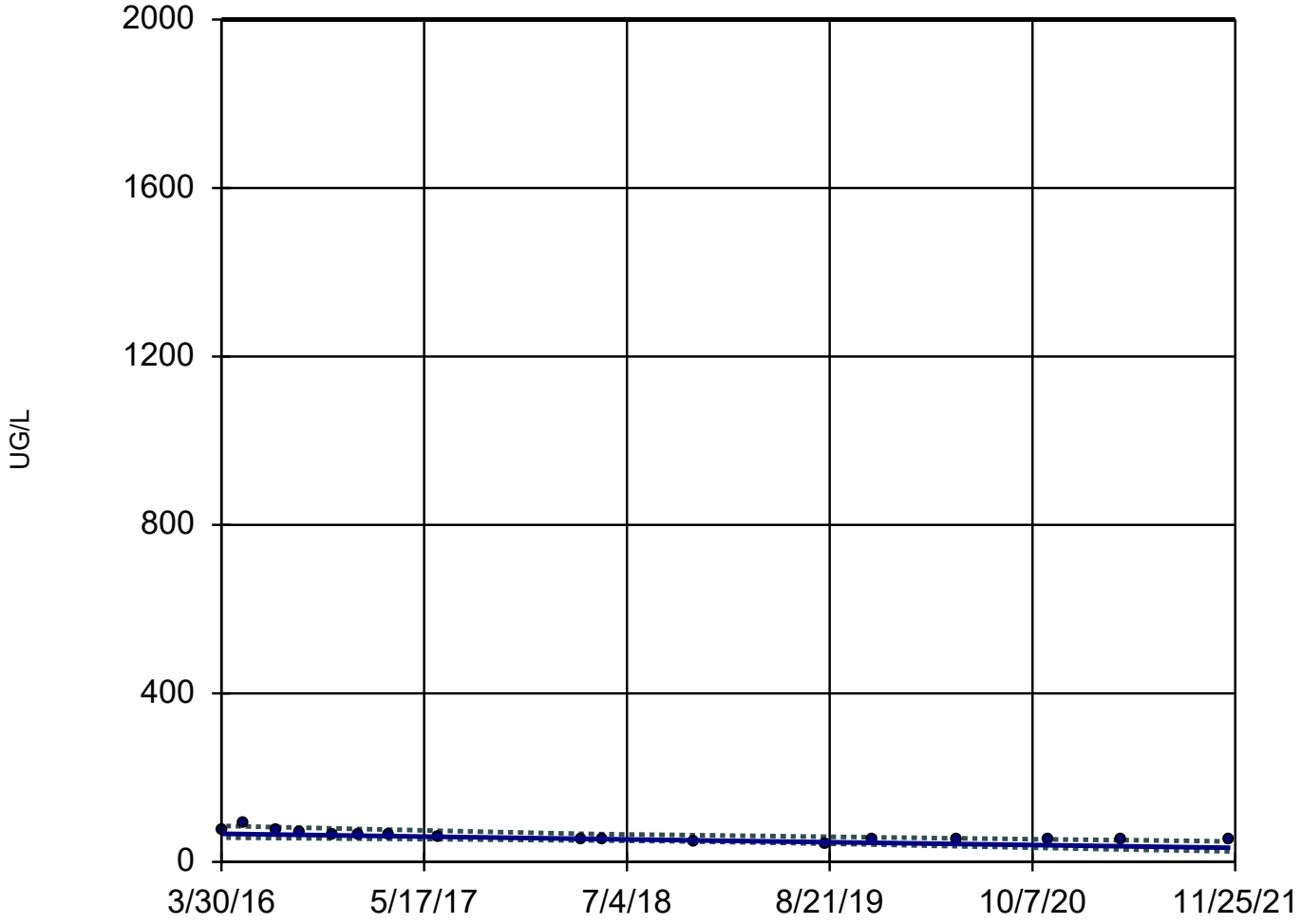
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-6



n = 17

Slope = -5.903 units per year.

Mann-Kendall statistic = -103
critical = -58

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

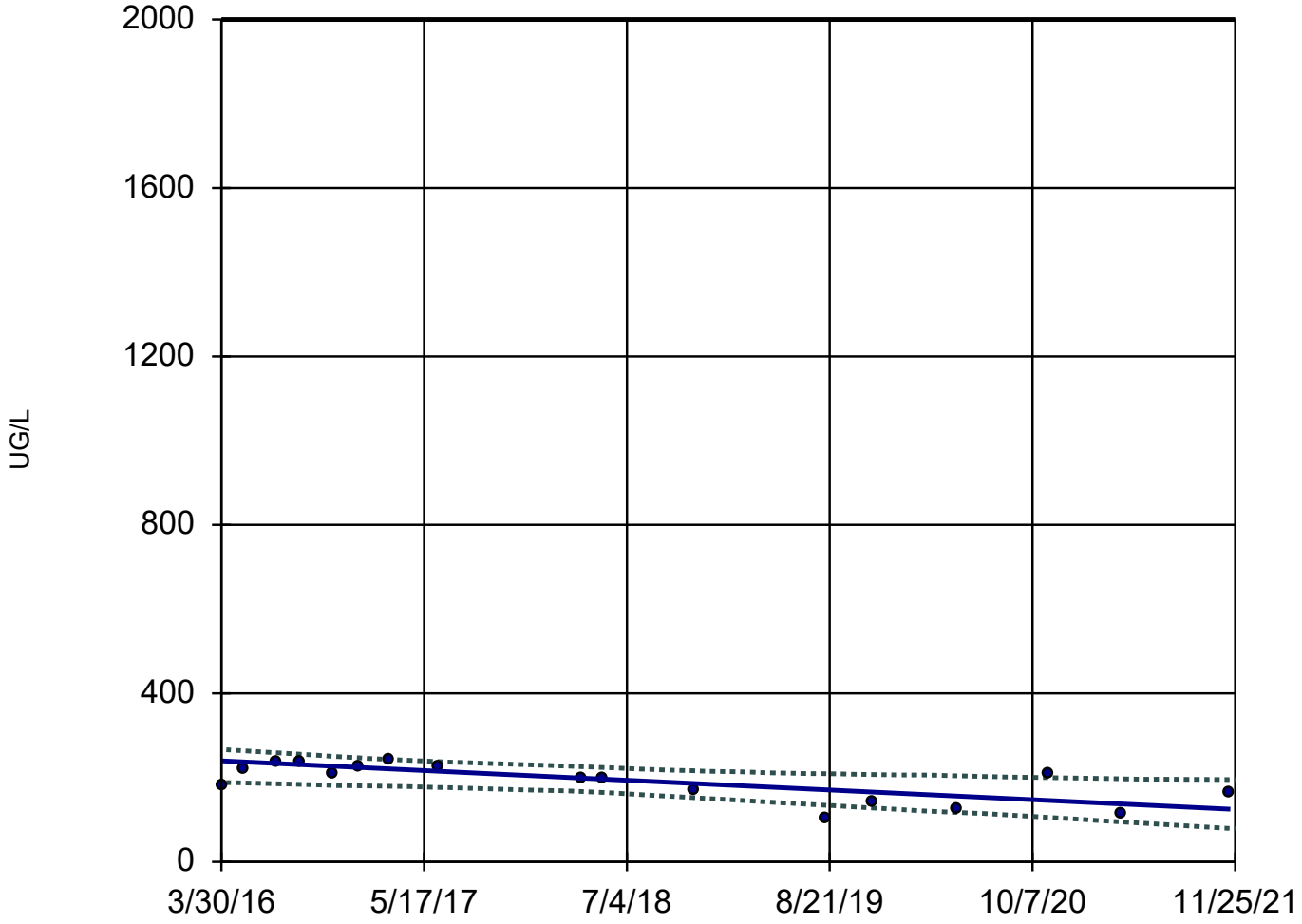
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-8



n = 17

Slope = -20.38 units per year.

Mann-Kendall statistic = -66
critical = -58

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/17/2022 8:07 AM

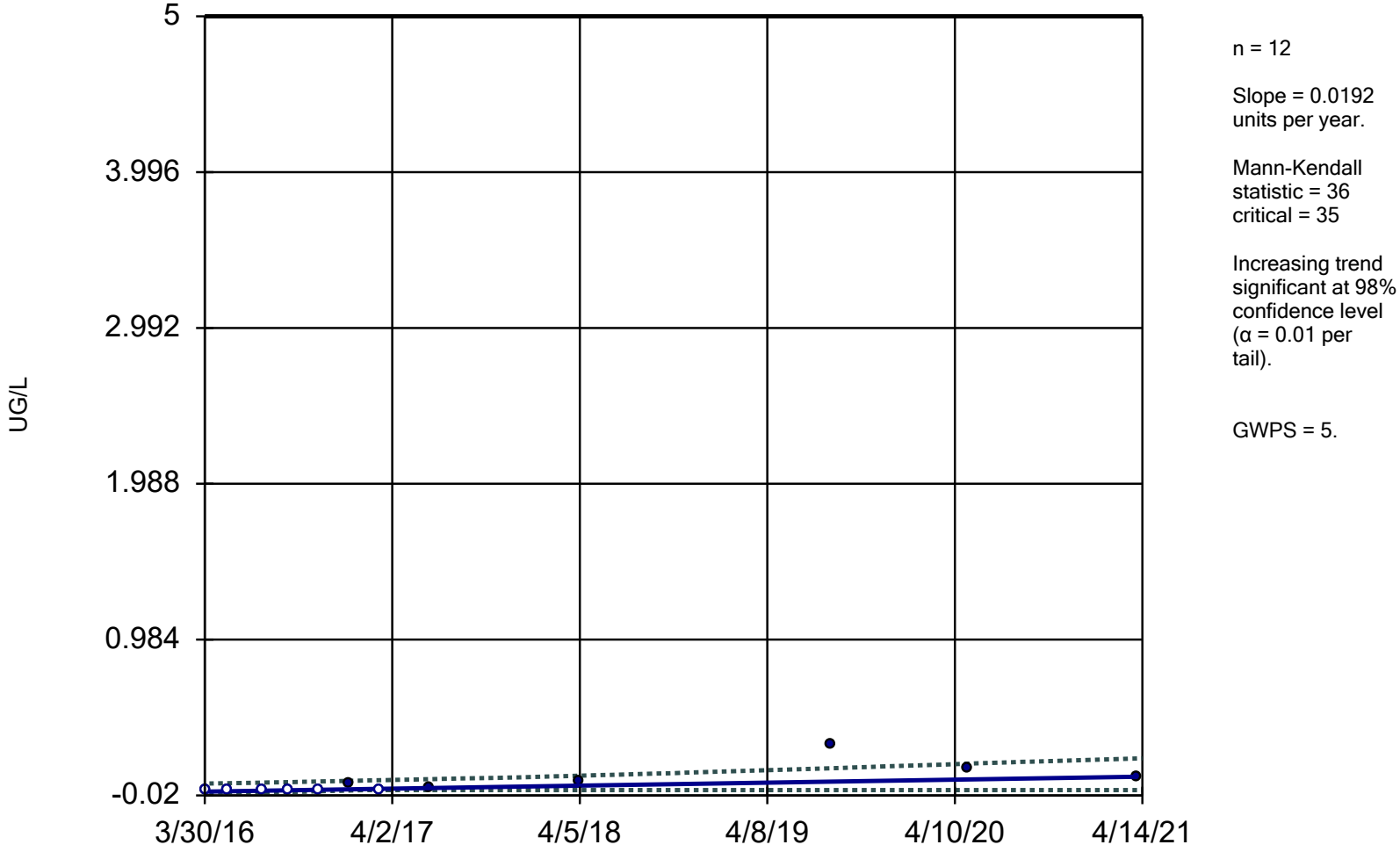
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.31 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 12

Slope = 0.0192 units per year.

Mann-Kendall statistic = 36
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 5.

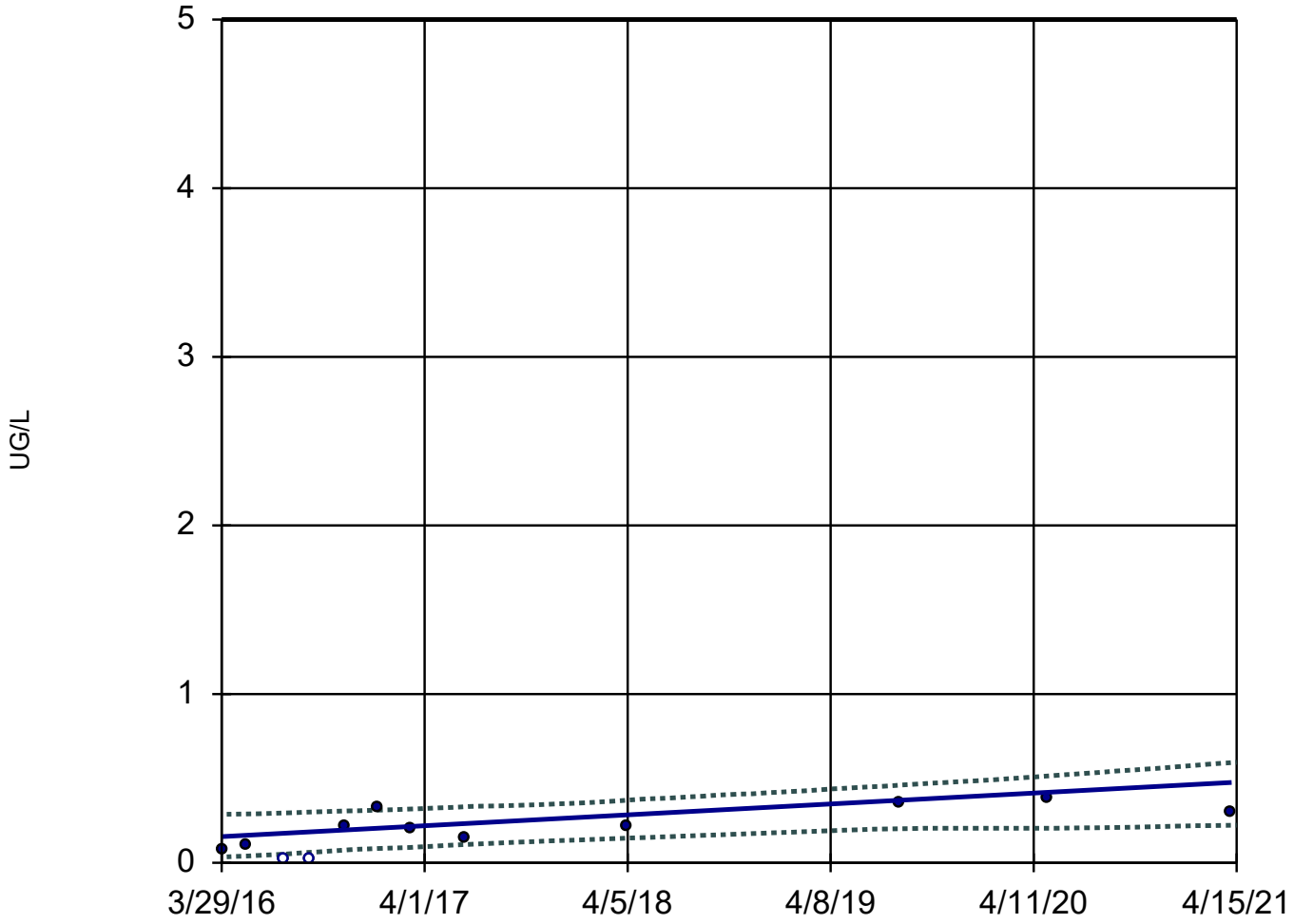
Constituent: CADMIUM, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 12

Slope = 0.06401 units per year.

Mann-Kendall statistic = 38
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 5.

Constituent: CADMIUM, TOTAL Analysis Run 3/17/2022 8:07 AM

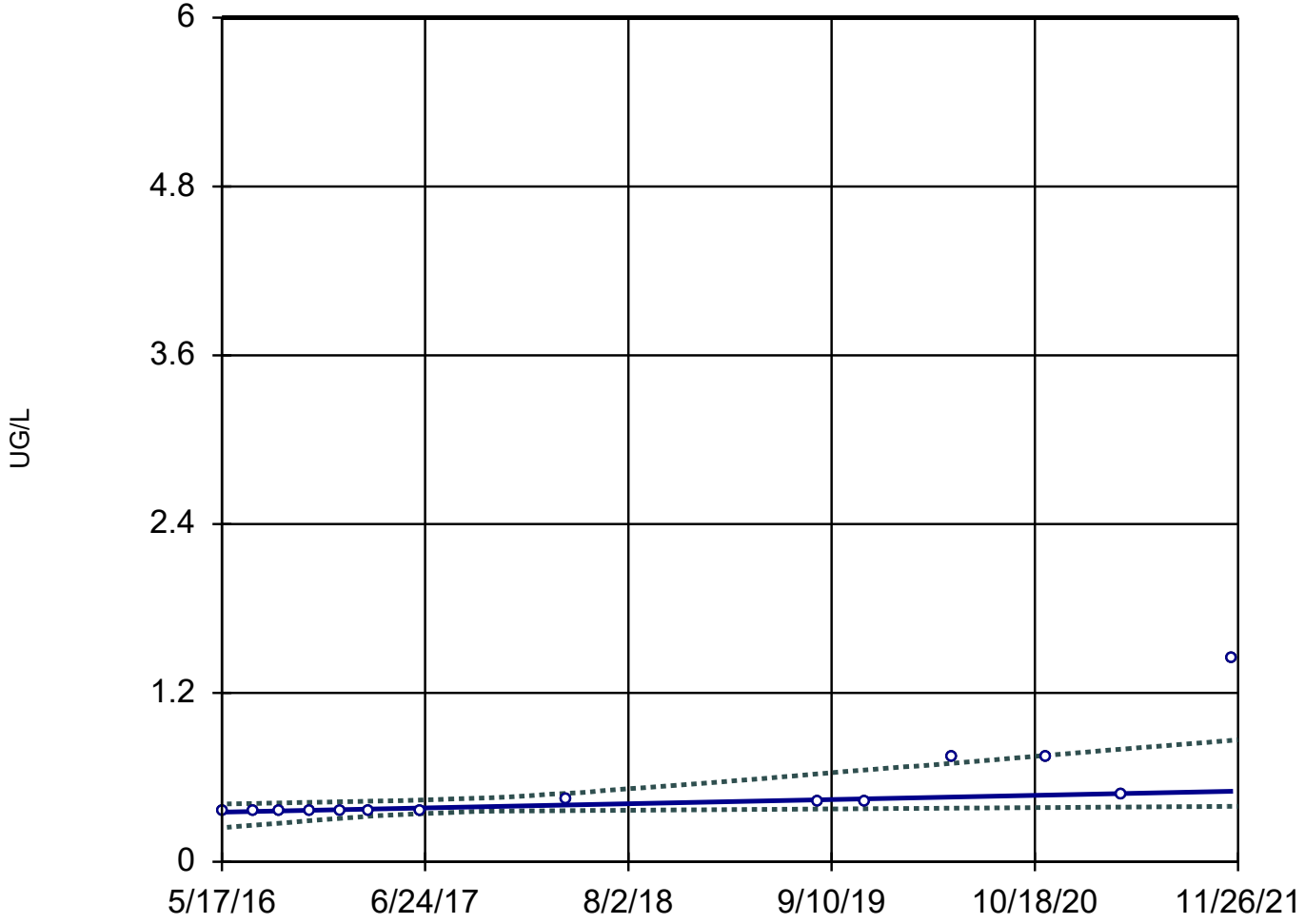
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.31 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 14

Slope = 0.02691 units per year.

Mann-Kendall statistic = 70
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

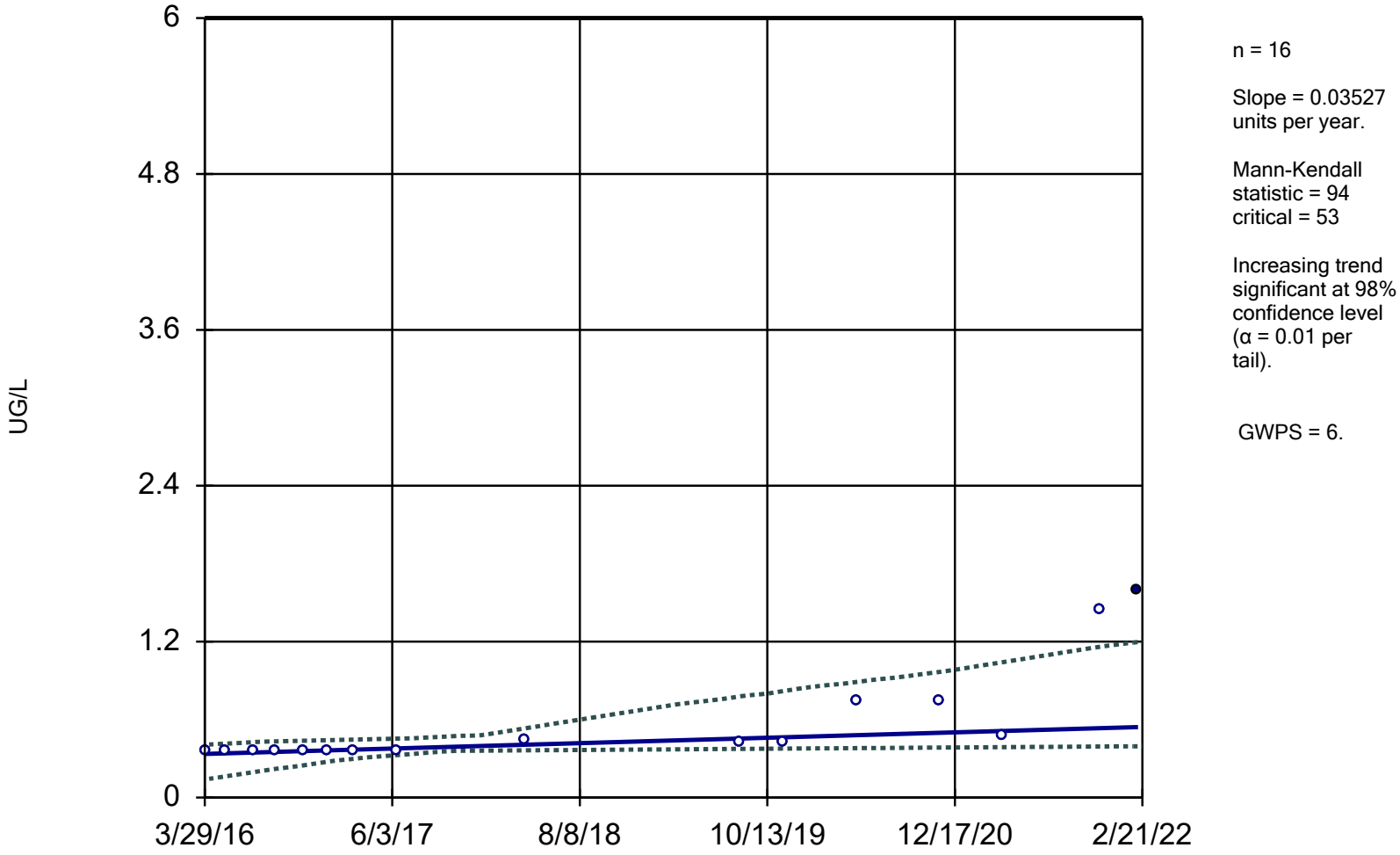
Constituent: COBALT, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-2



n = 16

Slope = 0.03527 units per year.

Mann-Kendall statistic = 94
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/17/2022 8:07 AM

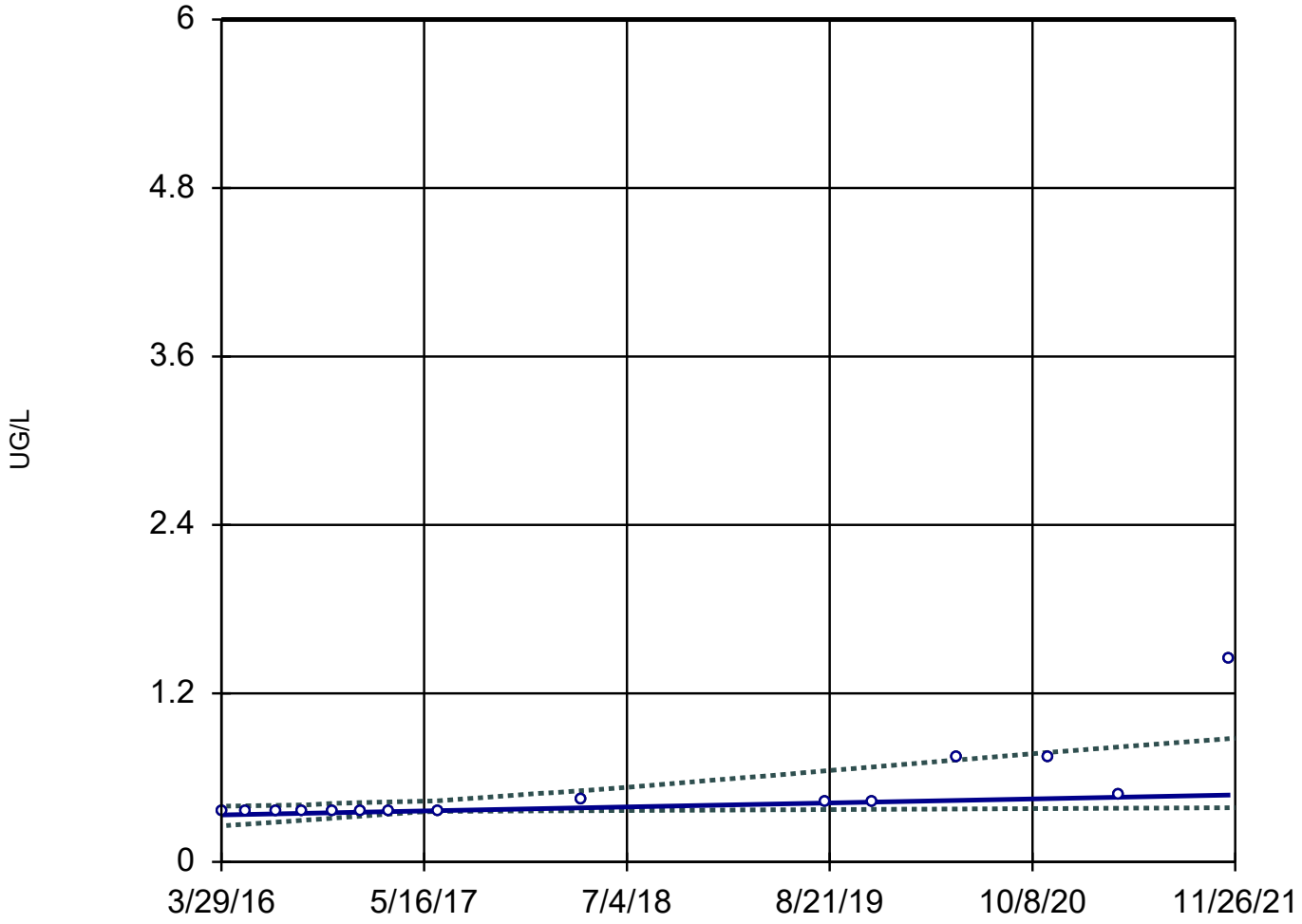
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.31 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 15

Slope = 0.02513 units per year.

Mann-Kendall statistic = 79
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

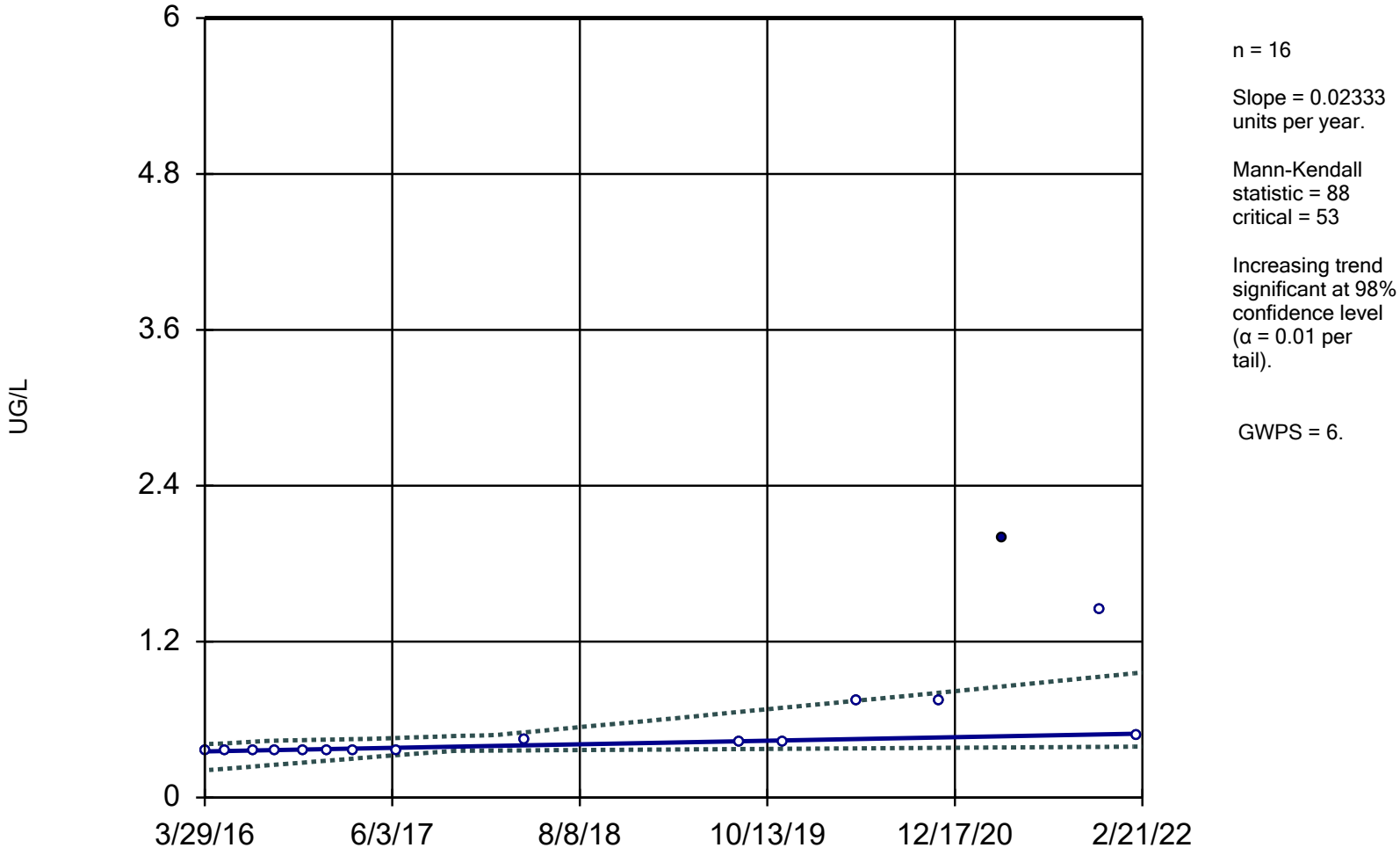
Constituent: COBALT, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 16

Slope = 0.02333 units per year.

