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REPORT

2021 Annual Groundwater Monitoring and Corrective Action Report

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

Submitted to:

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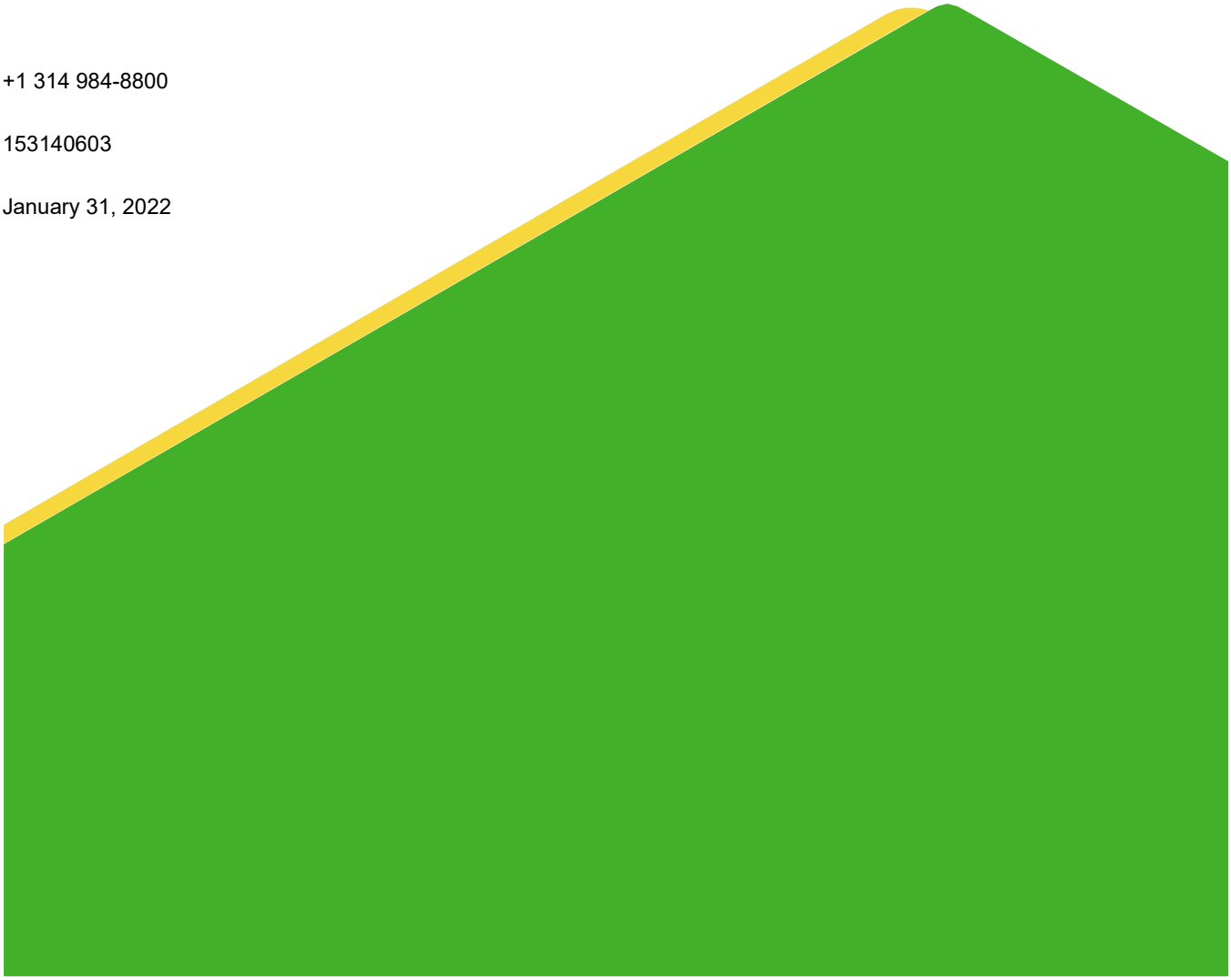

1.0 EXECUTIVE SUMMARY AND STATUS OF THE MEC SURFACE IMPOUNDMENTS GROUNDWATER MONITORING PROGRAM

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, 2021, through December 31, 2021, including verification results related to late 2020 sampling.

Throughout 2021, 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 2021 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 2020 Sampling Event	Detection & Assessment Monitoring, November 9-10, 2020	December 14, 2020	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-2, 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-2, MW-3, 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 12, 2021
	Verification Sampling, January 6, 2021	January 14, 2021	Detected Appendix III parameters (See Note 2)			
April 2021 Sampling Event	Detection & Assessment Monitoring, April 5-7, 2021	May 4, 2021	Appendix III, Appendix IV, & 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-6, MW-7, MW-8	**Arsenic:** MW-4, MW-5 **Lithium:** MW-6, MW-7 **Molybdenum:** MW-6, MW-7, MW-8	July 30, 2021
	No Verification Sampling was required. No new SSIs were observed in the April 2021 sampling event.					

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	December 21, 2021	Appendix III, Detected Appendix IV (See Note 3), & Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2022.		

Notes:
1) Testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the April 2020 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 2021 sampling event.
4) SSI – Statistically Significant Increase.
5) SSL – Statistically Significant Level.
6) TDS – Total Dissolved Solids.

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 (9) 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 – MCPA, MCPB, and MCPC
- Closed Surface Impoundments – MCPD (Closed October 7, 2021), and MCPE (closed April 11, 2018)
- Exempt Surface Impoundments – MOPF, MOPG, MOPH, and MOPI

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 has 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 are scheduled to be completed by October 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."* Further information on the closure of the MEC Surface Impoundments will be included in the 2022 Annual Report.

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 at the Rush Island Energy Center (RIEC). Results of the pilot treatment study at the RIEC have shown to be effective at significantly reducing key CCR parameters. Based on the success of this system at Rush Island, a pilot study at the MEC is planned to commence in 2022 or 2023 and pending results of this study, a groundwater treatment system similar to the RIEC system is anticipated to be operational in 2023 or 2024.

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2.0 INTSTALLATION OR DECOMISSIONING OF MONITORING WELLS

There are currently two (2) 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 2021. A summary of the well construction details for monitoring wells in both networks is provided in **Table 2**. Further details including well construction diagrams for these wells are provided in previous Annual Reports for the MEC Surface Impoundments.

3.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the MEC Surface Impoundments in 2021. **Tables 3** and **4** provide a summary of the groundwater samples collected in 2021 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.

3.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 9-10, 2020. Verification sampling and the statistical analysis to evaluate for SSIs for the November 2020 event were not completed until 2021 and are therefore included in this report. Detections of Appendix III analytes triggered a Verification sampling event, which was completed on January 6, 2021, and verified SSIs. **Table 5** summarizes the results and the statistical analysis of the November 2020 Detection Monitoring event.

Detection Monitoring samples were collected April 5-7, 2021, and testing was completed for all Appendix III analytes, as well as major cations and anions. As outlined in the Statistical Analysis Plan for the Site, updates to the statistical limits should be completed once four (4) to eight (8) new sample results are available. During the statistical analysis of the April 2021 sampling event, the statistical limits used to determine an SSI were updated according to the Statistical Analysis Plan. Statistical analysis of the data determined that there were no new SSIs. **Table 6** summarizes the results and the statistical analysis of the April 2021 Detection Monitoring event.

A Detection Monitoring sampling event was completed November 15, 2021, 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 2021 data were not completed in 2021 and will be included in the 2022 Annual Report. **Table 7** summarizes the results of the November 2021 Detection Monitoring event.

3.2 Assessment Monitoring Program

An Assessment Monitoring sampling event was completed November 9-10, 2020, and testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the May 2020 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 2021 and is included in this report. **Table 8** summarizes the results of the November 2020 Assessment Monitoring event. The results from this analysis as well as 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 5-7, 2021, and testing was completed for all Appendix IV analytes, major cations and anions, and other selected MNA parameters. During the statistical analysis of the April 2021 sampling event, the site specific GWPSs used to determine SSLs were updated in accordance with the Statistical Analysis Plan. **Table 9** summarizes the results of the April 2021 Assessment Monitoring event. 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 15, 2021, and testing was completed for Appendix IV analytes that were detected above the PQL during the April 2021 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks as well as major cations and anions. **Table 10** summarizes the results of the November 2021 Assessment Monitoring event; however, statistical analysis to evaluate SSLs was not completed in 2021. Results of the statistical evaluation will be included in the 2022 Annual Report.

3.3 Corrective Action Monitoring

A Corrective Action sampling event was completed on April 6, 2021, and testing was completed for all Appendix III and IV analytes, major cations and anions, and other selected MNA parameters. A summary of the April 2021 Corrective Action sampling event results is provided in **Table 11**.

A Corrective Action sampling event was completed November 12, 2021, and testing was completed for Appendix III analytes, Appendix IV analytes that were detected above the PQL during the April 2021 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. **Table 12** summarizes the results of the November 2021 Corrective Action sampling event.

3.4 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. Results from this assessment indicate that while groundwater flow direction is somewhat variable, but 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 77 feet in the prevailing downgradient direction.

3.5 Sampling Issues

Some of the wells used for sampling at the MEC are located in the floodplain near the confluence of the Meramec and Mississippi Rivers. Of these, MW-9 (AMW-1) and TP-1 are adjacent to the Meramec River on the west side of the MEC property. These monitoring wells can be submerged by very minor flooding events that occur multiple times a year. In 2021, it is estimated that these wells were at least partially submerged during the following dates:

- March 30 – April 4
- April 11-13
- April 24-28
- July 9-16

In addition to MW-9 (AMW-1) and TP-1, other monitoring wells at the MEC are also located in the floodplain near the confluence of the Meramec and Mississippi Rivers. These monitoring wells can be submerged during minor flooding events that occur multiple times a year. In 2021, it is estimated that at least one of the other monitoring wells was partially submerged during the following dates:

- March 31 – April 3 (MW-2 and MW-3)
- April 25-27 (MW-2 and MW-3)
- July 9-15 (MW-2 and MW-3)

Prior to each sampling event, Golder performed post-flood monitoring well inspections at monitoring wells that had been at least partially submerged since the last sampling event and found that no wells had been impacted by flooding in 2021.

No other notable sampling issues were encountered at the MEC Surface Impoundments in 2021.

4.0 ACTIVITIES PLANNED FOR 2022

Detection and Assessment Monitoring are scheduled to continue on a semi-annual basis in the second and fourth quarters of 2022. Statistical analysis of the November 2021 Detection and Assessment Monitoring data will be completed in 2022 and will be included in the 2022 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 2022. 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 2022 or 2023. Pending the results of this pilot study, drilling and implementation of a groundwater treatment system may commence in 2023 or 2024.

Tables

Table 2
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.

Created By: BTT
Checked By: RJF
Reviewed By: MNH

Table 3
Summary of Detection and Assessment Groundwater Network Sampling Dates
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Groundwater Monitoring Wells	Date of Sample Collection			
	January 2021 Sampling Event	April 2021 Assessment/ Detection Monitoring	November 2021 Assessment/ Detection Monitoring	Total Number of Samples
CCR Rule Compliance Monitoring Well Network				
BMW-1	-	4/7/2021	11/15/2021	2
BMW-2	-	4/7/2021	11/15/2021	2
MW-1	-	4/7/2021	11/15/2021	2
MW-2	1/6/2021	4/5/2021	11/15/2021	3
MW-3	1/6/2021	4/5/2021	11/15/2021	3
MW-4	-	4/5/2021	11/15/2021	2
MW-5	-	4/6/2021	11/15/2021	2
MW-6	-	4/5/2021	11/15/2021	2
MW-7	-	4/6/2021	11/15/2021	2
MW-8	-	4/5/2021	11/15/2021	2
Detection or Assessment Monitoring	Detection	Assessment/ Detection	Assessment/ Detection	NA

Notes:

1.) Detection Monitoring results provided in Tables 5-7.

2.) Assessment Monitoring results provided in Tables 8-10.

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

4.) NA - Not Applicable.

Prepared by: BTT
Checked by: EMS
Reviewed by: MNH

Table 4
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 2021 Sampling Event	November 2021 Sampling Event	Number of Samples
Corrective Action Monitoring Well Network			
MW-9 (AMW-1)	4/6/2021	11/12/2021	2
MW-10 (AMW-2)	4/6/2021	11/12/2021	2
MW-11S	4/6/2021	11/12/2021	2
MW-11D	4/6/2021	11/12/2021	2
TP-1	4/6/2021	11/12/2021	2
TP-2	4/6/2021	11/12/2021	2
Event Type	Corrective Action	Corrective Action	NA

Notes:

1.) Corrective Action sampling results provided in Tables 11-12.

2.) NA - Not Applicable.

Prepared by: BTT
Checked by: EMS
Reviewed by: MNH

Table 5
November 2020 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 2020 Detection Monitoring Event												
DATE	NA	NA	11/10/2020	11/9/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/9/2020	11/9/2020	11/9/2020
pH	SU	6.441-7.704	7.06	7.09	6.76	6.52	6.72	6.93	7.12	6.71	7.40	6.95
BORON, TOTAL	µg/L	697.4	275	94.8 J	ND	7,350	10,500	8,890	8,370	4,330	33,000 J	9,930
CALCIUM, TOTAL	µg/L	123,335	128,000	115,000	134,000	139,000 J	178,000	178,000	168,000	438,000	463,000 J	193,000
CHLORIDE, TOTAL	mg/L	248	151	13.1	43.1	30.7	32.4	51.0	44.3	17.0	65.3	25.5
FLUORIDE, TOTAL	mg/L	0.5057	0.46	0.45	0.37	0.24	0.21	0.27	0.31	0.27	0.33	0.34
SULFATE, TOTAL	mg/L	212	70.5	29.9	112	333	403	419	359	737	1,200	468
TOTAL DISSOLVED SOLIDS	mg/L	832	700	488	651	843	996	1,010	953	1,710	2,270	972
January 2021 Verification Sampling Event												
DATE	NA	NA				1/6/2021	1/6/2021					
pH	SU	6.441-7.704										
BORON, TOTAL	µg/L	697.4										
CALCIUM, TOTAL	µg/L	123,335										
CHLORIDE, TOTAL	mg/L	248										
FLUORIDE, TOTAL	mg/L	0.5057										
SULFATE, TOTAL	mg/L	212										
TOTAL DISSOLVED SOLIDS	mg/L	832				841	983					

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

Prepared By: JSI
Checked By: EMS
Reviewed By: SCP

Table 6
April 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
April 2021 Detection Monitoring Event												
DATE	NA	NA	4/7/2021	4/7/2021	4/7/2021	4/5/2021	4/5/2021	4/5/2021	4/6/2021	4/5/2021	4/6/2021	4/5/2021
pH	SU	6.443-7.611	7.07	6.76	6.82	6.46	6.63	6.86	7.20	6.64	7.36	6.86
BORON, TOTAL	µg/L	660.8	157	55.6 J	39.8 J	4,380	8,860	11,000 J	5,390	10,000	33,300	9,940
CALCIUM, TOTAL	µg/L	127,529	104,000	109,000	141,000	127,000	145,000	197,000 J	134,000	409,000	445,000	233,000
CHLORIDE, TOTAL	mg/L	248	92.5	13.1	44.3	29.9	43.5	54.1	45.7	13.8	61.8	45.5
FLUORIDE, TOTAL	mg/L	0.504	0.40	0.35	0.35	0.16 J	0.17 J	0.24	0.32	0.23	0.39	0.38
SULFATE, TOTAL	mg/L	201.4	52.0	23.9	117	303	310	503	211	554	1,330	595
TOTAL DISSOLVED SOLIDS	mg/L	832	607	499	656	816	258	1,130	739	1,430	2,100	1,220

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. 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 2021 event; therefore, no Verification Sampling was necessary.

Prepared By: JSI
Checked By: BTT
Reviewed By: SCP

Table 7
November 2021 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 2021 Detection Monitoring Event											
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
pH	SU	6.91	6.62	6.71	6.45	6.64	6.90	7.19	6.65	7.04	6.65
BORON, TOTAL	µg/L	219	123	ND	4,850	11,500	12,100	6,510	7,940	32,000	10,000
CALCIUM, TOTAL	µg/L	124,000	116,000	143,000	138,000	166,000	201,000	164,000	403,000	501,000	213,000
CHLORIDE, TOTAL	mg/L	119 J	14.3	44.4	33.6	36.4	51.7	44.2	14.1	58.0	27.8
FLUORIDE, TOTAL	mg/L	0.31 J	0.32	0.18 J	ND	0.18 J	0.11 J	0.23	ND	ND	0.15 J
SULFATE, TOTAL	mg/L	54.1 J	35.1	111	328	407	572	325	604	1,150	428
TOTAL DISSOLVED SOLIDS	mg/L	596	489	615	804	926	1,090	919	1,380	2,210	961

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. 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. NA - Not applicable.

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

Table 8
November 2020 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	11/10/2020	11/9/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/9/2020	11/9/2020	11/9/2020
DISSOLVED OXYGEN	mg/L	0.22	0.41	0.22	0.38	0.19	0.17	0.19	0.74	1.60	1.02
pH	SU	7.06	7.09	6.76	6.52	6.72	6.93	7.12	6.71	7.40	6.95
REDOX POTENTIAL	mV	-13.3	10.6	-104.8	-82.8	-83.6	-99.3	-118.6	2.5	13.5	-71.2
SPECIFIC CONDUCTIVITY	mS/cm	1.237	0.919	1.132	1.276	1.425	1.467	1.398	2.137	2.561	1.222
TURBIDITY	NTU	7.71	4.59	4.34	3.52	2.29	6.14	2.66	4.41	3.45	9.61
APPENDIX IV PARAMETERS											
ARSENIC, TOTAL	µg/L	5.5	1.3	0.57 J	1.6	7.3	14.4	22.3	2.2	2.2	6.2
BARIUM, TOTAL	µg/L	234	598	363	320	252	175	234	53.2	40.2	210
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	8.4	ND	ND
FLUORIDE, TOTAL	mg/L	0.46	0.45	0.37	0.24	0.21	0.27	0.31	0.27	0.33	0.34
LITHIUM, TOTAL	µg/L	6.4 J	ND	ND	ND	ND	15.2	14.6	106	52.0	27.5
MOLYBDENUM, TOTAL	µg/L	4.6 J	ND	ND	ND	10.6 J	53.1	98.5	164	527	220
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	1.398	ND	1.979	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	1.9	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 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 2020 Assessment Monitoring Data is proivded in Appendix B.

Prepared By: JSI
Checked By: EMS
Reviewed By: MNH

Table 9
April 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	4/7/2021	4/7/2021	4/7/2021	4/5/2021	4/5/2021	4/5/2021	4/6/2021	4/5/2021	4/6/2021	4/5/2021
DISSOLVED OXYGEN	mg/L	0.34	0.82	1.23	1.02	0.39	0.75	0.56	0.42	0.51	0.37
pH	SU	7.07	6.76	6.82	6.46	6.63	6.86	7.20	6.64	7.36	6.86
REDOX POTENTIAL	mV	99.0	-115.9	-108.7	-31.9	-29.0	-88.0	-158.3	-31.7	61.9	-80.4
SPECIFIC CONDUCTIVITY	mS/cm	1.000	0.835	1.034	1.248	1.271	1.572	1.143	1.863	2.343	1.539
TURBIDITY	NTU	3.37	4.11	4.80	6.32	1.30	9.72	4.92	4.43	1.36	9.58
APPENDIX IV PARAMETERS											
ANTIMONY, TOTAL	µg/L	0.50 J	ND	ND	ND	ND	ND	ND	ND	0.38 J	ND
ARSENIC, TOTAL	µg/L	3.6	1.4	0.64 J	2.1	8.9	16.1	21.8	3.9	3.1	6.9
BARIUM, TOTAL	µg/L	190	566	379	306	207	216	185	53.0	41.7	116
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	0.53 J	ND	ND	0.50 J	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	0.093 J	0.30 J	ND
CHROMIUM, TOTAL	µg/L	ND	ND	ND	0.78 J	0.44 J	0.98 J	0.71 J	0.32 J	0.41 J	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	1.8 J	ND	2.0 J	6.7	ND	1.0 J
FLUORIDE, TOTAL	mg/L	0.40	0.35	0.35	0.16 J	0.17 J	0.24	0.32	0.23	0.39	0.38
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	10.4	ND	ND	17.9 J	ND	23.1 J	19.9 J	141 J	32.3 J	43.0 J
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	4.9 J	ND	ND	ND	5.3 J	61.3	94.5	140	697	195
RADIUM [226 + 228]	pCi/L	ND	1.825	ND	ND	ND	1.172	1.621	ND	ND	ND
SELENIUM, TOTAL	µg/L	1.3	ND	ND	ND	ND	ND	ND	ND	ND	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 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 2021 Assessment Monitoring Data is provided in Appendix C.