Mann-Kendall statistic = 88
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

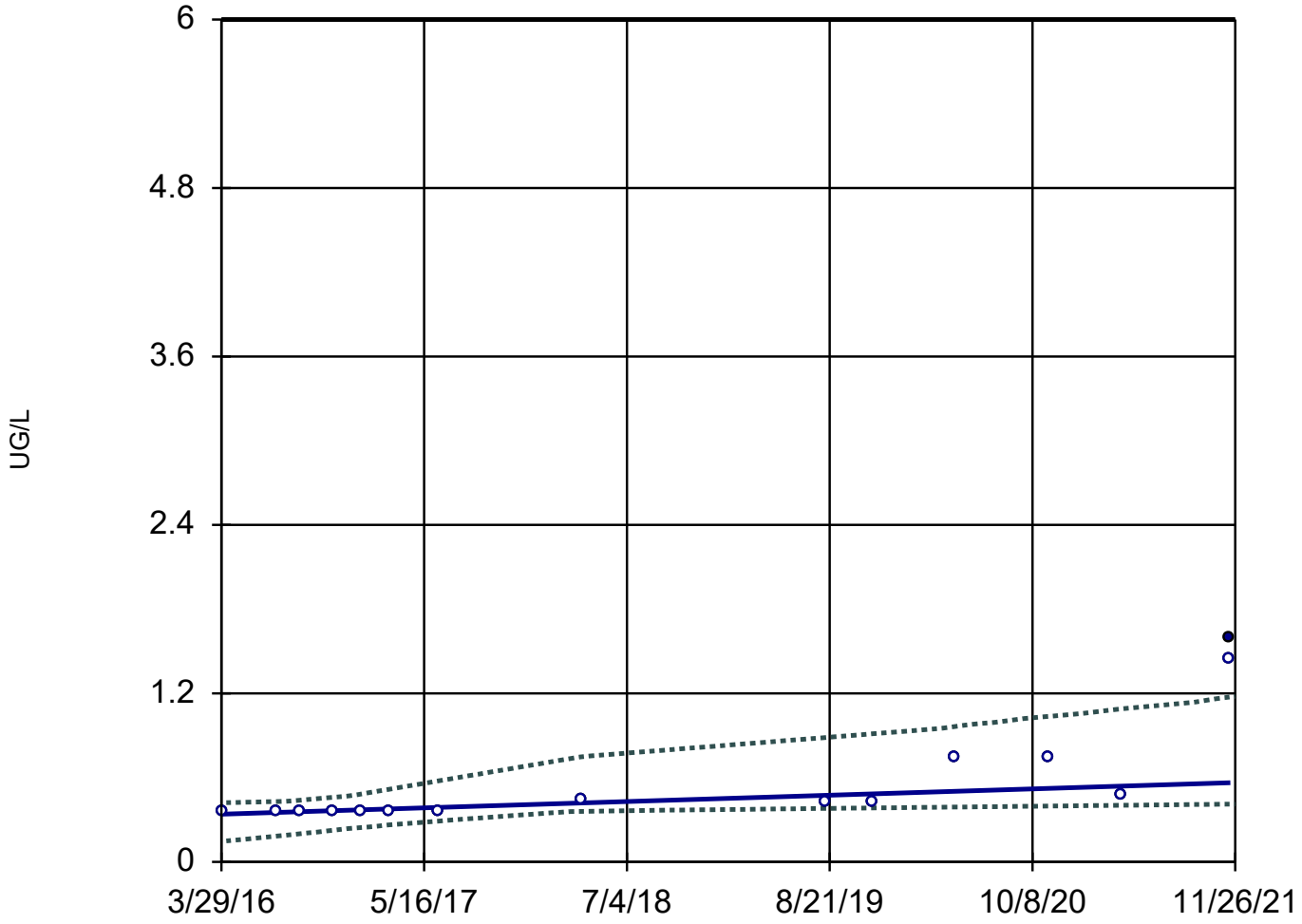
Constituent: COBALT, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 15

Slope = 0.03975 units per year.

Mann-Kendall statistic = 82
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

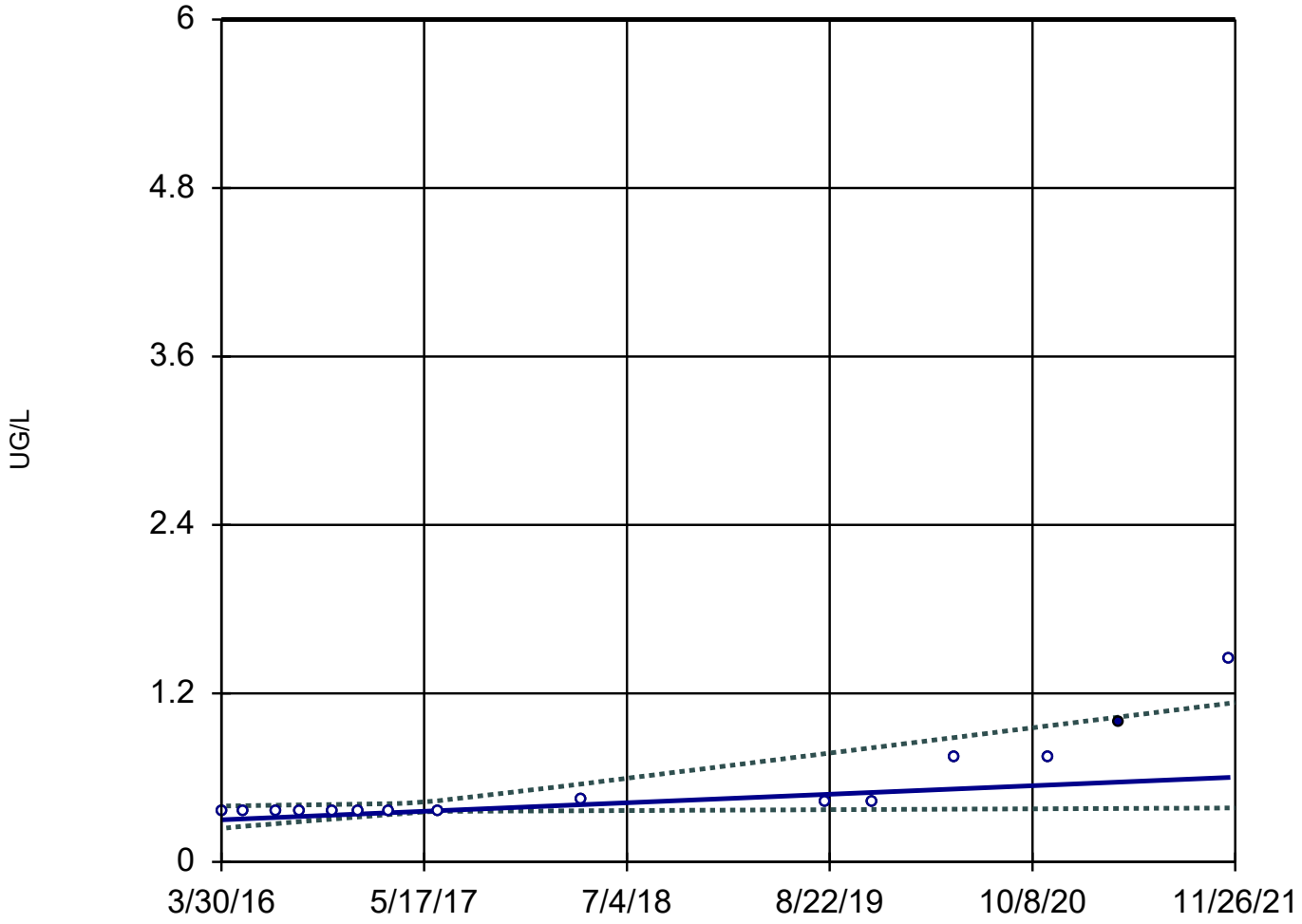
Constituent: COBALT, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-8



n = 15

Slope = 0.05357 units per year.

Mann-Kendall statistic = 83
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

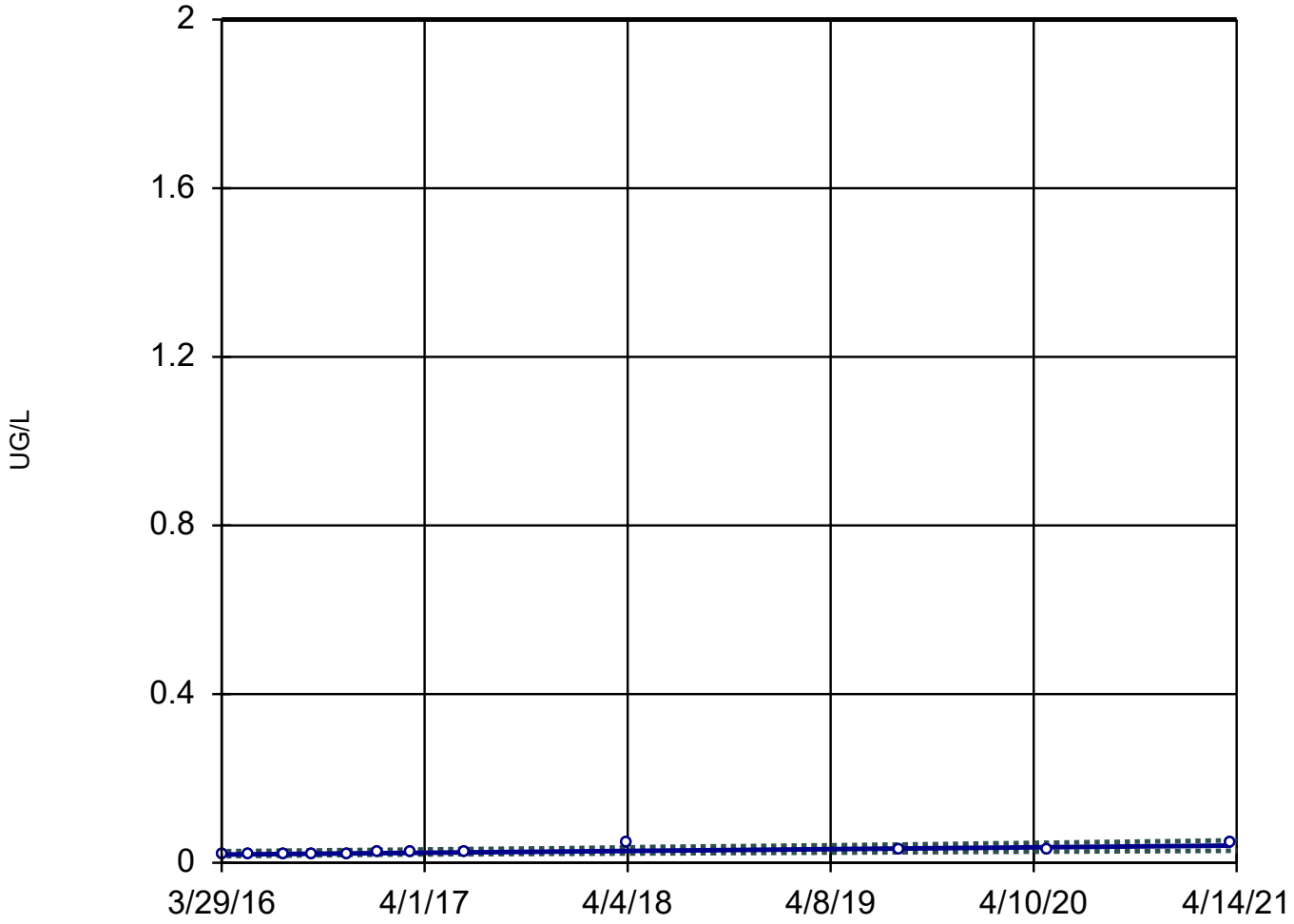
Constituent: COBALT, TOTAL Analysis Run 3/17/2022 8:07 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 12

Slope = 0.004248 units per year.

Mann-Kendall statistic = 45
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

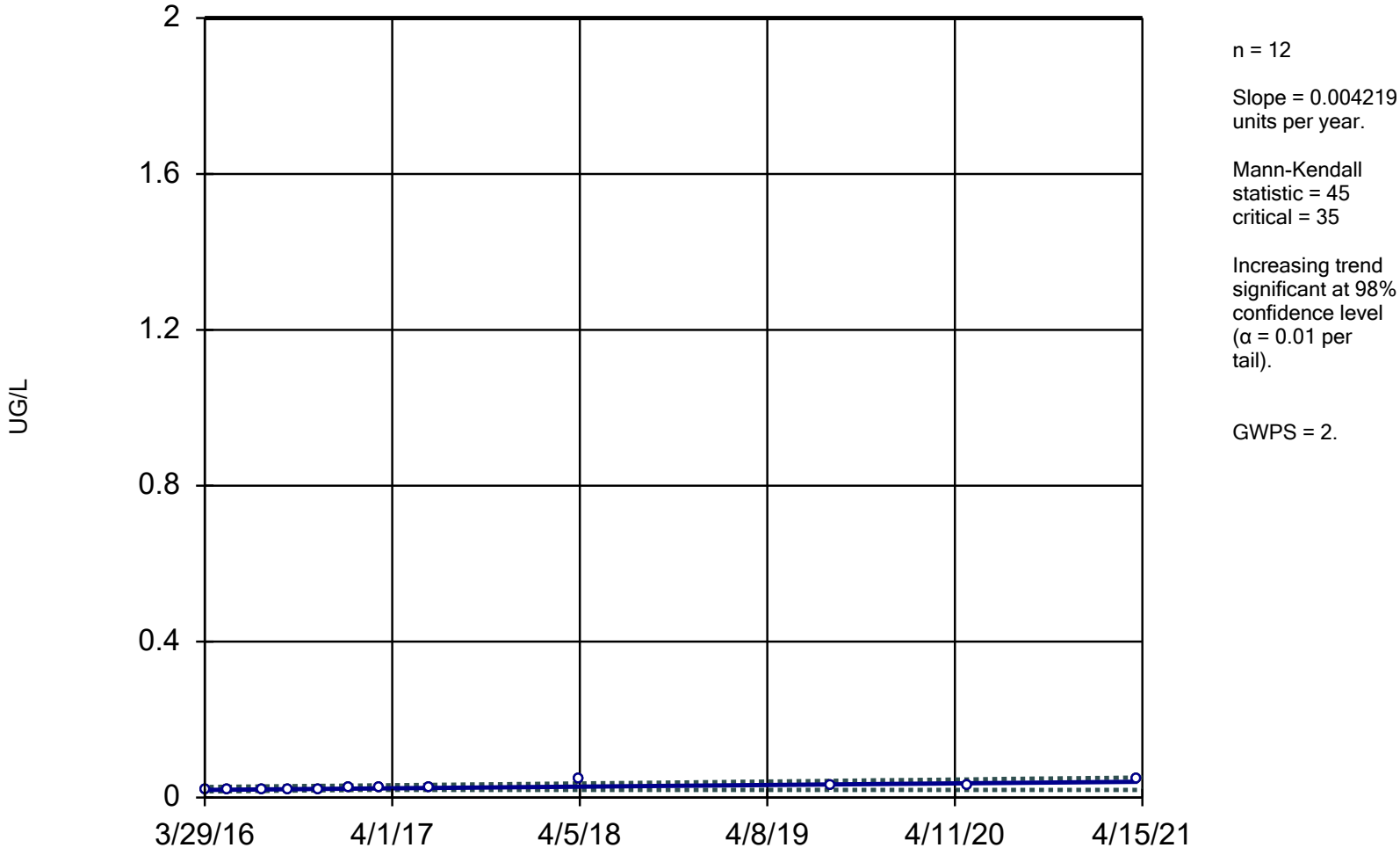
Constituent: MERCURY, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 12

Slope = 0.004219 units per year.

Mann-Kendall statistic = 45
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

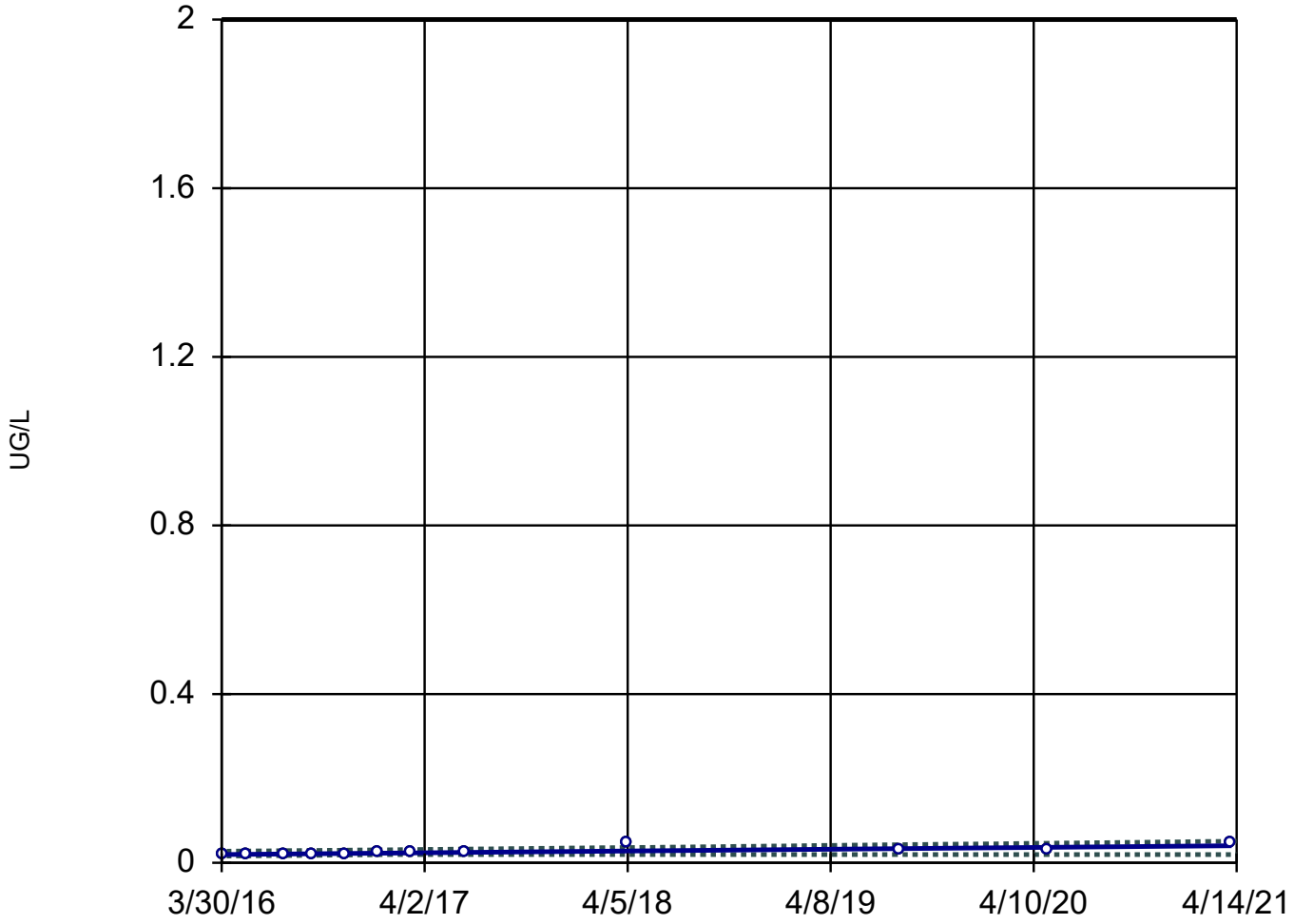
Constituent: MERCURY, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 12

Slope = 0.004219 units per year.

Mann-Kendall statistic = 45
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

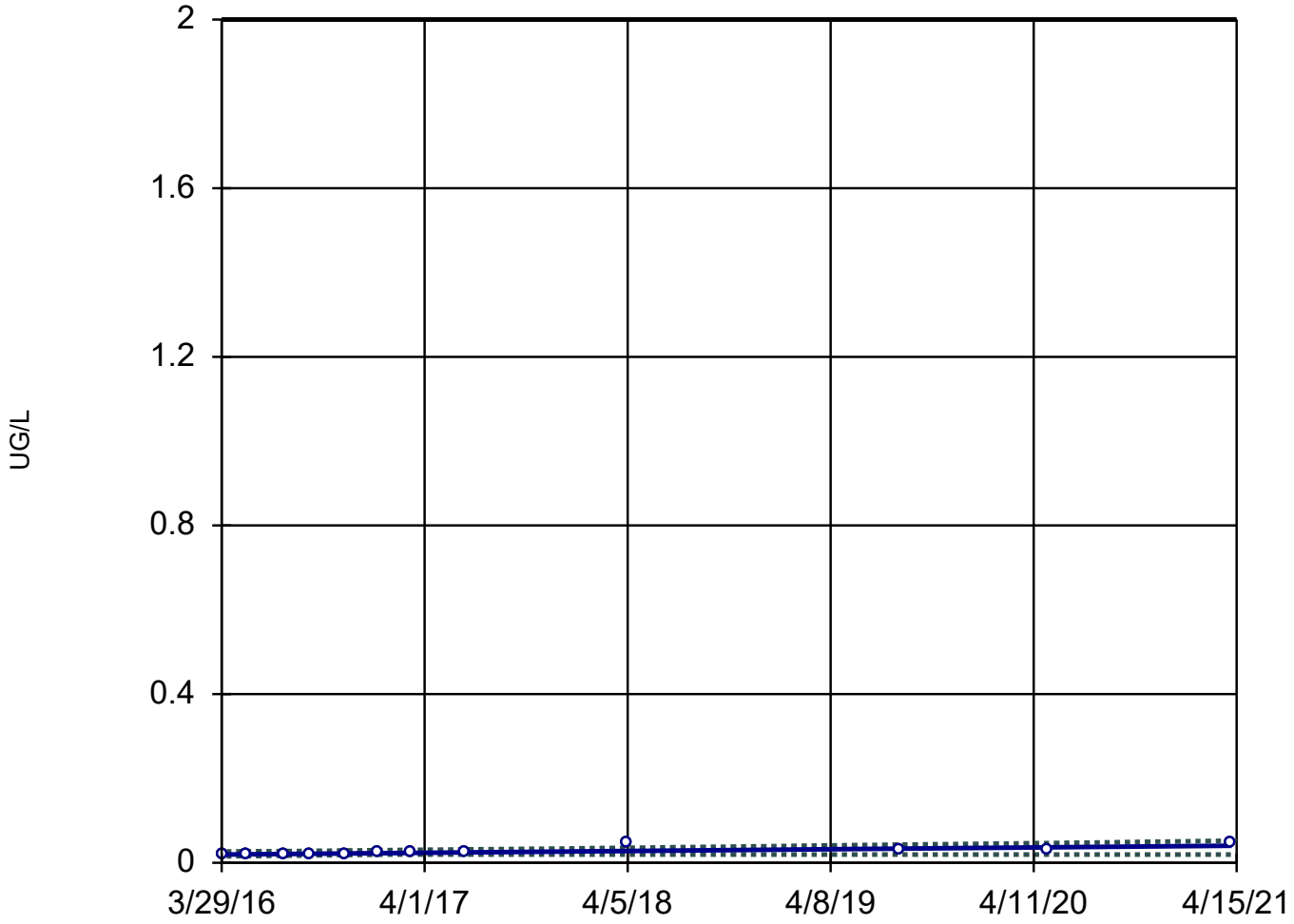
Constituent: MERCURY, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 12

Slope = 0.004219 units per year.

Mann-Kendall statistic = 45
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

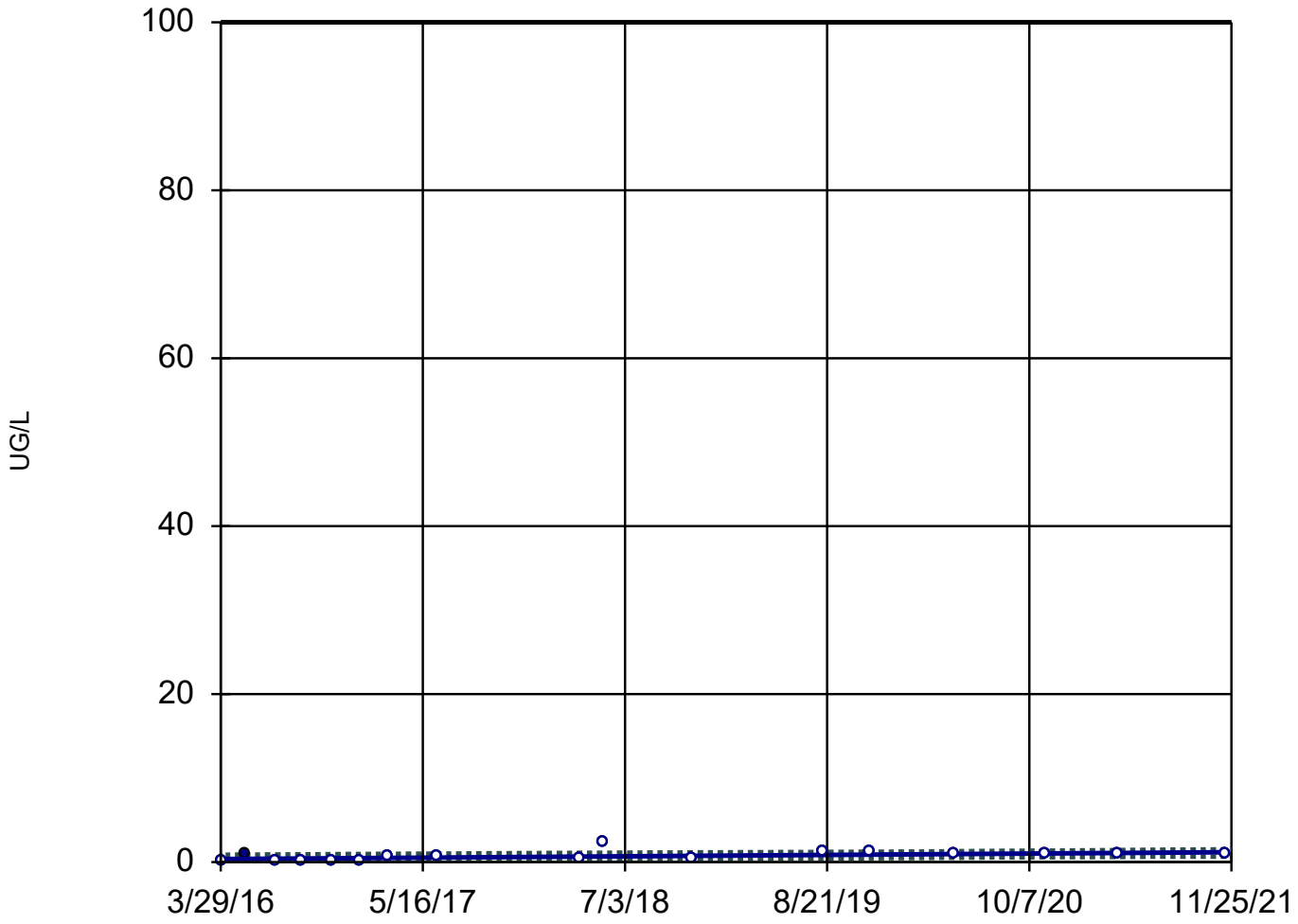
Constituent: MERCURY, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 17

Slope = 0.1428 units per year.

Mann-Kendall statistic = 67
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

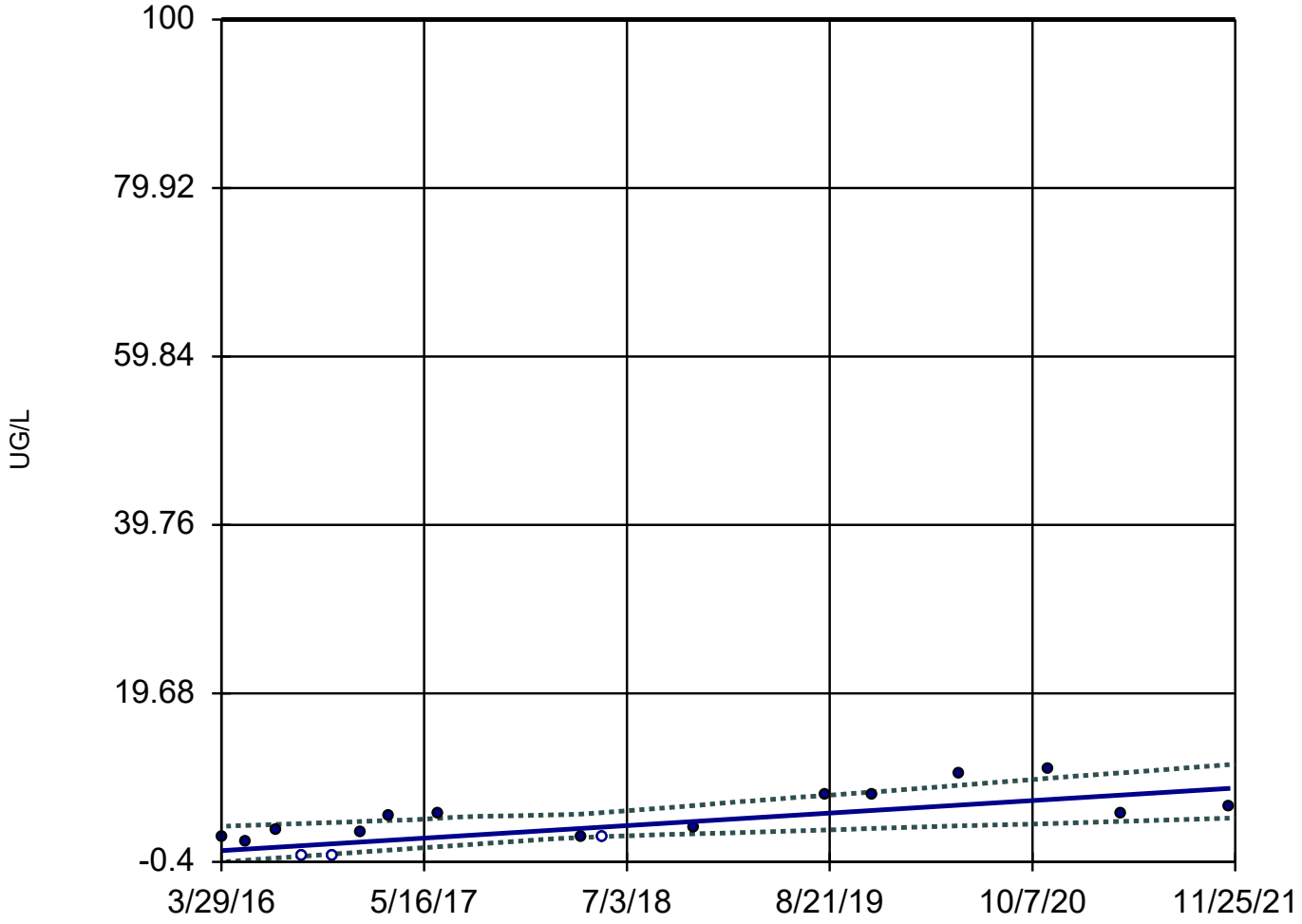
Constituent: MOLYBDENUM, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 17

Slope = 1.315 units per year.

Mann-Kendall statistic = 80
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

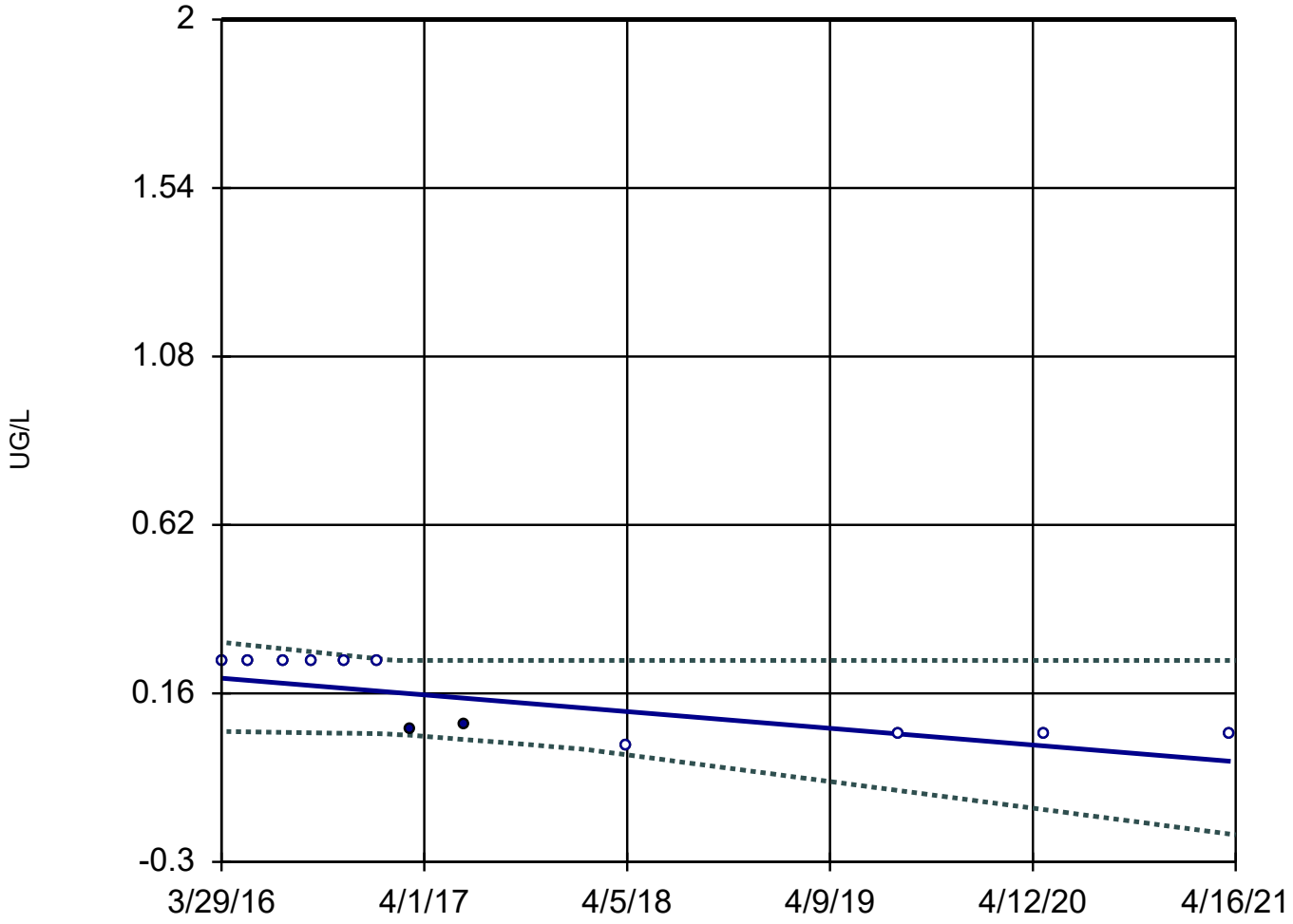
Constituent: MOLYBDENUM, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 12

Slope = -0.04518 units per year.

Mann-Kendall statistic = -41
critical = -35

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

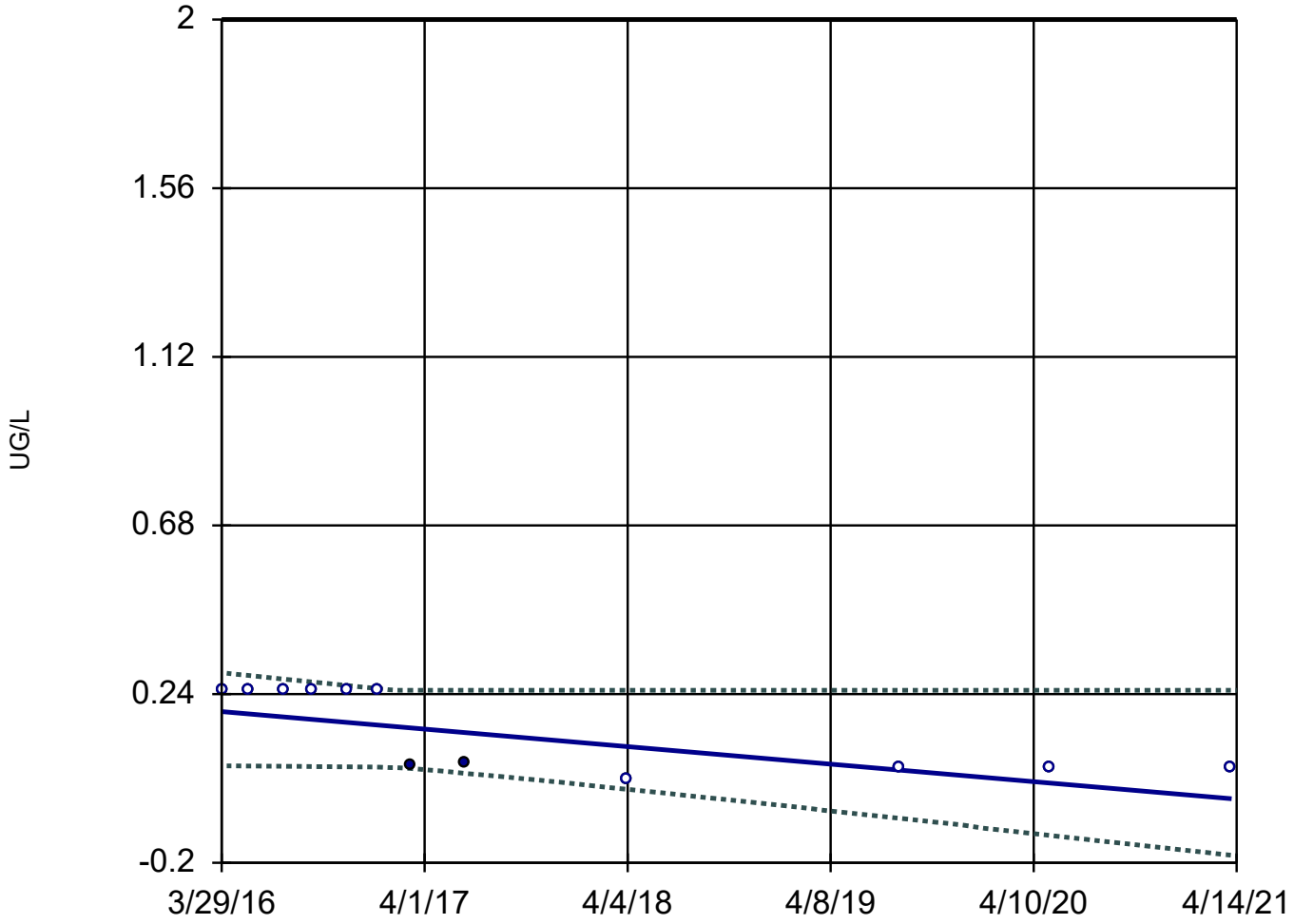
Constituent: THALLIUM, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 12

Slope = -0.04524 units per year.

Mann-Kendall statistic = -41
critical = -35

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

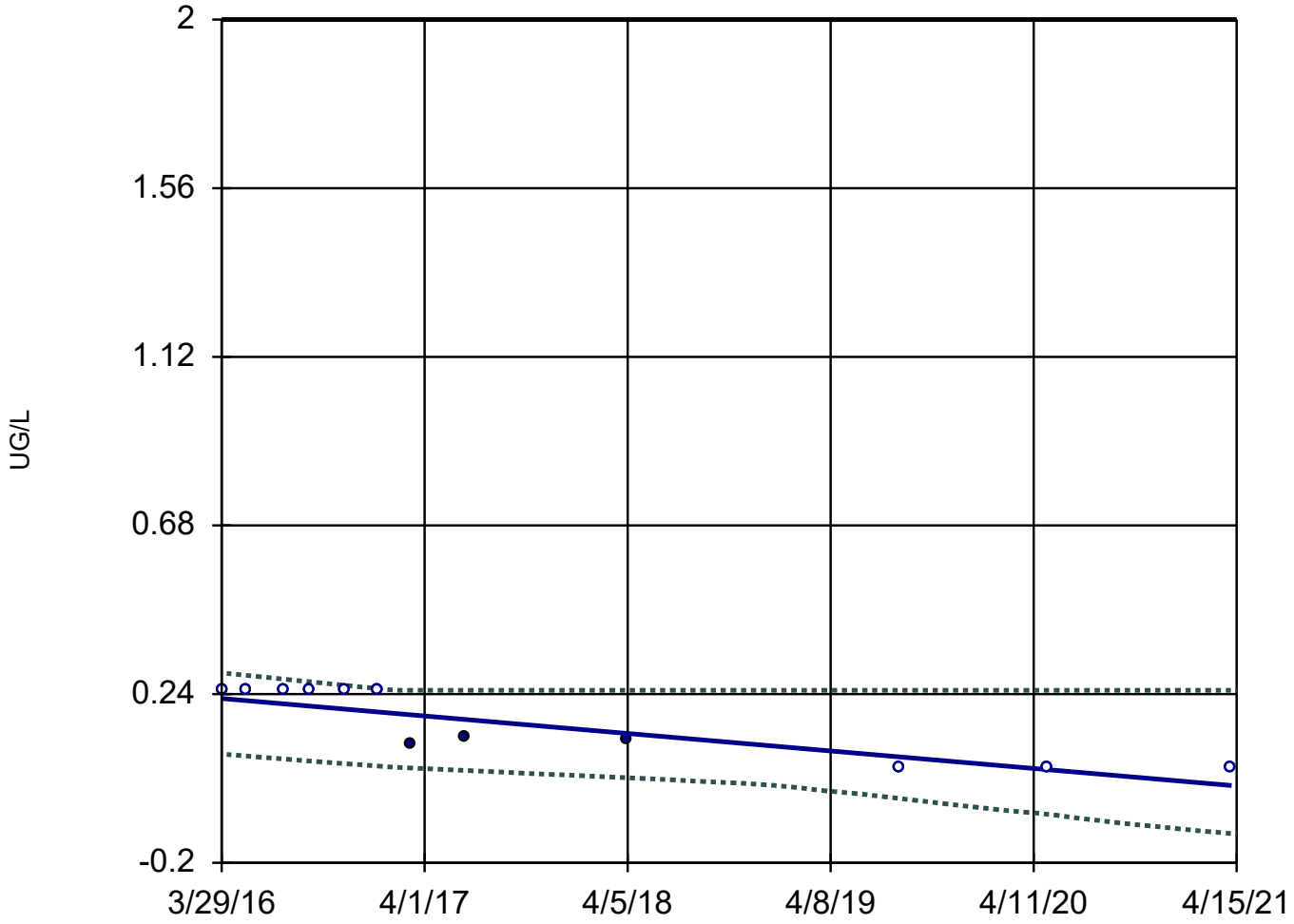
Constituent: THALLIUM, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 12

Slope = -0.0452 units per year.

Mann-Kendall statistic = -45
critical = -35

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

Constituent: THALLIUM, TOTAL Analysis Run 3/17/2022 8:08 AM

Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 3/17/2022, 8:09 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.002205	12	35	No	12	75	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.003025	20	35	No	12	91.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.002411	24	35	No	12	91.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-4	0	14	35	No	12	91.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-5	0	8	35	No	12	91.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.003167	20	35	No	12	58.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-7	-0.00...	-11	-27	No	10	0	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-8	0	-3	-35	No	12	75	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-1	0	0	48	No	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0.03598	21	58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-3	0.2585	36	53	No	16	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**0.4833**	**56**	**53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**0.6946**	**59**	**48**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**M-MW-6**	**-0.4101**	**-56**	**-53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	M-MW-7	-0.02937	-10	-58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	0.03414	10	48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	-0.9754	-9	-58	No	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-2**	**-42.31**	**-96**	**-58**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-3	-7.565	-43	-58	No	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-4**	**-5.166**	**-59**	**-53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-5**	**-15.61**	**-60**	**-58**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-6**	**-5.903**	**-103**	**-58**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-7	-2.496	-57	-58	No	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-8**	**-20.38**	**-66**	**-58**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0.006744	17	35	No	12	83.33	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0	0	35	No	12	91.67	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0	4	35	No	12	75	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0	10	35	No	12	83.33	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0	6	35	No	12	91.67	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-1	0	9	35	No	12	83.33	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-2	0	12	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-3	0	15	31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-4	0	15	31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-5	0	7	35	No	12	83.33	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**M-MW-6**	**0.0192**	**36**	**35**	**Yes**	**12**	**50**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	**M-MW-7**	**0.06401**	**38**	**35**	**Yes**	**12**	**16.67**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	M-MW-8	0.00349	12	35	No	12	58.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-1	-0.1141	-34	-48	No	15	33.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-2	0	0	44	No	14	21.43	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-3	-0.01505	-8	-48	No	15	46.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-4	-0.04386	-10	-48	No	15	40	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-5	0	-4	-48	No	15	46.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-6	-0.00...	-10	-44	No	14	57.14	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-7	-0.01507	-8	-48	No	15	46.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.005544	12	48	No	15	66.67	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-1**	**0.02691**	**70**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-2**	**0.03527**	**94**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 3/17/2022, 8:09 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	0.08324	45	53	No	16	62.5	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-4**	**0.02513**	**79**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-5**	**0.02333**	**88**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	M-MW-6	0.3761	26	39	No	13	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-7**	**0.03975**	**82**	**48**	**Yes**	**15**	**93.33**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-8**	**0.05357**	**83**	**48**	**Yes**	**15**	**93.33**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.01497	28	58	No	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.01039	22	68	No	19	21.05	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.009799	36	63	No	18	22.22	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.0015	6	58	No	17	5.882	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.01241	32	63	No	18	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	0	-1	-63	No	18	11.11	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	-0.00...	-4	-73	No	20	5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.01329	23	58	No	17	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-1	0.1469	20	27	No	10	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-2	-0.07586	-7	-35	No	12	66.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-3	0.1356	29	35	No	12	91.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-4	0.1226	9	35	No	12	83.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-5	0	0	35	No	12	66.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-6	0.1332	27	35	No	12	91.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-7	0.1355	24	35	No	12	83.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-8	0.06073	10	35	No	12	75	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-1	0.1426	21	48	No	15	93.33	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0.7335	46	58	No	17	41.18	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	0	2	58	No	17	52.94	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	-1.074	-27	-53	No	16	6.25	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-5	-1.243	-55	-58	No	17	11.76	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-6	-2.903	-25	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	-0.3525	-4	-53	No	16	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	0.9701	38	53	No	16	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-1	0.003792	33	35	No	12	91.67	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-2	0.003792	33	35	No	12	91.67	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-3	0.003792	33	35	No	12	91.67	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	**M-MW-4**	**0.004248**	**45**	**35**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-5**	**0.004219**	**45**	**35**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-6**	**0.004219**	**45**	**35**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-7**	**0.004219**	**45**	**35**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	M-MW-8	0.003803	31	35	No	12	91.67	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-1**	**0.1428**	**67**	**58**	**Yes**	**17**	**94.12**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.1012	29	58	No	17	82.35	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-3**	**1.315**	**80**	**58**	**Yes**	**17**	**17.65**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	1.198	56	58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	2.457	56	58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	-0.4026	-7	-58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	16.7	33	58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	-1.672	-8	-58	No	17	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.018	-25	-44	No	14	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	0.003064	2	58	No	17	76.47	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	-0.02276	-16	-58	No	17	47.06	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.03515	22	58	No	17	82.35	n/a	n/a	0.02	NP

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 3/17/2022, 8:09 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	0.004765	2	58	No	17	47.06	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	0.001105	5	58	No	17	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	0.01862	17	48	No	15	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	-0.00...	-4	-53	No	16	87.5	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	-1	-48	No	15	86.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	3	48	No	15	86.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	-1	-48	No	15	86.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	-1	-48	No	15	86.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	-5	-48	No	15	93.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	-11	-48	No	15	93.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	-0.0529	-2	-48	No	15	13.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	2	44	No	14	85.71	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-1**	**-0.04518**	**-41**	**-35**	**Yes**	**12**	**83.33**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-2	-0.0437	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-3**	**-0.04524**	**-41**	**-35**	**Yes**	**12**	**83.33**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-4	-0.04371	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-5	-0.04369	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-6	-0.04524	-30	-35	No	12	91.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-7**	**-0.0452**	**-45**	**-35**	**Yes**	**12**	**75**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-8	-0.04371	-28	-35	No	12	100	n/a	n/a	0.02	NP

APPENDIX C

April 2022 Assessment Monitoring Statistical Evaluation

TECHNICAL MEMORANDUM

DATE August 15, 2022 **Project No.** 153140604

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock **EMAIL Jeffrey.Ingram@wsp.com**

ASSESSMENT MONITORING STATISTICAL EVALUATION, MULTI-UNIT SURFACE IMPOUNDMENT NETWORKMERAMEC ENERGY CENTER, ST. LOUIS COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the April 2022 sampling event at the Multi-unit Surface Impoundment Network of the Meramec Energy Center located in St. Louis County, Missouri. Included in the memorandum is a brief summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Statistical Analysis Plan (SAP). The following outliers were removed prior to the calculation of confidence limits:

- Beryllium
  - MW-3 at 0.53 J on 4/5/2021: Value is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
  - MW-6 at 0.5 J on 4/5/2021: Value is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
  - MW-7 at 0.35 J on 4/3/2018: Value is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.

- Cobalt
  - MW-1 at Non-Detect (ND) on 11/15/2021: Value is statistically higher than other results at the same well due to a higher-than-normal Method Detection Limit (MDL) and Practical Quantitation Limit (PQL) caused by laboratory error. The higher result has not been confirmed during subsequent sampling events.
  - MW-4 at Non-Detect (ND) on 11/15/2021: Value is statistically higher than other results at the same well due to a higher-than-normal Method Detection Limit (MDL) and Practical Quantitation Limit (PQL) caused by laboratory error. The higher result has not been confirmed during subsequent sampling events

- Lithium
  - MW-1 at ND on 11/15/2021: Value is statistically higher than other values at the same well. Analysis of the initial November 2021 sampling event data revealed that a laboratory dilution was required for analysis of the sample. This dilution caused the MDL to be greater than the GWPS. The resample, was a non-detect, however, the MDL was still higher than those previously provided for results at MW-1. Therefore, this ND result is higher than other results from the same well and is excluded as an outlier.

An analysis of the outliers removed to date was completed and the following statistical outliers that were previously removed were added back into the dataset prior to the calculation of confidence limits.

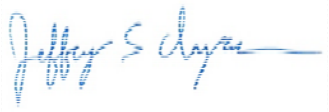
- Cobalt
  - MW-7 at 1.2 µg/L on 5/13/2016: value was originally removed as part of the August 2018 event statistical analysis because the value was statistically higher than other results at the same well. Additional sampling results have displayed a larger spatial variability in this well and the value is no longer considered an outlier.
- Fluoride
  - MW-4 at ND on 4/4/2018. Value was originally removed as part of the November 2019 event statistical analysis because the value was statistically lower than other results at the same well. Additional sampling results have displayed a larger spatial variability in this well, so the value is no longer considered an outlier.
  - MW-8 at ND on 4/5/2018. Value was originally removed as part of the August 2018 event statistical analysis because the value was statistically lower than other results at the same well. Additional sampling results have displayed a larger spatial variability in this well, and the value is no longer considered an outlier.

No new SSLs were noted, and a summary of the SSLs for April 2022 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

Golder appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please call our office at (314) 984-8800.

Sincerely,



Jeffrey Ingram
Senior Consultant, Geologist

Sean Paulsen
Senior Lead Consultant, Geologist

JSI/SCP/MNH

Attachments: Table 1 – MEC Groundwater Protection Standards
Appendix A – Sanitas Confidence Interval Statistical Output
Appendix B – Sanitas Trending Confidence Bands Statistical Output

Table 1 - MEC Groundwater Protection Standards
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring [6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	10	9.6
Barium	µg/L	2000	2000	598
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	2.344
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.5182
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	40	18.71
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	2.676
Selenium	µg/L	50	50	1.3
Thallium	µg/L	2	2	DQR

Notes:

Prepared by: JSI
Checked by: EMS
Reviewed by: SCP

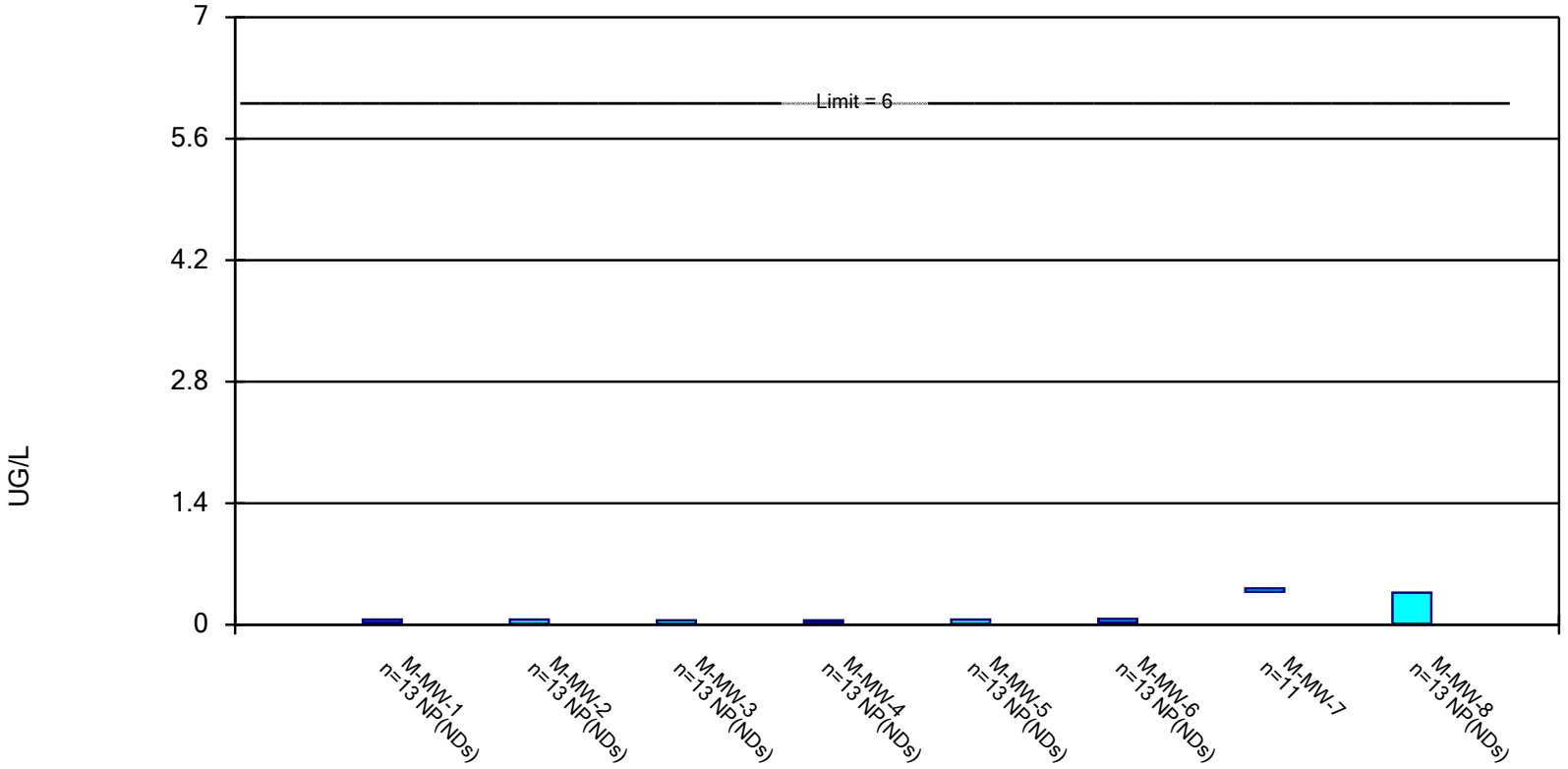
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA)Drinking Water Standards and Health Advisories. http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results up through April 2021 from monitoring wells BMW-1 and BMW-2.