Prepared By: JSI
Checked By: BTT
Reviewed By: SCP

Table 10
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	ND	ND
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 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: EMS
Checked By: GTM
Reviewed By: MNH

Table 11
April 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	4/6/2021	4/6/2021	4/6/2021	4/6/2021	4/6/2021	4/6/2021
DISSOLVED OXYGEN	mg/L	0.52	0.40	0.20	0.89	0.82	0.67
REDOX POTENTIAL	mV	-144.7	-175.7	-33.7	-40.2	10.0	31.6
SPECIFIC CONDUCTIVITY	mS/cm	1.346	0.780	1.791	2.332	1.832	1.674
TURBIDITY	NTU	4.82	0.62	4.04	3.63	2.03	2.19
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	5,950	472	1,880	2,590	249	10,300 J
CALCIUM, TOTAL	µg/L	166,000 J	72,200	224,000	222,000	287,000	230,000 J
CHLORIDE, TOTAL	mg/L	36.2	21.9	86.7	246	13.7	65.3 J
pH	SU	6.87	7.51	6.89	7.07	6.54	7.13
SULFATE, TOTAL	mg/L	285	0.78 J	302	461	ND	570
TOTAL DISSOLVED SOLIDS	mg/L	925	434	1,190	1,580	968 J	1,210
APPENDIX IV PARAMETERS							
ANTIMONY, TOTAL	µg/L	ND	0.22 J	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	20.2	19.2	11.4	4.6	3.6	10.9
BARIUM, TOTAL	µg/L	333	346	161	61.4	647	141
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.067 J
CHROMIUM, TOTAL	µg/L	0.37 J	1.1	0.53 J	2.8	0.70 J	0.83 J
COBALT, TOTAL	µg/L	ND	1.7 J	2.1 J	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.25	0.39	0.26	0.29	0.19 J	0.31
LEAD, TOTAL	µg/L	ND	ND	5.5 J	5.3 J	4.5 J	3.9 J
LITHIUM, TOTAL	µg/L	18.0	20.4	40.6	44.2	17.1	44.6
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	32.8	4.0 J	5.3 J	10.9 J	ND	286
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	0.21 J	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS							
ALKALINITY	mg/L	389	231	564	407	879	299
IRON, FERRIC, TOTAL	mg/L	19.9	3.9	14.9	15.3	40.2	21.0
IRON, FERROUS, TOTAL	mg/L	0.25 J	0.10 J	0.88 J	0.77 J	2.4 J	0.43 J
IRON, TOTAL	µg/L	20,100	3,960	15,800	16,100	42,600	21,400
MAGNESIUM, TOTAL	µg/L	53,800	29,800	57,000	56,100	62,300	55,600
MANGANESE, TOTAL	µg/L	532	67.5	639	566	2,560	779
POTASSIUM, TOTAL	µg/L	4,900	2,870	9,480	8,240	7,280	6,460
SODIUM, TOTAL	µg/L	40,600	44,600	77,400	182,000	17,500	45,200
SULFIDE, TOTAL	mg/L	ND	0.072	ND	ND	0.056	0.030 J

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

Prepared By: JSI
Checked By: BTT
Reviewed By: SCP

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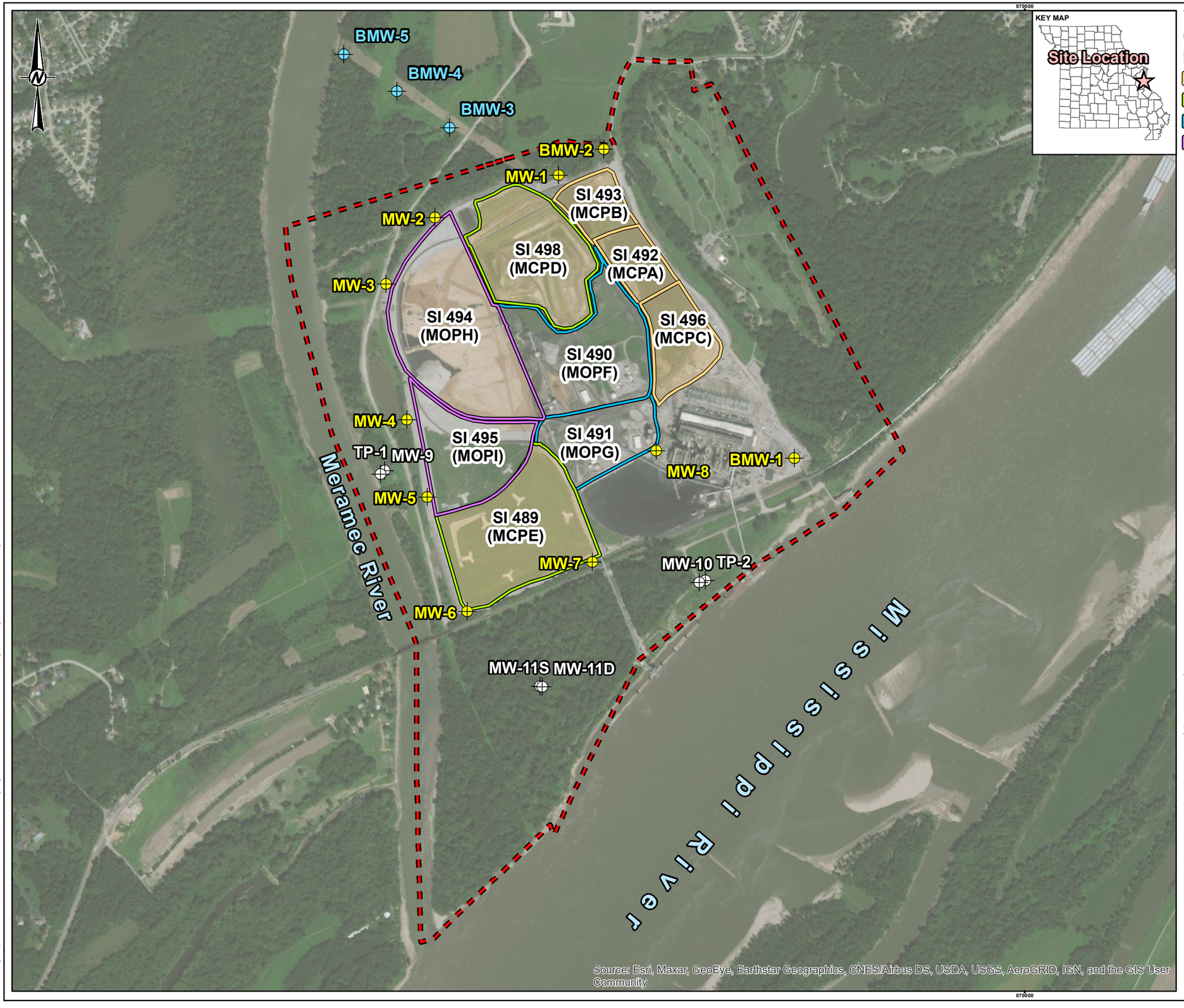
Prepared By: EMS
Checked By: GTM
Reviewed By: MNH

Figures



LEGEND

- Meramec Energy Center Property Boundary
- Regulated Surface Impoundment
- Active 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
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-12-14
DESIGNED	JSI
PREPARED	BTT
REVIEWED	EMS
APPROVED	MNH

PROJECT NO.
153140603

FIGURE
1

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

1 in

0

PATH: C:\Users\jmorey\Golder Associates\153140601-02 - Ameren CCR GW Monitoring Program 2020 - APP5 Technical Work\0004-MEC\4.4-Figures-Drawings\PRODUCTION\Other Maps\Figure 1 - MEC Site Aerial .mxd PRINTED ON: 2022-01-20 AT 9:47:39 AM

APPENDIX A

Laboratory Analytical Data

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

January 14, 2021

Jeffrey Ingram
Golder Associates
13515 Barrett Parkway Drive
Suite 260
Ballwin, MO 63021

RE: Project: AMEREN MEC
Pace Project No.: 60358558

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on January 07, 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 - 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

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

CERTIFICATIONS

Project: AMEREN MEC
Pace Project No.: 60358558

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 #: 200030
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

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

SAMPLE SUMMARY

Project: AMEREN MEC
Pace Project No.: 60358558

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60358558001	**M-MW-2**	Water	01/06/21 15:29	01/07/21 04:40
60358558002	**M-MW-3**	Water	01/06/21 16:22	01/07/21 04:40
60358558003	**M-DUP-1**	Water	01/06/21 08:00	01/07/21 04:40
60358558004	**M-FB-1**	Water	01/06/21 16:25	01/07/21 04:40

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60358558

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60358558001	**M-MW-2**	SM 2540C	VRP	1	PASI-K
60358558002	**M-MW-3**	SM 2540C	VRP	1	PASI-K
60358558003	**M-DUP-1**	SM 2540C	VRP	1	PASI-K
60358558004	**M-FB-1**	SM 2540C	VRP	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60358558

Sample: M-MW-2 **Lab ID: 60358558001** Collected: 01/06/21 15:29 Received: 01/07/21 04:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**841**	mg/L	10.0	10.0	1		01/13/21 09:58		

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.: 60358558

Sample: M-MW-3 **Lab ID: 60358558002** Collected: 01/06/21 16:22 Received: 01/07/21 04:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**983**	mg/L	10.0	10.0	1		01/13/21 09:58		

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.: 60358558

Sample: M-DUP-1 **Lab ID: 60358558003** Collected: 01/06/21 08:00 Received: 01/07/21 04:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**878**	mg/L	10.0	10.0	1		01/13/21 09:58		

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.: 60358558

Sample: M-FB-1 **Lab ID: 60358558004** Collected: 01/06/21 16:25 Received: 01/07/21 04:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**38.0**	mg/L	5.0	5.0	1		01/13/21 09:58		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60358558

QC Batch: 698750 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60358558001, 60358558002, 60358558003, 60358558004

METHOD BLANK: 2819086 Matrix: Water
Associated Lab Samples: 60358558001, 60358558002, 60358558003, 60358558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	01/13/21 09:58	

LABORATORY CONTROL SAMPLE: 2819087

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

SAMPLE DUPLICATE: 2819090

Parameter	Units	60358558002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	983	1030	5	10	

SAMPLE DUPLICATE: 2819091

Parameter	Units	60358559001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	707	719	2	10	

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: AMEREN MEC
Pace Project No.: 60358558

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.

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

TNI - The NELAC Institute.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60358558

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60358558001	**M-MW-2**	SM 2540C	698750		
60358558002	**M-MW-3**	SM 2540C	698750		
60358558003	**M-DUP-1**	SM 2540C	698750		
60358558004	**M-FB-1**	SM 2540C	698750		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60358558

60358558

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 ☑ APLC

Thermometer Used: T2G10 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 15.17 **Corr. Factor** -0.1 **Corrected** 15.07

Date and initials of person examining contents: 01072121 MLH

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#	☐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 3:40 pm, 1/7/21

Project Manager Review: _____ Date: _____

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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:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren – MEL
Project Number:	

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 #	Section D 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	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N								
1	M-MW-2	WT	G			11/6/21	1529		1	1														X							6035855 8
2	M-MW-3	WT	G				1622		1	1														X							
3	M-DUP-1	WT	G				—		1	1														X							
4	M-FB-1	WT	G				1625		1	1														X							
5	M-MS-1	WT	G				1622		1	1														X							
6	M-MSD-1	WT	G				1622		1	1														X							
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)
	[signature]	11/6/21	1750	MillerPace	11/07/21	0440	1.3	Y	Y	Y
							1.5	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/06/21

*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 27, 2021 **Project No.** 153140602

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 60358558

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

- None.

Golder Associates Inc.
13515 Barrett Parkway Drive, Suite 260,
Ballwin, Missouri, USA 63021

T: +1 314 984-8800 F: +1 314 984-8770

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - MEC
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 01/27/2021

Laboratory: Pace Analytical Services, LLC
SDG #: 60358558
Analytical Method (type and no.): SM2540C (TDS)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names M-MW-2, M-MW-3, M-DUP-1, M-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			01/06/2021
b) Sampling team indicated?	x			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			
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		
g) Were any matrix problems noted?		x		

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	M-DUP-1 @ M-MW-2
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD 4.3% (<20%)
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	
d) Were lab dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD: 5% (<10%)

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

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

Comments/Notes:

Field Blanks:

M-FB-1 @ M-MW-3: TDS (38.0). Sample result >10x blank result, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Ann Muehlfeith _____ Date: 01/27/2021

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

May 04, 2021

Jeffrey Ingram
Golder Associates
13515 Barrett Parkway Drive
Suite 260
Ballwin, MO 63021

RE: Project: AMEREN MEC
Pace Project No.: 60365796

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between April 07, 2021 and April 09, 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 - 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

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

CERTIFICATIONS

Project: AMEREN MEC
Pace Project No.: 60365796

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 #: 9526
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 #: 200030
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

Pace Analytical Services, LLC
9608 Loiret Blvd.
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SAMPLE SUMMARY

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60365796001	M-MW-2	Water	04/05/21 15:16	04/07/21 04:03
60365796002	M-MW-3	Water	04/05/21 17:02	04/07/21 04:03
60365796003	M-MW-4	Water	04/05/21 12:25	04/07/21 04:03
60365796004	M-MW-5	Water	04/06/21 12:45	04/07/21 04:03
60365796005	M-MW-6	Water	04/05/21 16:35	04/07/21 04:03
60365796006	M-MW-7	Water	04/06/21 13:50	04/07/21 04:03
60365796007	M-MW-8	Water	04/05/21 15:35	04/07/21 04:03
60365796008	M-DUP-1	Water	04/05/21 08:00	04/07/21 04:03
60365796009	M-FB-1	Water	04/05/21 15:55	04/07/21 04:03
60365796010	M-MS-1	Water	04/05/21 12:25	04/07/21 04:03
60365796011	M-MSD-1	Water	04/05/21 12:25	04/07/21 04:03
60365796012	M-MW-1	Water	04/07/21 10:56	04/09/21 04:08
60365796013	M-BMW-1	Water	04/07/21 09:21	04/09/21 04:08
60365796014	M-BMW-2	Water	04/07/21 09:33	04/09/21 04:08

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60365796001	**M-MW-2**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796002	**M-MW-3**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796003	**M-MW-4**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796004	**M-MW-5**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796005	**M-MW-6**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796006	**M-MW-7**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796007	**M-MW-8**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796008	**M-DUP-1**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796009	**M-FB-1**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796010	**M-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60365796011	**M-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60365796012	**M-MW-1**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	AJS2	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796013	**M-BMW-1**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	AJS2	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365796014	**M-BMW-2**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	AJS2	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-2 **Lab ID: 60365796001** Collected: 04/05/21 15:16 Received: 04/07/21 04:03 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	04/08/21 09:36	04/14/21 14:47	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 14:47	7440-41-7	
Boron	**4380**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 14:47	7440-42-8	
Calcium	**127000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 14:47	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 14:47	7440-48-4	
Iron	**57600**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 14:47	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 14:47	7439-92-1	
Lithium	**17.9**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 14:47	7439-93-2	B
Magnesium	**43800**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 14:47	7439-95-4	
Manganese	**6220**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 14:47	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 14:47	7439-98-7	
Potassium	**2500**	ug/L	500	146	1	04/08/21 09:36	04/14/21 14:47	7440-09-7	
Sodium	**52000**	ug/L	500	254	1	04/08/21 09:36	04/14/21 14:47	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 18:36	7440-36-0	
Arsenic	**2.1**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 18:36	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 18:36	7440-43-9	
Chromium	**0.78J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 18:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 18:36	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 18:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:33	7439-97-6	H1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**282**	mg/L	20.0	7.5	1		04/12/21 16:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**816**	mg/L	10.0	10.0	1		04/12/21 15:21		D6
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**40.3**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**17.3**	mg/L	2.0	0.48	10		04/13/21 14:12		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-2 **Lab ID: 60365796001** Collected: 04/05/21 15:16 Received: 04/07/21 04:03 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	**0.029J**	mg/L	0.050	0.026	1		04/12/21 08:55	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**29.9**	mg/L	5.0	1.9	5		04/22/21 15:30	16887-00-6	
Fluoride	**0.16J**	mg/L	0.20	0.086	1		04/21/21 23:31	16984-48-8	
Sulfate	**303**	mg/L	50.0	21.0	50		04/21/21 23:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-3 **Lab ID: 60365796002** Collected: 04/05/21 17:02 Received: 04/07/21 04:03 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	**207**	ug/L	5.0	1.8	1	04/08/21 09:36	04/14/21 14:54	7440-39-3	
Beryllium	**0.53J**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 14:54	7440-41-7	
Boron	**8860**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 14:54	7440-42-8	
Calcium	**145000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 14:54	7440-70-2	
Cobalt	**1.8J**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 14:54	7440-48-4	
Iron	**35800**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 14:54	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 14:54	7439-92-1	
Lithium	**<7.7**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 14:54	7439-93-2	
Magnesium	**45300**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 14:54	7439-95-4	
Manganese	**2060**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 14:54	7439-96-5	
Molybdenum	**5.3J**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 14:54	7439-98-7	
Potassium	**4450**	ug/L	500	146	1	04/08/21 09:36	04/14/21 14:54	7440-09-7	
Sodium	**45700**	ug/L	500	254	1	04/08/21 09:36	04/14/21 14:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 18:38	7440-36-0	
Arsenic	**8.9**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 18:38	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 18:38	7440-43-9	
Chromium	**0.44J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 18:38	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 18:38	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 18:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:35	7439-97-6	H1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**280**	mg/L	20.0	7.5	1		04/12/21 16:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**258**	mg/L	10.0	10.0	1		04/12/21 15:21		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**29.6**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**6.2**	mg/L	0.40	0.096	2		04/13/21 14:13		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-3 **Lab ID: 60365796002** Collected: 04/05/21 17:02 Received: 04/07/21 04:03 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		04/12/21 08:55	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**43.5**	mg/L	5.0	1.9	5		04/22/21 15:44	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.086	1		04/22/21 00:03	16984-48-8	
Sulfate	**310**	mg/L	50.0	21.0	50		04/22/21 00:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-4 **Lab ID: 60365796003** Collected: 04/05/21 12:25 Received: 04/07/21 04:03 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	**216**	ug/L	5.0	1.8	1	04/08/21 09:36	04/14/21 14:57	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 14:57	7440-41-7	
Boron	**11000**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 14:57	7440-42-8	M1
Calcium	**197000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 14:57	7440-70-2	M1
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 14:57	7440-48-4	
Iron	**31200**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 14:57	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 14:57	7439-92-1	
Lithium	**23.1**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 14:57	7439-93-2	B
Magnesium	**56800**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 14:57	7439-95-4	
Manganese	**808**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 14:57	7439-96-5	
Molybdenum	**61.3**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 14:57	7439-98-7	
Potassium	**6630**	ug/L	500	146	1	04/08/21 09:36	04/14/21 14:57	7440-09-7	
Sodium	**54500**	ug/L	500	254	1	04/08/21 09:36	04/14/21 14:57	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 18:40	7440-36-0	
Arsenic	**16.1**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 18:40	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 18:40	7440-43-9	
Chromium	**0.98J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 18:40	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 18:40	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 18:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:37	7439-97-6	H1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**235**	mg/L	20.0	7.5	1		04/12/21 16:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1130**	mg/L	13.3	13.3	1		04/12/21 15:21		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**30.4**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.81**	mg/L	0.20	0.048	1		04/13/21 13:51		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-4 **Lab ID: 60365796003** Collected: 04/05/21 12:25 Received: 04/07/21 04:03 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	**0.031J**	mg/L	0.050	0.026	1		04/12/21 08:56	18496-25-8	M1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**54.1**	mg/L	5.0	1.9	5		04/23/21 15:49	16887-00-6	
Fluoride	**0.24**	mg/L	0.20	0.086	1		04/22/21 16:33	16984-48-8	
Sulfate	**503**	mg/L	50.0	21.0	50		04/23/21 16:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-5 **Lab ID: 60365796004** Collected: 04/06/21 12:45 Received: 04/07/21 04:03 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**185**	ug/L	5.0	1.8	1	04/08/21 09:36	04/14/21 14:59	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 14:59	7440-41-7	
Boron	**5390**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 14:59	7440-42-8	
Calcium	**134000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 14:59	7440-70-2	
Cobalt	**2.0J**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 14:59	7440-48-4	
Iron	**14100**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 14:59	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 14:59	7439-92-1	
Lithium	**19.9**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 14:59	7439-93-2	B
Magnesium	**45700**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 14:59	7439-95-4	
Manganese	**357**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 14:59	7439-96-5	
Molybdenum	**94.5**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 14:59	7439-98-7	
Potassium	**5000**	ug/L	500	146	1	04/08/21 09:36	04/14/21 14:59	7440-09-7	
Sodium	**44600**	ug/L	500	254	1	04/08/21 09:36	04/14/21 14:59	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 18:51	7440-36-0	
Arsenic	**21.8**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 18:51	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 18:51	7440-43-9	
Chromium	**0.71J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 18:51	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 18:51	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 18:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:44	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**333**	mg/L	20.0	7.5	1		04/12/21 17:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**739**	mg/L	10.0	10.0	1		04/13/21 17:25		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**12.7**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.4**	mg/L	0.20	0.048	1		04/20/21 09:58		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-5 **Lab ID: 60365796004** Collected: 04/06/21 12:45 Received: 04/07/21 04:03 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		04/13/21 08:35	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**45.7**	mg/L	5.0	1.9	5		04/22/21 20:00	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.086	1		04/22/21 19:28	16984-48-8	
Sulfate	**211**	mg/L	50.0	21.0	50		04/22/21 21:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-6 **Lab ID: 60365796005** Collected: 04/05/21 16:35 Received: 04/07/21 04:03 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	**53.0**	ug/L	5.0	1.8	1	04/08/21 09:36	04/14/21 15:07	7440-39-3	
Beryllium	**0.50J**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 15:07	7440-41-7	
Boron	**10000**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 15:07	7440-42-8	
Calcium	**409000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 15:07	7440-70-2	
Cobalt	**6.7**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 15:07	7440-48-4	
Iron	**11200**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 15:07	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 15:07	7439-92-1	
Lithium	**141**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 15:07	7439-93-2	B
Magnesium	**32300**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 15:07	7439-95-4	
Manganese	**1270**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 15:07	7439-96-5	
Molybdenum	**140**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 15:07	7439-98-7	
Potassium	**14900**	ug/L	500	146	1	04/08/21 09:36	04/14/21 15:07	7440-09-7	
Sodium	**22300**	ug/L	500	254	1	04/08/21 09:36	04/14/21 15:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 18:53	7440-36-0	
Arsenic	**3.9**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 18:53	7440-38-2	
Cadmium	**0.093J**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 18:53	7440-43-9	
Chromium	**0.32J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 18:53	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 18:53	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 18:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:47	7439-97-6	H1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**547**	mg/L	20.0	7.5	1		04/12/21 17:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1430**	mg/L	13.3	13.3	1		04/12/21 15:21		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**9.9**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.3**	mg/L	0.20	0.048	1		04/13/21 13:53		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-6 **Lab ID: 60365796005** Collected: 04/05/21 16:35 Received: 04/07/21 04:03 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		04/12/21 08:57	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	0.39	1		04/22/21 21:35	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.086	1		04/22/21 21:35	16984-48-8	
Sulfate	**554**	mg/L	50.0	21.0	50		04/22/21 21:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-7 **Lab ID: 60365796006** Collected: 04/06/21 13:50 Received: 04/07/21 04:03 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	**41.7**	ug/L	5.0	1.8	1	04/08/21 09:36	04/14/21 15:09	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 15:09	7440-41-7	
Boron	**33300**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 15:09	7440-42-8	
Calcium	**445000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 15:09	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 15:09	7440-48-4	
Iron	**242**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 15:09	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 15:09	7439-92-1	
Lithium	**32.3**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 15:09	7439-93-2	B
Magnesium	**34200**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 15:09	7439-95-4	
Manganese	**5.1**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 15:09	7439-96-5	
Molybdenum	**697**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 15:09	7439-98-7	
Potassium	**21300**	ug/L	500	146	1	04/08/21 09:36	04/14/21 15:09	7440-09-7	
Sodium	**120000**	ug/L	500	254	1	04/08/21 09:36	04/14/21 15:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.38J**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 18:56	7440-36-0	
Arsenic	**3.1**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 18:56	7440-38-2	
Cadmium	**0.30J**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 18:56	7440-43-9	
Chromium	**0.41J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 18:56	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 18:56	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 18:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:49	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**125**	mg/L	20.0	7.5	1		04/12/21 17:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**2100**	mg/L	13.3	13.3	1		04/13/21 17:25		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.24**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.048**	mg/L	0.20	0.048	1		04/20/21 09:59		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-7 **Lab ID: 60365796006** Collected: 04/06/21 13:50 Received: 04/07/21 04:03 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		04/13/21 08:35	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**61.8**	mg/L	10.0	3.9	10		04/22/21 22:23	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.086	1		04/22/21 22:07	16984-48-8	
Sulfate	**1330**	mg/L	100	42.1	100		04/22/21 22:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-8 **Lab ID: 60365796007** Collected: 04/05/21 15:35 Received: 04/07/21 04:03 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**116**	ug/L	5.0	1.8	1	04/08/21 09:36	04/14/21 15:12	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 15:12	7440-41-7	
Boron	**9940**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 15:12	7440-42-8	
Calcium	**233000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 15:12	7440-70-2	
Cobalt	**1.0J**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 15:12	7440-48-4	
Iron	**9890**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 15:12	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 15:12	7439-92-1	
Lithium	**43.0**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 15:12	7439-93-2	B
Magnesium	**51000**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 15:12	7439-95-4	
Manganese	**1800**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 15:12	7439-96-5	
Molybdenum	**195**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 15:12	7439-98-7	
Potassium	**6830**	ug/L	500	146	1	04/08/21 09:36	04/14/21 15:12	7440-09-7	
Sodium	**42200**	ug/L	500	254	1	04/08/21 09:36	04/14/21 15:12	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 18:58	7440-36-0	
Arsenic	**6.9**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 18:58	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 18:58	7440-43-9	
Chromium	**0.46J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 18:58	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 18:58	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 18:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:56	7439-97-6	H1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**216**	mg/L	20.0	7.5	1		04/12/21 17:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1220**	mg/L	13.3	13.3	1		04/12/21 15:21		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**8.5**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.4**	mg/L	0.20	0.048	1		04/13/21 13:52		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-8 **Lab ID: 60365796007** Collected: 04/05/21 15:35 Received: 04/07/21 04:03 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.028J**	mg/L	0.050	0.026	1		04/12/21 08:57	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**45.5**	mg/L	5.0	1.9	5		04/23/21 09:22	16887-00-6	
Fluoride	**0.38**	mg/L	0.20	0.086	1		04/22/21 22:55	16984-48-8	
Sulfate	**595**	mg/L	50.0	21.0	50		04/22/21 23:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-DUP-1 **Lab ID: 60365796008** Collected: 04/05/21 08:00 Received: 04/07/21 04:03 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	**298**	ug/L	5.0	1.8	1	04/08/21 09:36	04/14/21 15:14	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 15:14	7440-41-7	
Boron	**4360**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 15:14	7440-42-8	
Calcium	**122000**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 15:14	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 15:14	7440-48-4	
Iron	**54700**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 15:14	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 15:14	7439-92-1	
Lithium	**12.9**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 15:14	7439-93-2	B
Magnesium	**41900**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 15:14	7439-95-4	
Manganese	**6040**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 15:14	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 15:14	7439-98-7	
Potassium	**2720**	ug/L	500	146	1	04/08/21 09:36	04/14/21 15:14	7440-09-7	
Sodium	**50200**	ug/L	500	254	1	04/08/21 09:36	04/14/21 15:14	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 19:00	7440-36-0	
Arsenic	**2.0**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 19:00	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 19:00	7440-43-9	
Chromium	**0.53J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 19:00	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 19:00	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 19:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:58	7439-97-6	H1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**275**	mg/L	20.0	7.5	1		04/12/21 17:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**792**	mg/L	10.0	10.0	1		04/12/21 15:21		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**36.9**	mg/L	0.050		1		05/04/21 07:20	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**17.8**	mg/L	2.0	0.48	10		04/13/21 14:12		H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-DUP-1 **Lab ID: 60365796008** Collected: 04/05/21 08:00 Received: 04/07/21 04:03 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	**0.032J**	mg/L	0.050	0.026	1		04/12/21 08:57	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**32.6**	mg/L	5.0	1.9	5		04/23/21 09:38	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.086	1		04/22/21 23:58	16984-48-8	
Sulfate	**316**	mg/L	50.0	21.0	50		04/23/21 00:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-FB-1 **Lab ID: 60365796009** Collected: 04/05/21 15:55 Received: 04/07/21 04:03 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	04/08/21 09:36	04/14/21 15:17	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/08/21 09:36	04/14/21 15:17	7440-41-7	
Boron	**56.3J**	ug/L	100	8.6	1	04/08/21 09:36	04/14/21 15:17	7440-42-8	
Calcium	**<75.4**	ug/L	200	75.4	1	04/08/21 09:36	04/14/21 15:17	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/08/21 09:36	04/14/21 15:17	7440-48-4	
Iron	**24.9J**	ug/L	50.0	21.4	1	04/08/21 09:36	04/14/21 15:17	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/08/21 09:36	04/14/21 15:17	7439-92-1	
Lithium	**14.2**	ug/L	10.0	7.7	1	04/08/21 09:36	04/14/21 15:17	7439-93-2	B
Magnesium	**<31.4**	ug/L	50.0	31.4	1	04/08/21 09:36	04/14/21 15:17	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	04/08/21 09:36	04/14/21 15:17	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/08/21 09:36	04/14/21 15:17	7439-98-7	
Potassium	**<146**	ug/L	500	146	1	04/08/21 09:36	04/14/21 15:17	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	04/08/21 09:36	04/14/21 15:17	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 09:36	04/14/21 19:02	7440-36-0	
Arsenic	**<0.11**	ug/L	1.0	0.11	1	04/08/21 09:36	04/14/21 19:02	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 09:36	04/14/21 19:02	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.23	1	04/08/21 09:36	04/14/21 19:02	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 09:36	04/14/21 19:02	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 09:36	04/14/21 19:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 14:00	7439-97-6	H1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<7.5**	mg/L	20.0	7.5	1		04/12/21 17:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**6.0**	mg/L	5.0	5.0	1		04/08/21 14:16		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.025J**	mg/L	0.050		1		05/04/21 07:20	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.048**	mg/L	0.20	0.048	1		04/13/21 13:53		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-FB-1 **Lab ID: 60365796009** Collected: 04/05/21 15:55 Received: 04/07/21 04:03 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		04/12/21 08:57	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**0.52J**	mg/L	1.0	0.39	1		04/23/21 00:30	16887-00-6	B
Fluoride	**<0.086**	mg/L	0.20	0.086	1		04/23/21 00:30	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		04/23/21 00:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-1 **Lab ID: 60365796012** Collected: 04/07/21 10:56 Received: 04/09/21 04:08 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	**379**	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:14	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:14	7440-41-7	
Boron	**39.8J**	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:14	7440-42-8	
Calcium	**141000**	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:14	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:14	7440-48-4	
Iron	**15600**	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:14	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:14	7439-92-1	
Lithium	**<7.7**	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:14	7439-93-2	
Magnesium	**45500**	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:14	7439-95-4	
Manganese	**1950**	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:14	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:14	7439-98-7	
Potassium	**1460**	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:14	7440-09-7	
Sodium	**29200**	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:14	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/20/21 09:10	04/30/21 13:55	7440-36-0	
Arsenic	**0.64J**	ug/L	1.0	0.11	1	04/20/21 09:10	04/30/21 13:55	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/20/21 09:10	04/30/21 13:55	7440-43-9	
Chromium	**0.92J**	ug/L	1.0	0.23	1	04/20/21 09:10	04/30/21 13:55	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/20/21 09:10	04/30/21 13:55	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/20/21 09:10	04/30/21 13:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 14:03	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**401**	mg/L	20.0	7.5	1		04/14/21 13:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**656**	mg/L	10.0	10.0	1		04/14/21 16:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**15.0**	mg/L	0.050		1		05/04/21 07:20	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.63**	mg/L	0.20	0.048	1		04/20/21 10:02		H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-1 **Lab ID: 60365796012** Collected: 04/07/21 10:56 Received: 04/09/21 04:08 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	**0.032J**	mg/L	0.050	0.026	1		04/14/21 17:24	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**44.3**	mg/L	10.0	3.9	10		04/23/21 04:12	16887-00-6	B
Fluoride	**0.35**	mg/L	0.20	0.086	1		04/23/21 03:56	16984-48-8	
Sulfate	**117**	mg/L	10.0	4.2	10		04/23/21 04:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-BMW-1 **Lab ID: 60365796013** Collected: 04/07/21 09:21 Received: 04/09/21 04:08 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	**190**	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:16	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:16	7440-41-7	
Boron	**157**	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:16	7440-42-8	
Calcium	**104000**	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:16	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:16	7440-48-4	
Iron	**501**	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:16	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:16	7439-92-1	
Lithium	**10.4**	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:16	7439-93-2	
Magnesium	**25500**	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:16	7439-95-4	
Manganese	**160**	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:16	7439-96-5	
Molybdenum	**4.9J**	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:16	7439-98-7	
Potassium	**2460**	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:16	7440-09-7	
Sodium	**64600**	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:16	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.50J**	ug/L	1.0	0.10	1	04/20/21 09:10	04/30/21 14:01	7440-36-0	
Arsenic	**3.6**	ug/L	1.0	0.11	1	04/20/21 09:10	04/30/21 14:01	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/20/21 09:10	04/30/21 14:01	7440-43-9	
Chromium	**0.64J**	ug/L	1.0	0.23	1	04/20/21 09:10	04/30/21 14:01	7440-47-3	B
Selenium	**1.3**	ug/L	1.0	0.18	1	04/20/21 09:10	04/30/21 14:01	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/20/21 09:10	04/30/21 14:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 14:05	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**318**	mg/L	20.0	7.5	1		04/14/21 13:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**607**	mg/L	10.0	10.0	1		04/14/21 16:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.47**	mg/L	0.050		1		05/04/21 07:20	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.048**	mg/L	0.20	0.048	1		04/20/21 10:00		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-BMW-1 **Lab ID: 60365796013** Collected: 04/07/21 09:21 Received: 04/09/21 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.028J**	mg/L	0.050	0.026	1		04/14/21 17:24	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**92.5**	mg/L	10.0	3.9	10		04/22/21 15:42	16887-00-6	
Fluoride	**0.40**	mg/L	0.20	0.086	1		04/22/21 15:27	16984-48-8	
Sulfate	**52.0**	mg/L	10.0	4.2	10		04/22/21 15:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-BMW-2 **Lab ID: 60365796014** Collected: 04/07/21 09:33 Received: 04/09/21 04:08 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	**566**	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:19	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:19	7440-41-7	
Boron	**55.6J**	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:19	7440-42-8	
Calcium	**109000**	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:19	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:19	7440-48-4	
Iron	**15300**	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:19	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:19	7439-92-1	
Lithium	**<7.7**	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:19	7439-93-2	
Magnesium	**35900**	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:19	7439-95-4	
Manganese	**4380**	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:19	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:19	7439-98-7	
Potassium	**1300**	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:19	7440-09-7	
Sodium	**20100**	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:19	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/20/21 09:10	04/30/21 14:03	7440-36-0	
Arsenic	**1.4**	ug/L	1.0	0.11	1	04/20/21 09:10	04/30/21 14:03	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/20/21 09:10	04/30/21 14:03	7440-43-9	
Chromium	**0.45J**	ug/L	1.0	0.23	1	04/20/21 09:10	04/30/21 14:03	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/20/21 09:10	04/30/21 14:03	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/20/21 09:10	04/30/21 14:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 14:07	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**454**	mg/L	20.0	7.5	1		04/14/21 13:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**499**	mg/L	10.0	10.0	1		04/14/21 16:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**14.6**	mg/L	0.050		1		05/04/21 07:20	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.73**	mg/L	0.20	0.048	1		04/20/21 10:01		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-BMW-2 **Lab ID: 60365796014** Collected: 04/07/21 09:33 Received: 04/09/21 04:08 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	**0.033J**	mg/L	0.050	0.026	1		04/14/21 17:24	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.1**	mg/L	1.0	0.39	1		04/22/21 15:58	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.086	1		04/22/21 15:58	16984-48-8	
Sulfate	**23.9**	mg/L	2.0	0.84	2		04/23/21 23:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 716555 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009, 60365796012, 60365796013, 60365796014

METHOD BLANK: 2882655 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009, 60365796012, 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/04/21 13:28	

LABORATORY CONTROL SAMPLE: 2882656

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: 2882662 2882657

Parameter	Units	60365796003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	4.2	4.1	85	82	75-125	3	20	H1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 713430
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: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009

METHOD BLANK: 2870564 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/14/21 14:22	
Beryllium	ug/L	<0.39	1.0	0.39	04/14/21 14:22	
Boron	ug/L	<8.6	100	8.6	04/14/21 14:22	
Calcium	ug/L	85.2J	200	75.4	04/14/21 14:22	
Cobalt	ug/L	<0.95	5.0	0.95	04/14/21 14:22	
Iron	ug/L	<21.4	50.0	21.4	04/14/21 14:22	
Lead	ug/L	<3.8	10.0	3.8	04/14/21 14:22	
Lithium	ug/L	16.3	10.0	7.7	04/14/21 14:22	
Magnesium	ug/L	69.2	50.0	31.4	04/14/21 14:22	
Manganese	ug/L	<0.74	5.0	0.74	04/14/21 14:22	
Molybdenum	ug/L	<2.2	20.0	2.2	04/14/21 14:22	
Potassium	ug/L	<146	500	146	04/14/21 14:22	
Sodium	ug/L	<254	500	254	04/14/21 14:22	

LABORATORY CONTROL SAMPLE: 2870565

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1050	105	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	1020	102	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10700	107	85-115	
Lead	ug/L	1000	1040	104	85-115	
Lithium	ug/L	1000	1130	113	85-115	
Magnesium	ug/L	10000	10900	109	85-115	
Manganese	ug/L	1000	987	99	85-115	
Molybdenum	ug/L	1000	1070	107	85-115	
Potassium	ug/L	10000	10400	104	85-115	
Sodium	ug/L	10000	10800	108	85-115	

MATRIX SPIKE SAMPLE: 2870566

Parameter	Units	60365839001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	45.6	1000	1120	107	70-130	
Beryllium	ug/L	ND	1000	1070	107	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