APPENDIX A

Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

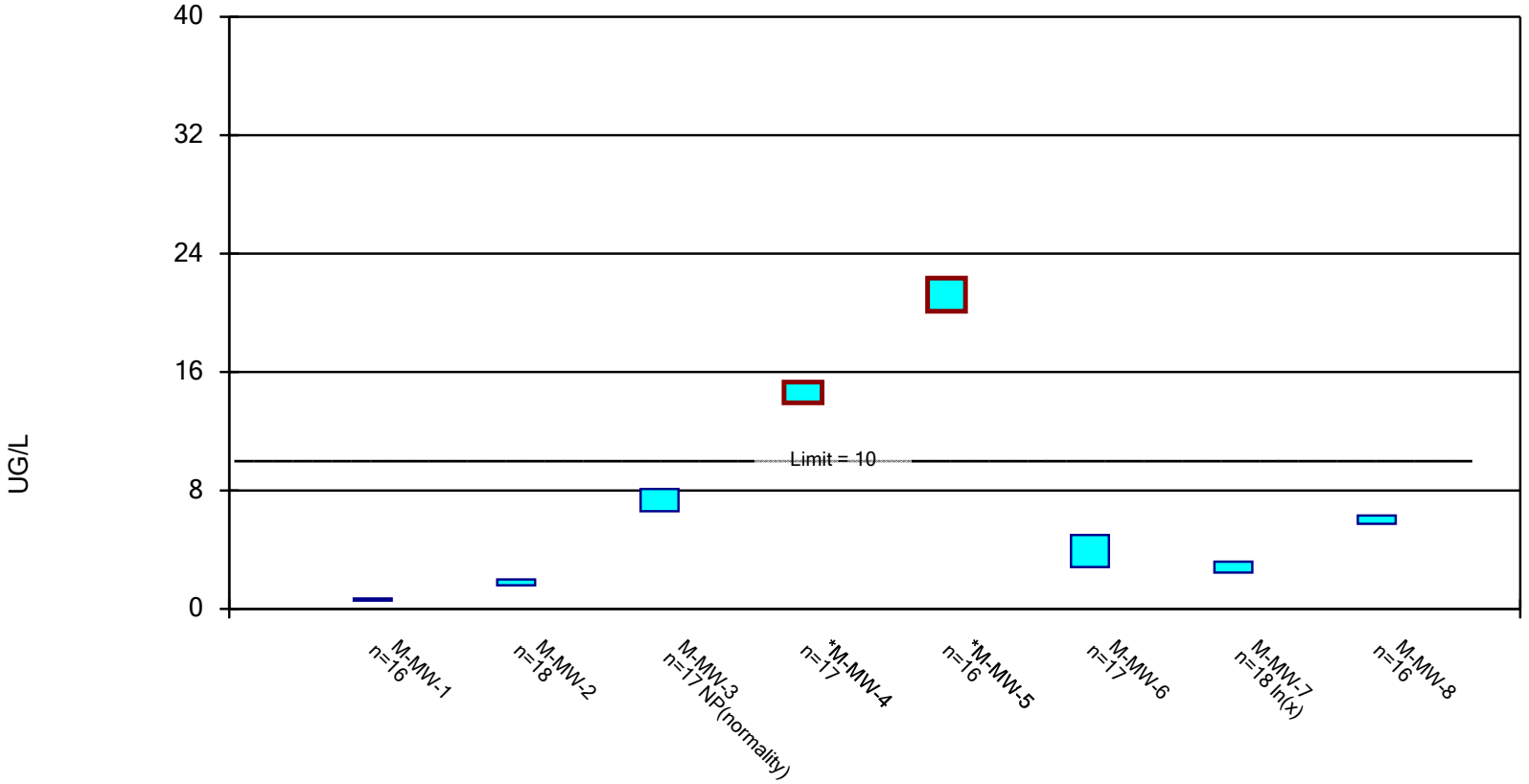


Constituent: ANTIMONY, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

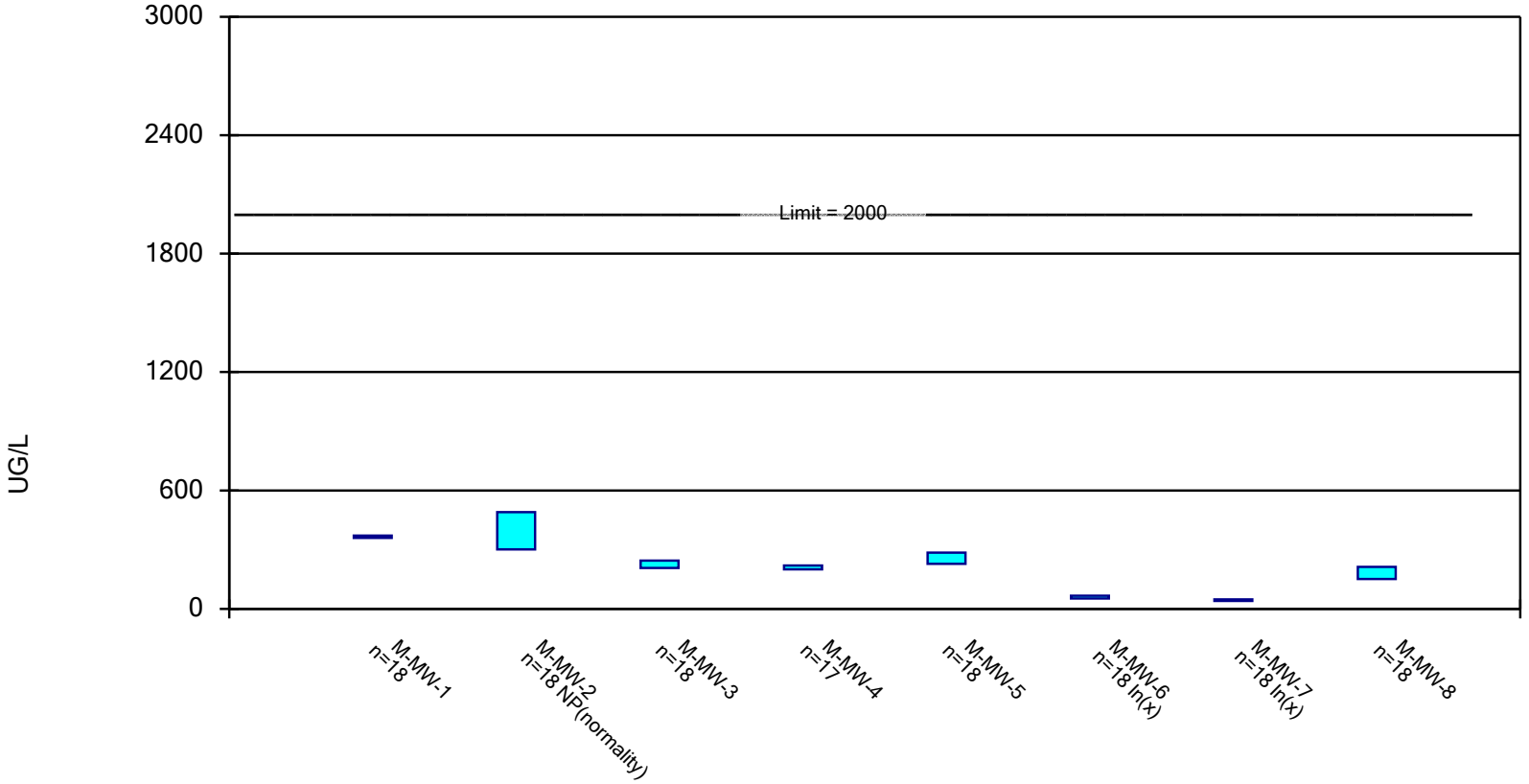


Constituent: ARSENIC, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

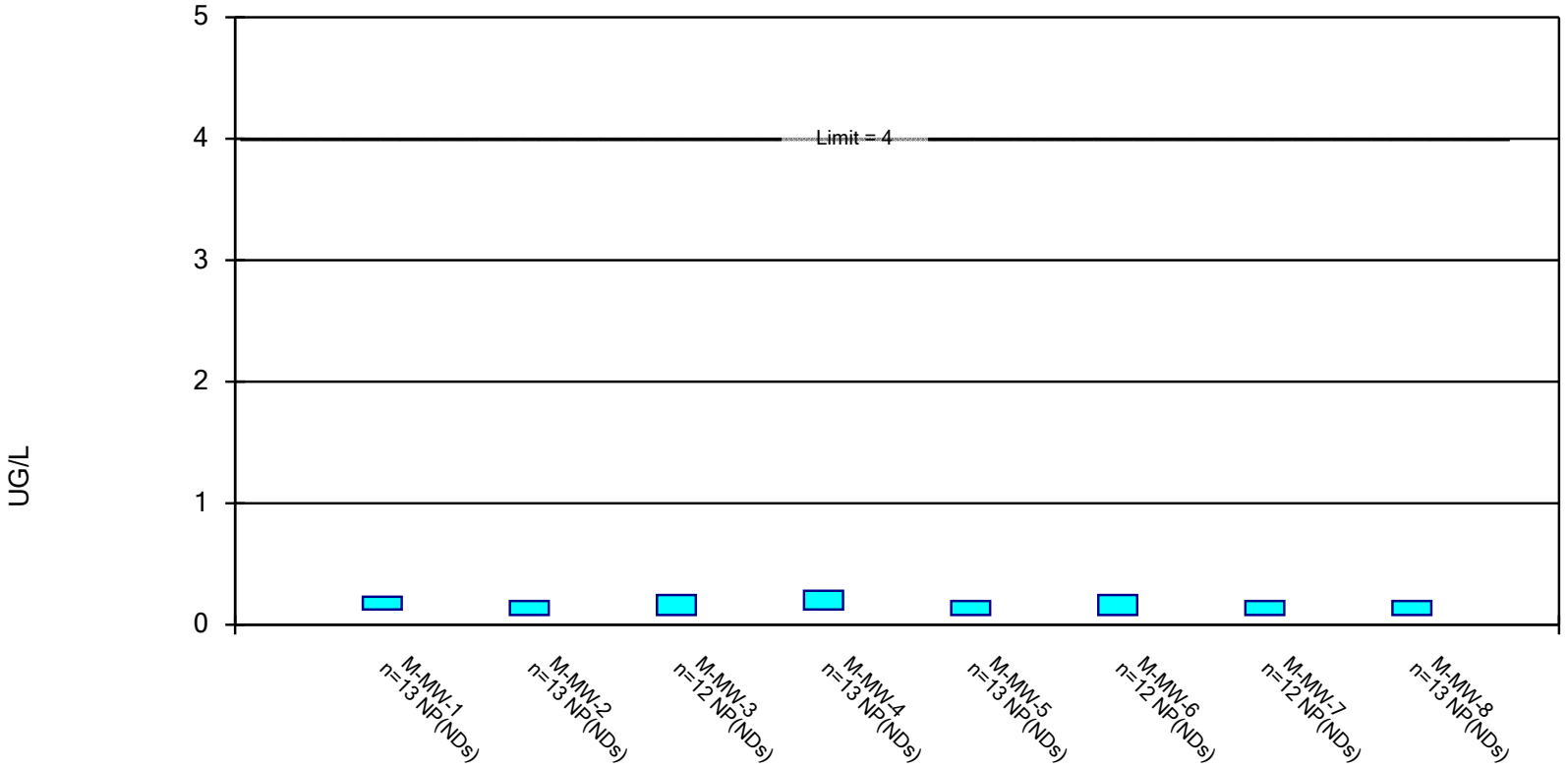


Constituent: BARIUM, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

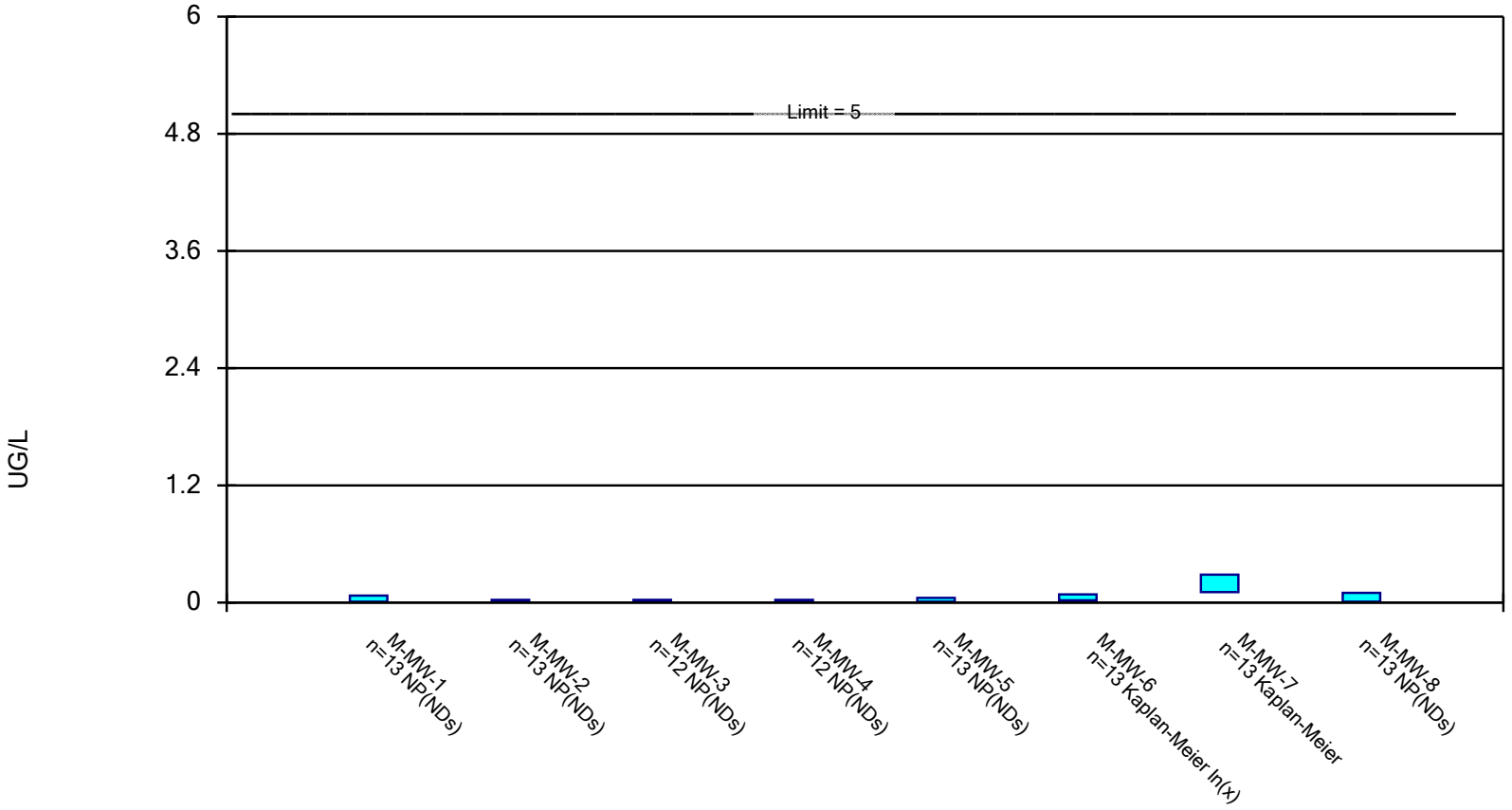


Constituent: BERYLLIUM, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

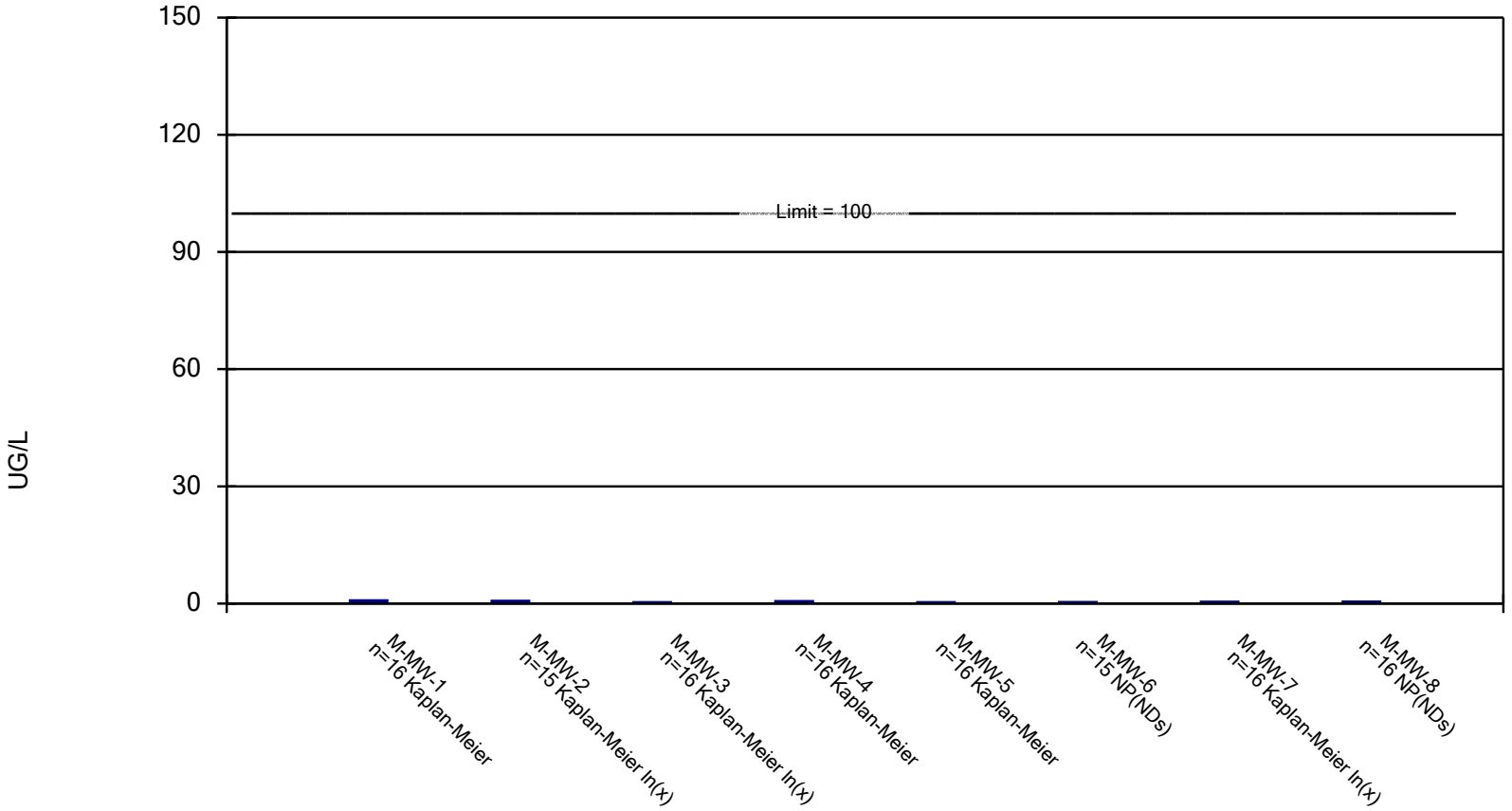


Constituent: CADMIUM, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

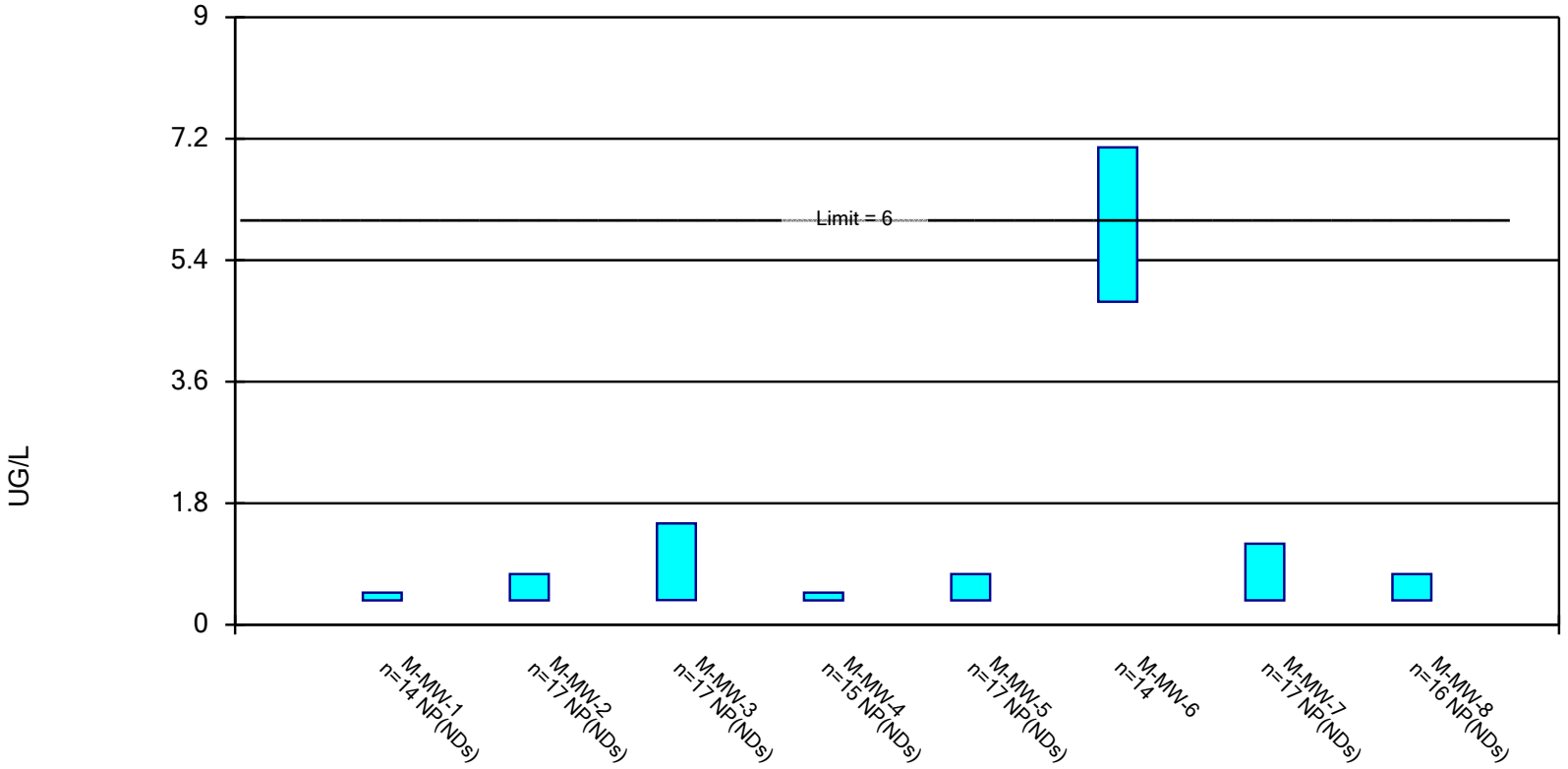


Constituent: CHROMIUM, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

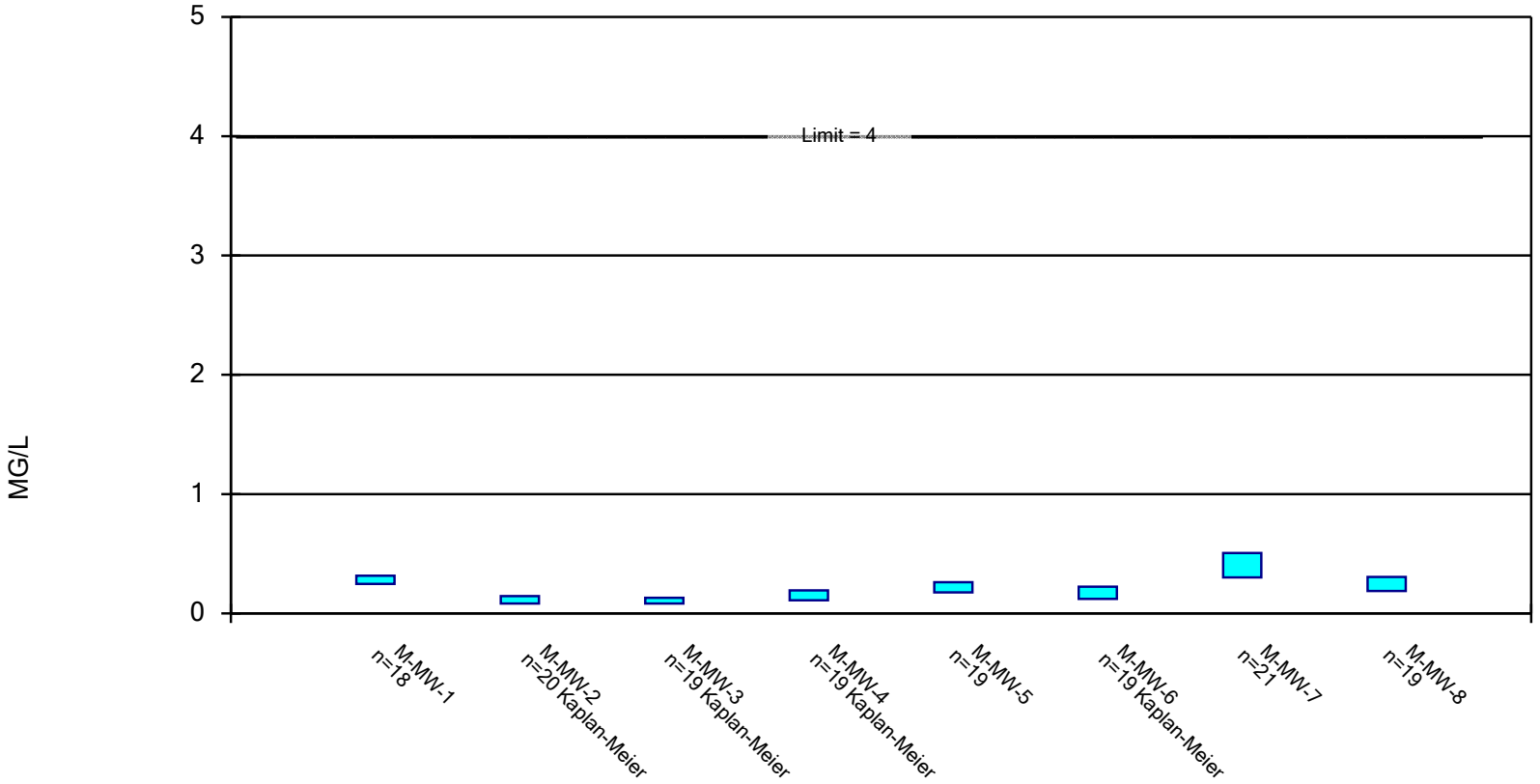


Constituent: COBALT, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

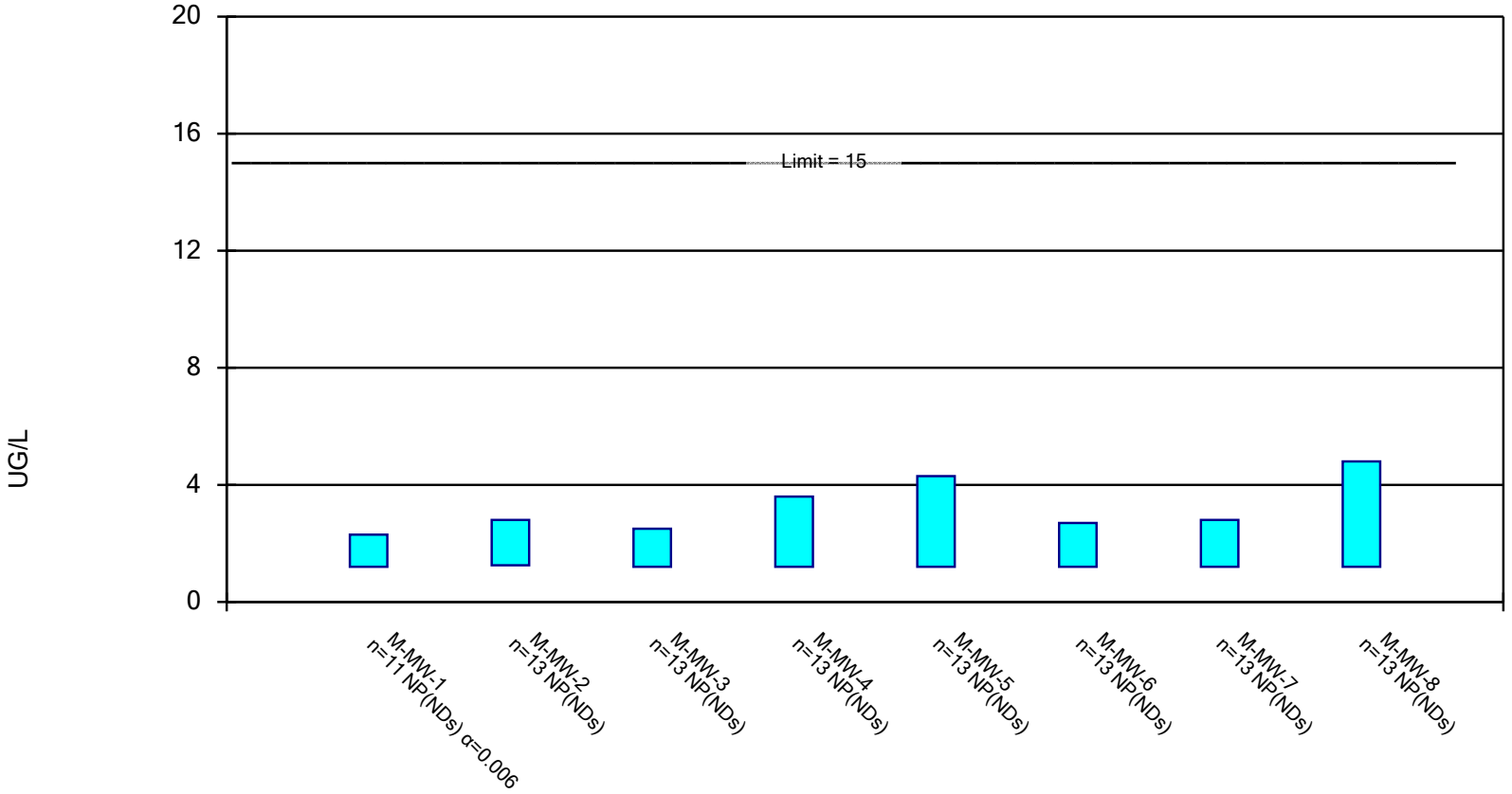


Constituent: FLUORIDE, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

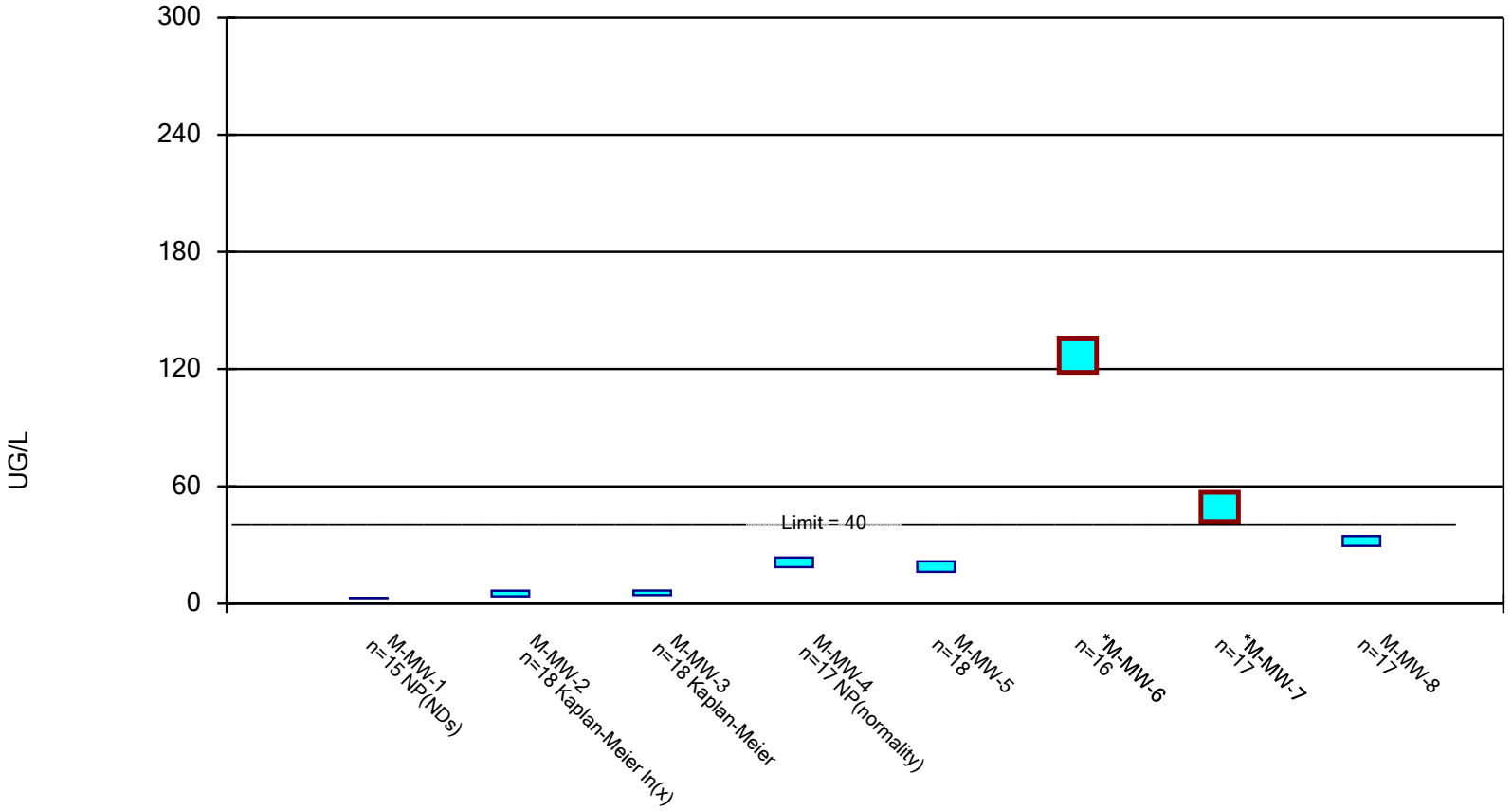


Constituent: LEAD, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

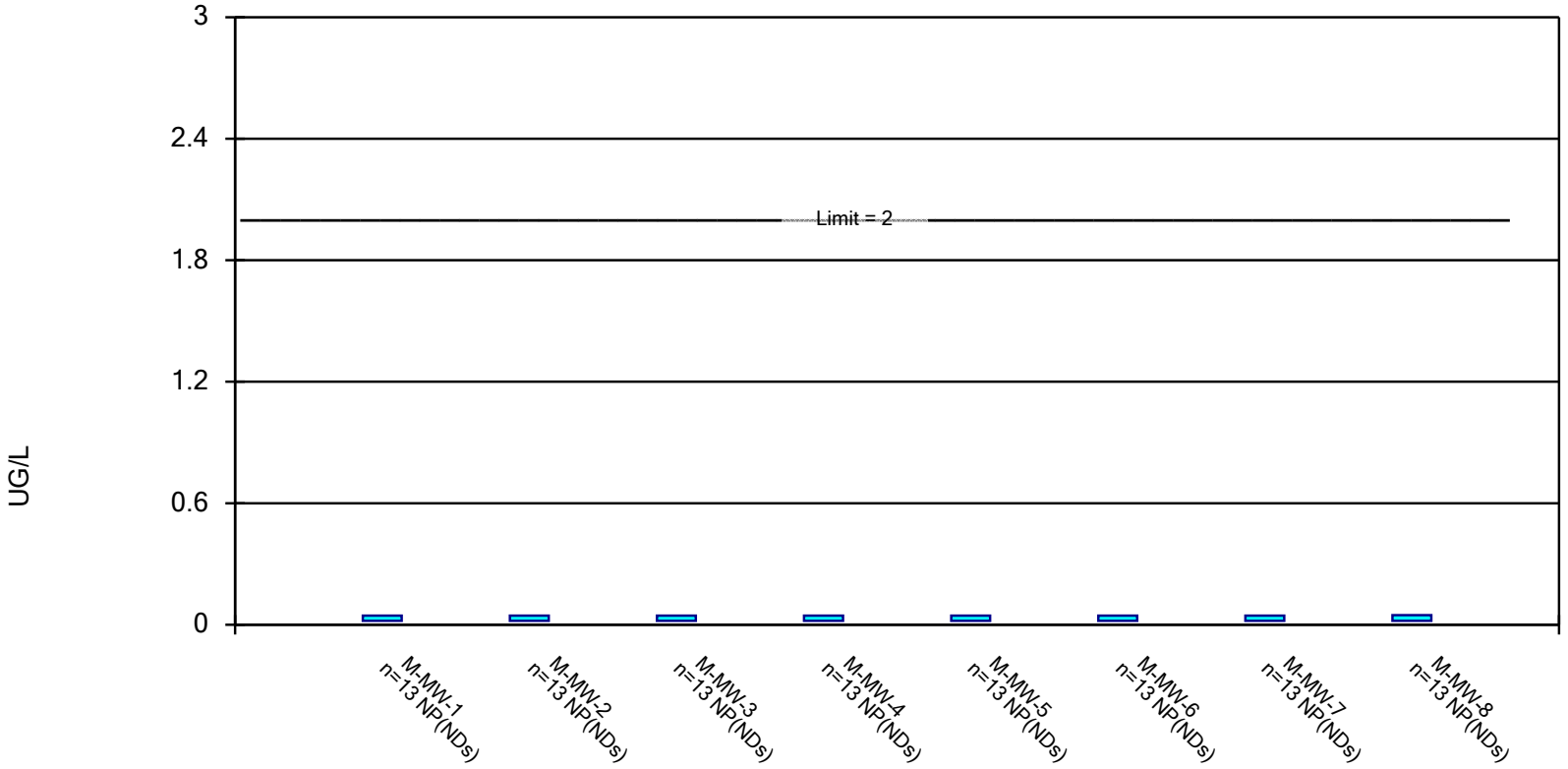


Constituent: LITHIUM, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

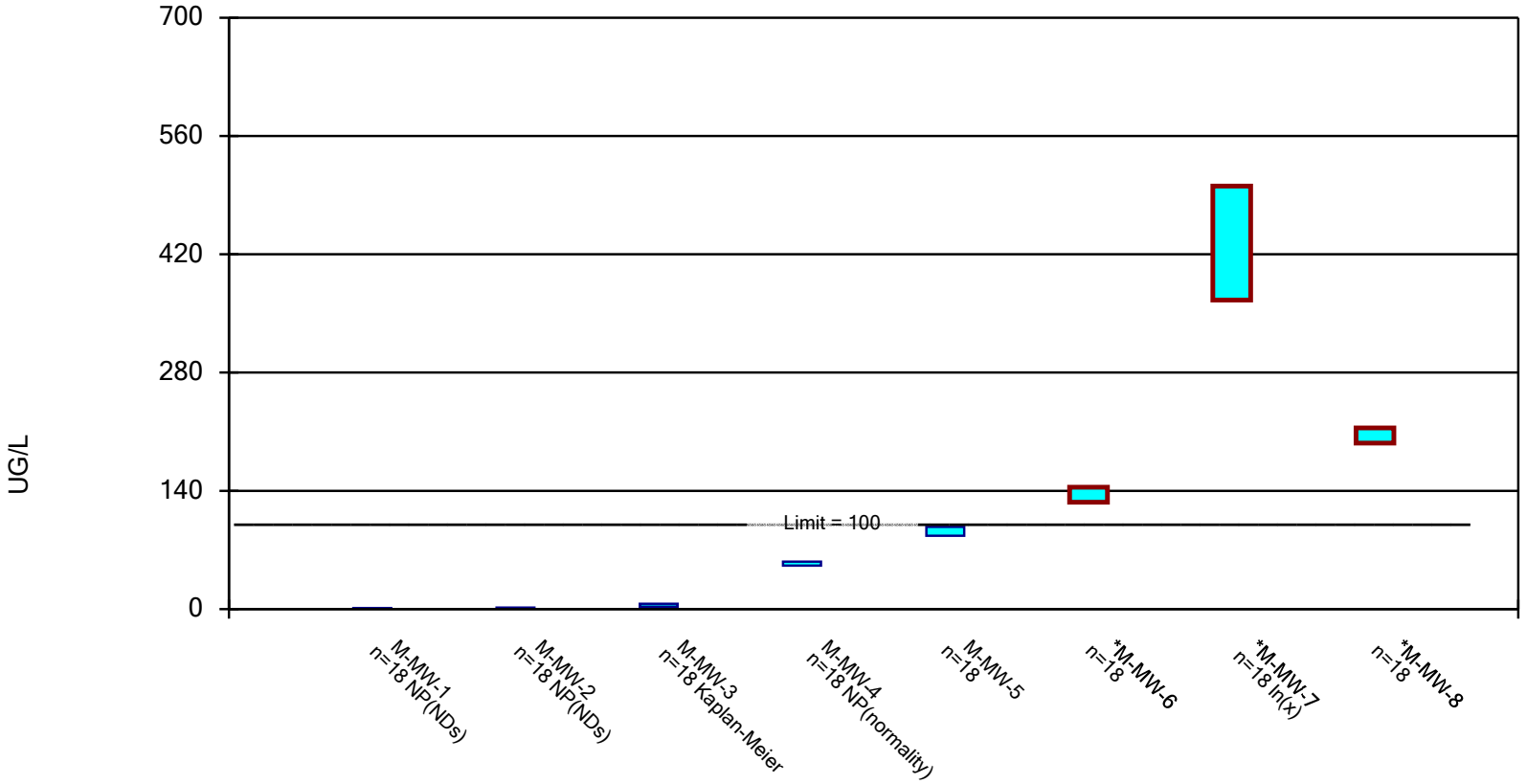


Constituent: MERCURY, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

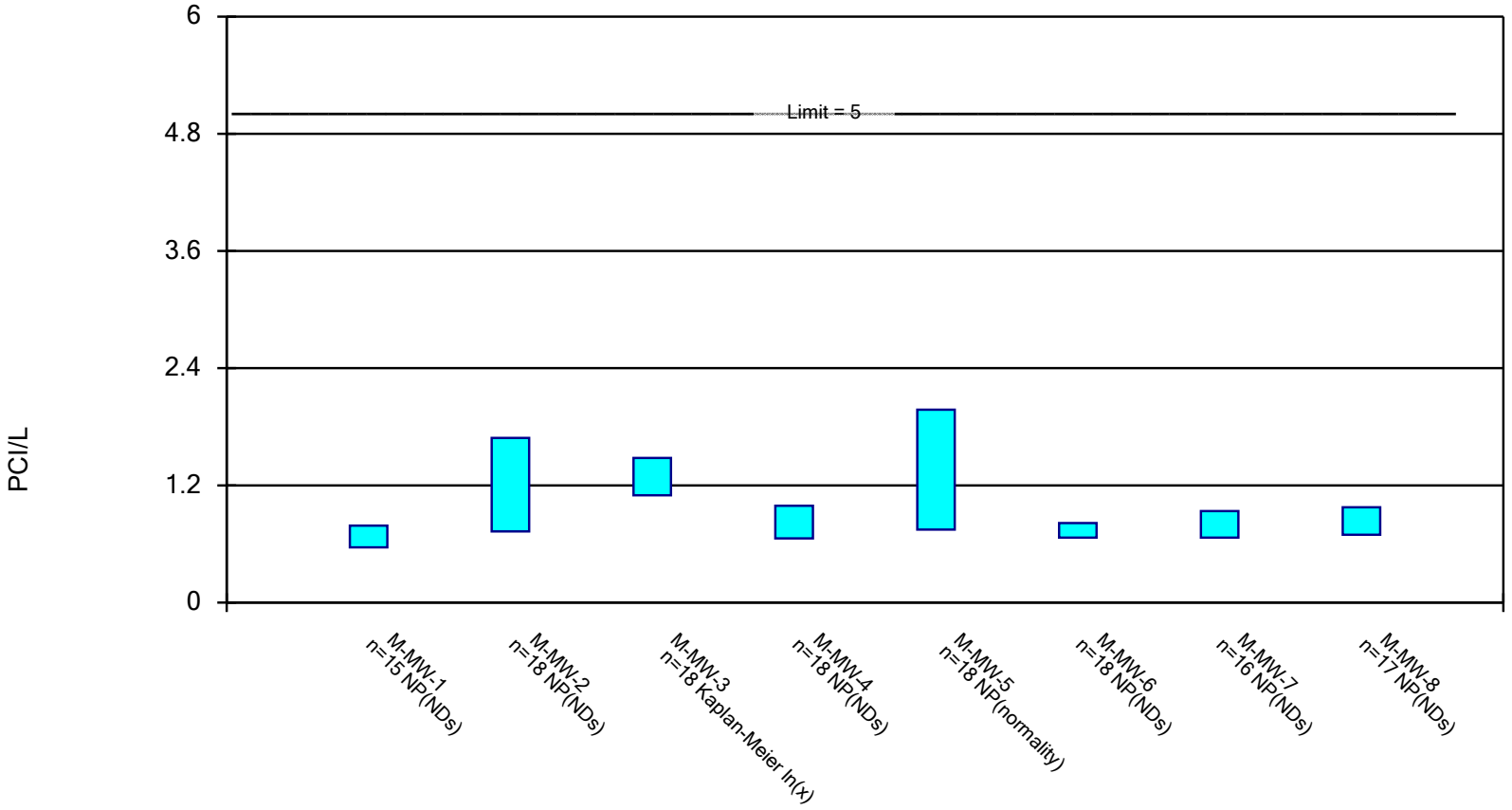


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

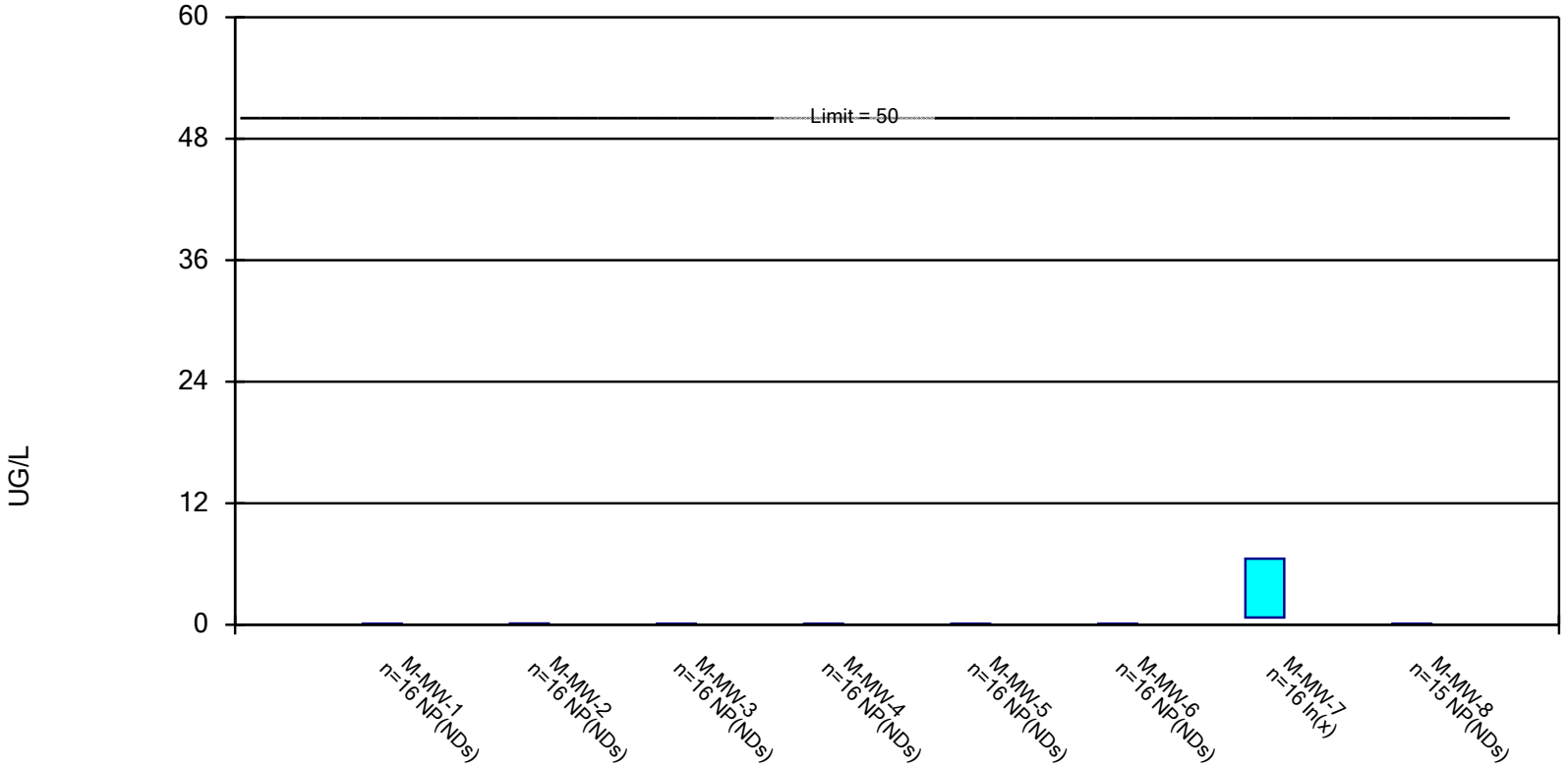


Constituent: Radium [226 + 228] Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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.

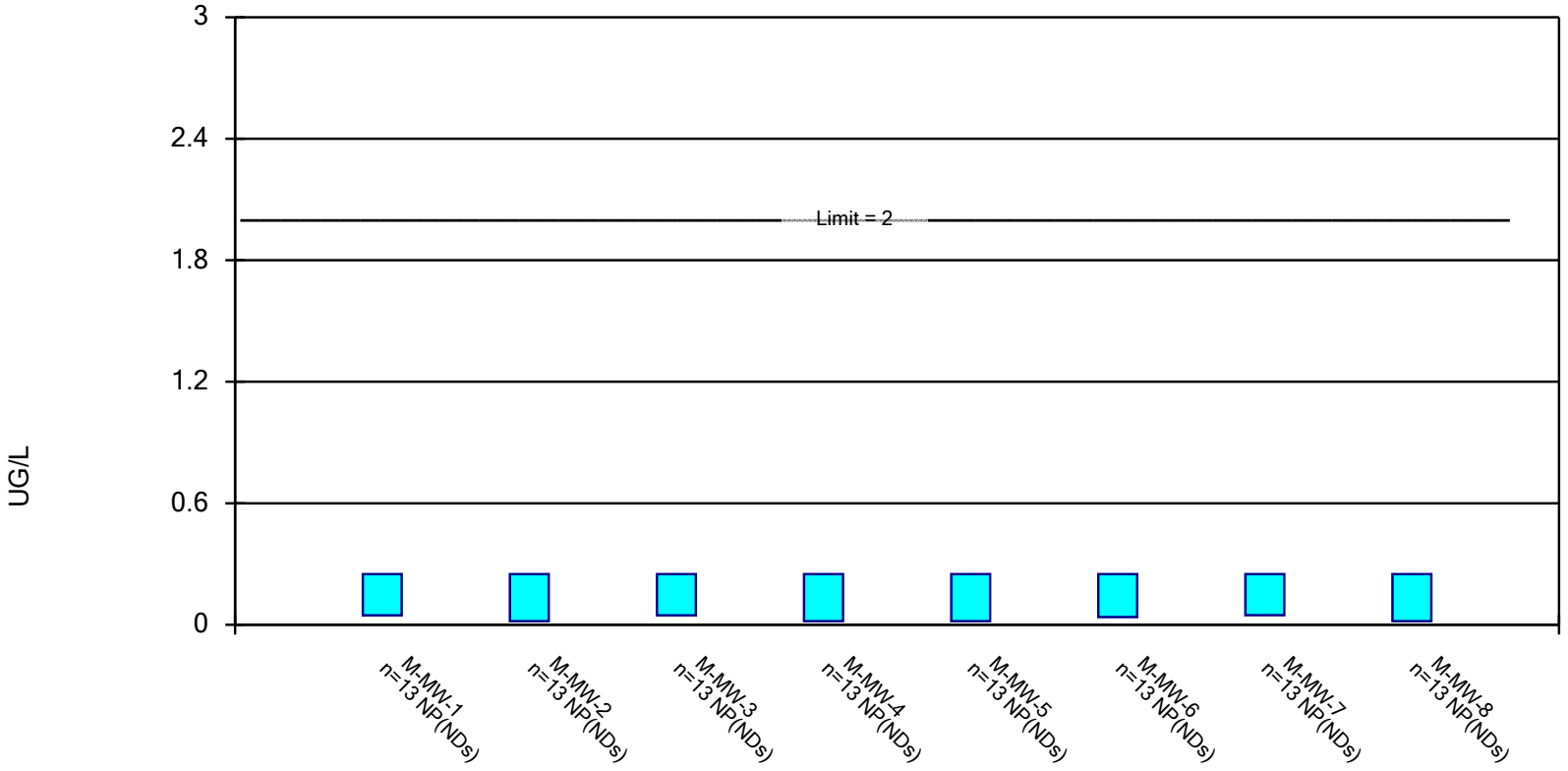


Constituent: SELENIUM, TOTAL Analysis Run 7/5/2022 2:51 PM View: Assessment Monitoring

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 7/5/2022 2:51 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/5/2022, 2:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.06	0.028	6	No	13	76.92	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.06	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.05	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.05	0.027	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.06	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.066	0.029	6	No	13	61.54	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.4186	0.3796	6	No	11	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.37	0.013	6	No	13	76.92	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-1	0.697	0.5555	10	No	16	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	1.988	1.59	10	No	18	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	8.1	6.6	10	No	17	0	No	0.01	NP (normality)
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**15.32**	**13.92**	**10**	**Yes**	**17**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**22.34**	**20.11**	**10**	**Yes**	**16**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	M-MW-6	4.989	2.823	10	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.186	2.451	10	No	18	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-8	6.307	5.743	10	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	371.5	359.7	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	490	301	2000	No	18	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	M-MW-3	244.2	207.2	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	219.6	199.9	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-5	285.2	228.5	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	66.52	52.8	2000	No	18	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	48.37	40.28	2000	No	18	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-8	212.4	151.1	2000	No	18	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0.23	0.125	4	No	13	84.62	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0.28	0.125	4	No	13	76.92	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0.245	0.08	4	No	12	91.67	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-1	0.071	0.009	5	No	13	76.92	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-2	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-3	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-4	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-5	0.048	0.009	5	No	13	84.62	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-6	0.08314	0.0229	5	No	13	46.15	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-7	0.2854	0.1064	5	No	13	15.38	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-8	0.099	0.009	5	No	13	61.54	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-1	0.801	0.2685	100	No	16	31.25	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.6982	0.2925	100	No	15	20	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-3	0.3474	0.08408	100	No	16	50	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.6005	0.2045	100	No	16	37.5	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.3479	0.1271	100	No	16	43.75	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.37	0.039	100	No	15	53.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-7	0.4696	0.1141	100	No	16	43.75	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.5	0.039	100	No	16	62.5	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-1	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-2	0.75	0.36	6	No	17	94.12	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/5/2022, 2:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	1.5	0.365	6	No	17	64.71	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-4	0.475	0.36	6	No	15	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-5	0.75	0.36	6	No	17	94.12	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-6	7.072	4.785	6	No	14	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-7	1.2	0.36	6	No	17	88.24	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-8	0.75	0.36	6	No	16	93.75	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.3155	0.2467	4	No	18	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1449	0.08238	4	No	20	25	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.1311	0.08285	4	No	19	26.32	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.1922	0.1098	4	No	19	15.79	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.2617	0.1762	4	No	19	5.263	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.2242	0.1219	4	No	19	15.79	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.5065	0.3014	4	No	21	9.524	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.3054	0.1874	4	No	19	10.53	No	0.01	Param.