MATRIX SPIKE SAMPLE: 2870566

Parameter	Units	60365839001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	ND	1000	1160	107	70-130	
Calcium	ug/L	28400	10000	39900	115	70-130	
Cobalt	ug/L	6.5	1000	1040	104	70-130	
Iron	ug/L	1480	10000	12300	108	70-130	
Lead	ug/L	ND	1000	1020	102	70-130	
Lithium	ug/L	24.0	1000	1190	116	70-130	
Magnesium	ug/L	7920	10000	19200	113	70-130	
Manganese	ug/L	24.5	1000	1030	100	70-130	
Molybdenum	ug/L	ND	1000	1100	109	70-130	
Potassium	ug/L	10600	10000	21500	110	70-130	
Sodium	ug/L	324000	10000	347000	230	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2870567 2870568

Parameter	Units	60365796003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	216	1000	1000	1250	1290	103	107	70-130	3	20	
Beryllium	ug/L	<0.39	1000	1000	1020	1050	101	105	70-130	3	20	
Boron	ug/L	11000	1000	1000	12100	12400	110	137	70-130	2	20	M1
Calcium	ug/L	197000	10000	10000	203000	211000	57	135	70-130	4	20	M1
Cobalt	ug/L	<0.95	1000	1000	1020	1040	102	104	70-130	2	20	
Iron	ug/L	31200	10000	10000	40400	41800	92	106	70-130	3	20	
Lead	ug/L	<3.8	1000	1000	1030	1050	103	105	70-130	2	20	
Lithium	ug/L	23.1	1000	1000	1160	1190	113	117	70-130	3	20	
Magnesium	ug/L	56800	10000	10000	67400	69200	106	125	70-130	3	20	
Manganese	ug/L	808	1000	1000	1750	1810	95	100	70-130	3	20	
Molybdenum	ug/L	61.3	1000	1000	1160	1190	110	112	70-130	2	20	
Potassium	ug/L	6630	10000	10000	17200	17700	106	111	70-130	3	20	
Sodium	ug/L	54500	10000	10000	66000	67400	115	128	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714611
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: 60365796012, 60365796013, 60365796014

METHOD BLANK: 2875149 Matrix: Water
Associated Lab Samples: 60365796012, 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/26/21 10:06	
Beryllium	ug/L	<0.39	1.0	0.39	04/26/21 10:06	
Boron	ug/L	<8.6	100	8.6	04/26/21 10:06	
Calcium	ug/L	<75.4	200	75.4	04/26/21 10:06	
Cobalt	ug/L	<0.95	5.0	0.95	04/26/21 10:06	
Iron	ug/L	<21.4	50.0	21.4	04/26/21 10:06	
Lead	ug/L	<3.8	10.0	3.8	04/26/21 10:06	
Lithium	ug/L	<7.7	10.0	7.7	04/26/21 10:06	
Magnesium	ug/L	<31.4	50.0	31.4	04/26/21 10:06	
Manganese	ug/L	<0.74	5.0	0.74	04/26/21 10:06	
Molybdenum	ug/L	<2.2	20.0	2.2	04/26/21 10:06	
Potassium	ug/L	<146	500	146	04/26/21 10:06	
Sodium	ug/L	<254	500	254	04/26/21 10:06	

LABORATORY CONTROL SAMPLE: 2875150

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Boron	ug/L	1000	958	96	85-115	
Calcium	ug/L	10000	10100	101	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1020	102	85-115	
Lithium	ug/L	1000	986	99	85-115	
Magnesium	ug/L	10000	9960	100	85-115	
Manganese	ug/L	1000	970	97	85-115	
Molybdenum	ug/L	1000	1040	104	85-115	
Potassium	ug/L	10000	9640	96	85-115	
Sodium	ug/L	10000	9970	100	85-115	

MATRIX SPIKE SAMPLE: 2875151

Parameter	Units	60366138002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	415	1000	1400	98	70-130	
Beryllium	ug/L	<0.39	1000	1000	100	70-130	
Boron	ug/L	56.2J	1000	1020	97	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

MATRIX SPIKE SAMPLE: 2875151

Parameter	Units	60366138002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	124000	10000	133000	96	70-130	
Cobalt	ug/L	<0.95	1000	953	95	70-130	
Iron	ug/L	7900	10000	17700	98	70-130	
Lead	ug/L	<3.8	1000	979	98	70-130	
Lithium	ug/L	22.2	1000	1010	98	70-130	
Magnesium	ug/L	31000	10000	40600	95	70-130	
Manganese	ug/L	496	1000	1440	95	70-130	
Molybdenum	ug/L	<2.2	1000	1020	102	70-130	
Potassium	ug/L	3640	10000	13300	97	70-130	
Sodium	ug/L	5180	10000	15000	98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875152 2875153

Parameter	Units	60366222004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	288	1000	1000	1260	1280	98	99	70-130	1	20	
Beryllium	ug/L	<0.39	1000	1000	993	1010	99	101	70-130	2	20	
Boron	ug/L	15600	1000	1000	16300	16500	72	92	70-130	1	20	
Calcium	ug/L	93000	10000	10000	102000	103000	91	102	70-130	1	20	
Cobalt	ug/L	<0.95	1000	1000	952	967	95	97	70-130	2	20	
Iron	ug/L	3700	10000	10000	13400	13600	97	98	70-130	1	20	
Lead	ug/L	<3.8	1000	1000	975	985	97	98	70-130	1	20	
Lithium	ug/L	25.9	1000	1000	981	1000	96	97	70-130	2	20	
Magnesium	ug/L	19100	10000	10000	28500	28600	94	95	70-130	1	20	
Manganese	ug/L	381	1000	1000	1310	1330	93	95	70-130	1	20	
Molybdenum	ug/L	1910	1000	1000	2890	2910	98	100	70-130	1	20	
Potassium	ug/L	10100	10000	10000	19500	19700	94	96	70-130	1	20	
Sodium	ug/L	33800	10000	10000	43000	43200	92	95	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.: 60365796

QC Batch: 713431
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: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009

METHOD BLANK: 2870569 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	04/14/21 18:19	
Arsenic	ug/L	<0.11	1.0	0.11	04/14/21 18:19	
Cadmium	ug/L	<0.062	0.50	0.062	04/14/21 18:19	
Chromium	ug/L	<0.23	1.0	0.23	04/14/21 18:19	
Selenium	ug/L	<0.18	1.0	0.18	04/14/21 18:19	
Thallium	ug/L	<0.094	1.0	0.094	04/14/21 18:19	

LABORATORY CONTROL SAMPLE: 2870570

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.9	100	85-115	
Arsenic	ug/L	40	43.0	107	85-115	
Cadmium	ug/L	40	41.6	104	85-115	
Chromium	ug/L	40	39.3	98	85-115	
Selenium	ug/L	40	37.9	95	85-115	
Thallium	ug/L	40	39.3	98	85-115	

MATRIX SPIKE SAMPLE: 2870571

Parameter	Units	60365557002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	ND	40	40.0	99	70-130	
Arsenic	ug/L	1.9	40	44.8	107	70-130	
Cadmium	ug/L	ND	40	38.8	97	70-130	
Chromium	ug/L	ND	40	49.8	124	70-130	
Selenium	ug/L	1.4	40	36.1	87	70-130	
Thallium	ug/L	ND	40	36.6	92	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2870572 2870573

Parameter	Units	60365796003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.10	40	40	39.0	38.7	98	97	70-130	1	20	
Arsenic	ug/L	16.1	40	40	58.8	58.2	107	105	70-130	1	20	
Cadmium	ug/L	<0.062	40	40	38.7	38.4	97	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2870572 2870573

Parameter	Units	60365796003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	0.98J	40	40	43.9	43.0	107	105	70-130	2	20	
Selenium	ug/L	<0.18	40	40	35.7	36.2	89	90	70-130	1	20	
Thallium	ug/L	<0.094	40	40	36.1	36.0	90	90	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.: 60365796

QC Batch: 715615
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: 60365796012, 60365796013, 60365796014

METHOD BLANK: 2878923 Matrix: Water
Associated Lab Samples: 60365796012, 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	04/30/21 13:52	
Arsenic	ug/L	<0.11	1.0	0.11	04/30/21 13:52	
Cadmium	ug/L	<0.062	0.50	0.062	04/30/21 13:52	
Chromium	ug/L	0.27J	1.0	0.23	04/30/21 13:52	
Selenium	ug/L	<0.18	1.0	0.18	04/30/21 13:52	
Thallium	ug/L	<0.094	1.0	0.094	04/30/21 13:52	

LABORATORY CONTROL SAMPLE: 2878924

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.6	102	85-115	
Arsenic	ug/L	40	41.6	104	85-115	
Cadmium	ug/L	40	42.3	106	85-115	
Chromium	ug/L	40	45.9	115	85-115	
Selenium	ug/L	40	40.9	102	85-115	
Thallium	ug/L	40	39.2	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878925 2878926

Parameter	Units	60365796012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.10	40	40	40.1	39.3	100	98	70-130	2	20	
Arsenic	ug/L	0.64J	40	40	42.3	41.2	104	101	70-130	3	20	
Cadmium	ug/L	<0.062	40	40	40.6	39.5	102	99	70-130	3	20	
Chromium	ug/L	0.92J	40	40	42.1	41.2	103	101	70-130	2	20	
Selenium	ug/L	<0.18	40	40	39.6	38.2	99	95	70-130	4	20	
Thallium	ug/L	<0.094	40	40	41.2	40.4	103	101	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714071
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009

METHOD BLANK: 2873144 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/12/21 15:24	

LABORATORY CONTROL SAMPLE: 2873145

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	498	100	90-110	

SAMPLE DUPLICATE: 2873146

Parameter	Units	60365796003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	235	237	1	10	

SAMPLE DUPLICATE: 2873147

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	299	306	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714483 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796012, 60365796013, 60365796014

METHOD BLANK: 2874618 Matrix: Water
Associated Lab Samples: 60365796012, 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/14/21 11:30	

LABORATORY CONTROL SAMPLE: 2874619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	505	101	90-110	

SAMPLE DUPLICATE: 2874620

Parameter	Units	60365980001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	274	274	0	10	

SAMPLE DUPLICATE: 2874621

Parameter	Units	60366120007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	189	193	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 713409
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796009

METHOD BLANK: 2870457 Matrix: Water
Associated Lab Samples: 60365796009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/08/21 14:15	

LABORATORY CONTROL SAMPLE: 2870458

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

SAMPLE DUPLICATE: 2870459

Parameter	Units	60365796009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	6.0	6.0	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714014
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796005, 60365796007, 60365796008

METHOD BLANK: 2873021 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796005, 60365796007, 60365796008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/12/21 15:19	

LABORATORY CONTROL SAMPLE: 2873022

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

SAMPLE DUPLICATE: 2873023

Parameter	Units	60365605001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5920	5180	13	10	D6

SAMPLE DUPLICATE: 2873024

Parameter	Units	60365796003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1130	1050	7	10	D6

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714164
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796004, 60365796006

METHOD BLANK: 2873421 Matrix: Water
Associated Lab Samples: 60365796004, 60365796006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/13/21 17:23	

LABORATORY CONTROL SAMPLE: 2873422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1030	103	80-120	

SAMPLE DUPLICATE: 2873423

Parameter	Units	60365567001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1750	1820	4	10	

SAMPLE DUPLICATE: 2873424

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1210	1250	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714598
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796012, 60365796013, 60365796014

METHOD BLANK: 2875092 Matrix: Water
Associated Lab Samples: 60365796012, 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/14/21 16:35	

LABORATORY CONTROL SAMPLE: 2875093

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

SAMPLE DUPLICATE: 2875094

Parameter	Units	60366054001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	15500	17000	9	10	

SAMPLE DUPLICATE: 2875095

Parameter	Units	60366120007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13700	14400	5	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714254
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: 60365796001, 60365796002, 60365796003, 60365796005, 60365796007, 60365796008, 60365796009

METHOD BLANK: 2873722 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796005, 60365796007, 60365796008, 60365796009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/13/21 13:51	H6

LABORATORY CONTROL SAMPLE: 2873723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	103	90-110	H6

SAMPLE DUPLICATE: 2873724

Parameter	Units	60365796003 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.81	0.82	1	20	H6

SAMPLE DUPLICATE: 2873725

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.43	0.61	35	20	D6,H6

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 715282 | 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: 60365796004, 60365796006, 60365796012, 60365796013, 60365796014

METHOD BLANK: 2878020 Matrix: Water
Associated Lab Samples: 60365796004, 60365796006, 60365796012, 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/20/21 09:54	H6

LABORATORY CONTROL SAMPLE: 2878021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	1.9	95	90-110	H6

SAMPLE DUPLICATE: 2878022

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.86	0.80	8	20	H6

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 713886 — Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D — Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796005, 60365796007, 60365796008, 60365796009

METHOD BLANK: 2872465 — Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796005, 60365796007, 60365796008, 60365796009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/12/21 08:53	

LABORATORY CONTROL SAMPLE: 2872466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	97	80-120	

MATRIX SPIKE SAMPLE: 2872467

Parameter	Units	60365796003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.031J	0.5	0.24	42	75-125	M1

SAMPLE DUPLICATE: 2872468

Parameter	Units	60365796003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.031J	0.032J		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714150
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: 60365796004, 60365796006

METHOD BLANK: 2873364 Matrix: Water
Associated Lab Samples: 60365796004, 60365796006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/13/21 08:26	

LABORATORY CONTROL SAMPLE: 2873365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.53	106	80-120	

MATRIX SPIKE SAMPLE: 2873366

Parameter	Units	60365964002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.18	0.5	0.52	68	75-125	M1

SAMPLE DUPLICATE: 2873367

Parameter	Units	60365964007 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.047J		20	

SAMPLE DUPLICATE: 2873368

Parameter	Units	60365576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	5.3	5.3	0	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 714348
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: 60365796012, 60365796013, 60365796014

METHOD BLANK: 2874093 Matrix: Water
Associated Lab Samples: 60365796012, 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/14/21 17:23	

LABORATORY CONTROL SAMPLE: 2874094

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.46	91	80-120	

MATRIX SPIKE SAMPLE: 2874095

Parameter	Units	60366085002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.5	0.44	82	75-125	

SAMPLE DUPLICATE: 2874096

Parameter	Units	60365796012 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.032J	0.032J		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 715727
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: 60365796001, 60365796002

METHOD BLANK: 2879437 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/21/21 15:37	
Fluoride	mg/L	<0.086	0.20	0.086	04/21/21 15:37	
Sulfate	mg/L	<0.42	1.0	0.42	04/21/21 15:37	

METHOD BLANK: 2882317 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.55J	1.0	0.39	04/23/21 08:34	
Fluoride	mg/L	<0.086	0.20	0.086	04/23/21 08:34	
Sulfate	mg/L	<0.42	1.0	0.42	04/23/21 08:34	

METHOD BLANK: 2882328 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/22/21 09:08	
Fluoride	mg/L	<0.086	0.20	0.086	04/22/21 09:08	
Sulfate	mg/L	<0.42	1.0	0.42	04/22/21 09:08	

LABORATORY CONTROL SAMPLE: 2879438

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	2.5	98	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2882318

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	2.5	100	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

LABORATORY CONTROL SAMPLE: 2882329

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	4.6	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879439 2879440

Parameter	Units	60366628001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	54.4	10	10	65.4	65.4	110	110	80-120	0	15	E
Fluoride	mg/L	ND	5	5	5.7	5.7	110	110	80-120	0	15	
Sulfate	mg/L	13.5	10	10	23.3	23.3	98	98	80-120	0	15	

MATRIX SPIKE SAMPLE: 2879441

Parameter	Units	60366841004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	191	100	285	95	80-120	
Fluoride	mg/L	ND	50	49.2	98	80-120	
Sulfate	mg/L	27.2	100	123	96	80-120	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 716230
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: 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009, 60365796012

METHOD BLANK: 2881187 Matrix: Water
Associated Lab Samples: 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009, 60365796012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/22/21 13:41	
Fluoride	mg/L	<0.086	0.20	0.086	04/22/21 13:41	
Sulfate	mg/L	<0.42	1.0	0.42	04/22/21 13:41	

METHOD BLANK: 2882315 Matrix: Water
Associated Lab Samples: 60365796004, 60365796005, 60365796006, 60365796007, 60365796008, 60365796009, 60365796012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.55J	1.0	0.39	04/23/21 08:34	
Fluoride	mg/L	<0.086	0.20	0.086	04/23/21 08:34	
Sulfate	mg/L	<0.42	1.0	0.42	04/23/21 08:34	

LABORATORY CONTROL SAMPLE: 2881188

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	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 2882316

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	2.5	100	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881189 2881190

Parameter	Units	60366588003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.2	5	5	6.7	6.7	90	91	80-120	1	15	
Fluoride	mg/L	0.32	2.5	2.5	3.0	3.0	106	108	80-120	2	15	
Sulfate	mg/L	33.1	25	25	58.2	58.1	100	100	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

MATRIX SPIKE SAMPLE: 2881192

Parameter	Units	60365796004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	45.7	25	71.2	102	80-120	
Fluoride	mg/L	0.32	2.5	3.0	109	80-120	
Sulfate	mg/L	211	250	449	95	80-120	

SAMPLE DUPLICATE: 2881191

Parameter	Units	60366588003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	2.2	2.1	4	15	
Fluoride	mg/L	0.32	0.36	10	15	
Sulfate	mg/L	33.1	32.6	2	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 716231
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: 60365796013, 60365796014

METHOD BLANK: 2881194 Matrix: Water
Associated Lab Samples: 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/22/21 09:12	
Fluoride	mg/L	<0.086	0.20	0.086	04/22/21 09:12	
Sulfate	mg/L	<0.42	1.0	0.42	04/22/21 09:12	

METHOD BLANK: 2883715 Matrix: Water
Associated Lab Samples: 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.55J	1.0	0.39	04/23/21 08:34	
Fluoride	mg/L	<0.086	0.20	0.086	04/23/21 08:34	
Sulfate	mg/L	<0.42	1.0	0.42	04/23/21 08:34	

METHOD BLANK: 2883763 Matrix: Water
Associated Lab Samples: 60365796013, 60365796014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/25/21 10:02	
Fluoride	mg/L	<0.086	0.20	0.086	04/25/21 10:02	
Sulfate	mg/L	<0.42	1.0	0.42	04/25/21 10:02	

LABORATORY CONTROL SAMPLE: 2881195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.3	93	90-110	
Sulfate	mg/L	5	4.7	93	90-110	

LABORATORY CONTROL SAMPLE: 2883716

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	2.5	100	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

LABORATORY CONTROL SAMPLE: 2883764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	93	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE SAMPLE: 2881196

Parameter	Units	60366222003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20.4	10	30.8	104	80-120	
Fluoride	mg/L	<0.086	2.5	2.5	98	80-120	
Sulfate	mg/L	590	250	844	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881197 2881198

Parameter	Units	60366222004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	26.3	25	25	49.1	49.5	91	93	80-120	1	15	
Fluoride	mg/L	0.72	2.5	2.5	2.9	2.8	86	82	80-120	3	15	
Sulfate	mg/L	115	50	50	165	164	100	99	80-120	0	15	

SAMPLE DUPLICATE: 2881199

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	26.3	24.8	6	15	
Fluoride	mg/L	0.72	0.71	1	15	
Sulfate	mg/L	115	114	1	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 716232
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: 60365796003

METHOD BLANK: 2881201 Matrix: Water
Associated Lab Samples: 60365796003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.55J	1.0	0.39	04/22/21 09:11	
Fluoride	mg/L	<0.086	0.20	0.086	04/22/21 09:11	
Sulfate	mg/L	<0.42	1.0	0.42	04/22/21 09:11	

METHOD BLANK: 2883713 Matrix: Water
Associated Lab Samples: 60365796003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.55J	1.0	0.39	04/23/21 08:34	
Fluoride	mg/L	<0.086	0.20	0.086	04/23/21 08:34	
Sulfate	mg/L	<0.42	1.0	0.42	04/23/21 08:34	

METHOD BLANK: 2883747 Matrix: Water
Associated Lab Samples: 60365796003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/25/21 10:02	
Fluoride	mg/L	<0.086	0.20	0.086	04/25/21 10:02	
Sulfate	mg/L	<0.42	1.0	0.42	04/25/21 10:02	

LABORATORY CONTROL SAMPLE: 2881202

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2883714

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	2.5	100	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60365796

LABORATORY CONTROL SAMPLE: 2883748

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	93	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881204 2881205

Parameter	Units	60365796003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	54.1	25	25	79.5	79.7	102	102	80-120	0	15	
Fluoride	mg/L	0.24	2.5	2.5	2.7	3.0	100	112	80-120	10	15	
Sulfate	mg/L	503	250	250	772	771	107	107	80-120	0	15	

MATRIX SPIKE SAMPLE: 2881206

Parameter	Units	60367297001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	129J	1000	1010	88	80-120	
Fluoride	mg/L	<17.3	500	520	104	80-120	
Sulfate	mg/L	2180	1000	3240	106	80-120	

SAMPLE DUPLICATE: 2881203

Parameter	Units	60365796003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	54.1	53.8	0	15	
Fluoride	mg/L	0.24	0.25	3	15	
Sulfate	mg/L	503	504	0	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-2 **Lab ID: 60365796001** Collected: 04/05/21 15:16 Received: 04/07/21 04:03 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	**0.0758 ± 0.393 (0.816) C:NA T:82%**	pCi/L	04/27/21 17:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.08 ± 0.568 (1.02) C:66% T:88%**	pCi/L	04/30/21 15:43	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-3 **Lab ID: 60365796002** Collected: 04/05/21 17:02 Received: 04/07/21 04:03 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	**0.282 ± 0.333 (0.523) C:NA T:98%**	pCi/L	04/27/21 18:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.00969 ± 0.401 (0.937) C:67% T:85%**	pCi/L	04/30/21 15:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-4 **Lab ID: 60365796003** Collected: 04/05/21 12:25 Received: 04/07/21 04:03 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	**0.323 ± 0.242 (0.125) C:NA T:92%**	pCi/L	04/27/21 17:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.849 ± 0.503 (0.917) C:68% T:83%**	pCi/L	04/30/21 15:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-5 **Lab ID: 60365796004** Collected: 04/06/21 12:45 Received: 04/07/21 04:03 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 ± 0.277 (0.446) C:NA T:85%**	pCi/L	04/27/21 18:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.50 ± 0.632 (1.03) C:68% T:83%**	pCi/L	04/30/21 15:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-6 **Lab ID: 60365796005** Collected: 04/05/21 16:35 Received: 04/07/21 04:03 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	**0.116 ± 0.266 (0.158) C:NA T:92%**	pCi/L	04/27/21 18:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.20 ± 0.687 (1.27) C:68% T:72%**	pCi/L	04/30/21 15:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-7 **Lab ID: 60365796006** Collected: 04/06/21 13:50 Received: 04/07/21 04:03 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	**0.429 ± 0.498 (0.804) C:NA T:86%**	pCi/L	04/28/21 13:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.724 ± 0.662 (1.36) C:70% T:88%**	pCi/L	04/28/21 15:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-8 **Lab ID: 60365796007** Collected: 04/05/21 15:35 Received: 04/07/21 04:03 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	**0.0576 ± 0.263 (0.424) C:NA T:93%**	pCi/L	04/27/21 18:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.394 ± 0.464 (0.978) C:68% T:82%**	pCi/L	04/30/21 15:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-DUP-1 **Lab ID: 60365796008** Collected: 04/05/21 08:00 Received: 04/07/21 04:03 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	**0.431 ± 0.323 (0.167) C:NA T:88%**	pCi/L	04/27/21 17:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.270 ± 0.403 (0.870) C:71% T:80%**	pCi/L	04/30/21 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-FB-1 **Lab ID: 60365796009** Collected: 04/05/21 15:55 Received: 04/07/21 04:03 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	**-0.108 ± 0.248 (0.584) C:NA T:91%**	pCi/L	04/27/21 18:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.499 ± 0.455 (0.927) C:65% T:95%**	pCi/L	04/30/21 15:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MS-1 **Lab ID: 60365796010** Collected: 04/05/21 12:25 Received: 04/07/21 04:03 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	**76.15 %REC ± NA (NA) C:NA T:NA**	pCi/L	04/27/21 17:52	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**88.27 %REC ± NA (NA) C:NA T:NA**	pCi/L	04/30/21 15:38	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MSD-1 **Lab ID: 60365796011** Collected: 04/05/21 12:25 Received: 04/07/21 04:03 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	**93.51 %REC 20.47 RPD ± NA (NA) C:NA T:NA**	pCi/L	04/27/21 17:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**81.47 %REC 8.01 RPD ± NA (NA) C:NA T:NA**	pCi/L	04/30/21 15:38	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-MW-1 **Lab ID: 60365796012** Collected: 04/07/21 10:56 Received: 04/09/21 04:08 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	**0.503 ± 0.511 (0.774) C:NA T:92%**	pCi/L	04/29/21 14:11	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.740 ± 0.444 (0.802) C:63% T:82%**	pCi/L	05/03/21 12:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-BMW-1 **Lab ID: 60365796013** Collected: 04/07/21 09:21 Received: 04/09/21 04:08 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	**0.192 ± 0.293 (0.471) C:NA T:89%**	pCi/L	04/29/21 14:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.05 ± 0.606 (1.08) C:66% T:79%**	pCi/L	05/03/21 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

Sample: M-BMW-2 **Lab ID: 60365796014** Collected: 04/07/21 09:33 Received: 04/09/21 04:08 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	**0.185 ± 0.401 (0.740) C:NA T:101%**	pCi/L	04/29/21 14:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.64 ± 0.625 (0.912) C:67% T:85%**	pCi/L	05/03/21 17:38	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 443324
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: 60365796006

METHOD BLANK: 2139752 Matrix: Water
Associated Lab Samples: 60365796006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.208 ± 0.428 (0.948) C:68% T:80%	pCi/L	04/28/21 15:33	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch:	443713	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: 60365796012, 60365796013, 60365796014

METHOD BLANK: 2141788 Matrix: Water

Associated Lab Samples: 60365796012, 60365796013, 60365796014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.312 ± 0.410 (0.682) C:NA T:98%	pCi/L	04/29/21 13:49	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 443314
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: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796007, 60365796008, 60365796009, 60365796010, 60365796011

METHOD BLANK: 2139725 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796007, 60365796008, 60365796009, 60365796010, 60365796011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0478 ± 0.218 (0.515) C:NA T:89%	pCi/L	04/27/21 16:48	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 443315
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: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796007, 60365796008, 60365796009, 60365796010, 60365796011

METHOD BLANK: 2139726 Matrix: Water
Associated Lab Samples: 60365796001, 60365796002, 60365796003, 60365796004, 60365796005, 60365796007, 60365796008, 60365796009, 60365796010, 60365796011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.287 ± 0.424 (0.914) C:71% T:79%	pCi/L	04/30/21 15:39	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60365796

QC Batch: 443323
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: 60365796006

METHOD BLANK: 2139751 Matrix: Water
Associated Lab Samples: 60365796006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.227 ± 0.346 (0.595) C:NA T:89%	pCi/L	04/28/21 13:11	

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
Pace Project No.: 60365796

QC Batch: 443714
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: 60365796012, 60365796013, 60365796014

METHOD BLANK: 2141789 Matrix: Water
Associated Lab Samples: 60365796012, 60365796013, 60365796014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.220 ± 0.340 (0.735) C:62% T:85%	pCi/L	05/03/21 12:37	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN MEC
Pace Project No.: 60365796

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.

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.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365796001	M-MW-2	EPA 200.7	713430	EPA 200.7	713510
60365796002	M-MW-3	EPA 200.7	713430	EPA 200.7	713510
60365796003	M-MW-4	EPA 200.7	713430	EPA 200.7	713510
60365796004	M-MW-5	EPA 200.7	713430	EPA 200.7	713510
60365796005	M-MW-6	EPA 200.7	713430	EPA 200.7	713510
60365796006	M-MW-7	EPA 200.7	713430	EPA 200.7	713510
60365796007	M-MW-8	EPA 200.7	713430	EPA 200.7	713510
60365796008	M-DUP-1	EPA 200.7	713430	EPA 200.7	713510
60365796009	M-FB-1	EPA 200.7	713430	EPA 200.7	713510
60365796012	M-MW-1	EPA 200.7	714611	EPA 200.7	714628
60365796013	M-BMW-1	EPA 200.7	714611	EPA 200.7	714628
60365796014	M-BMW-2	EPA 200.7	714611	EPA 200.7	714628
60365796001	M-MW-2	EPA 200.8	713431	EPA 200.8	713512
60365796002	M-MW-3	EPA 200.8	713431	EPA 200.8	713512
60365796003	M-MW-4	EPA 200.8	713431	EPA 200.8	713512
60365796004	M-MW-5	EPA 200.8	713431	EPA 200.8	713512
60365796005	M-MW-6	EPA 200.8	713431	EPA 200.8	713512
60365796006	M-MW-7	EPA 200.8	713431	EPA 200.8	713512
60365796007	M-MW-8	EPA 200.8	713431	EPA 200.8	713512
60365796008	M-DUP-1	EPA 200.8	713431	EPA 200.8	713512
60365796009	M-FB-1	EPA 200.8	713431	EPA 200.8	713512
60365796012	M-MW-1	EPA 200.8	715615	EPA 200.8	715757
60365796013	M-BMW-1	EPA 200.8	715615	EPA 200.8	715757
60365796014	M-BMW-2	EPA 200.8	715615	EPA 200.8	715757
60365796001	M-MW-2	EPA 7470	716555	EPA 7470	718180
60365796002	M-MW-3	EPA 7470	716555	EPA 7470	718180
60365796003	M-MW-4	EPA 7470	716555	EPA 7470	718180
60365796004	M-MW-5	EPA 7470	716555	EPA 7470	718180
60365796005	M-MW-6	EPA 7470	716555	EPA 7470	718180
60365796006	M-MW-7	EPA 7470	716555	EPA 7470	718180
60365796007	M-MW-8	EPA 7470	716555	EPA 7470	718180
60365796008	M-DUP-1	EPA 7470	716555	EPA 7470	718180
60365796009	M-FB-1	EPA 7470	716555	EPA 7470	718180
60365796012	M-MW-1	EPA 7470	716555	EPA 7470	718180
60365796013	M-BMW-1	EPA 7470	716555	EPA 7470	718180
60365796014	M-BMW-2	EPA 7470	716555	EPA 7470	718180
60365796001	M-MW-2	EPA 903.1	443314		
60365796002	M-MW-3	EPA 903.1	443314		
60365796003	M-MW-4	EPA 903.1	443314		
60365796004	M-MW-5	EPA 903.1	443314		
60365796005	M-MW-6	EPA 903.1	443314		
60365796006	M-MW-7	EPA 903.1	443323		
60365796007	M-MW-8	EPA 903.1	443314		
60365796008	M-DUP-1	EPA 903.1	443314		
60365796009	M-FB-1	EPA 903.1	443314		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365796010	M-MS-1	EPA 903.1	443314		
60365796011	M-MSD-1	EPA 903.1	443314		
60365796012	M-MW-1	EPA 903.1	443713		
60365796013	M-BMW-1	EPA 903.1	443713		
60365796014	M-BMW-2	EPA 903.1	443713		
60365796001	M-MW-2	EPA 904.0	443315		
60365796002	M-MW-3	EPA 904.0	443315		
60365796003	M-MW-4	EPA 904.0	443315		
60365796004	M-MW-5	EPA 904.0	443315		
60365796005	M-MW-6	EPA 904.0	443315		
60365796006	M-MW-7	EPA 904.0	443324		
60365796007	M-MW-8	EPA 904.0	443315		
60365796008	M-DUP-1	EPA 904.0	443315		
60365796009	M-FB-1	EPA 904.0	443315		
60365796010	M-MS-1	EPA 904.0	443315		
60365796011	M-MSD-1	EPA 904.0	443315		
60365796012	M-MW-1	EPA 904.0	443714		
60365796013	M-BMW-1	EPA 904.0	443714		
60365796014	M-BMW-2	EPA 904.0	443714		
60365796001	M-MW-2	SM 2320B	714071		
60365796002	M-MW-3	SM 2320B	714071		
60365796003	M-MW-4	SM 2320B	714071		
60365796004	M-MW-5	SM 2320B	714071		
60365796005	M-MW-6	SM 2320B	714071		
60365796006	M-MW-7	SM 2320B	714071		
60365796007	M-MW-8	SM 2320B	714071		
60365796008	M-DUP-1	SM 2320B	714071		
60365796009	M-FB-1	SM 2320B	714071		
60365796012	M-MW-1	SM 2320B	714483		
60365796013	M-BMW-1	SM 2320B	714483		
60365796014	M-BMW-2	SM 2320B	714483		
60365796001	M-MW-2	SM 2540C	714014		
60365796002	M-MW-3	SM 2540C	714014		
60365796003	M-MW-4	SM 2540C	714014		
60365796004	M-MW-5	SM 2540C	714164		
60365796005	M-MW-6	SM 2540C	714014		
60365796006	M-MW-7	SM 2540C	714164		
60365796007	M-MW-8	SM 2540C	714014		
60365796008	M-DUP-1	SM 2540C	714014		
60365796009	M-FB-1	SM 2540C	713409		
60365796012	M-MW-1	SM 2540C	714598		
60365796013	M-BMW-1	SM 2540C	714598		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365796014	M-BMW-2	SM 2540C	714598		
60365796001	M-MW-2	SM 3500-Fe B#4	715848		
60365796002	M-MW-3	SM 3500-Fe B#4	715848		
60365796003	M-MW-4	SM 3500-Fe B#4	715848		
60365796004	M-MW-5	SM 3500-Fe B#4	715848		
60365796005	M-MW-6	SM 3500-Fe B#4	715848		
60365796006	M-MW-7	SM 3500-Fe B#4	715848		
60365796007	M-MW-8	SM 3500-Fe B#4	715848		
60365796008	M-DUP-1	SM 3500-Fe B#4	718244		
60365796009	M-FB-1	SM 3500-Fe B#4	718244		
60365796012	M-MW-1	SM 3500-Fe B#4	718244		
60365796013	M-BMW-1	SM 3500-Fe B#4	718244		
60365796014	M-BMW-2	SM 3500-Fe B#4	718244		
60365796001	M-MW-2	SM 3500-Fe B#4	714254		
60365796002	M-MW-3	SM 3500-Fe B#4	714254		
60365796003	M-MW-4	SM 3500-Fe B#4	714254		
60365796004	M-MW-5	SM 3500-Fe B#4	715282		
60365796005	M-MW-6	SM 3500-Fe B#4	714254		
60365796006	M-MW-7	SM 3500-Fe B#4	715282		
60365796007	M-MW-8	SM 3500-Fe B#4	714254		
60365796008	M-DUP-1	SM 3500-Fe B#4	714254		
60365796009	M-FB-1	SM 3500-Fe B#4	714254		
60365796012	M-MW-1	SM 3500-Fe B#4	715282		
60365796013	M-BMW-1	SM 3500-Fe B#4	715282		
60365796014	M-BMW-2	SM 3500-Fe B#4	715282		
60365796001	M-MW-2	SM 4500-S-2 D	713886		
60365796002	M-MW-3	SM 4500-S-2 D	713886		
60365796003	M-MW-4	SM 4500-S-2 D	713886		
60365796004	M-MW-5	SM 4500-S-2 D	714150		
60365796005	M-MW-6	SM 4500-S-2 D	713886		
60365796006	M-MW-7	SM 4500-S-2 D	714150		
60365796007	M-MW-8	SM 4500-S-2 D	713886		
60365796008	M-DUP-1	SM 4500-S-2 D	713886		
60365796009	M-FB-1	SM 4500-S-2 D	713886		
60365796012	M-MW-1	SM 4500-S-2 D	714348		
60365796013	M-BMW-1	SM 4500-S-2 D	714348		
60365796014	M-BMW-2	SM 4500-S-2 D	714348		
60365796001	M-MW-2	EPA 300.0	715727		
60365796002	M-MW-3	EPA 300.0	715727		
60365796003	M-MW-4	EPA 300.0	716232		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60365796

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365796004	**M-MW-5**	EPA 300.0	716230		
60365796005	**M-MW-6**	EPA 300.0	716230		
60365796006	**M-MW-7**	EPA 300.0	716230		
60365796007	**M-MW-8**	EPA 300.0	716230		
60365796008	**M-DUP-1**	EPA 300.0	716230		
60365796009	**M-FB-1**	EPA 300.0	716230		
60365796012	**M-MW-1**	EPA 300.0	716230		
60365796013	**M-BMW-1**	EPA 300.0	716231		
60365796014	**M-BMW-2**	EPA 300.0	716231		

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Sample Condition Upon Receipt

WO# : 60365796

60365796

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 ☐

Thermometer Used: T-298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 1.4/0.9/1.3 Corr. Factor 0.0 Corrected 1.4/0.9/1.3 17.2/18.6

Temperature should be above freezing to 6°C 17.2/18.6

Date and initials of person examining contents: DW 4/7/21

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: 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# 603/73/603222	☑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 8:23 am, 4/8/21

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.

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
Purchase Order No.:	COC #13
Project Name:	Ameren Meramec Energy Center 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

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

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WP; AR; OT; TS

ITEM #	Sample ID	MATRIX CODE	SAMPLE TYPE	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-MW-1	WT	G														
2	M-MW-2	WT	G			T	1516		T	T		T		1			H
3	M-MW-3	WT	G			T	1702		T	T		T		1			H
4	3BP3U 3BP3N M-MW-4 3BP3Z 3BP1U	WT	G			4/5/21	1225		6	2		3		1			H
5	M-MW-5	WT	G			4/6/21	1245		6	2		3		1			H
6	M-MW-6	WT	G			4/5/21	1635		6	2		3		1			H
7	M-MW-7	WT	G			4/6/21	1350		6	2		3		1			
8	M-MW-8	WT	G			4/5/21	1535		6	2		3		1			H
9	M-BMW-1	WT	G														
10	M-BMW-2	WT	G														
11	M-DUP-1	WT	G			4/5/21	—		6	2		3		1			H
12	M-FB-1	WT	G			⊥	1555		⊥	⊥		⊥		⊥			H

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 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide		Residual Chlorine (Y/N)
N		N	N	N	N	N	N	N	N	N	N		
		T	T	T	T	T	T	T	T	T	T	BP3U	
		T	T	T	T	T	T	T	T	T	T		
		/	/	/	/	/	/	/	/	/	/		
		/	/	/	/	/	/	/	/	/	/		
		/	/	/	/	/	/	/	/	/	/		
		/	/	/	/	/	/	/	/	/	/		
		⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥		

60865796 Pace Project No./ Lab I.D.

BP3U BP3N BP3Z BP1U 2BP1N

pg 1/3/21

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	Brendan Talbert / Golder	4-6-2021	1610	Amelia McCa	4-6	1615
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Amelia McCa	4-6	1615		4/7/21	0403

SAMPLE CONDITIONS

Temp in	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.4	X	X	X
0.9			
1.3			
1.2	N		
1.8	N		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 04-06-2021

*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.

Page: 1 of 2

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
Purchase Order No.:	COC #13
Project Name:	Ameren Meramec Energy Center MEC
Project Number:	153140602.0004A

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

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N	N	N	N					60365796
1	M-MS-1 (m-mw-4)	WT	G			4-5-21	1225		6	2		3		1			1		/	/	/	/	/	/	/	/	/					2BPIN
2	M-MSD-1 (m-mw-4)	WT	G			〃	〃		〃	〃		〃		〃			〃		〃	〃	〃	〃	〃	〃	〃	〃	〃					↓
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	Brendan Talbert / Golder	4/6/2021	1610		4/6	1615				
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl		4/6	1615		4/7/21	0403	1.4	X	X	X
							0.9			
							1.3			
							17.2	N		
							18C	N		
							Temp °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert DATE Signed (MM/DD/YY): 04/06/2021

*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.