LEAD, TOTAL (UG/L)	M-MW-1	2.3	1.2	15	No	11	100	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-2	2.8	1.25	15	No	13	69.23	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-3	2.5	1.2	15	No	13	92.31	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-4	3.6	1.2	15	No	13	84.62	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-5	4.3	1.2	15	No	13	69.23	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-6	2.7	1.2	15	No	13	92.31	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-7	2.8	1.2	15	No	13	84.62	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-8	4.8	1.2	15	No	13	76.92	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-1	2.95	2.3	40	No	15	93.33	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	6.547	3.674	40	No	18	44.44	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-3	6.656	4.364	40	No	18	50	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-4	23.5	18.6	40	No	17	5.882	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-5	21.57	16.25	40	No	18	11.11	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**M-MW-6**	**135.9**	**118.3**	**40**	**Yes**	**16**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	**M-MW-7**	**56.96**	**42**	**40**	**Yes**	**17**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	M-MW-8	34.48	29.4	40	No	17	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-1	0.045	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-2	0.045	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-3	0.045	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-4	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-5	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-6	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-7	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-8	0.047	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	1.3	0.26	100	No	18	88.89	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	1.7	0.45	100	No	18	77.78	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	6.279	2.811	100	No	18	16.67	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	56.2	51.5	100	No	18	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	97.25	86.73	100	No	18	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**M-MW-6**	**144.2**	**126.4**	**100**	**Yes**	**18**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-7**	**500.8**	**365.9**	**100**	**Yes**	**18**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-8**	**214.4**	**196.5**	**100**	**Yes**	**18**	**0**	**No**	**0.01**	**Param.**
Radium [226 + 228] (PCI/L)	M-MW-1	0.788	0.565	5	No	15	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	1.686	0.728	5	No	18	77.78	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.48	1.099	5	No	18	50	ln(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-4	0.991	0.657	5	No	18	83.33	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/5/2022, 2:52 PM

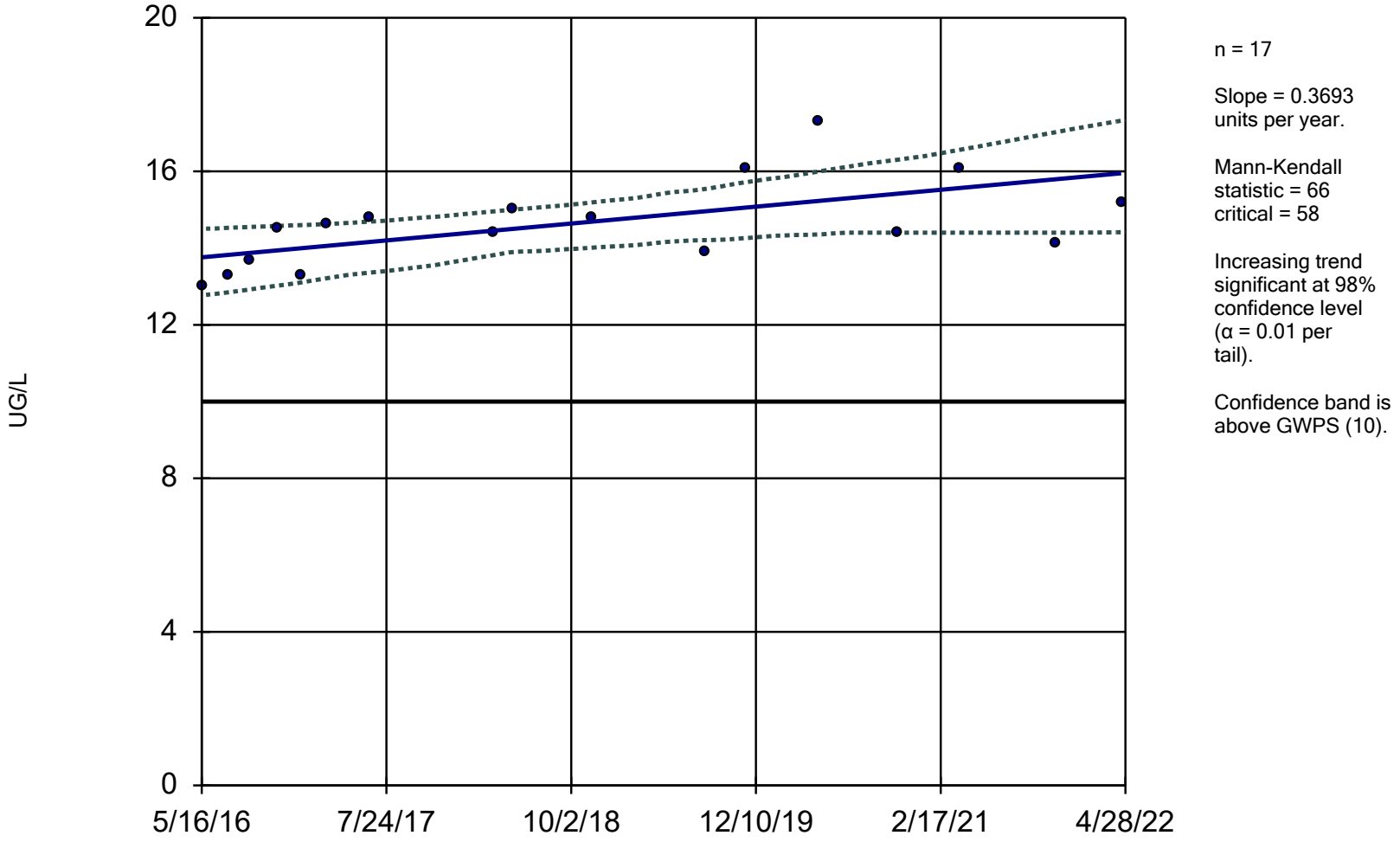
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	1.975	0.747	5	No	18	50	No	0.01	NP (normality)
Radium [226 + 228] (PCI/L)	M-MW-6	0.814	0.664	5	No	18	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.937	0.6655	5	No	16	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	0.9755	0.6935	5	No	17	88.24	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	16	87.5	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	16	87.5	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.089	50	No	16	87.5	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	16	87.5	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	16	93.75	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.043	50	No	16	93.75	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	6.527	0.7074	50	No	16	12.5	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.043	50	No	15	86.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-1	0.25	0.0465	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-2	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-3	0.25	0.0465	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-4	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-5	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-6	0.25	0.038	2	No	13	92.31	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-7	0.25	0.047	2	No	13	76.92	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-8	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)

APPENDIX B

Sanitas Trending Confidence Bands Statistical Output

Sen's Slope and 95% Confidence Band

M-MW-4



n = 17

Slope = 0.3693 units per year.

Mann-Kendall statistic = 66
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

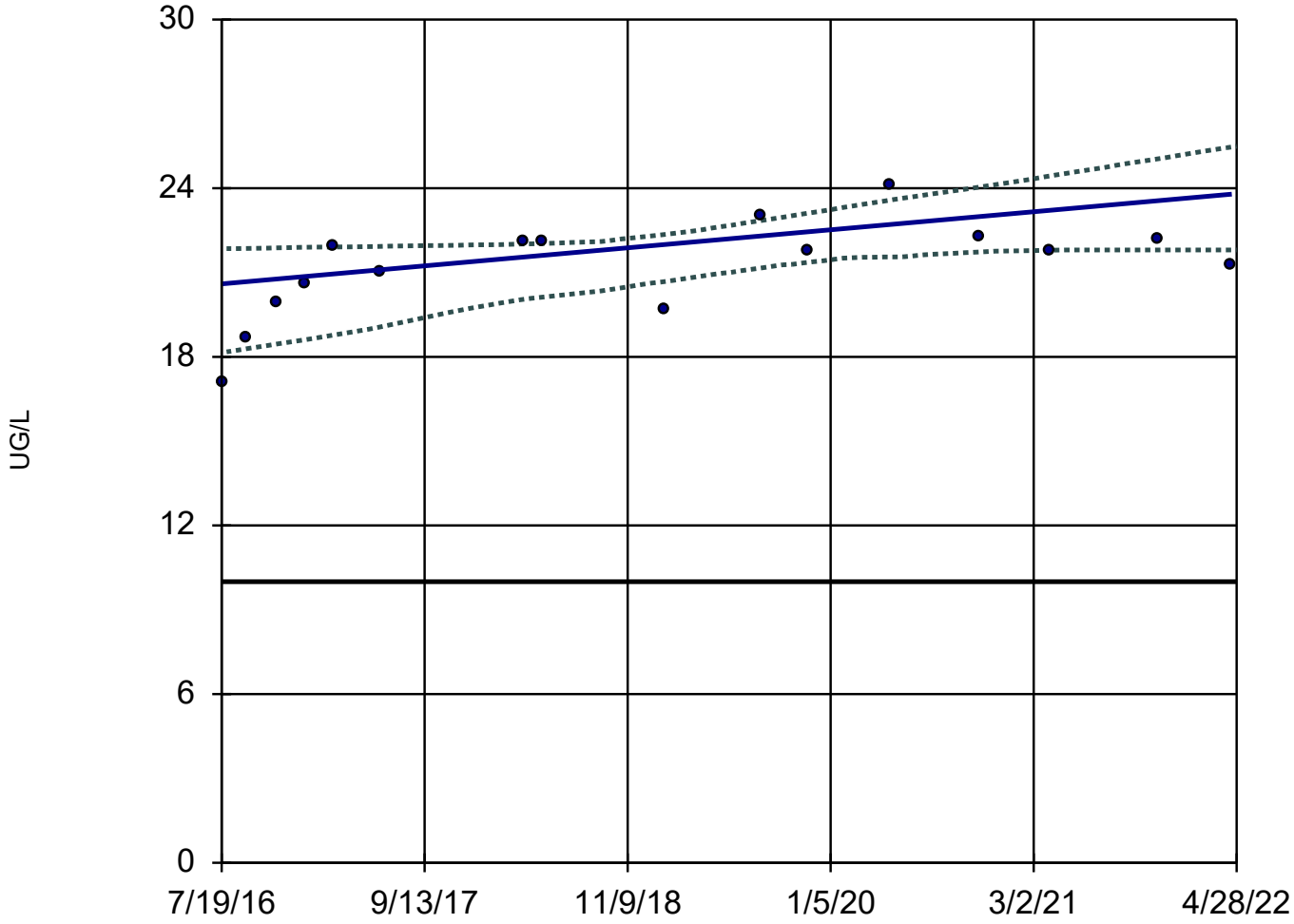
Confidence band is above GWPS (10).

Constituent: ARSENIC, TOTAL Analysis Run 7/5/2022 2:52 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 16

Slope = 0.5547 units per year.

Mann-Kendall statistic = 56
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

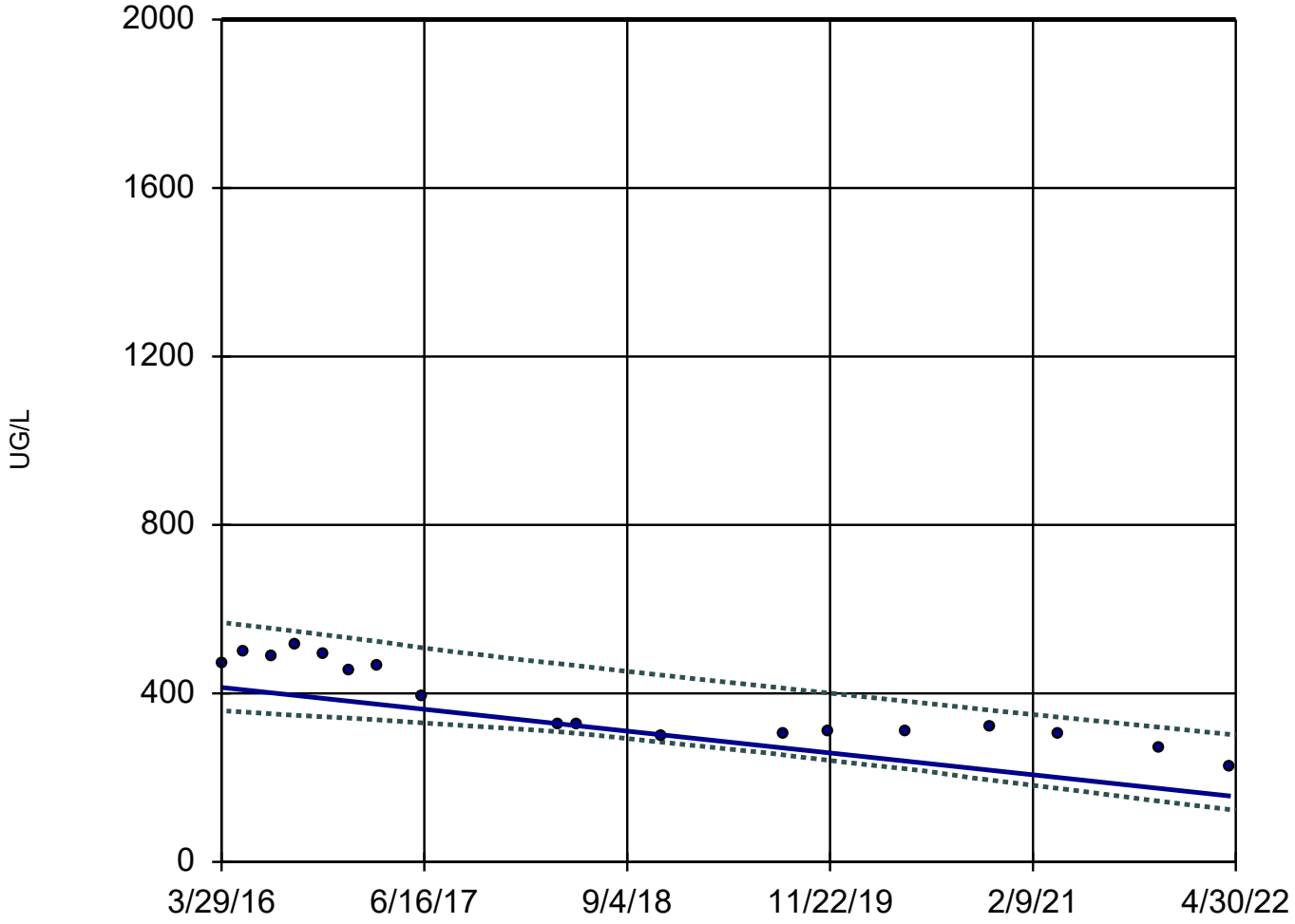
Confidence band is above GWPS (10).

Constituent: ARSENIC, TOTAL Analysis Run 7/5/2022 2:52 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 = -42.56 units per year.

Mann-Kendall statistic = -113 critical = -63

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

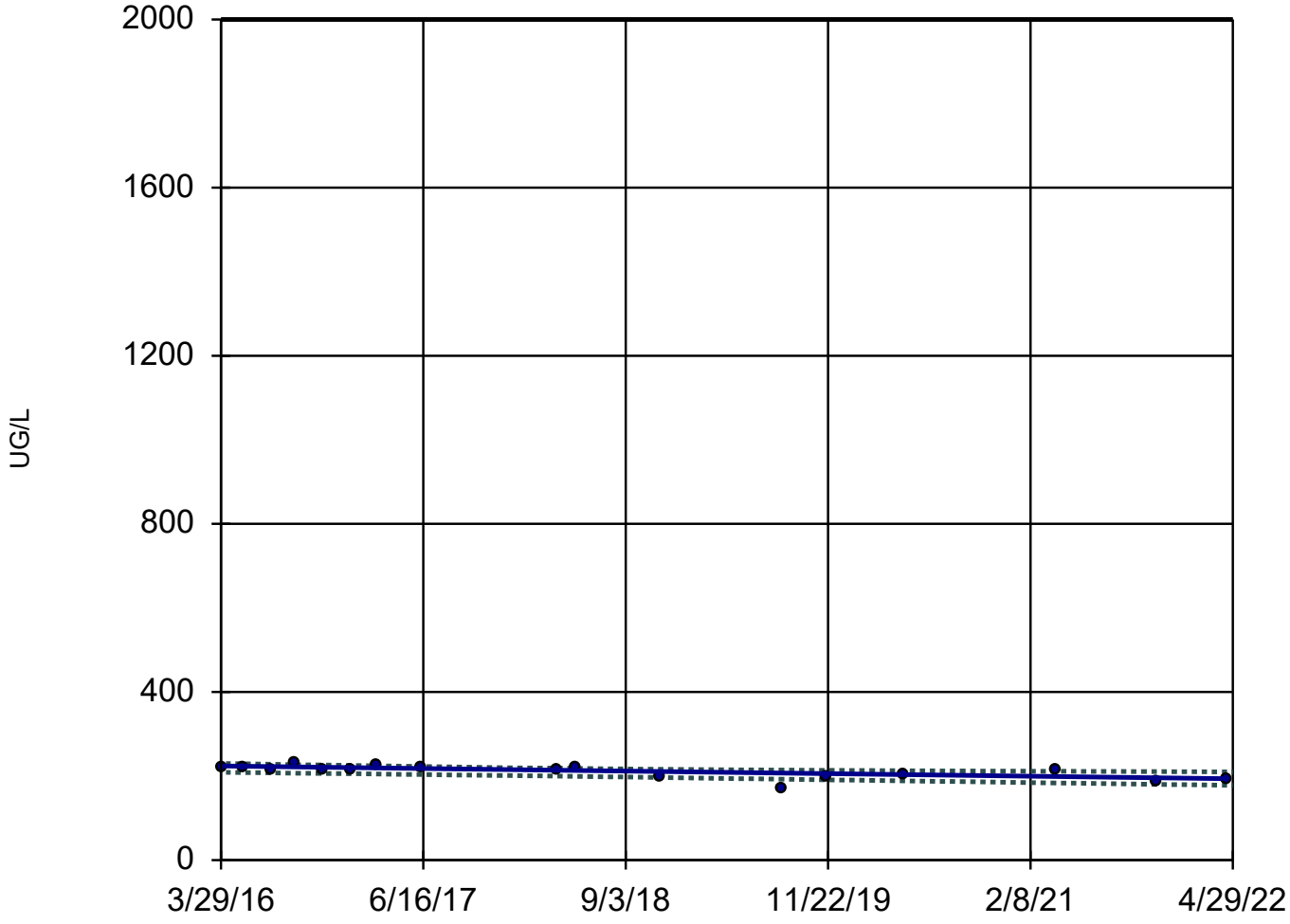
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/5/2022 2:52 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 17

Slope = -4.966 units per year.