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Sample Condition Upon Receipt

WO# : 60365796

60365796

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 ☑ 2PLC

Thermometer Used: T-298 15.1 **Type of Ice:** (Wet) Blue None 15.1 °C

Cooler Temperature (°C): **As-read** 1.6 **Corr. Factor** 0.0 **Corrected** 1.6

Date and initials of person examining contents: 4-9-21 KD

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# 603173, 603222	☑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 3:24 pm, 4/9/21

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.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Dr., Ste 260	Copy To:	Eric Schnieder, Ryan Feldman	Company Name:	Golder Associates Inc
	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:	COC #13	Pace Quote Reference:	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Ameren Meramec Energy Center MEC	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	153140602.0004A	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 226	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				60365796
1	M-MW-1	WT	G			4-7-21	1056		6	2	3			1					/	/	/	/	/	/	/	/	/				
2	M-MW-2	WT	G																											
3	M-MW-3	WT	G																											
4	M-MW-4	WT	G																											
5	M-MW-5	WT	G																											
6	M-MW-6	WT	G																											
7	M-MW-7	WT	G																											
8	M-MW-8	WT	G																											
9	M-BMW-1	WT	G			4-7-21	0921		6	2		3		1					/	/	/	/	/	/	/	/	/				
10	M-BMW-2	WT	G			1	0933		1	1		1		1					/	/	/	/	/	/	/	/	/				
11	M-DUP-1	WT	G																											
12	M-FB-1	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)
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert / Golder	4/8/21	1715	Bacon/Pace	4/9/21	2408	15.1	N	Y	Y
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl							1.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert DATE Signed (MM/DD/YY): 04/08/21

*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 May 18, 2021 **Project No.** 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60365796

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 analyze outside of hold time, the sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J, J+ for estimates biased high) 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).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren -MEC
Project Number: 153140603
Reviewer: A. Muehlfarth
Validation Date: 05/18/2021

Laboratory: Pace Analytical Services, LLC
SDG #: 60365796
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 7470 (Mercury), SM2320B (Alkalinity); SM2540C (TDS); SM 3500 (Ferric Iron); SM 4500 (Sulfide); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW-7, M-MW-8, M-DUP-1, M-FB-1, M-MS-1, M-MSD-1, M-MW-1, 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			04/05/2021 - 04/07/2021
b) Sampling team indicated?	x			BTT/EMS
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-DUP-1 @ M-MW-2
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			

Comments/Notes:

Ferrous Iron analyzed outside of hold time in all samples. Mercury analyzed outside of hold time in samples -001 through -003, -005, -007 through -009. Detects and non-detects were qualified.

Chloride, Ferrous Iron, and Sulfate were diluted in several samples, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks:

2870564: Calcium (85.2J), Lithium (16.3), Magnesium (69.2). Associated with samples -001 through -009. Using professional judgement, samples with results greater than the blank result but <10x the result were reported at the blank value and qualified with a J instead of J+.

2878923: Chromium (0.27J). Associated with samples -012 through -014.

2882317: Chloride (0.55J). Associated with samples -001, -002. Sample results > RL and 10x blank, no qualification necessary.

2882315: Chloride (0.55J). Associated with samples -004 through -009, -012.

2883715: Chloride (0.55J). Associated with samples -013, -014. Sample results > RL and 10x blank, no qualification necessary.

2881201: Chloride (0.55J). Associated with sample -003.Sample result > RL and 10x blank, no qualification necessary.

2883713: Chloride (0.55J). Associated with sample -003. Sample result > RL and 10x blank, no qualification necessary.

M-FB-1 @ M-MW-8: Boron (56.3J), Iron (24.9J), Lithium (14.2), Chromium (0.34J), TDS (6.0), Ferric Iron (0.025J), Chloride (0.52J).

Duplicates:

M-DUP-1 @ M-MW-2: RPD exceeds limit (20%) for Lithium (32.5%), Chromium (38.2%), Radium-226 detected in M-DUP-1, non-detect in M-MW-2, Radium-228 non-detect in M-DUP-1, detected in M-MW-2.

Sample Duplicate 2873023: DUP RPD exceeds limit (10%) for TDS (13%). Performed on unrelated sample, no qualification necessary.

Sample Duplicate 2873725: DUP RPD exceeds limit (20%) for Ferrous Iron (35%). Performed on unrelated sample, no qualification necessary.

MS/MSD:

2870566: MS % recovery high for Sodium. MS performed on unrelated sample, no qualification necessary.

2870567/2870568: MSD % recovery high for Boron; MS % recovery low and MSD % recovery high for Calcium. Associated with sample 60365796003.

2872467: MS % recovery low for Sulfide. Associated with sample 60365796003.

2873366: MS % recovery low for Sulfide. MS performed on unrelated sample, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-BMW-2	Ferrous Iron	0.73	J	Analyzed outside of hold time
M-DUP-1	Ferrous Iron	17.8	J	"
M-MW-1	Ferrous Iron	0.63	J	"
M-MW-2	Ferrous Iron	17.3	J	"
M-MW-3	Ferrous Iron	6.2	J	"
M-MW-4	Ferrous Iron	0.81	J	"
M-MW-5	Ferrous Iron	1.4	J	"
M-MW-6	Ferrous Iron	1.3	J	"
M-MW-8	Ferrous Iron	1.4	J	"
M-BMW-1	Ferrous Iron	0.048	UJ	Analyzed outside of hold time, non-detect
M-DUP-1	Mercury	0.096	UJ	"
M-FB-1	Mercury	0.096	UJ	"
M-FB-1	Ferrous Iron	0.048	UJ	"
M-MW-2	Mercury	0.096	UJ	"
M-MW-3	Mercury	0.096	UJ	"
M-MW-4	Mercury	0.096	UJ	"
M-MW-6	Mercury	0.096	UJ	"
M-MW-7	Ferrous Iron	0.048	UJ	"
M-MW-8	Mercury	0.096	UJ	"
M-MW-4	Lithium	16.3	J	Detected in blank >PQL, 10x blank > sample > PQL
M-MW-5	Lithium	16.3	J	"
M-MW-6	Lithium	16.3	J	"
M-MW-7	Lithium	16.3	J	"
M-MW-8	Lithium	16.3	J	"
M-FB-1	Lithium	16.3	J+	"
M-MW-1	Chromium	1.0	U	Detected in blank <RL, sample result <RL
M-BMW-1	Chromium	1.0	U	"
M-BMW-2	Chromium	1.0	U	"
M-FB-1	Chloride	1.0	U	"
M-MW-8	Chromium	1.0	U	"
M-MW-2	Lithium	16.3	J	Detected in blank >PQL, 10x blank > sample > PQL; DUP RPD exceeds limit
M-MW-2	Chromium	0.78	J	DUP RPD exceeds limit
M-MW-2	Radium-226	0.0758 ± 0.393	UJ	Detected in sample, ND in DUP
M-MW-2	Radium-228	1.08 ± 0.568	J	Detected in DUP, ND in sampled

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-DUP-1	Lithium	12.9	J+	Detected in blank >PQL, 10x blank > sample > PQL; DUP RPD exceeds limit
M-DUP-1	Chromium	0.53	J	DUP RPD exceeds limit
M-DUP-1	Radium-226	0.431 ± 0.323	J	Detected in sample, ND in DUP
M-DUP-1	Radium-228	0.270 ± 0.403	UJ	Detected in DUP, ND in sampled
M-MW-4	Boron	11000	J+	MS/MSD % recovery outside limits
M-MW-4	Calcium	197000	J	"
M-MW-4	Sulfide	0.031	J-	"

Signature: Ann Muhlfarth Date: 05/18/2021

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

May 03, 2021

Jeffrey Ingram
Golder Associates
13515 Barrett Parkway Drive
Suite 260
Ballwin, MO 63021

RE: Project: AMEREN MEC-CA
Pace Project No.: 60365798

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on April 07, 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 - 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

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

CERTIFICATIONS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

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 #: 9526
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 #: 200030
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

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

SAMPLE SUMMARY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60365798001	**M-MW-11S**	Water	04/06/21 11:02	04/07/21 04:03
60365798002	**M-MW-11D**	Water	04/06/21 09:31	04/07/21 04:03
60365798003	**M-TP-1**	Water	04/06/21 10:20	04/07/21 04:03
60365798004	**M-TP-2**	Water	04/06/21 13:55	04/07/21 04:03
60365798005	**M-MW-9**	Water	04/06/21 09:10	04/07/21 04:03
60365798006	**M-MW-10**	Water	04/06/21 12:48	04/07/21 04:03
60365798007	**M-CA-DUP-1**	Water	04/06/21 08:00	04/07/21 04:03
60365798008	**M-CA-FB-1**	Water	04/06/21 09:30	04/07/21 04:03
60365798009	**M-CA-MS-1**	Water	04/06/21 09:31	04/07/21 04:03
60365798010	**M-CA-MSD-1**	Water	04/06/21 09:31	04/07/21 04:03

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

SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60365798001	**M-MW-11S**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798002	**M-MW-11D**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798003	**M-TP-1**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798004	**M-TP-2**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798005	**M-MW-9**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798006	**M-MW-10**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798007	**M-CA-DUP-1**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798008	**M-CA-FB-1**	EPA 200.7	TDS	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	OMT	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MAP	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-S-2 D	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60365798009	**M-CA-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60365798010	**M-CA-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-11S **Lab ID: 60365798001** Collected: 04/06/21 11:02 Received: 04/07/21 04:03 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	**647**	ug/L	5.0	1.8	1	04/16/21 15:40	04/19/21 13:37	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 13:37	7440-41-7	
Boron	**249**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 13:37	7440-42-8	
Calcium	**287000**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 13:37	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 13:37	7440-48-4	
Iron	**42600**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 13:37	7439-89-6	
Lead	**4.5J**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 13:37	7439-92-1	
Lithium	**17.1**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 13:37	7439-93-2	
Magnesium	**62300**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 13:37	7439-95-4	
Manganese	**2560**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 13:37	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 13:37	7439-98-7	
Potassium	**7280**	ug/L	500	146	1	04/16/21 15:40	04/19/21 13:37	7440-09-7	
Sodium	**17500**	ug/L	500	254	1	04/16/21 15:40	04/19/21 13:37	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 15:38	7440-36-0	
Arsenic	**3.6**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 15:38	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 15:38	7440-43-9	
Chromium	**0.70J**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:26	7440-47-3	
Selenium	**0.21J**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 15:38	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 15:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:32	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**879**	mg/L	20.0	7.5	1		04/13/21 16:19		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**968**	mg/L	13.3	13.3	1		04/13/21 17:25		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**40.2**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.4**	mg/L	0.20	0.048	1		04/20/21 09:57		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-11S **Lab ID: 60365798001** Collected: 04/06/21 11:02 Received: 04/07/21 04:03 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	**0.056**	mg/L	0.050	0.026	1		04/13/21 08:37	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.7**	mg/L	1.0	0.39	1		04/20/21 20:34	16887-00-6	
Fluoride	**0.19J**	mg/L	0.20	0.086	1		04/20/21 20:34	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		04/20/21 20:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-11D **Lab ID: 60365798002** Collected: 04/06/21 09:31 Received: 04/07/21 04:03 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**141**	ug/L	5.0	1.8	1	04/16/21 15:40	04/19/21 13:40	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 13:40	7440-41-7	
Boron	**10300**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 13:40	7440-42-8	M1
Calcium	**230000**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 13:40	7440-70-2	M1
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 13:40	7440-48-4	
Iron	**21400**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 13:40	7439-89-6	
Lead	**3.9J**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 13:40	7439-92-1	
Lithium	**44.6**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 13:40	7439-93-2	
Magnesium	**55600**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 13:40	7439-95-4	
Manganese	**779**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 13:40	7439-96-5	
Molybdenum	**286**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 13:40	7439-98-7	
Potassium	**6460**	ug/L	500	146	1	04/16/21 15:40	04/19/21 13:40	7440-09-7	
Sodium	**45200**	ug/L	500	254	1	04/16/21 15:40	04/19/21 13:40	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 15:40	7440-36-0	
Arsenic	**10.9**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 15:40	7440-38-2	
Cadmium	**0.067J**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 15:40	7440-43-9	
Chromium	**0.83J**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:27	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 15:40	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 15:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:34	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**299**	mg/L	20.0	7.5	1		04/12/21 17:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1210**	mg/L	13.3	13.3	1		04/13/21 17:25		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**21.0**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.43**	mg/L	0.20	0.048	1		04/13/21 13:56		H6,R6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-11D **Lab ID: 60365798002** Collected: 04/06/21 09:31 Received: 04/07/21 04:03 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	**0.030J**	mg/L	0.050	0.026	1		04/13/21 08:37	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**65.3**	mg/L	10.0	3.9	10		04/21/21 16:21	16887-00-6	M1
Fluoride	**0.31**	mg/L	0.20	0.086	1		04/20/21 20:50	16984-48-8	
Sulfate	**570**	mg/L	50.0	21.0	50		04/20/21 22:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-TP-1 **Lab ID: 60365798003** Collected: 04/06/21 10:20 Received: 04/07/21 04:03 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**346**	ug/L	5.0	1.8	1	04/16/21 15:40	04/19/21 13:47	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 13:47	7440-41-7	
Boron	**472**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 13:47	7440-42-8	
Calcium	**72200**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 13:47	7440-70-2	
Cobalt	**1.7J**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 13:47	7440-48-4	
Iron	**3960**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 13:47	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 13:47	7439-92-1	
Lithium	**20.4**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 13:47	7439-93-2	
Magnesium	**29800**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 13:47	7439-95-4	
Manganese	**67.5**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 13:47	7439-96-5	
Molybdenum	**4.0J**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 13:47	7439-98-7	
Potassium	**2870**	ug/L	500	146	1	04/16/21 15:40	04/19/21 13:47	7440-09-7	
Sodium	**44600**	ug/L	500	254	1	04/16/21 15:40	04/19/21 13:47	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.22J**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 15:51	7440-36-0	
Arsenic	**19.2**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 15:51	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 15:51	7440-43-9	
Chromium	**1.1**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:34	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 15:51	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 15:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:41	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**231**	mg/L	20.0	7.5	1		04/13/21 16:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**434**	mg/L	10.0	10.0	1		04/13/21 17:26		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.9**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.10J**	mg/L	0.20	0.048	1		04/13/21 13:59		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-TP-1 **Lab ID: 60365798003** Collected: 04/06/21 10:20 Received: 04/07/21 04:03 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	**0.072**	mg/L	0.050	0.026	1		04/13/21 08:38	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.9**	mg/L	2.0	0.78	2		04/21/21 17:47	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.086	1		04/20/21 23:29	16984-48-8	
Sulfate	**0.78J**	mg/L	1.0	0.42	1		04/20/21 23:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-TP-2 **Lab ID: 60365798004** Collected: 04/06/21 13:55 Received: 04/07/21 04:03 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	**61.4**	ug/L	5.0	1.8	1	04/16/21 15:40	04/19/21 13:54	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 13:54	7440-41-7	
Boron	**2590**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 13:54	7440-42-8	
Calcium	**222000**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 13:54	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 13:54	7440-48-4	
Iron	**16100**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 13:54	7439-89-6	
Lead	**5.3J**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 13:54	7439-92-1	
Lithium	**44.2**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 13:54	7439-93-2	
Magnesium	**56100**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 13:54	7439-95-4	
Manganese	**566**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 13:54	7439-96-5	
Molybdenum	**10.9J**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 13:54	7439-98-7	
Potassium	**8240**	ug/L	500	146	1	04/16/21 15:40	04/19/21 13:54	7440-09-7	
Sodium	**182000**	ug/L	500	254	1	04/16/21 15:40	04/19/21 13:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 15:53	7440-36-0	
Arsenic	**4.6**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 15:53	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 15:53	7440-43-9	
Chromium	**2.8**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:35	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 15:53	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 15:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:43	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**407**	mg/L	20.0	7.5	1		04/13/21 16:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1580**	mg/L	20.0	20.0	1		04/13/21 17:26		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**15.3**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.77**	mg/L	0.20	0.048	1		04/20/21 10:00		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-TP-2 **Lab ID: 60365798004** Collected: 04/06/21 13:55 Received: 04/07/21 04:03 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		04/13/21 08:39	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**246**	mg/L	50.0	19.4	50		04/21/21 00:00	16887-00-6	
Fluoride	**0.29**	mg/L	0.20	0.086	1		04/20/21 23:44	16984-48-8	
Sulfate	**461**	mg/L	50.0	21.0	50		04/21/21 00:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-9 **Lab ID: 60365798005** Collected: 04/06/21 09:10 Received: 04/07/21 04:03 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	**333**	ug/L	5.0	1.8	1	04/16/21 15:40	04/19/21 13:57	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 13:57	7440-41-7	
Boron	**5950**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 13:57	7440-42-8	
Calcium	**166000**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 13:57	7440-70-2	M1
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 13:57	7440-48-4	
Iron	**20100**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 13:57	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 13:57	7439-92-1	
Lithium	**18.0**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 13:57	7439-93-2	
Magnesium	**53800**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 13:57	7439-95-4	
Manganese	**532**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 13:57	7439-96-5	
Molybdenum	**32.8**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 13:57	7439-98-7	
Potassium	**4900**	ug/L	500	146	1	04/16/21 15:40	04/19/21 13:57	7440-09-7	
Sodium	**40600**	ug/L	500	254	1	04/16/21 15:40	04/19/21 13:57	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 15:55	7440-36-0	
Arsenic	**20.2**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 15:55	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 15:55	7440-43-9	
Chromium	**0.37J**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:37	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 15:55	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 15:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:46	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**389**	mg/L	20.0	7.5	1		04/13/21 16:46		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**925**	mg/L	10.0	10.0	1		04/13/21 17:27		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**19.9**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.25**	mg/L	0.20	0.048	1		04/13/21 13:55		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-9 **Lab ID: 60365798005** Collected: 04/06/21 09:10 Received: 04/07/21 04:03 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		04/13/21 08:39	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**36.2**	mg/L	10.0	3.9	10		04/21/21 00:32	16887-00-6	
Fluoride	**0.25**	mg/L	0.20	0.086	1		04/21/21 00:16	16984-48-8	
Sulfate	**285**	mg/L	50.0	21.0	50		04/21/21 18:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-10 **Lab ID: 60365798006** Collected: 04/06/21 12:48 Received: 04/07/21 04:03 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	**161**	ug/L	5.0	1.8	1	04/16/21 15:40	04/19/21 14:01	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 14:01	7440-41-7	
Boron	**1880**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 14:01	7440-42-8	
Calcium	**224000**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 14:01	7440-70-2	
Cobalt	**2.1J**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 14:01	7440-48-4	
Iron	**15800**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 14:01	7439-89-6	
Lead	**5.5J**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 14:01	7439-92-1	
Lithium	**40.6**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 14:01	7439-93-2	
Magnesium	**57000**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 14:01	7439-95-4	
Manganese	**639**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 14:01	7439-96-5	
Molybdenum	**5.3J**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 14:01	7439-98-7	
Potassium	**9480**	ug/L	500	146	1	04/16/21 15:40	04/19/21 14:01	7440-09-7	
Sodium	**77400**	ug/L	500	254	1	04/16/21 15:40	04/19/21 14:01	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 15:57	7440-36-0	
Arsenic	**11.4**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 15:57	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 15:57	7440-43-9	
Chromium	**0.53J**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:38	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 15:57	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 15:57	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:48	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**564**	mg/L	20.0	7.5	1		04/13/21 16:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1190**	mg/L	13.3	13.3	1		04/13/21 17:27		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**14.9**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.88**	mg/L	0.20	0.048	1		04/20/21 09:58		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-10 **Lab ID: 60365798006** Collected: 04/06/21 12:48 Received: 04/07/21 04:03 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		04/13/21 08:39	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**86.7**	mg/L	10.0	3.9	10		04/21/21 01:35	16887-00-6	
Fluoride	**0.26**	mg/L	0.20	0.086	1		04/21/21 01:19	16984-48-8	
Sulfate	**302**	mg/L	50.0	21.0	50		04/21/21 18:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-DUP-1 **Lab ID: 60365798007** Collected: 04/06/21 08:00 Received: 04/07/21 04:03 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	**651**	ug/L	5.0	1.8	1	04/16/21 15:40	04/19/21 14:04	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 14:04	7440-41-7	
Boron	**277**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 14:04	7440-42-8	
Calcium	**281000**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 14:04	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 14:04	7440-48-4	
Iron	**42600**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 14:04	7439-89-6	
Lead	**6.0J**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 14:04	7439-92-1	
Lithium	**19.1**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 14:04	7439-93-2	
Magnesium	**61300**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 14:04	7439-95-4	
Manganese	**2530**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 14:04	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 14:04	7439-98-7	
Potassium	**7260**	ug/L	500	146	1	04/16/21 15:40	04/19/21 14:04	7440-09-7	
Sodium	**17400**	ug/L	500	254	1	04/16/21 15:40	04/19/21 14:04	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 15:59	7440-36-0	
Arsenic	**3.9**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 15:59	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 15:59	7440-43-9	
Chromium	**1.7**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:39	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 15:59	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 15:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:55	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**1030**	mg/L	20.0	7.5	1		04/13/21 17:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**656**	mg/L	13.3	13.3	1		04/13/21 17:27		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**41.8**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.84**	mg/L	0.20	0.048	1		04/13/21 13:55		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-DUP-1 **Lab ID: 60365798007** Collected: 04/06/21 08:00 Received: 04/07/21 04:03 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	**0.056**	mg/L	0.050	0.026	1		04/13/21 08:39	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	0.39	1		04/21/21 01:51	16887-00-6	
Fluoride	**0.19J**	mg/L	0.20	0.086	1		04/21/21 01:51	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		04/21/21 01:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-FB-1 **Lab ID: 60365798008** Collected: 04/06/21 09:30 Received: 04/07/21 04:03 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	04/16/21 15:40	04/19/21 14:06	7440-39-3	
Beryllium	**<0.39**	ug/L	1.0	0.39	1	04/16/21 15:40	04/19/21 14:06	7440-41-7	
Boron	**9.7J**	ug/L	100	8.6	1	04/16/21 15:40	04/19/21 14:06	7440-42-8	
Calcium	**128J**	ug/L	200	75.4	1	04/16/21 15:40	04/19/21 14:06	7440-70-2	
Cobalt	**<0.95**	ug/L	5.0	0.95	1	04/16/21 15:40	04/19/21 14:06	7440-48-4	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/16/21 15:40	04/19/21 14:06	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/16/21 15:40	04/19/21 14:06	7439-92-1	
Lithium	**<7.7**	ug/L	10.0	7.7	1	04/16/21 15:40	04/19/21 14:06	7439-93-2	
Magnesium	**<31.4**	ug/L	50.0	31.4	1	04/16/21 15:40	04/19/21 14:06	7439-95-4	
Manganese	**0.76J**	ug/L	5.0	0.74	1	04/16/21 15:40	04/19/21 14:06	7439-96-5	
Molybdenum	**<2.2**	ug/L	20.0	2.2	1	04/16/21 15:40	04/19/21 14:06	7439-98-7	
Potassium	**<146**	ug/L	500	146	1	04/16/21 15:40	04/19/21 14:06	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	04/16/21 15:40	04/19/21 14:06	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.10**	ug/L	1.0	0.10	1	04/08/21 08:57	04/14/21 16:02	7440-36-0	
Arsenic	**<0.11**	ug/L	1.0	0.11	1	04/08/21 08:57	04/14/21 16:02	7440-38-2	
Cadmium	**<0.062**	ug/L	0.50	0.062	1	04/08/21 08:57	04/14/21 16:02	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.23	1	04/16/21 09:28	04/19/21 14:33	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/08/21 08:57	04/14/21 16:02	7782-49-2	
Thallium	**<0.094**	ug/L	1.0	0.094	1	04/08/21 08:57	04/14/21 16:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	04/25/21 14:52	04/29/21 13:57	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<7.5**	mg/L	20.0	7.5	1		04/13/21 17:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**30.5**	mg/L	5.0	5.0	1		04/13/21 17:27		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.019J**	mg/L	0.050		1		04/20/21 16:33	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.048**	mg/L	0.20	0.048	1		04/13/21 13:56		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-FB-1 **Lab ID: 60365798008** Collected: 04/06/21 09:30 Received: 04/07/21 04:03 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		04/13/21 08:39	18496-25-8	
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		04/21/21 17:17	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		04/21/21 17:17	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		04/21/21 17:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 716554
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