Mann-Kendall statistic = -71
critical = -58

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

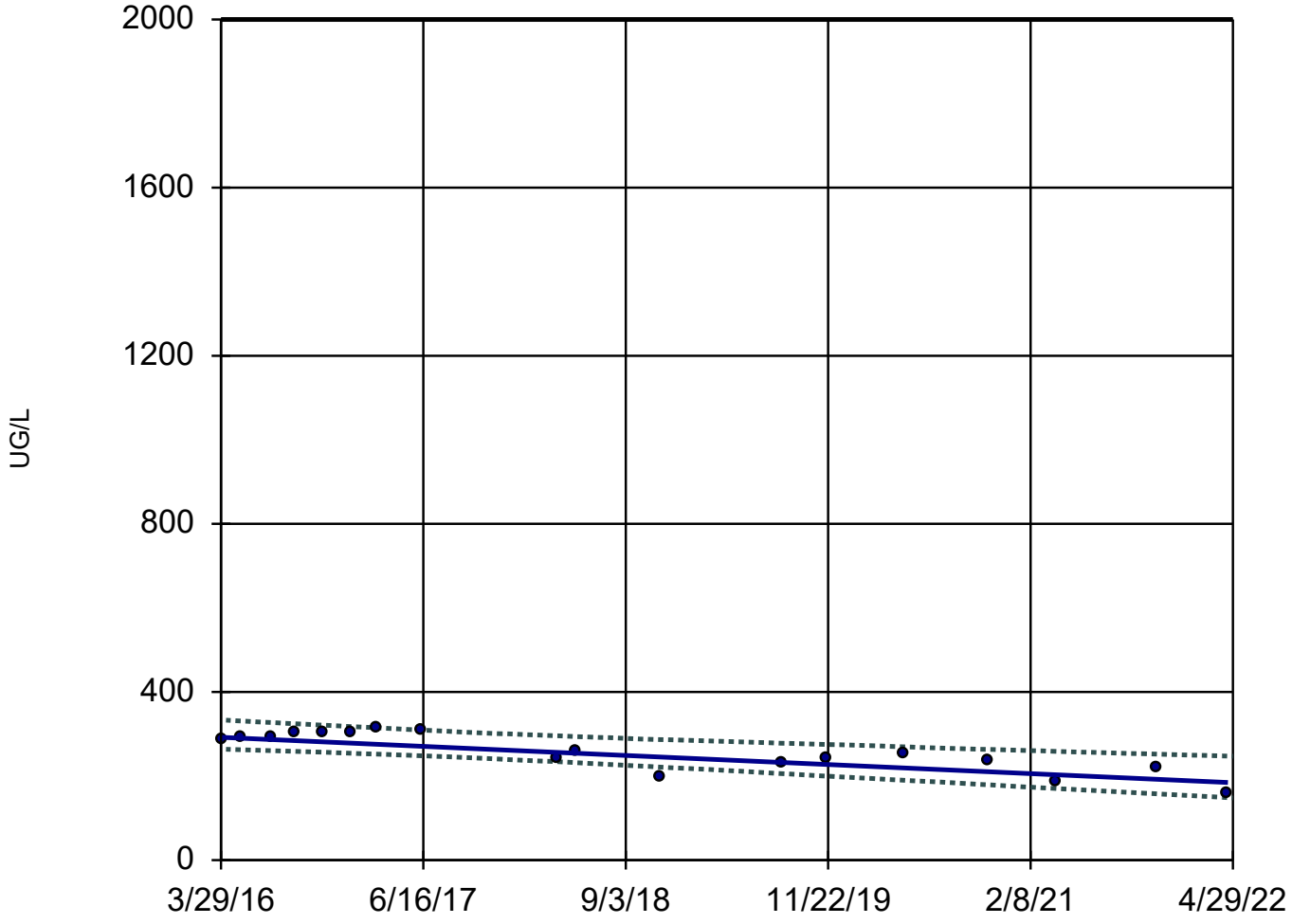
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/5/2022 2:52 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 18

Slope = -17.74 units per year.

Mann-Kendall statistic = -77
critical = -63

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

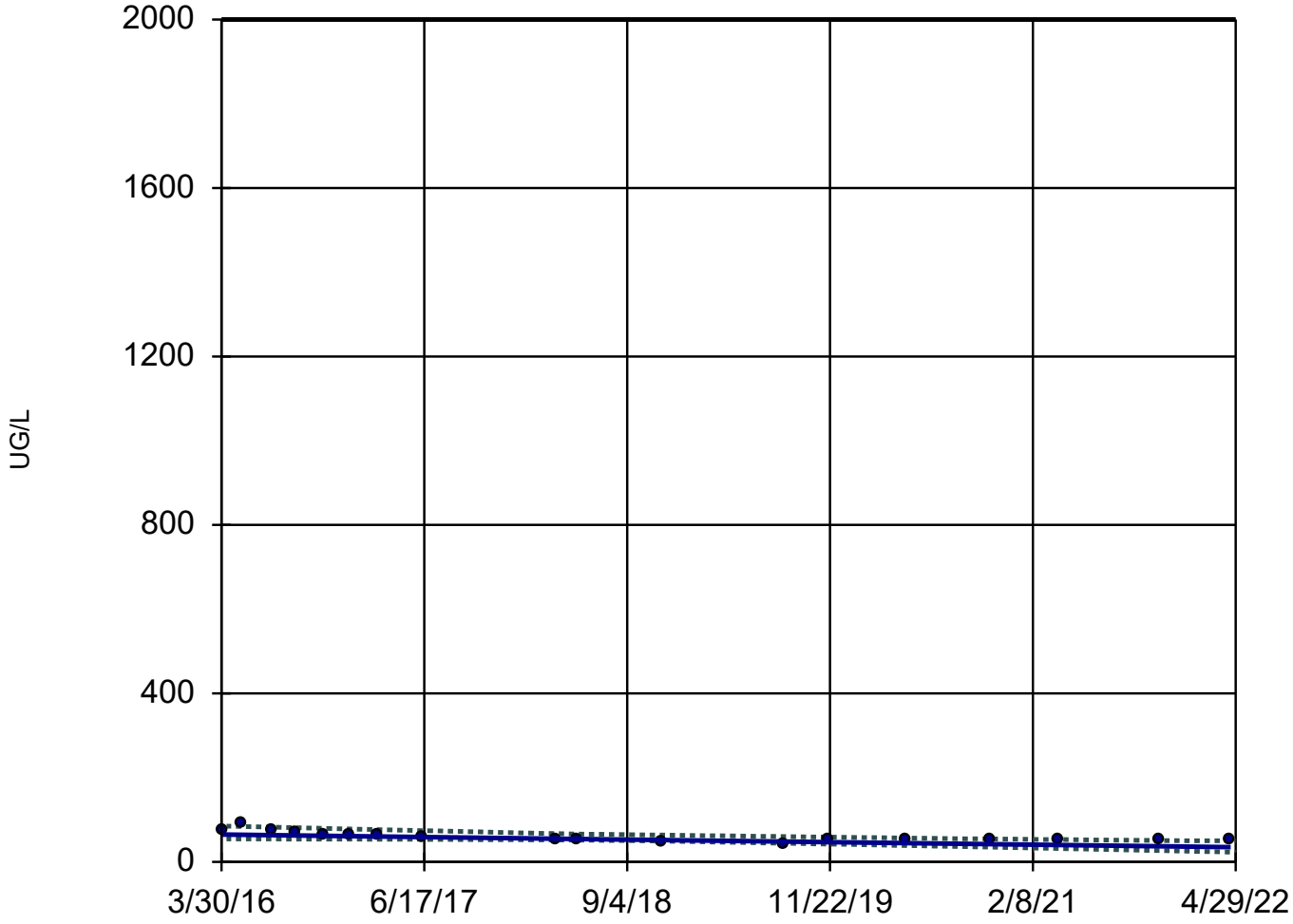
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/5/2022 2:52 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-6



n = 18

Slope = -4.957 units per year.

Mann-Kendall statistic = -104
critical = -63

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

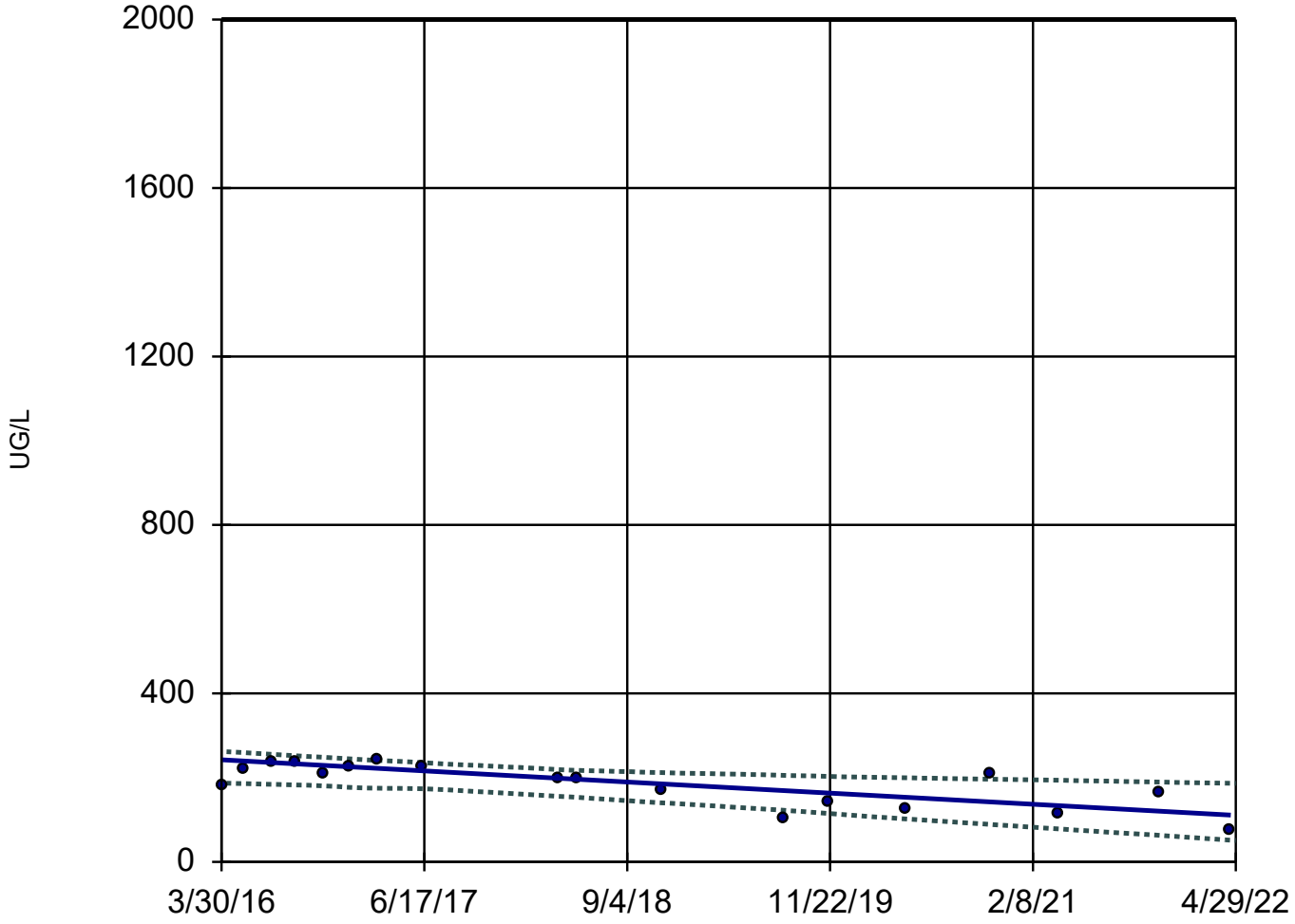
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-8



n = 18

Slope = -21.71 units per year.

Mann-Kendall statistic = -83
critical = -63

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2000).

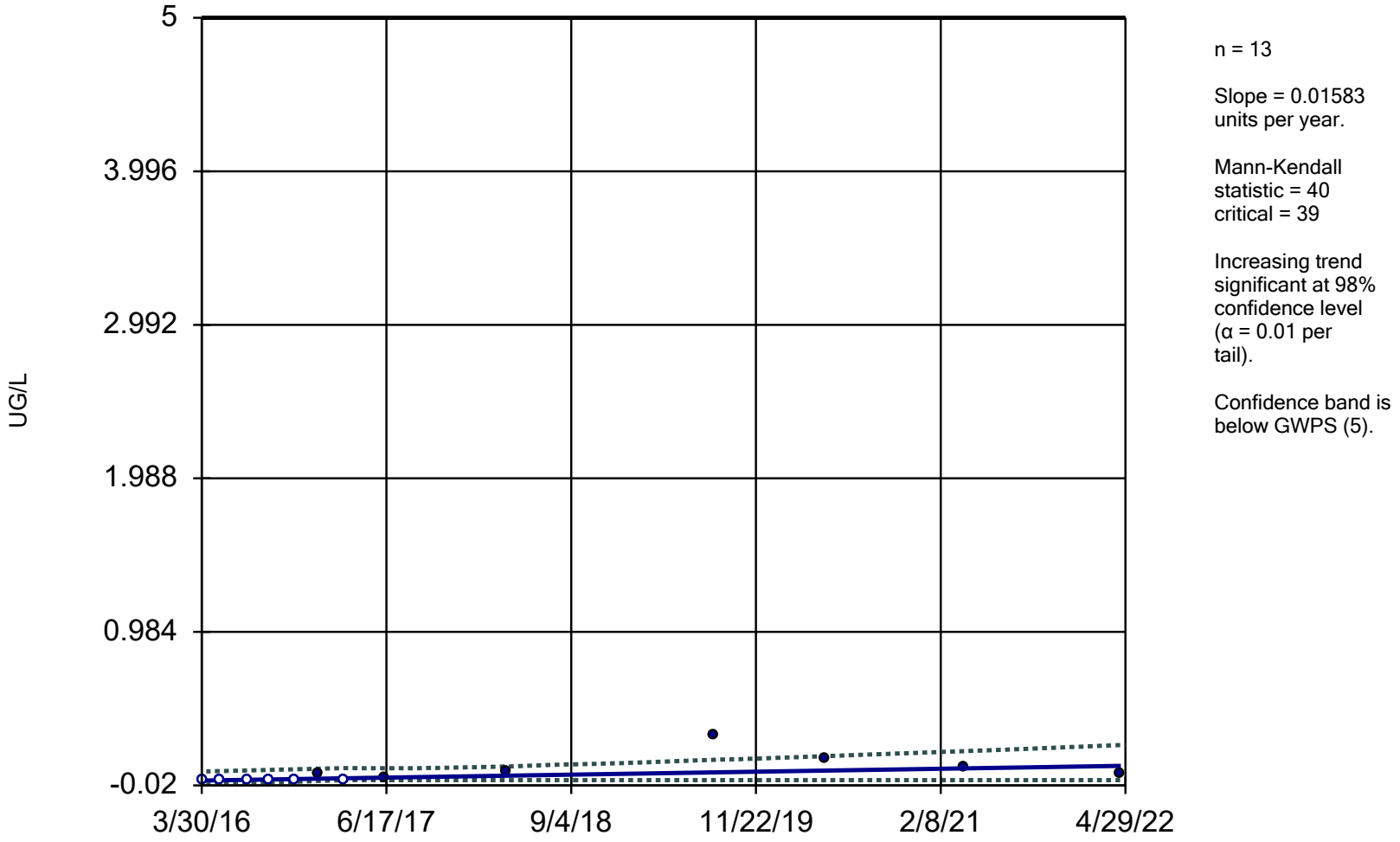
Constituent: BARIUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 13

Slope = 0.01583 units per year.

Mann-Kendall statistic = 40
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (5).

Constituent: CADMIUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

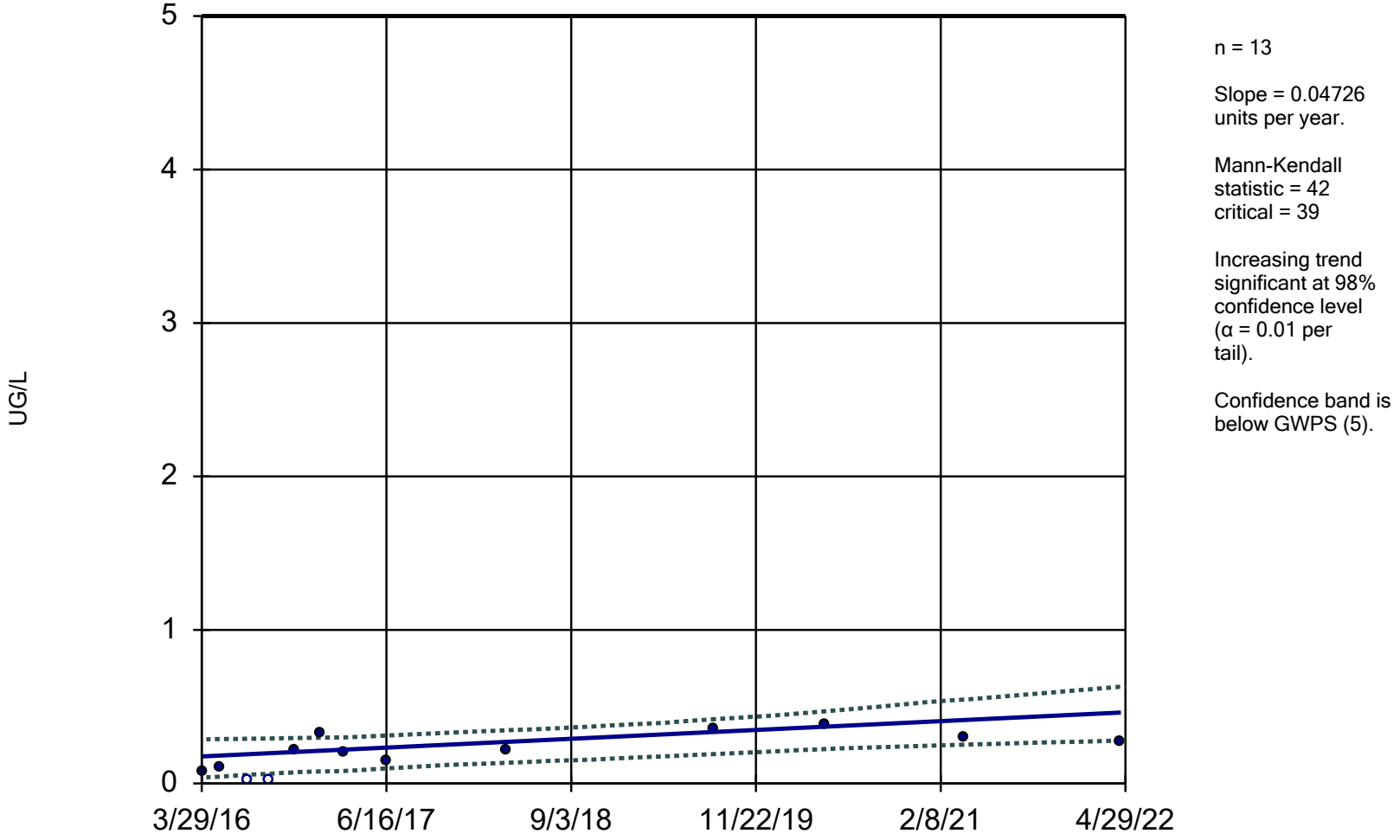
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.33 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 13

Slope = 0.04726 units per year.

Mann-Kendall statistic = 42
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (5).

Constituent: CADMIUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

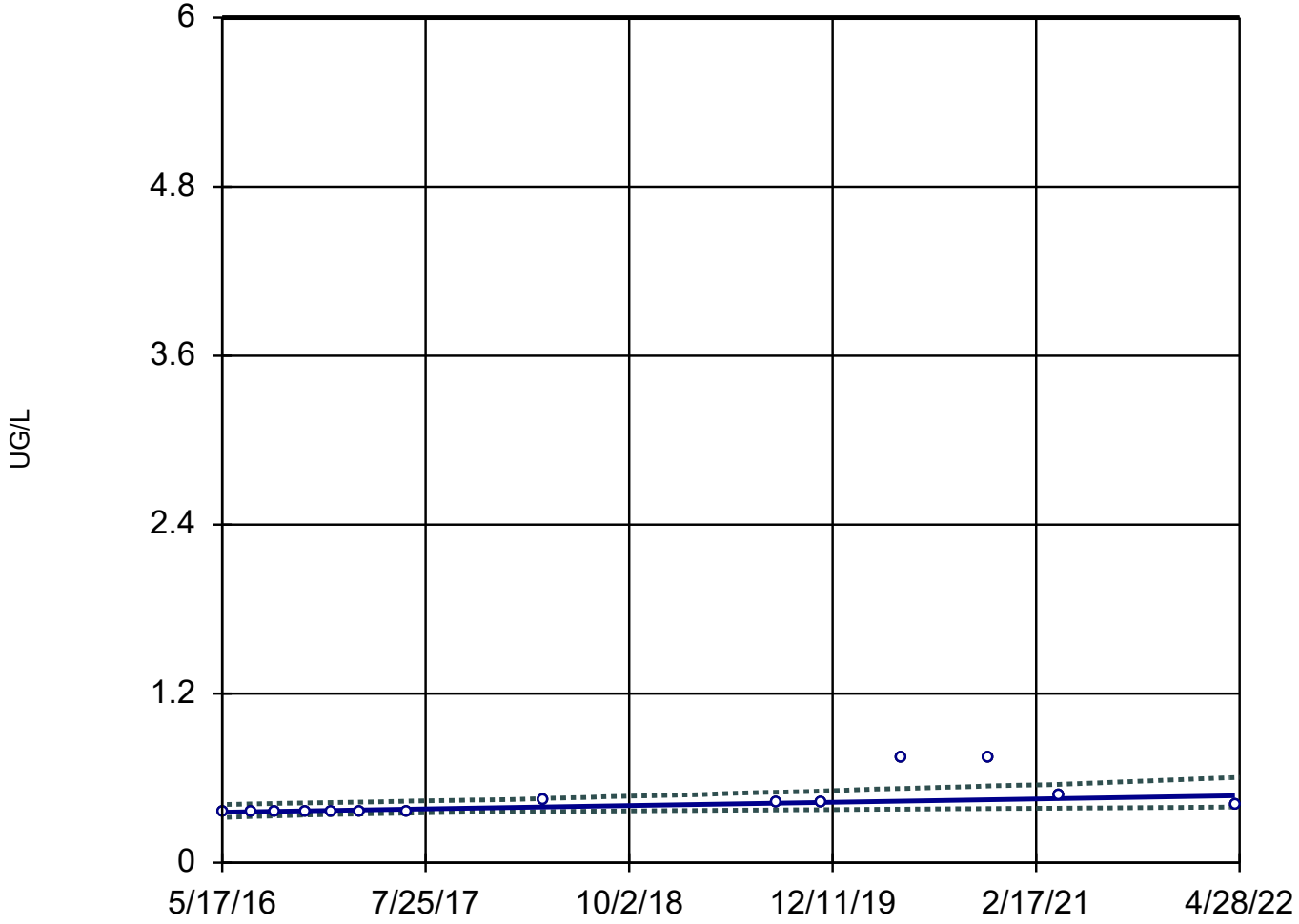
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.33 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 14

Slope = 0.01985 units per year.

Mann-Kendall statistic = 58
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

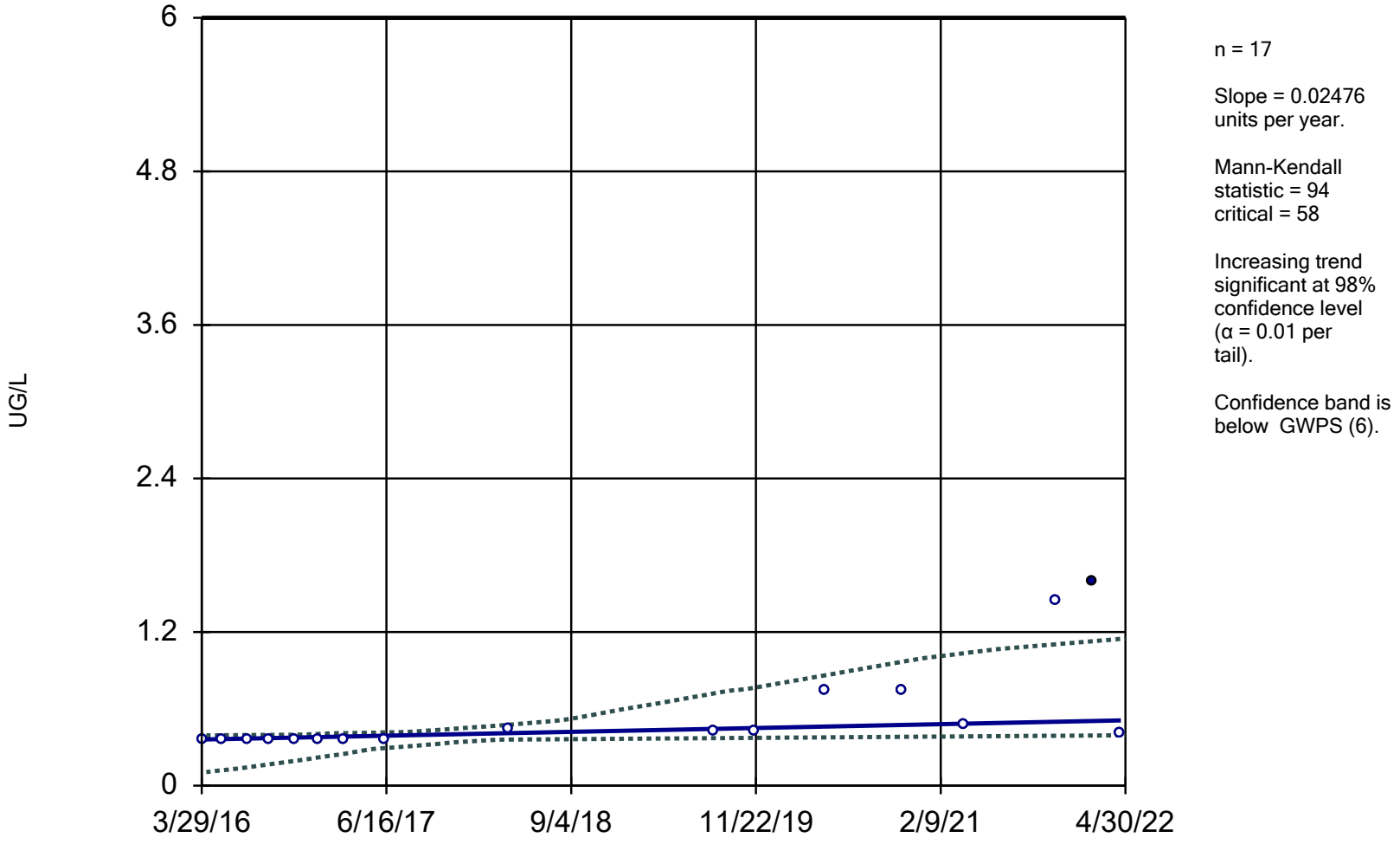
Constituent: COBALT, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-2



n = 17

Slope = 0.02476 units per year.

Mann-Kendall statistic = 94
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

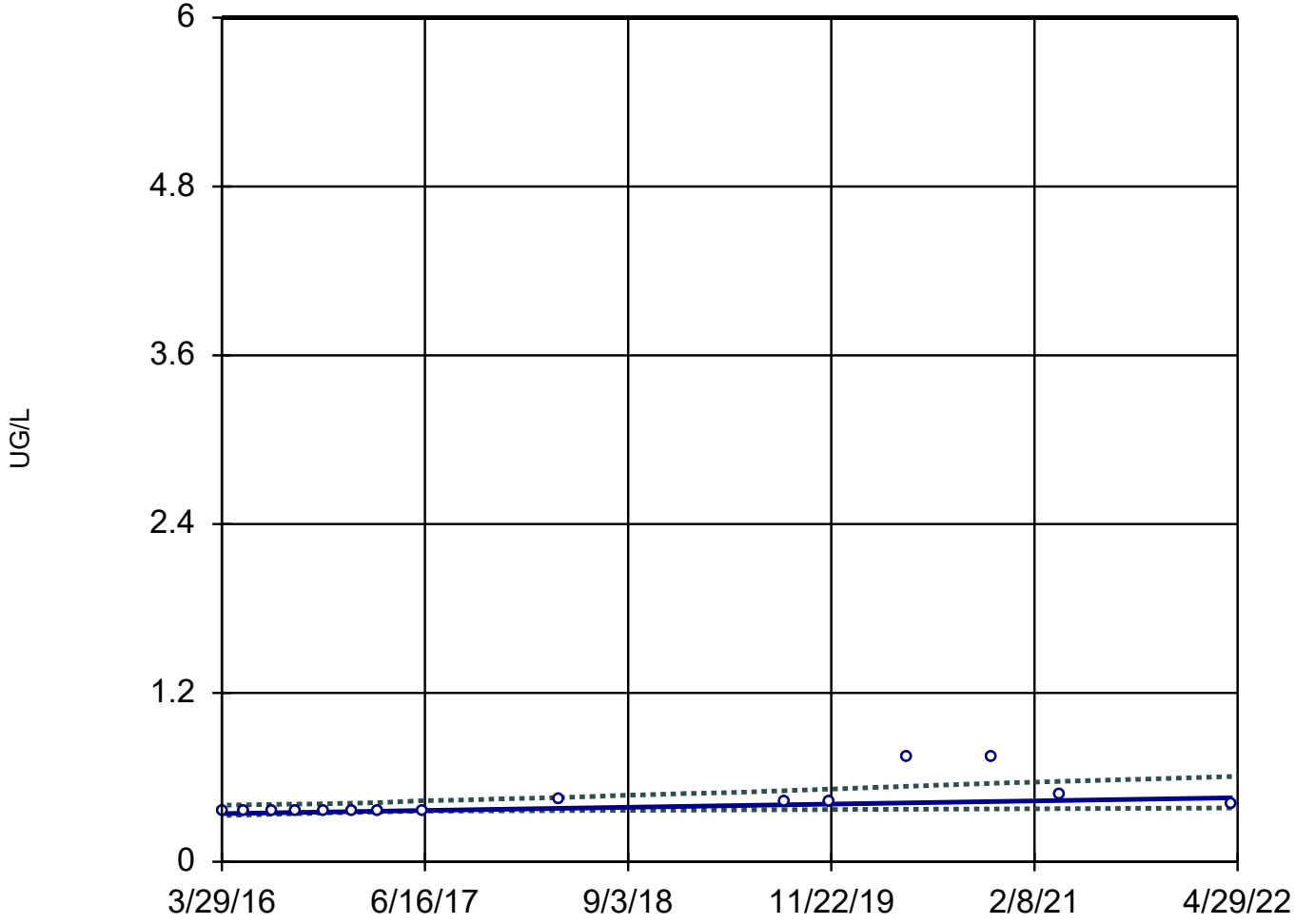
Constituent: COBALT, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 15

Slope = 0.01851 units per year.

Mann-Kendall statistic = 67
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

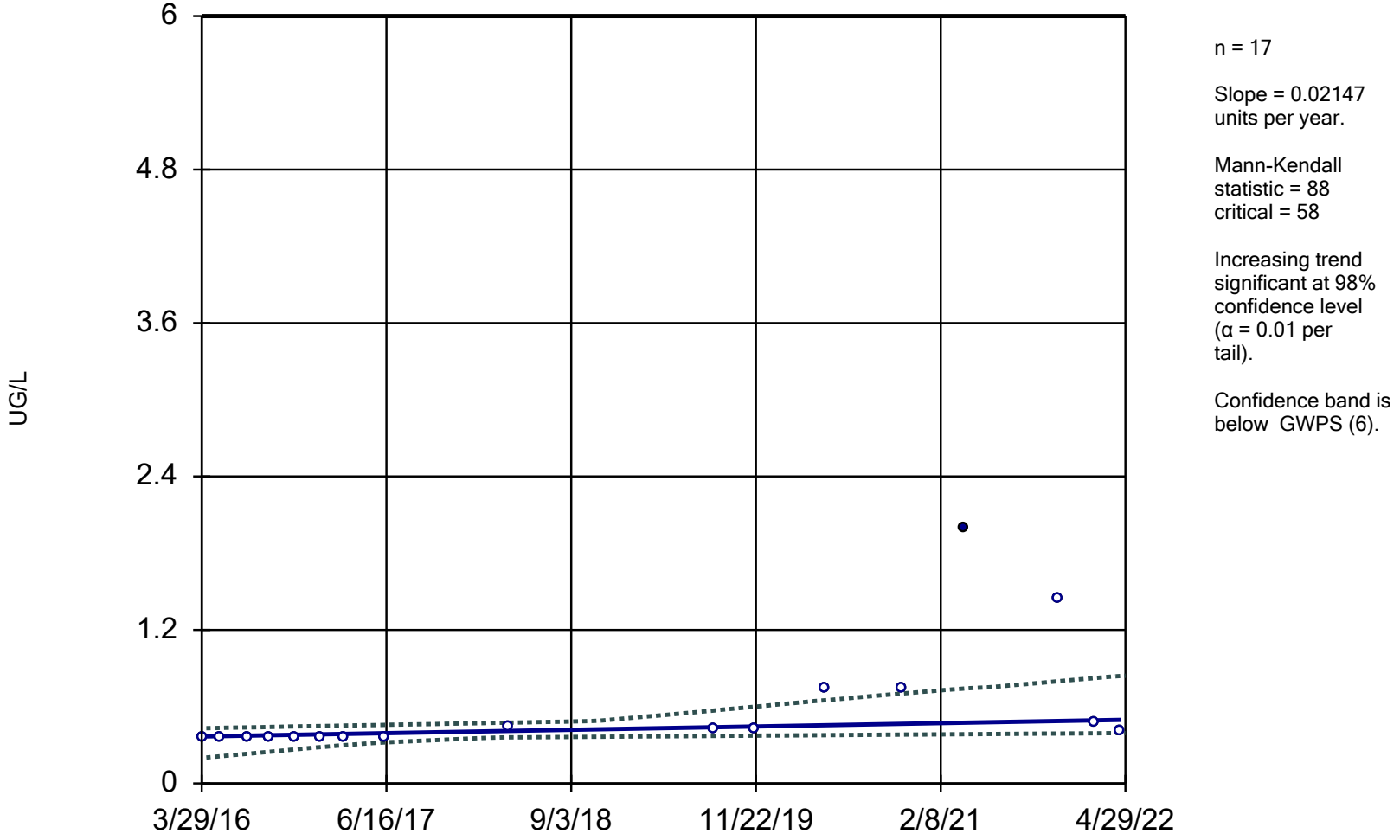
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.33 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 17

Slope = 0.02147 units per year.

Mann-Kendall statistic = 88
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

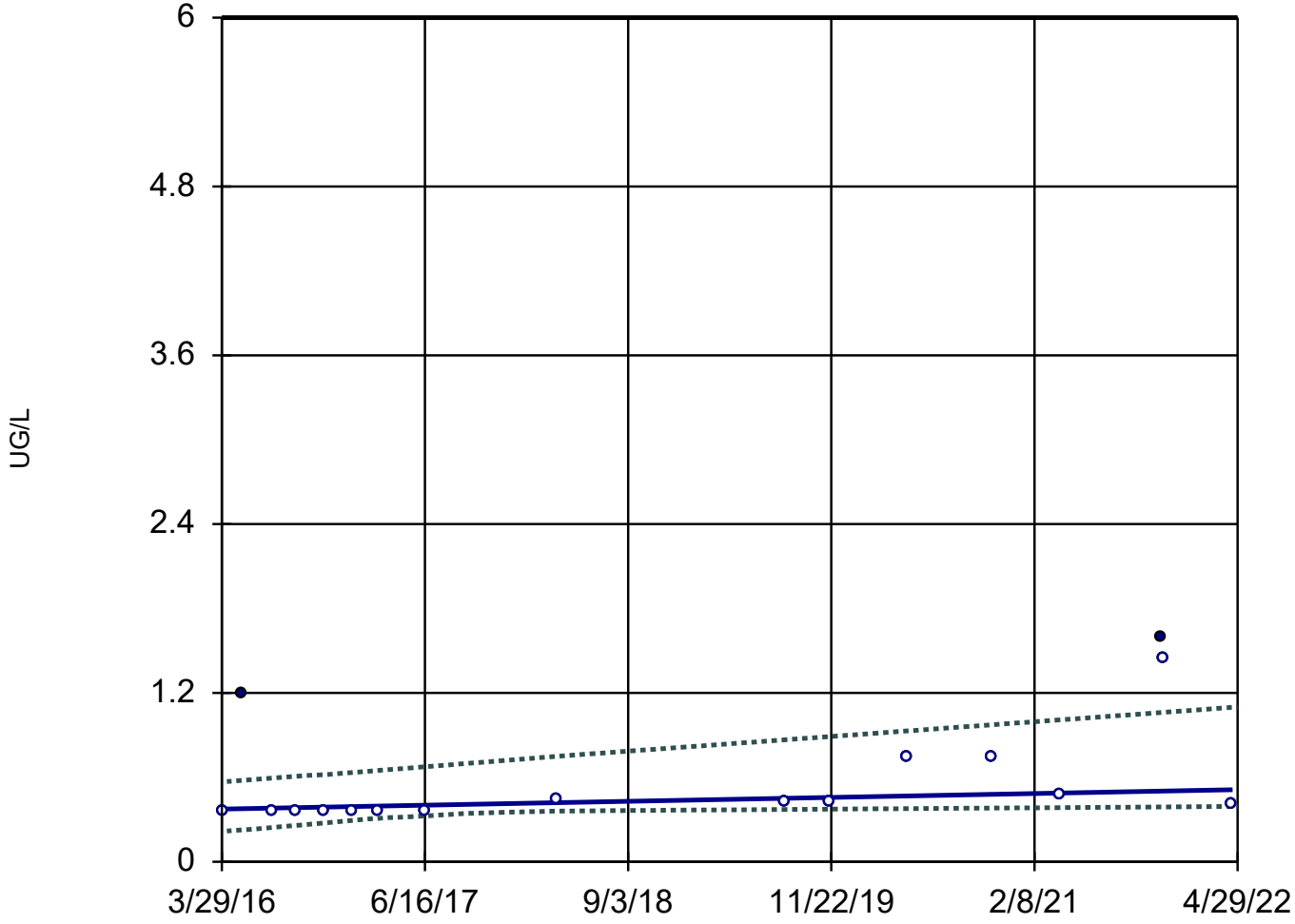
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.33 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 17

Slope = 0.02277 units per year.

Mann-Kendall statistic = 71
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

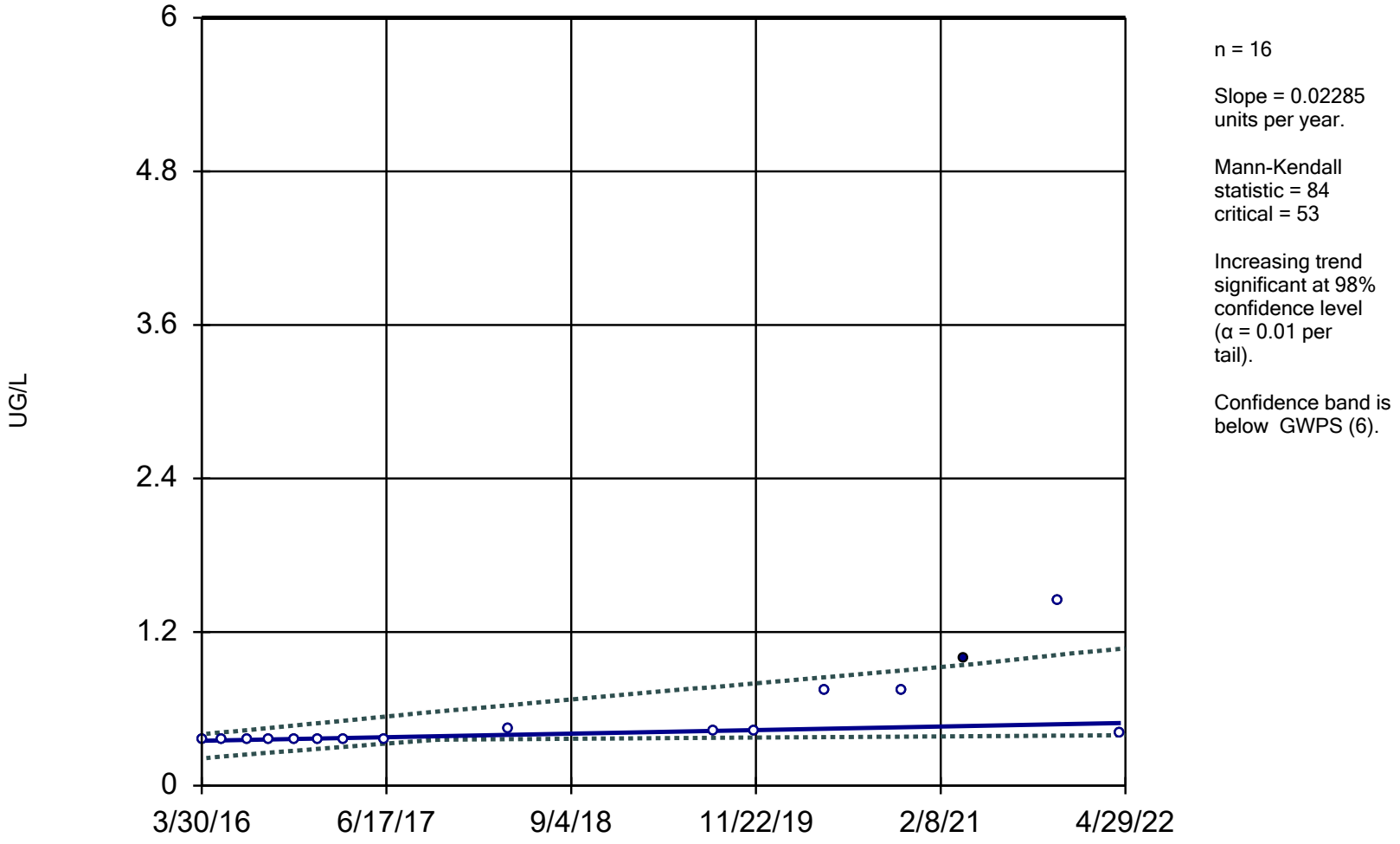
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.33 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-8



n = 16

Slope = 0.02285 units per year.

Mann-Kendall statistic = 84
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

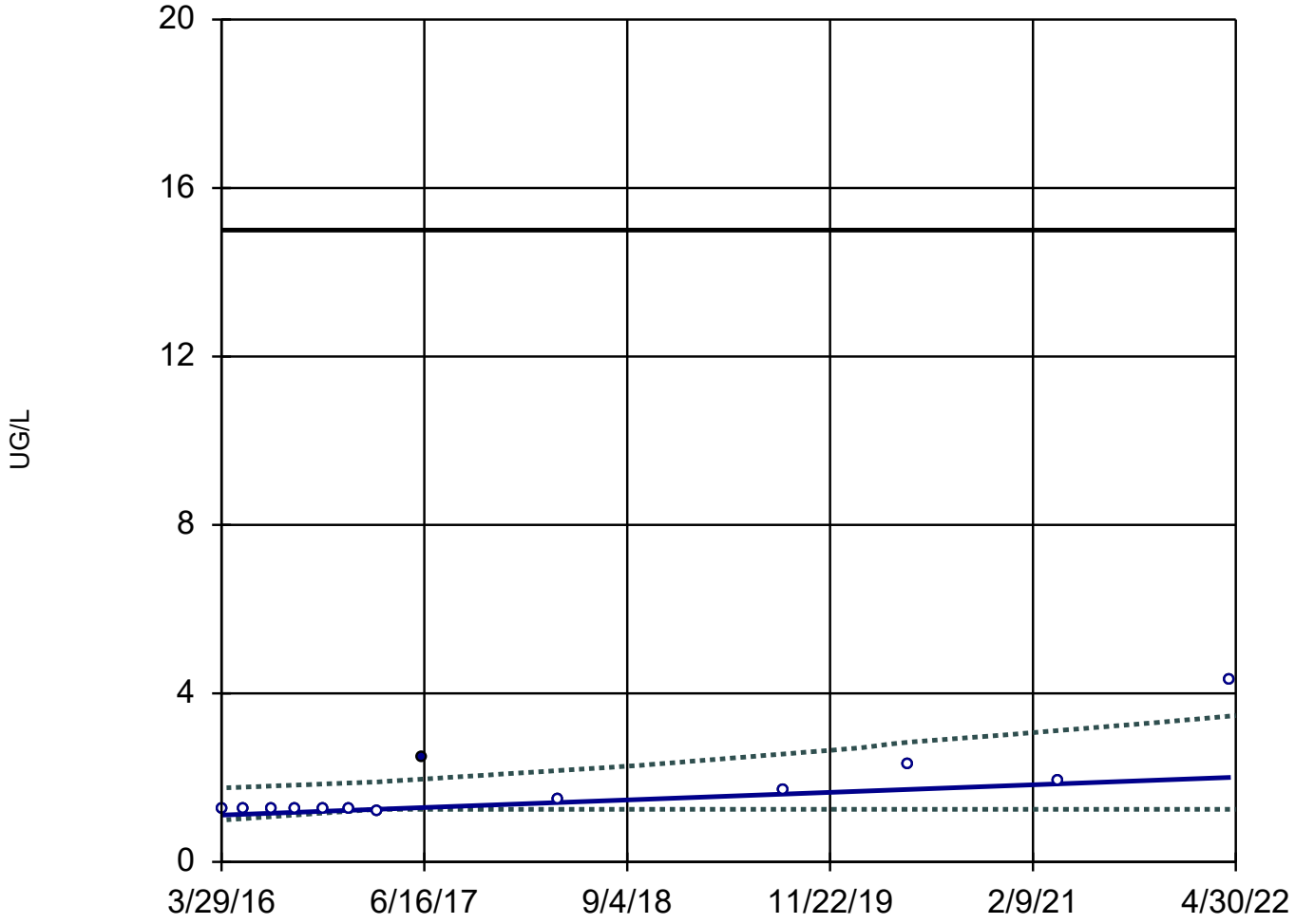
Constituent: COBALT, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 13

Slope = 0.1476 units per year.

Mann-Kendall statistic = 41
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (15).

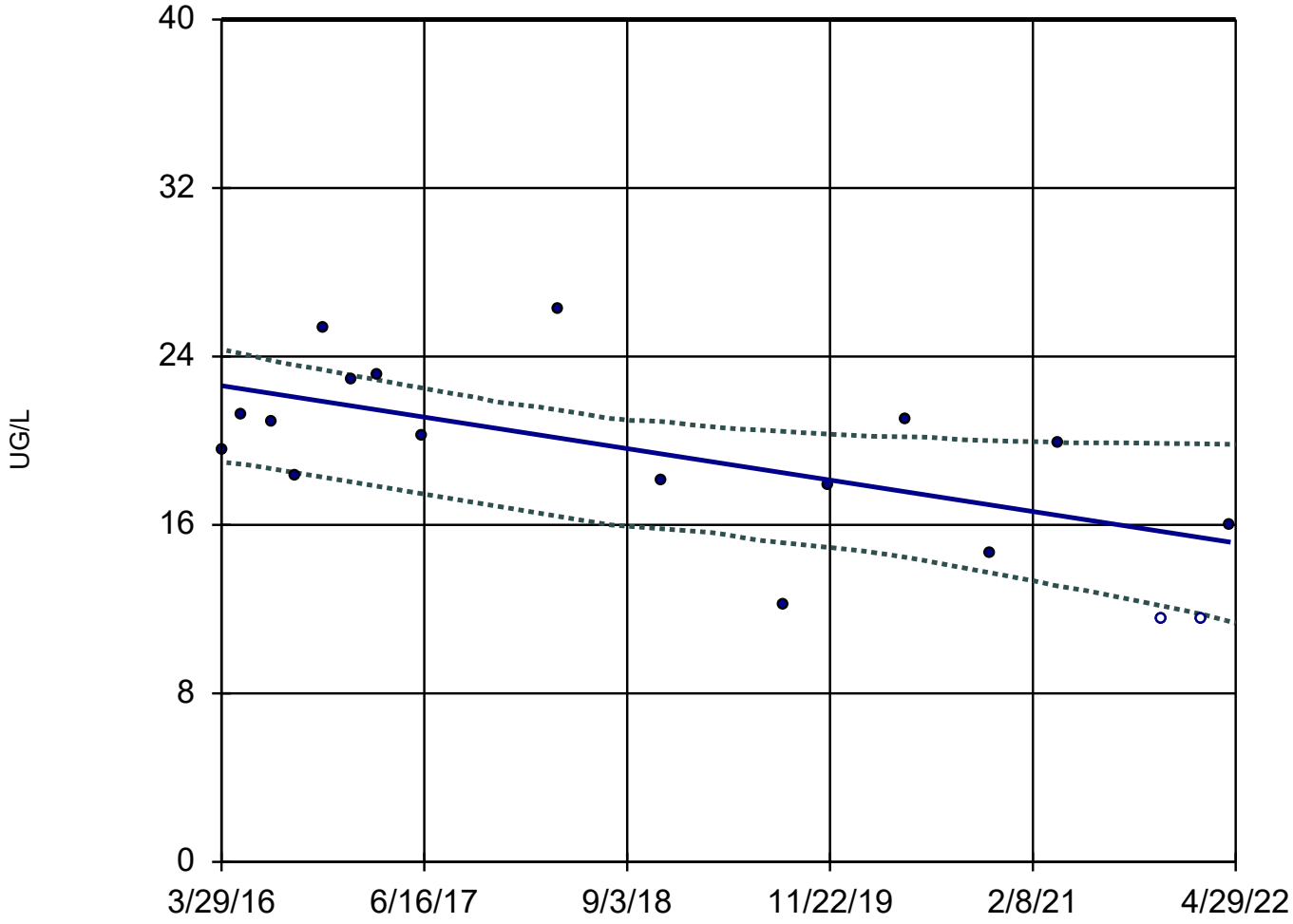
Constituent: LEAD, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 18

Slope = -1.226 units per year.

Mann-Kendall statistic = -64
critical = -63

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (40).

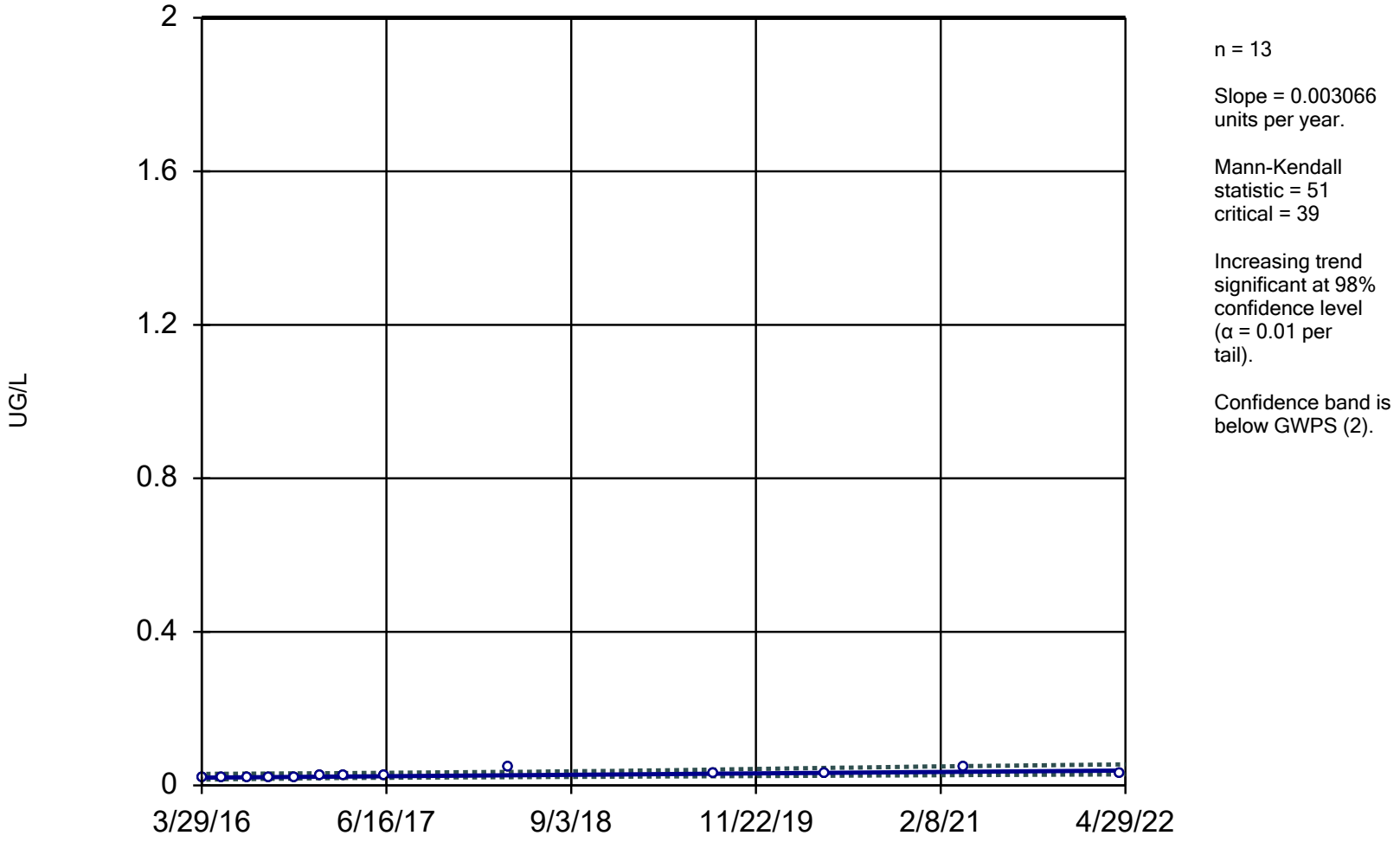
Constituent: LITHIUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 13

Slope = 0.003066 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

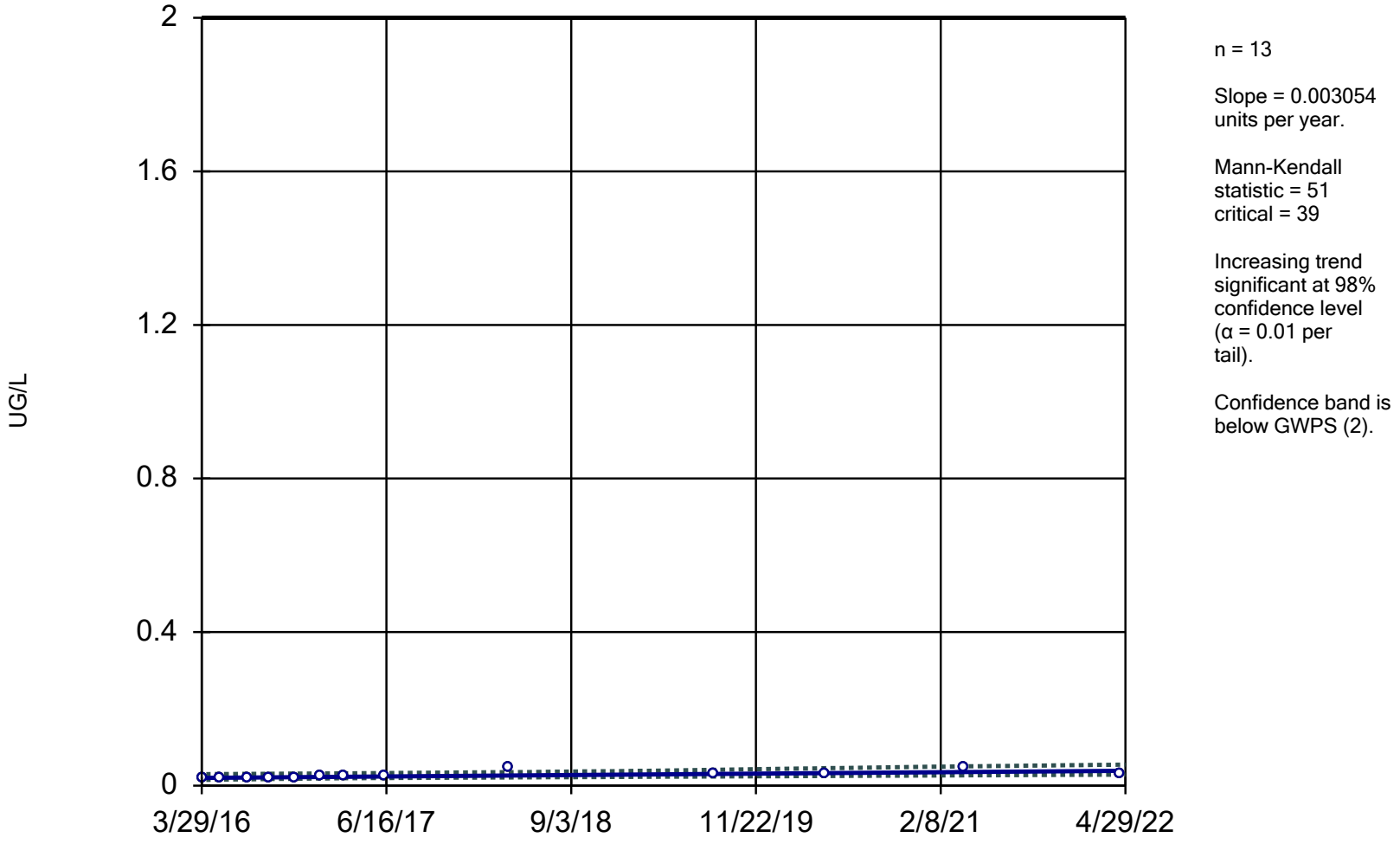
Constituent: MERCURY, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 13

Slope = 0.003054 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

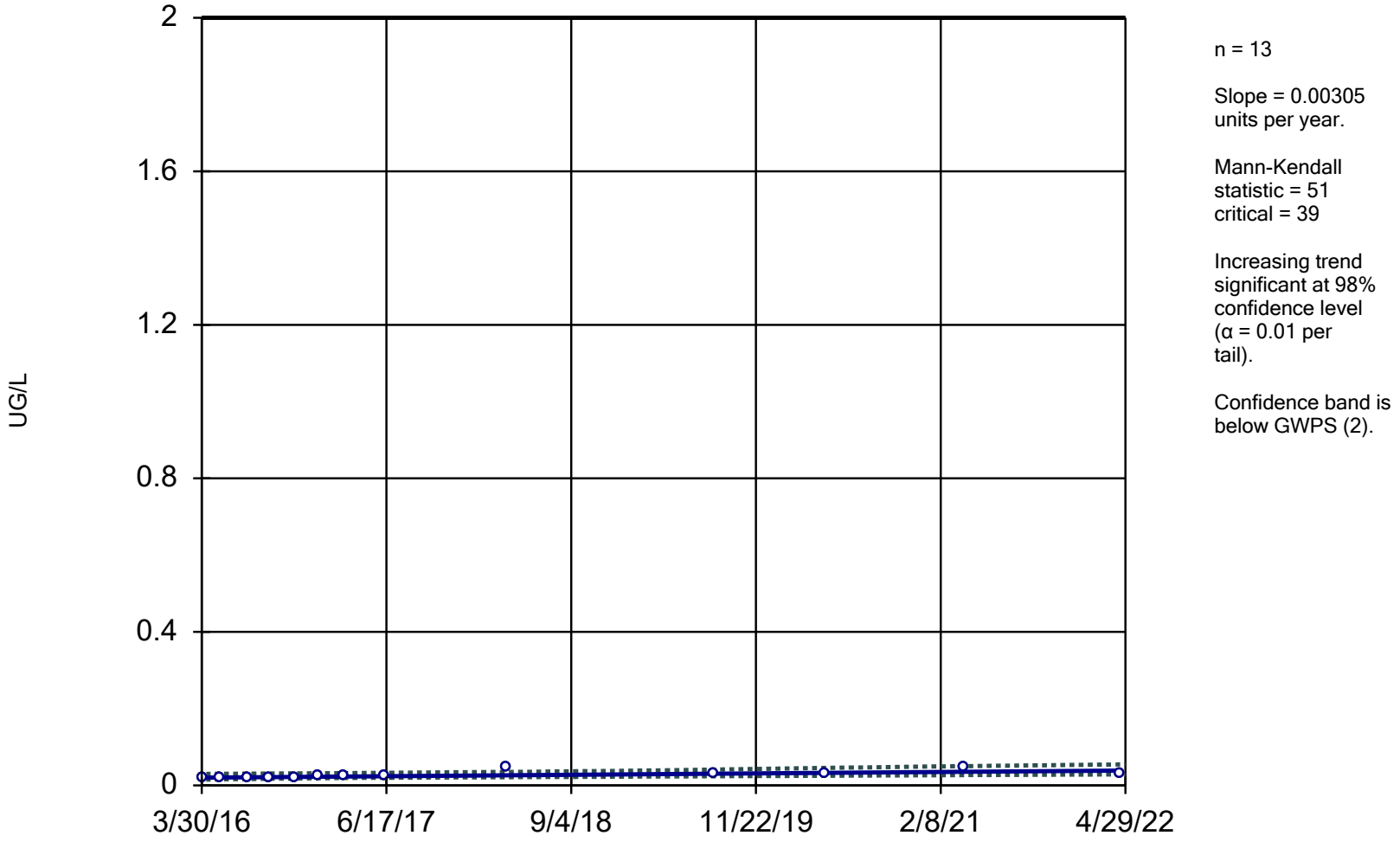
Constituent: MERCURY, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 13

Slope = 0.00305 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

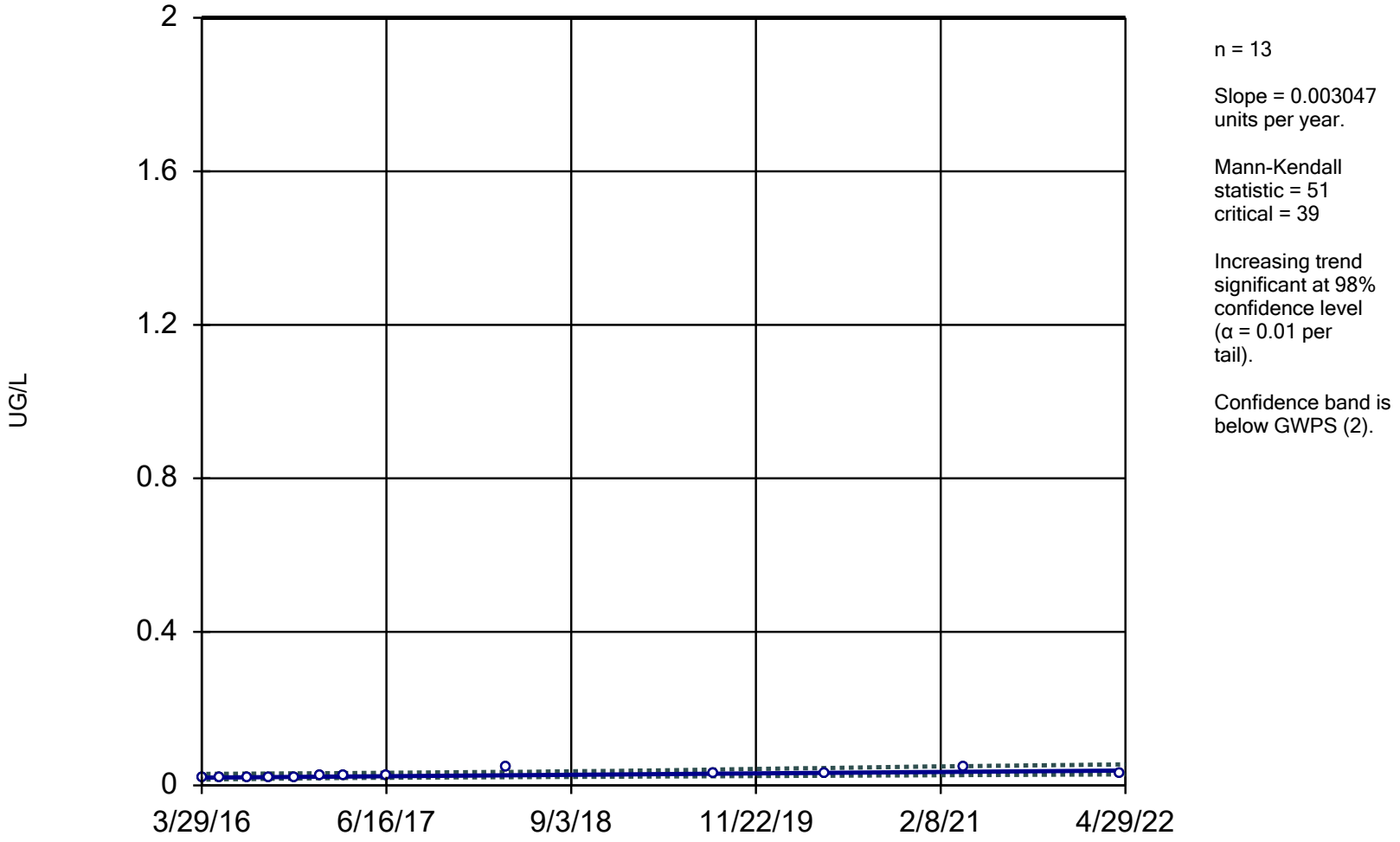
Constituent: MERCURY, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 13

Slope = 0.003047 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

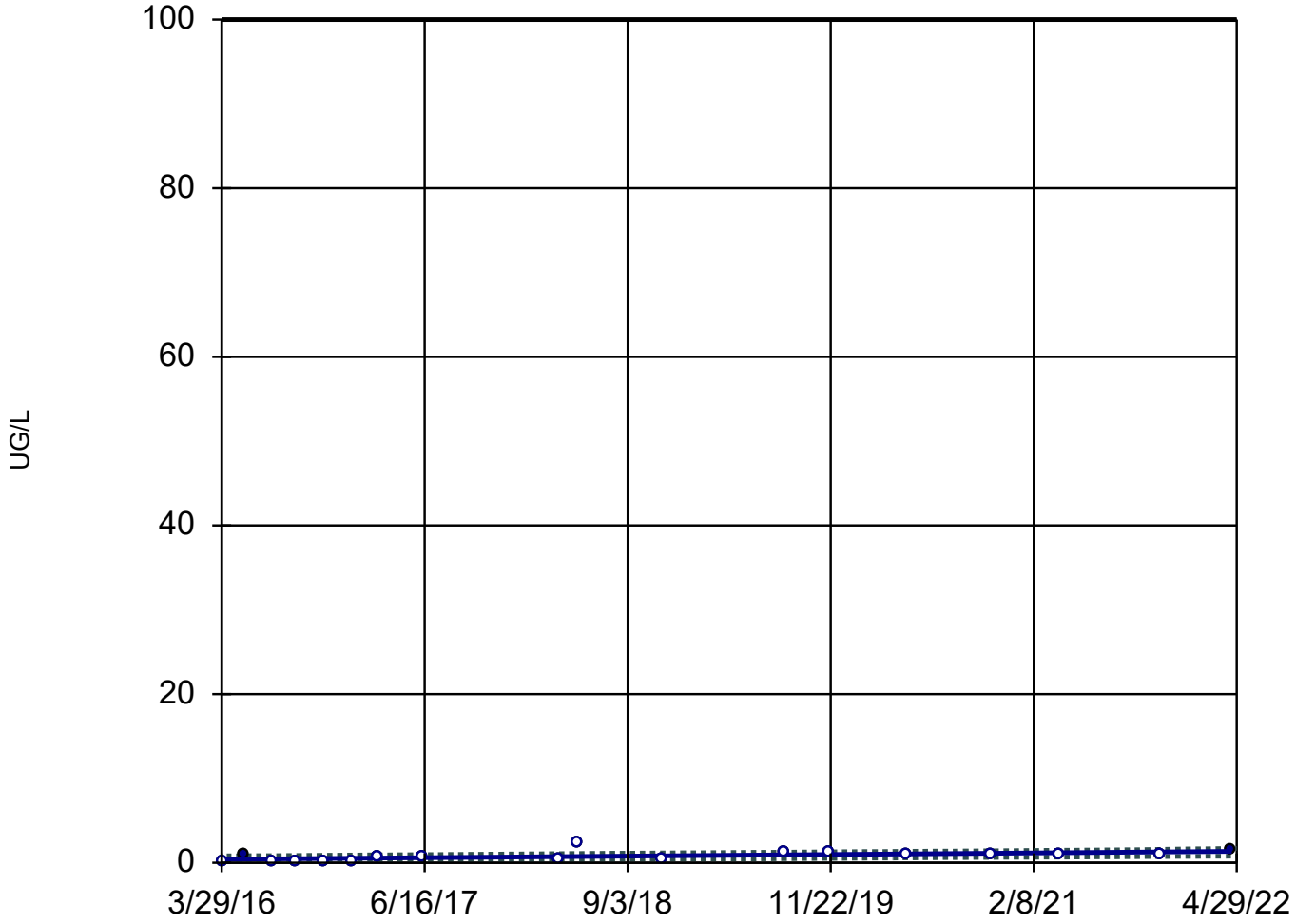
Constituent: MERCURY, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 18

Slope = 0.1534 units per year.