METHOD BLANK: 2882634 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	04/29/21 13:27	

LABORATORY CONTROL SAMPLE: 2882635

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882636 2882637

Parameter	Units	60365798002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	4.7	4.5	91	89	75-125	3	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 715193
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: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

METHOD BLANK: 2877546 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/19/21 13:25	
Beryllium	ug/L	<0.39	1.0	0.39	04/19/21 13:25	
Boron	ug/L	<8.6	100	8.6	04/19/21 13:25	
Calcium	ug/L	<75.4	200	75.4	04/19/21 13:25	
Cobalt	ug/L	<0.95	5.0	0.95	04/19/21 13:25	
Iron	ug/L	<21.4	50.0	21.4	04/19/21 13:25	
Lead	ug/L	<3.8	10.0	3.8	04/19/21 13:25	
Lithium	ug/L	<7.7	10.0	7.7	04/19/21 13:25	
Magnesium	ug/L	<31.4	50.0	31.4	04/19/21 13:25	
Manganese	ug/L	<0.74	5.0	0.74	04/19/21 13:25	
Molybdenum	ug/L	<2.2	20.0	2.2	04/19/21 13:25	
Potassium	ug/L	<146	500	146	04/19/21 13:25	
Sodium	ug/L	<254	500	254	04/19/21 13:25	

LABORATORY CONTROL SAMPLE: 2877547

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	966	97	85-115	
Beryllium	ug/L	1000	980	98	85-115	
Boron	ug/L	1000	954	95	85-115	
Calcium	ug/L	10000	9690	97	85-115	
Cobalt	ug/L	1000	957	96	85-115	
Iron	ug/L	10000	9820	98	85-115	
Lead	ug/L	1000	978	98	85-115	
Lithium	ug/L	1000	939	94	85-115	
Magnesium	ug/L	10000	9560	96	85-115	
Manganese	ug/L	1000	945	95	85-115	
Molybdenum	ug/L	1000	986	99	85-115	
Potassium	ug/L	10000	9340	93	85-115	
Sodium	ug/L	10000	9580	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2877548 2877549

Parameter	Units	60365798002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	141	1000	1000	1150	1150	101	101	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2877548 2877549

Parameter	Units	60365798002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	<0.39	1000	1000	1010	1020	101	102	70-130	1	20	
Boron	ug/L	10300	1000	1000	11400	11700	114	139	70-130	2	20	M1
Calcium	ug/L	230000	10000	10000	243000	245000	131	150	70-130	1	20	M1
Cobalt	ug/L	<0.95	1000	1000	972	972	97	97	70-130	0	20	
Iron	ug/L	21400	10000	10000	31800	31900	104	105	70-130	1	20	
Lead	ug/L	3.9J	1000	1000	986	986	98	98	70-130	0	20	
Lithium	ug/L	44.6	1000	1000	1060	1060	102	102	70-130	0	20	
Magnesium	ug/L	55600	10000	10000	66700	66900	111	113	70-130	0	20	
Manganese	ug/L	779	1000	1000	1780	1780	100	100	70-130	0	20	
Molybdenum	ug/L	286	1000	1000	1340	1340	105	106	70-130	0	20	
Potassium	ug/L	6460	10000	10000	17000	16900	105	105	70-130	0	20	
Sodium	ug/L	45200	10000	10000	56400	57000	112	119	70-130	1	20	

MATRIX SPIKE SAMPLE: 2877550

Parameter	Units	60365798005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	333	1000	1370	104	70-130	
Beryllium	ug/L	<0.39	1000	1030	103	70-130	
Boron	ug/L	5950	1000	7080	113	70-130	
Calcium	ug/L	166000	10000	180000	142	70-130	M1
Cobalt	ug/L	<0.95	1000	986	99	70-130	
Iron	ug/L	20100	10000	30900	107	70-130	
Lead	ug/L	<3.8	1000	1010	100	70-130	
Lithium	ug/L	18.0	1000	1060	104	70-130	
Magnesium	ug/L	53800	10000	66100	123	70-130	
Manganese	ug/L	532	1000	1540	101	70-130	
Molybdenum	ug/L	32.8	1000	1100	106	70-130	
Potassium	ug/L	4900	10000	15700	108	70-130	
Sodium	ug/L	40600	10000	52300	117	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 713398
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: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

METHOD BLANK: 2870366 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	04/14/21 15:29	
Arsenic	ug/L	<0.11	1.0	0.11	04/15/21 15:43	
Cadmium	ug/L	<0.062	0.50	0.062	04/14/21 15:29	
Selenium	ug/L	<0.18	1.0	0.18	04/15/21 15:43	
Thallium	ug/L	<0.094	1.0	0.094	04/14/21 15:29	

LABORATORY CONTROL SAMPLE: 2870367

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.5	101	85-115	
Arsenic	ug/L	40	42.2	106	85-115	
Cadmium	ug/L	40	40.3	101	85-115	
Selenium	ug/L	40	41.9	105	85-115	
Thallium	ug/L	40	37.9	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2870368 2870369

Parameter	Units	60365798002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.10	40	40	38.5	38.7	96	97	70-130	0	20	
Arsenic	ug/L	10.9	40	40	52.0	52.3	103	104	70-130	1	20	
Cadmium	ug/L	0.067J	40	40	37.5	37.4	94	93	70-130	0	20	
Selenium	ug/L	<0.18	40	40	38.2	39.0	95	97	70-130	2	20	
Thallium	ug/L	<0.094	40	40	34.2	33.9	85	85	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 715006 | 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: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

METHOD BLANK: 2876749 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.23	1.0	0.23	04/19/21 14:23	

LABORATORY CONTROL SAMPLE: 2876750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	40.6	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2876751 2876752

Parameter	Units	60365798002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	0.83J	40	40	40.9	40.6	100	99	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 714071
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60365798002

METHOD BLANK: 2873144 Matrix: Water
Associated Lab Samples: 60365798002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/12/21 15:24	

LABORATORY CONTROL SAMPLE: 2873145

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	498	100	90-110	

SAMPLE DUPLICATE: 2873146

Parameter	Units	60365796003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	235	237	1	10	

SAMPLE DUPLICATE: 2873147

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	299	306	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 714292 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365798001, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

METHOD BLANK: 2873888 — Matrix: Water
Associated Lab Samples: 60365798001, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/13/21 15:35	

LABORATORY CONTROL SAMPLE: 2873889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	510	102	90-110	

SAMPLE DUPLICATE: 2873890

Parameter	Units	60366092003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	6370	6330	1	10	

SAMPLE DUPLICATE: 2873891

Parameter	Units	60365798006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	564	558	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 714164
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365798001, 60365798002, 60365798003

METHOD BLANK: 2873421 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/13/21 17:23	

LABORATORY CONTROL SAMPLE: 2873422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1030	103	80-120	

SAMPLE DUPLICATE: 2873423

Parameter	Units	60365567001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1750	1820	4	10	

SAMPLE DUPLICATE: 2873424

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1210	1250	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 714165 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

METHOD BLANK: 2873425 Matrix: Water
Associated Lab Samples: 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/13/21 17:26	

LABORATORY CONTROL SAMPLE: 2873426

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1030	103	80-120	

SAMPLE DUPLICATE: 2873427

Parameter	Units	60365798004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1580	1560	1	10	

SAMPLE DUPLICATE: 2873428

Parameter	Units	60366120003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	18800	17400	7	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 714254
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: 60365798002, 60365798003, 60365798005, 60365798007, 60365798008

METHOD BLANK: 2873722 Matrix: Water
Associated Lab Samples: 60365798002, 60365798003, 60365798005, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/13/21 13:51	H6

LABORATORY CONTROL SAMPLE: 2873723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	103	90-110	H6

SAMPLE DUPLICATE: 2873724

Parameter	Units	60365796003 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.81	0.82	1	20	H6

SAMPLE DUPLICATE: 2873725

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.43	0.61	35	20	D6,H6

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 715282
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: 60365798001, 60365798004, 60365798006

METHOD BLANK: 2878020 Matrix: Water
Associated Lab Samples: 60365798001, 60365798004, 60365798006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/20/21 09:54	H6

LABORATORY CONTROL SAMPLE: 2878021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	1.9	95	90-110	H6

SAMPLE DUPLICATE: 2878022

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.86	0.80	8	20	H6

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 714151
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: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

METHOD BLANK: 2873369 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/13/21 08:36	

LABORATORY CONTROL SAMPLE: 2873370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.53	106	80-120	

MATRIX SPIKE SAMPLE: 2873371

Parameter	Units	60365798002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.030J	0.5	0.51	95	75-125	

SAMPLE DUPLICATE: 2873372

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.030J	0.026J		20	

SAMPLE DUPLICATE: 2873373

Parameter	Units	60366064003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.026J		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 715623
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: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007

METHOD BLANK: 2878952 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/20/21 15:49	
Fluoride	mg/L	<0.086	0.20	0.086	04/20/21 15:49	
Sulfate	mg/L	<0.42	1.0	0.42	04/20/21 15:49	

METHOD BLANK: 2881058 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/21/21 09:15	
Fluoride	mg/L	<0.086	0.20	0.086	04/21/21 09:15	
Sulfate	mg/L	<0.42	1.0	0.42	04/21/21 09:15	

LABORATORY CONTROL SAMPLE: 2878953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

LABORATORY CONTROL SAMPLE: 2881059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878954 2878955

Parameter	Units	60365798002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	65.3	50	50	114	127	98	124	80-120	11	15	M1
Fluoride	mg/L	0.31	2.5	2.5	2.9	2.8	103	99	80-120	4	15	
Sulfate	mg/L	570	250	250	822	864	101	117	80-120	5	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

MATRIX SPIKE SAMPLE: 2878956

Parameter	Units	60366489001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	126	250	370	97	80-120	
Fluoride	mg/L	ND	125	129	103	80-120	
Sulfate	mg/L	92.0	250	351	104	80-120	

SAMPLE DUPLICATE: 2879157

Parameter	Units	60365798002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	65.3	62.5	4	15	
Fluoride	mg/L	0.31	0.31	0	15	
Sulfate	mg/L	570	567	1	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 715726
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: 60365798008

METHOD BLANK: 2879432 Matrix: Water
Associated Lab Samples: 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/21/21 15:58	
Fluoride	mg/L	<0.086	0.20	0.086	04/21/21 15:58	
Sulfate	mg/L	<0.42	1.0	0.42	04/21/21 15:58	

METHOD BLANK: 2882319 Matrix: Water
Associated Lab Samples: 60365798008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/22/21 09:08	
Fluoride	mg/L	<0.086	0.20	0.086	04/22/21 09:08	
Sulfate	mg/L	<0.42	1.0	0.42	04/22/21 09:08	

LABORATORY CONTROL SAMPLE: 2879433

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	2.4	95	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 2882320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	4.6	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879434 2879435

Parameter	Units	60366957002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	5	5	6.3	6.5	92	96	80-120	3	15	
Fluoride	mg/L	0.78	2.5	2.5	3.2	3.4	98	104	80-120	5	15	
Sulfate	mg/L	2.0	5	5	7.0	7.2	100	104	80-120	3	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60365798

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879434 2881092

Parameter	Units	60366957002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	5	5	6.3	6.9	92	94	80-120	10	15	
Fluoride	mg/L	0.78	2.5	2.5	3.2	2.9	98	103	80-120	12	15	
Sulfate	mg/L	2.0	5	25	7.0	97.5	100	108	80-120	173	15	R1

MATRIX SPIKE SAMPLE: 2879436

Parameter	Units	60366227002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	41.5	50	87.8	93	80-120	
Fluoride	mg/L	0.32	2.5	2.9	102	80-120	
Sulfate	mg/L	33.2	50	81.4	96	80-120	

MATRIX SPIKE SAMPLE: 2881093

Parameter	Units	60366586001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.3	5	7.0	96	80-120	
Fluoride	mg/L	0.28	2.5	2.9	106	80-120	
Sulfate	mg/L	70.6	25	95.4	99	80-120	

SAMPLE DUPLICATE: 2880018

Parameter	Units	60366586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	2.3	2.3	0	15	
Fluoride	mg/L	0.28	0.22	26	15	D6
Sulfate	mg/L	70.6	68.4	3	15	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-11S **Lab ID: 60365798001** Collected: 04/06/21 11:02 Received: 04/07/21 04:03 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	**0.727 ± 0.571 (0.794) C:NA T:92%**	pCi/L	04/27/21 17:52	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.547 ± 0.494 (1.00) C:70% T:80%**	pCi/L	04/30/21 15:40	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-11D **Lab ID: 60365798002** Collected: 04/06/21 09:31 Received: 04/07/21 04:03 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 ± 0.358 (0.642) C:NA T:94%**	pCi/L	04/27/21 16:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.387 ± 0.535 (1.15) C:67% T:75%**	pCi/L	04/30/21 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-TP-1 **Lab ID: 60365798003** Collected: 04/06/21 10:20 Received: 04/07/21 04:03 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	**0.438 ± 0.445 (0.674) C:NA T:91%**	pCi/L	04/27/21 16:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.231 ± 0.480 (1.06) C:72% T:85%**	pCi/L	04/30/21 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-TP-2 **Lab ID: 60365798004** Collected: 04/06/21 13:55 Received: 04/07/21 04:03 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 ± 0.415 (0.685) C:NA T:90%**	pCi/L	04/27/21 17:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.500 ± 0.472 (0.968) C:68% T:87%**	pCi/L	04/30/21 15:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-9 **Lab ID: 60365798005** Collected: 04/06/21 09:10 Received: 04/07/21 04:03 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	**0.433 ± 0.451 (0.671) C:NA T:70%**	pCi/L	04/27/21 16:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.413 ± 0.462 (0.966) C:67% T:82%**	pCi/L	04/30/21 15:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-MW-10 **Lab ID: 60365798006** Collected: 04/06/21 12:48 Received: 04/07/21 04:03 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	**0.200 ± 0.473 (0.876) C:NA T:83%**	pCi/L	04/27/21 17:52	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.730 ± 0.473 (0.898) C:70% T:88%**	pCi/L	04/30/21 15:40	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-DUP-1 **Lab ID: 60365798007** Collected: 04/06/21 08:00 Received: 04/07/21 04:03 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.312 ± 0.369 (0.580) C:NA T:84%**	pCi/L	04/27/21 16:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.915 ± 0.540 (0.999) C:69% T:88%**	pCi/L	04/30/21 15:39	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-FB-1 **Lab ID: 60365798008** Collected: 04/06/21 09:30 Received: 04/07/21 04:03 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	**0.285 ± 0.297 (0.419) C:NA T:89%**	pCi/L	04/27/21 16:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0910 ± 0.489 (1.12) C:66% T:79%**	pCi/L	04/30/21 15:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-MS-1 **Lab ID: 60365798009** Collected: 04/06/21 09:31 Received: 04/07/21 04:03 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	**94.82 %REC ± NA (NA) C:NA T:NA**	pCi/L	04/27/21 16:48	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**82.77 %REC ± NA (NA) C:NA T:NA**	pCi/L	04/30/21 15:38	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Sample: M-CA-MSD-1 **Lab ID: 60365798010** Collected: 04/06/21 09:31 Received: 04/07/21 04:03 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	**107.81 %REC 12.82 RPD ± NA (NA) C:NA T:NA**	pCi/L	04/27/21 16:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**90.22 %REC 8.61 RPD ± NA (NA) C:NA T:NA**	pCi/L	04/30/21 15:38	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 443314
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: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008, 60365798009, 60365798010

METHOD BLANK: 2139725 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008, 60365798009, 60365798010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0478 ± 0.218 (0.515) C:NA T:89%	pCi/L	04/27/21 16:48	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60365798

QC Batch: 443315
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: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008, 60365798009, 60365798010

METHOD BLANK: 2139726 Matrix: Water
Associated Lab Samples: 60365798001, 60365798002, 60365798003, 60365798004, 60365798005, 60365798006, 60365798007, 60365798008, 60365798009, 60365798010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.287 ± 0.424 (0.914) C:71% T:79%	pCi/L	04/30/21 15:39	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MEC-CA
Pace Project No.: 60365798

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.