Mann-Kendall statistic = 82
critical = 63

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (100).

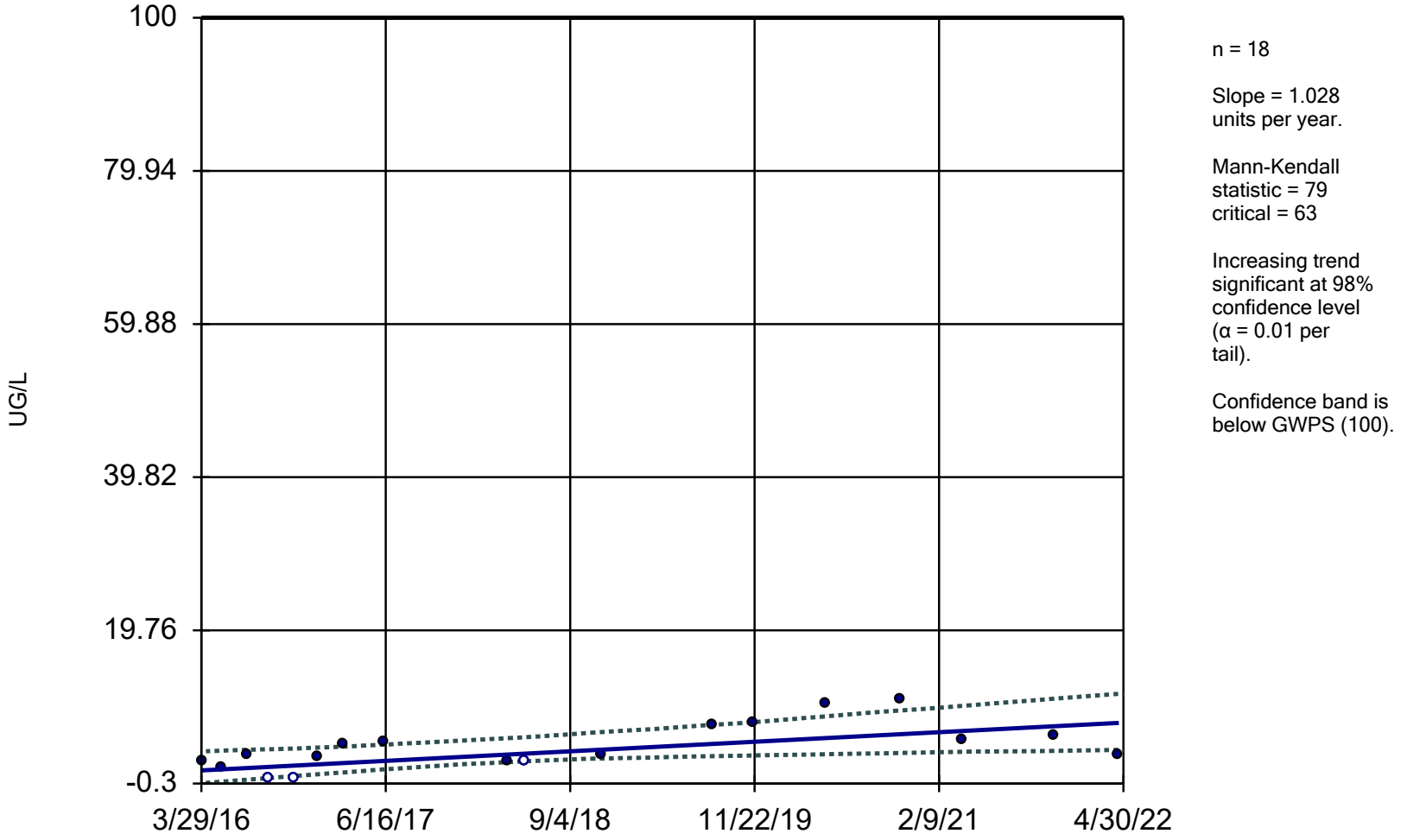
Constituent: MOLYBDENUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 18

Slope = 1.028 units per year.

Mann-Kendall statistic = 79
critical = 63

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

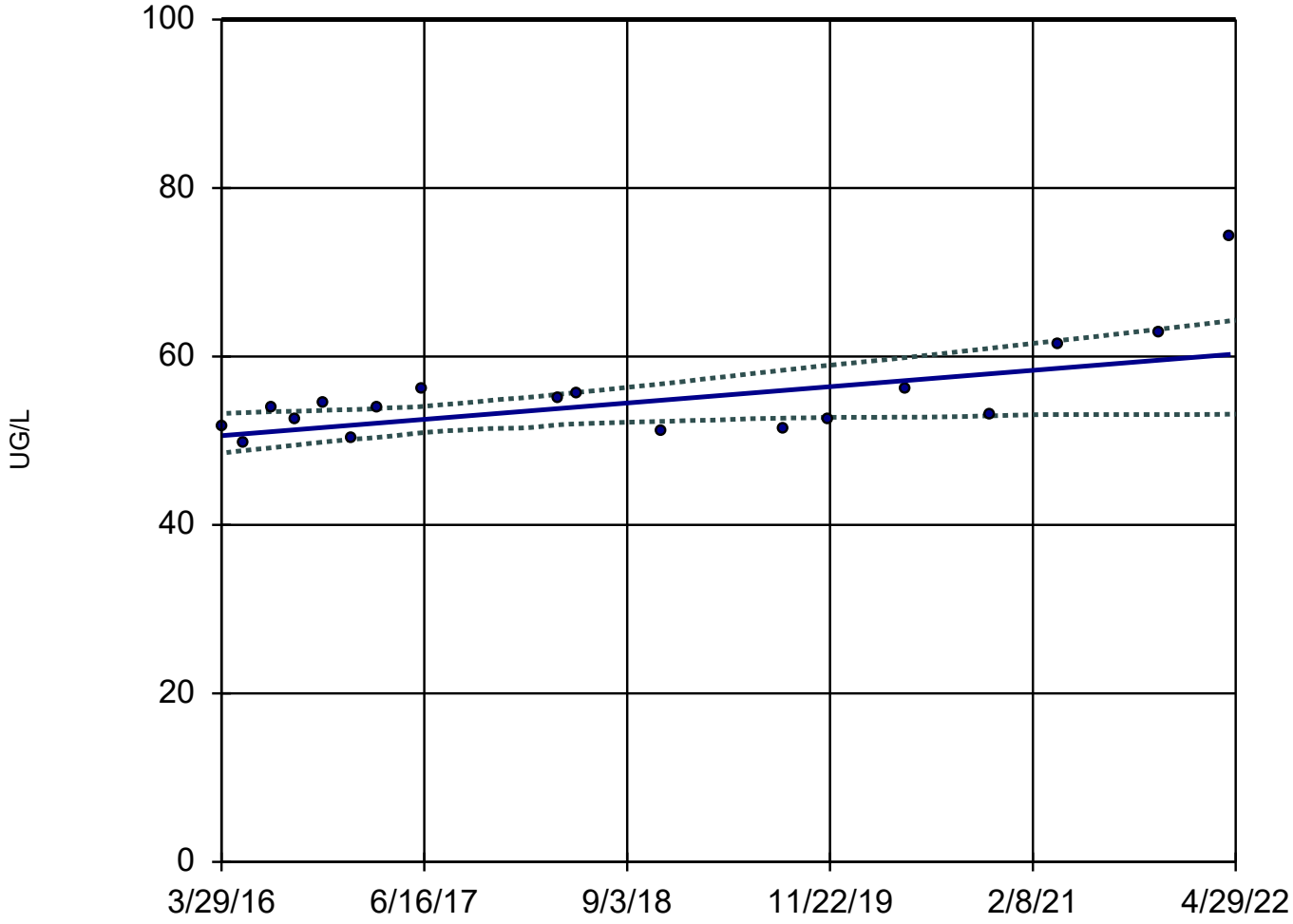
Confidence band is below GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 18

Slope = 1.592 units per year.

Mann-Kendall statistic = 73
critical = 63

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (100).

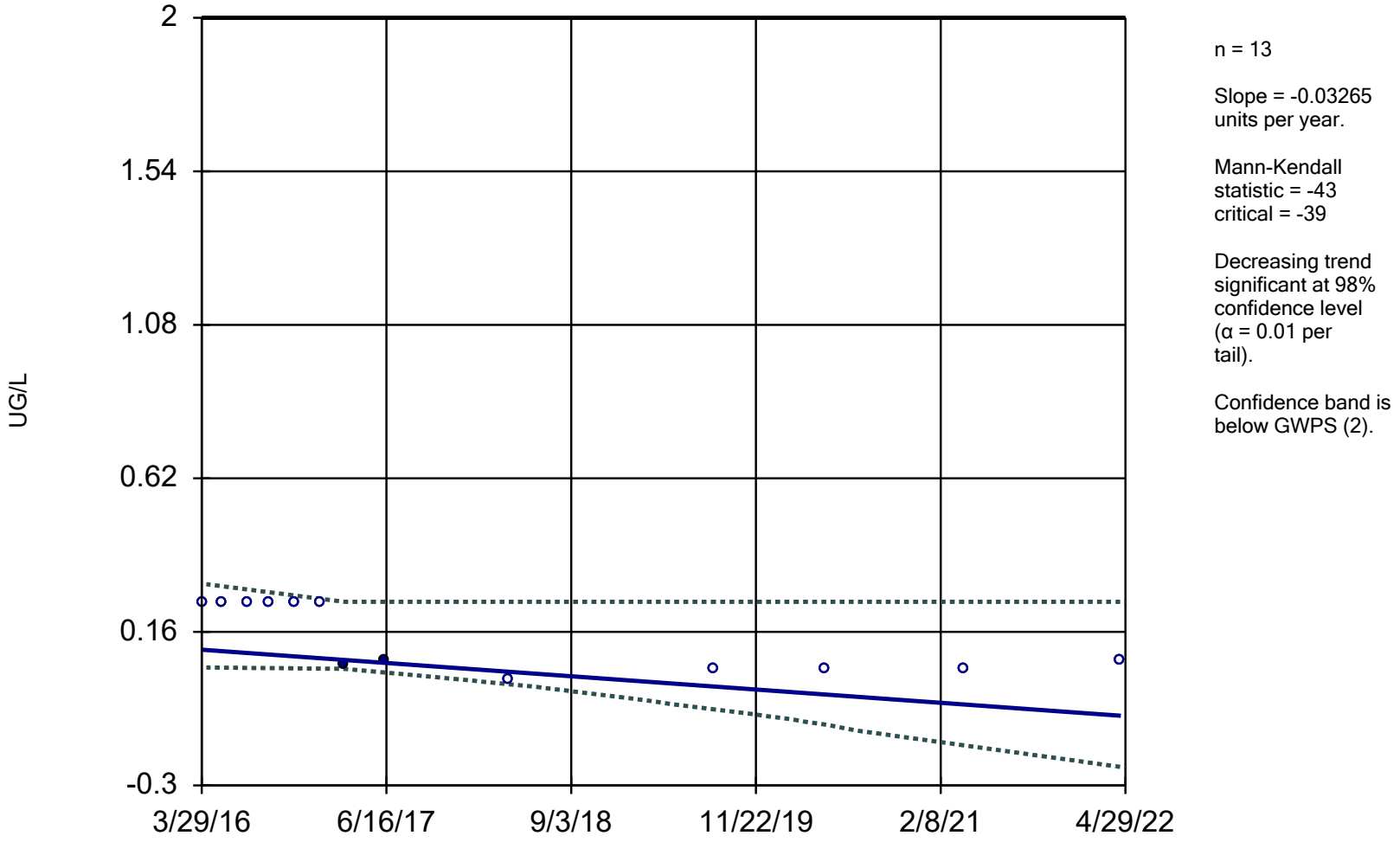
Constituent: MOLYBDENUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 13

Slope = -0.03265 units per year.

Mann-Kendall statistic = -43
critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

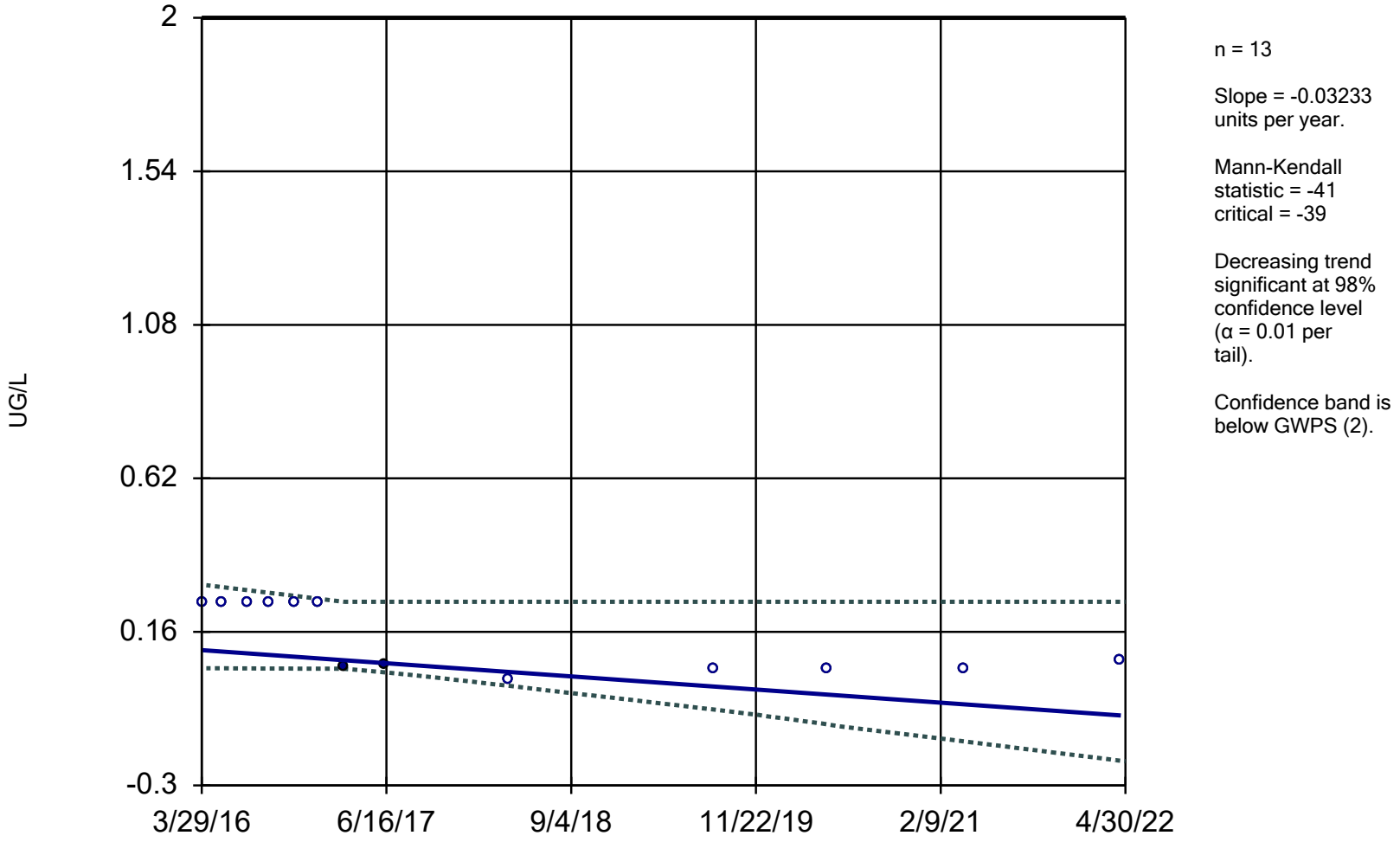
Constituent: THALLIUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 13

Slope = -0.03233 units per year.

Mann-Kendall statistic = -41
critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

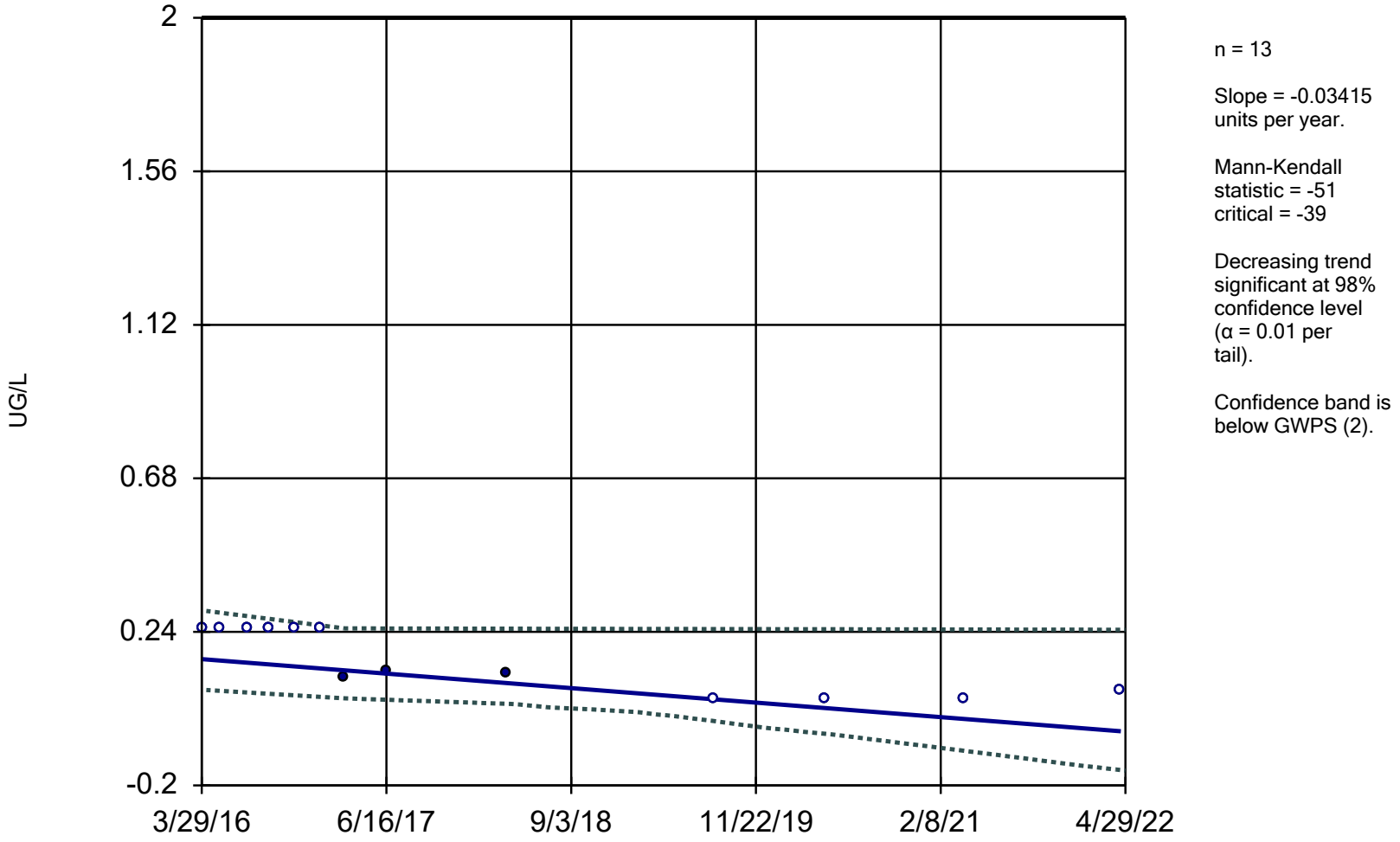
Constituent: THALLIUM, TOTAL Analysis Run 7/5/2022 2:53 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 13

Slope = -0.03415 units per year.

Mann-Kendall statistic = -51
critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

Constituent: THALLIUM, TOTAL Analysis Run 7/5/2022 2:54 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/5/2022, 2:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.00336	22	39	No	13	76.92	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.004016	30	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.003525	36	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.003525	26	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.000...	18	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.003771	26	39	No	13	61.54	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-7	0	-3	-31	No	11	0	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-8	0	4	39	No	13	76.92	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-1	0.004137	9	53	No	16	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0.03259	24	63	No	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-3	0.2466	44	58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**0.3693**	**66**	**58**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**0.5547**	**56**	**53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	M-MW-6	-0.2913	-42	-58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-7	0	1	63	No	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	0	-2	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	-1.172	-16	-63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-2**	**-42.56**	**-113**	**-63**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-3	-7.168	-52	-63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-4**	**-4.966**	**-71**	**-58**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-5**	**-17.74**	**-77**	**-63**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-6**	**-4.957**	**-104**	**-63**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-7	-1.949	-58	-63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-8**	**-21.71**	**-83**	**-63**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0	15	39	No	13	84.62	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0	0	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0	-8	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0	1	39	No	13	76.92	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0	0	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0	0	35	No	12	91.67	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0	2	35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0	0	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-1	0.000...	19	39	No	13	76.92	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-2	0.000605	20	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-3	0.000...	22	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-4	0.000...	22	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-5	0	11	39	No	13	84.62	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**M-MW-6**	**0.01583**	**40**	**39**	**Yes**	**13**	**46.15**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	**M-MW-7**	**0.04726**	**42**	**39**	**Yes**	**13**	**15.38**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	M-MW-8	0.002082	12	39	No	13	61.54	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-1	-0.07452	-31	-53	No	16	31.25	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.008686	4	48	No	15	20	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-3	-0.01388	-13	-53	No	16	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-4	0	-1	-53	No	16	37.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-5	0	3	53	No	16	43.75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-6	0	-2	-48	No	15	53.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-7	-0.00...	-5	-53	No	16	43.75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.01671	17	53	No	16	62.5	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-1**	**0.01985**	**58**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-2**	**0.02476**	**94**	**58**	**Yes**	**17**	**94.12**	**n/a**	**n/a**	**0.02**	**NP**

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/5/2022, 2:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	0.02833	37	58	No	17	64.71	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-4**	**0.01851**	**67**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-5**	**0.02147**	**88**	**58**	**Yes**	**17**	**94.12**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	M-MW-6	0.1852	13	44	No	14	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-7**	**0.02277**	**71**	**58**	**Yes**	**17**	**88.24**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-8**	**0.02285**	**84**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.0153	39	63	No	18	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.000...	9	73	No	20	25	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.006138	24	68	No	19	26.32	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	-0.00...	-11	-68	No	19	15.79	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.004279	14	68	No	19	5.263	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	-0.00...	-17	-68	No	19	15.79	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	-0.0191	-22	-78	No	21	9.524	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	0	6	68	No	19	10.53	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-1	0.1631	30	31	No	11	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-2	0.1272	5	39	No	13	69.23	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	**M-MW-3**	**0.1476**	**41**	**39**	**Yes**	**13**	**92.31**	**n/a**	**n/a**	**0.02**	**NP**
LEAD, TOTAL (UG/L)	M-MW-4	0.14	21	39	No	13	84.62	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-5	0.1266	10	39	No	13	69.23	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-6	0.1468	39	39	No	13	92.31	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-7	0.1472	36	39	No	13	84.62	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-8	0.14	18	39	No	13	76.92	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-1	0	13	48	No	15	93.33	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0.3476	37	63	No	18	44.44	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	0.03936	5	63	No	18	50	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	-0.3697	-16	-58	No	17	5.882	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**M-MW-5**	**-1.226**	**-64**	**-63**	**Yes**	**18**	**11.11**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	M-MW-6	-1.05	-18	-53	No	16	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	-0.6178	-6	-58	No	17	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	0.9471	50	58	No	17	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-1	0.002307	37	39	No	13	92.31	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-2	0.002406	37	39	No	13	92.31	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-3	0.002301	37	39	No	13	92.31	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	**M-MW-4**	**0.003066**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-5**	**0.003054**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-6**	**0.00305**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-7**	**0.003047**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	M-MW-8	0.002307	35	39	No	13	92.31	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-1**	**0.1534**	**82**	**63**	**Yes**	**18**	**88.89**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.136	40	63	No	18	77.78	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-3**	**1.028**	**79**	**63**	**Yes**	**18**	**16.67**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-4**	**1.592**	**73**	**63**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	1.765	41	63	No	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	-1.374	-24	-63	No	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	16.87	36	63	No	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	-2.476	-25	-63	No	18	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.02589	-39	-48	No	15	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	-0.00...	-11	-63	No	18	77.78	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	-0.03698	-29	-63	No	18	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.02553	27	63	No	18	83.33	n/a	n/a	0.02	NP

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/5/2022, 2:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	-0.0194	-15	-63	No	18	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	-0.00153	-4	-63	No	18	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	0.01114	10	53	No	16	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	-0.00...	-6	-58	No	17	88.24	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	0	53	No	16	87.5	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	4	53	No	16	87.5	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	2	53	No	16	87.5	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	0	53	No	16	87.5	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	-2	-53	No	16	93.75	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	-6	-53	No	16	93.75	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	-0.1067	-5	-53	No	16	12.5	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	5	48	No	15	86.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-1**	**-0.03265**	**-43**	**-39**	**Yes**	**13**	**84.62**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-2	-0.03079	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-3**	**-0.03233**	**-41**	**-39**	**Yes**	**13**	**84.62**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-4	-0.03081	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-5	-0.03081	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-6	-0.03168	-30	-39	No	13	92.31	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-7**	**-0.03415**	**-51**	**-39**	**Yes**	**13**	**76.92**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-8	-0.03081	-28	-39	No	13	100	n/a	n/a	0.02	NP

APPENDIX D

2022 Potentiometric Surface Maps

KEY MAP

Site Location

BMW-5
372.94

BMW-4
372.59

BMW-3
372.49

BMW-2
392.68

MW-1
Note 3

MW-2
372.15

MW-3
371.90

MW-4
370.94

MW-8
371.19

BMW-1
379.72

MW-9
370.65

TP-1
Note 6

MW-5
370.75

Meramec Energy Center

Mississippi River Level
370.4

MW-7
369.61

MW-10
369.31

TP-2
369.40

MW-6
369.86

MW-11D
369.13

MW-11S
369.14

Meramec River

Mississippi River

392
391
390
389
388
387
386
385
384
383
382
381
380
379
378
377
376
375
374
373
372
371
370

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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)
- Groundwater Flow Direction

NOTES

1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3.) WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
4.) GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
5.) MISSISSIPPI RIVER LEVEL PROVIDED BY AMEREN.
6.) WELL TP-1 NOT USED FOR PORTENTIOMETRIC SURFACE MAP CONTOURING DUE TO MEASUREMENT ERROR.

REFERENCES

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

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

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
POTENTIOMETRIC SURFACE MAP - FEBRUARY 11, 2022

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-14
PREPARED	GTM
DESIGN	JSI
REVIEW	SSS
APPROVED	MNH

PROJECT No. 153140604
PHASE 0004
FIGURE D1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 11in 0

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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)
- Groundwater Flow Direction

NOTES

1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
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4.) GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
5.) MISSISSIPPI RIVER LEVEL PROVIDED BY AMEREN.

REFERENCES

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

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

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
POTENTIOMETRIC SURFACE MAP - APRIL 18, 2022

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-14
PREPARED	JSI
DESIGN	JSI
REVIEW	BTT
APPROVED	MNH

PROJECT No. 153140604
PHASE 0004
FIGURE **D2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
11 in
0

Path: C:\Users\EVForney\Golder Associates\153140602, Ameren GW Monitoring Program 2020 - 5 Technical Work\0004-MEC\4.4-Figures-Drawings\PRODUCTION\POT MAPS\2022 Annual Report\MEC 2022-04-18 Pot Map.mxd

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)
- Groundwater Flow Direction

NOTES

1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3.) WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
4.) GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
5.) MISSISSIPPI RIVER LEVEL PROVIDED BY AMEREN.
6.) WELL MW-9 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING DUE TO MEASUREMENT ERROR.

REFERENCES

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

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

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
POTENTIOMETRIC SURFACE MAP - NOVEMBER 4, 2022

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-16
PREPARED	ETF
DESIGN	JSI
REVIEW	GTM
APPROVED	MNH

PROJECT No. 153140604
PHASE 0004
FIGURE **D3**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
1in
0

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