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 (%)

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
R6	The RPD between valid sample dilutions exceeded 30%.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365798001	M-MW-11S	EPA 200.7	715193	EPA 200.7	715204
60365798002	M-MW-11D	EPA 200.7	715193	EPA 200.7	715204
60365798003	M-TP-1	EPA 200.7	715193	EPA 200.7	715204
60365798004	M-TP-2	EPA 200.7	715193	EPA 200.7	715204
60365798005	M-MW-9	EPA 200.7	715193	EPA 200.7	715204
60365798006	M-MW-10	EPA 200.7	715193	EPA 200.7	715204
60365798007	M-CA-DUP-1	EPA 200.7	715193	EPA 200.7	715204
60365798008	M-CA-FB-1	EPA 200.7	715193	EPA 200.7	715204
60365798001	M-MW-11S	EPA 200.8	713398	EPA 200.8	713509
60365798001	M-MW-11S	EPA 200.8	715006	EPA 200.8	715136
60365798002	M-MW-11D	EPA 200.8	713398	EPA 200.8	713509
60365798002	M-MW-11D	EPA 200.8	715006	EPA 200.8	715136
60365798003	M-TP-1	EPA 200.8	713398	EPA 200.8	713509
60365798003	M-TP-1	EPA 200.8	715006	EPA 200.8	715136
60365798004	M-TP-2	EPA 200.8	713398	EPA 200.8	713509
60365798004	M-TP-2	EPA 200.8	715006	EPA 200.8	715136
60365798005	M-MW-9	EPA 200.8	713398	EPA 200.8	713509
60365798005	M-MW-9	EPA 200.8	715006	EPA 200.8	715136
60365798006	M-MW-10	EPA 200.8	713398	EPA 200.8	713509
60365798006	M-MW-10	EPA 200.8	715006	EPA 200.8	715136
60365798007	M-CA-DUP-1	EPA 200.8	713398	EPA 200.8	713509
60365798007	M-CA-DUP-1	EPA 200.8	715006	EPA 200.8	715136
60365798008	M-CA-FB-1	EPA 200.8	713398	EPA 200.8	713509
60365798008	M-CA-FB-1	EPA 200.8	715006	EPA 200.8	715136
60365798001	M-MW-11S	EPA 7470	716554	EPA 7470	716636
60365798002	M-MW-11D	EPA 7470	716554	EPA 7470	716636
60365798003	M-TP-1	EPA 7470	716554	EPA 7470	716636
60365798004	M-TP-2	EPA 7470	716554	EPA 7470	716636
60365798005	M-MW-9	EPA 7470	716554	EPA 7470	716636
60365798006	M-MW-10	EPA 7470	716554	EPA 7470	716636
60365798007	M-CA-DUP-1	EPA 7470	716554	EPA 7470	716636
60365798008	M-CA-FB-1	EPA 7470	716554	EPA 7470	716636
60365798001	M-MW-11S	EPA 903.1	443314		
60365798002	M-MW-11D	EPA 903.1	443314		
60365798003	M-TP-1	EPA 903.1	443314		
60365798004	M-TP-2	EPA 903.1	443314		
60365798005	M-MW-9	EPA 903.1	443314		
60365798006	M-MW-10	EPA 903.1	443314		
60365798007	M-CA-DUP-1	EPA 903.1	443314		
60365798008	M-CA-FB-1	EPA 903.1	443314		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365798009	M-CA-MS-1	EPA 903.1	443314		
60365798010	M-CA-MSD-1	EPA 903.1	443314		
60365798001	M-MW-11S	EPA 904.0	443315		
60365798002	M-MW-11D	EPA 904.0	443315		
60365798003	M-TP-1	EPA 904.0	443315		
60365798004	M-TP-2	EPA 904.0	443315		
60365798005	M-MW-9	EPA 904.0	443315		
60365798006	M-MW-10	EPA 904.0	443315		
60365798007	M-CA-DUP-1	EPA 904.0	443315		
60365798008	M-CA-FB-1	EPA 904.0	443315		
60365798009	M-CA-MS-1	EPA 904.0	443315		
60365798010	M-CA-MSD-1	EPA 904.0	443315		
60365798001	M-MW-11S	SM 2320B	714292		
60365798002	M-MW-11D	SM 2320B	714071		
60365798003	M-TP-1	SM 2320B	714292		
60365798004	M-TP-2	SM 2320B	714292		
60365798005	M-MW-9	SM 2320B	714292		
60365798006	M-MW-10	SM 2320B	714292		
60365798007	M-CA-DUP-1	SM 2320B	714292		
60365798008	M-CA-FB-1	SM 2320B	714292		
60365798001	M-MW-11S	SM 2540C	714164		
60365798002	M-MW-11D	SM 2540C	714164		
60365798003	M-TP-1	SM 2540C	714164		
60365798004	M-TP-2	SM 2540C	714165		
60365798005	M-MW-9	SM 2540C	714165		
60365798006	M-MW-10	SM 2540C	714165		
60365798007	M-CA-DUP-1	SM 2540C	714165		
60365798008	M-CA-FB-1	SM 2540C	714165		
60365798001	M-MW-11S	SM 3500-Fe B#4	715848		
60365798002	M-MW-11D	SM 3500-Fe B#4	715848		
60365798003	M-TP-1	SM 3500-Fe B#4	715848		
60365798004	M-TP-2	SM 3500-Fe B#4	715848		
60365798005	M-MW-9	SM 3500-Fe B#4	715848		
60365798006	M-MW-10	SM 3500-Fe B#4	715848		
60365798007	M-CA-DUP-1	SM 3500-Fe B#4	715848		
60365798008	M-CA-FB-1	SM 3500-Fe B#4	715848		
60365798001	M-MW-11S	SM 3500-Fe B#4	715282		
60365798002	M-MW-11D	SM 3500-Fe B#4	714254		
60365798003	M-TP-1	SM 3500-Fe B#4	714254		
60365798004	M-TP-2	SM 3500-Fe B#4	715282		
60365798005	M-MW-9	SM 3500-Fe B#4	714254		
60365798006	M-MW-10	SM 3500-Fe B#4	715282		

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60365798

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365798007	**M-CA-DUP-1**	SM 3500-Fe B#4	714254		
60365798008	**M-CA-FB-1**	SM 3500-Fe B#4	714254		
60365798001	**M-MW-11S**	SM 4500-S-2 D	714151		
60365798002	**M-MW-11D**	SM 4500-S-2 D	714151		
60365798003	**M-TP-1**	SM 4500-S-2 D	714151		
60365798004	**M-TP-2**	SM 4500-S-2 D	714151		
60365798005	**M-MW-9**	SM 4500-S-2 D	714151		
60365798006	**M-MW-10**	SM 4500-S-2 D	714151		
60365798007	**M-CA-DUP-1**	SM 4500-S-2 D	714151		
60365798008	**M-CA-FB-1**	SM 4500-S-2 D	714151		
60365798001	**M-MW-11S**	EPA 300.0	715623		
60365798002	**M-MW-11D**	EPA 300.0	715623		
60365798003	**M-TP-1**	EPA 300.0	715623		
60365798004	**M-TP-2**	EPA 300.0	715623		
60365798005	**M-MW-9**	EPA 300.0	715623		
60365798006	**M-MW-10**	EPA 300.0	715623		
60365798007	**M-CA-DUP-1**	EPA 300.0	715623		
60365798008	**M-CA-FB-1**	EPA 300.0	715726		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60365798

60365798

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 ☐

Thermometer Used: T-298 **Type of Ice:** ☑ Wet Blue None

Cooler Temperature (°C): As-read 2.1/1.3 Corr. Factor 0.0 Corrected 2.1/1.3

Temperature should be above freezing to 6°C 17.2/18.6 17.2/18.6

Date and initials of person examining contents: pw 4/7/21

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: 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# 603173/603222	☑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 7:36 am, 4/8/21

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.

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
Purchase Order No.:	COC #14
Project Name:	Ameren Meramec Energy Center MEC-CA
Project Number:	153140602.0004A

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

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 **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide		Residual Chlorine (Y/N)	60365798 Pace Project No./ Lab I.D.
																		Y/N ↓	N	N	N	N	N	N	N	N	N	N			
1	M-MW-11S	WT	G	4-6-21		4-6-21	1102		6	2		3		1					1	1	1	1	1	1	1	1	1	1	BB3U	BP7N	N BP3Z BP1U 2BP1N
2	3BP3U 3BP3N M-MW-11D 3BP3Z 3BP1U	WT	G				0931																							
3	M-TP-1	WT	G				1020																							
4	M-TP-2	WT	G				1355																							
5	M-MW-9	WT	G				0910																							
6	M-MW-10	WT	G				1248																							
7	M-CA-DUP-1	WT	G				—																							
8	M-CA-FB-1	WT	G				0930																							
9	M-CA-MS-1	WT	G				0931																							
10	M-CA-MSD-1	WT	G				0931																							
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	Golder	4-6-21	1610		4/6	1615
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl		4/6	1615		4/7	0403

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.1	Y	Y	Y
1.3			
17.2	N		
18.6			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: Golder

DATE Signed (MM/DD/YY): 04-06-21

*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.

GOLDER
MEMBER OF WSP

MEMORANDUM

DATE May 13, 2021 **Project No.** 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC-CA – CORRECTIVE ACTION SAMPLING APRIL 2021 - DATA PACKAGE 60365798

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 analyze outside of hold time, the sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When a compound was detected in a sample result between the 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).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren -MEC - MEC-CA
Project Number: 153140603
Reviewer: A. Muehlfarth
Validation Date: 05/13/2021

Laboratory: Pace Analytical Services, LLC
SDG #: 60365798
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 7470 (Mercury), SM2320B (Alkalinity); SM2540C (TDS); SM 3500 (Ferric Iron); SM 4500 (Sulfide);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Sample Names M-MW-11S, M-MW-11D, M-TP-1, M-TP-2, M-MW-9, M-MW-10, M-CA-DUP-1, M-CA-FB-1, M-CA-MS-1, M-CA-MSD-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			4/6/2021
b) Sampling team indicated?	x			EMS/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)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☒	☐	☐	See Notes
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

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

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

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

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

Comments/Notes:

Ferrous Iron analyzed outside of hold time in all samples. Detects and non-detects were qualified.

Chloride and Sulfate were diluted in several samples, no qualification necessary.

M-CA-FB-1 @ M-MW-9: Boron (9.7J), Calcium (128J), Manganese (0.76J), Chromium (0.31J), TDS (30.5), Ferric Iron (0.019J).
Sample results > PQL and/or >10x the blank result were not qualified.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

M-CA-DUP-1 @ M-MW-11S: RPD exceeds limit (20%) for Lead (28.6%), Chromium (83.3%), TDS (38.4%), Ferrous Iron (96.3%), Selenium detected in sample, ND in DUP.

Sample Duplicate 2873725 : RPD exceeds limit (20%) for Ferrous Iron (35%). Associated with sample 60365798002.

Sample Duplicate 2880018 : RPD exceeds limit (15%) for Fluoride (26%). Associated with unrelated sample.

MS/MSD:

2877548/2877549: MSD % recovery high for Boron; MS/MSD % recovery high for Calcium. Associated with sample 60365798002.

2877550: MS % recovery high for Calcium. Associated with sample 60365798005.

2878954/2878955: MSD % recovery high for Chloride. Associated with sample 60365798002.

2879434/2881092: RPD exceeds limit (15%) for Sulfate (173%). Associated with sample 60366957002. 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-TP-1	Ferrous Iron	0.10	J	Analyzed outside of hold time
M-TP-2	Ferrous Iron	0.77	J	"
M-MW-9	Ferrous Iron	0.25	J	"
M-MW-10	Ferrous Iron	0.88	J	"
M-CA-FB-1	Ferrous Iron	0.048	UJ	Non-detect, analyzed outside of hold time
M-MW-11S	Ferrous Iron	2.4	J	Analyzed outside of hold time, DUP RPD exceeds limit
M-MW-11D	Ferrous Iron	0.43	J	"
M-CA-DUP-1	Ferrous Iron	0.84	J	"
M-MW-9	Chromium	1.0	U	Detected in FB, PQL>result>MDL
M-MW-11S	Lead	4.5	J	Dup RPD exceeds limit
"	Chromium	0.70	J	"
"	TDS	968	J	"
"	Selenium	0.21	J	Detected in sample, ND in dup
M-CA-DUP-1	Lead	6.0	J	Dup RPD exceeds limit
"	Chromium	1.7	J	"
"	TDS	656	J	"
"	Selenium	0.18	UJ	Detected in sample, ND in dup
M-MW-11D	Boron	10300	J+	MS/MSD % recovery high
"	Calcium	230000	J+	"
"	Chloride	65.3	J+	"
M-MW-9	Calcium	166000	J+	"

Signature: _____ Ann Muhlfeath _____ Date: 05/13/2021

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

December 21, 2021

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

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 #: 9526
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

Pace Analytical Services, LLC
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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

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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

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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

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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, 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	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

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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	**6.3**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:03	7440-48-4	
Iron	**16300**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:03	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 17:43	7439-93-2	
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	**4.6J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:05	7440-48-4	
Iron	**55600**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:05	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 17:45	7439-93-2	
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

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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	**4.6J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:08	7440-48-4	
Iron	**36400**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:08	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 17:47	7439-93-2	
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

Pace Analytical Services, LLC
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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	**3.8J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:24	7440-48-4	
Iron	**28100**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:24	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 17:54	7439-93-2	
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

Pace Analytical Services, LLC
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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	**4.1J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:27	7440-48-4	
Iron	**16700**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:27	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 17:56	7439-93-2	
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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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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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	**1.6J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:33	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	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 18:00	7439-93-2	
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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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	**3.2J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:35	7440-48-4	
Iron	**11200**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:35	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 18:03	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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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	**4.4J**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:38	7440-48-4	
Iron	**383**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:38	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 18:09	7439-93-2	
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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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	**11.3**	ug/L	5.0	0.95	1	12/08/21 15:58	12/09/21 20:41	7440-48-4	
Iron	**16400**	ug/L	50.0	21.4	1	12/08/21 15:58	12/09/21 20:41	7439-89-6	
Lithium	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 18:11	7439-93-2	
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	12/08/21 15:58	12/09/21 20:57	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	**<76.7**	ug/L	100	76.7	10	12/08/21 15:58	12/10/21 18:18	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	4.6J	1000	1000	942	940	94	93	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	<76.7	1000	1000	831	819	83	81	70-130	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	11.3	1000	954	94	70-130	
Iron	ug/L	16400	10000	27000	106	70-130	
Lithium	ug/L	<76.7	1000	802	80	70-130	
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: 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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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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REPORT OF LABORATORY ANALYSIS

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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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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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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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REPORT OF LABORATORY ANALYSIS

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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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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	

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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	

REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

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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

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

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

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

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
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
60386287002	**M-MW-2**	EPA 200.7	760478	EPA 200.7	760631
60386287003	**M-MW-3**	EPA 200.7	760478	EPA 200.7	760631
60386287004	**M-MW-4**	EPA 200.7	760478	EPA 200.7	760631
60386287005	**M-MW-5**	EPA 200.7	760478	EPA 200.7	760631
60386287006	**M-MW-6**	EPA 200.7	760478	EPA 200.7	760631
60386287007	**M-MW-7**	EPA 200.7	760478	EPA 200.7	760631
60386287008	**M-MW-8**	EPA 200.7	760478	EPA 200.7	760631
60386287009	**M-BMW-1**	EPA 200.7	760478	EPA 200.7	760631
60386287010	**M-BMW-2**	EPA 200.7	760478	EPA 200.7	760631
60386287011	**M-DUP-1**	EPA 200.7	760478	EPA 200.7	760631
60386287012	**M-FB-1**	EPA 200.7	760478	EPA 200.7	760631
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		
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		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60386287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
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		
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
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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:	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

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						
1	M-MW-1	WT	G			11-15-21	1131		4	1		3						/	/	/	/	/		/	/						6036287
2	M-MW-2	WT	G			"	0932		1																					
3	M-MW-3	WT	G			"	1110																							
4	M-MW-4	WT	G			"	1331																							
5	M-MW-5	WT	G			"	1446																							
6	M-MW-6	WT	G			"	1621																							
7	M-MW-7	WT	G			"	1503																							
8	M-MW-8	WT	G			"	1002																							
9	M-BMW-1	WT	G			"	1245																							
10	M-BMW-2	WT	G			"	1354																							
11	M-DUP-1	WT	G			"	—																							
12	M-FB-1	WT	G			—	1200		—	—		—							—	—	—	—	—		—	—					

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 Talbert/Golder	11-16-21	0900	[signature] 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: [signature] DATE Signed (MM/DD/YY): 11-16-21

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical™ www.pacelabs.com

Section A Required Client Information:

Company:	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

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		6038629
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	0342	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

GOLDER
MEMBER OF WSP

MEMORANDUM

DATE January 3, 2022 **Project No.** 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

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

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).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren -MEC
Project Number: 153140603
Reviewer: A. Muehlfarth
Validation Date: 1/3/2022

Laboratory: Pace Analytical Services, LLC
SDG #: 60386287
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:

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.

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.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

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.

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 blank
"	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+	"

Signature: Ann Muehlfarth Date: 1/3/2022

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

December 27, 2021

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

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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(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 #: 9526
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.
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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	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	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	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	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	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

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
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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	**1.6J**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 18:58	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	**<76.7**	ug/L	100	76.7	10	11/29/21 10:59	12/01/21 14:58	7439-93-2	
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

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

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	**1.7J**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 19:04	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	**<76.7**	ug/L	100	76.7	10	11/29/21 10:59	12/01/21 15:04	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

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

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

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

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	**<76.7**	ug/L	100	76.7	10	11/29/21 10:59	12/01/21 15:06	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	**1.4J**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 19:15	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	**<76.7**	ug/L	100	76.7	10	11/29/21 10:59	12/01/21 15:12	7439-93-2	
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	**5.3**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 19:17	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	**<76.7**	ug/L	100	76.7	10	11/29/21 10:59	12/01/21 15:14	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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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	**<0.95**	ug/L	5.0	0.95	1	11/29/21 10:59	11/30/21 19:19	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	1.6J	1000	1000	965	972	96	97	70-130	1	20	
Iron	ug/L	41900	10000	10000	51100	52800	93	109	70-130	3	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-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	<76.7	1000	1000	845	889	84	88	70-130	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	

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-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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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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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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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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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	

REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

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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	

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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	

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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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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.
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
60386031002	M-MW-11D	EPA 200.7	758553	EPA 200.7	758694
60386031003	M-TP-1	EPA 200.7	758553	EPA 200.7	758694
60386031004	M-TP-2	EPA 200.7	758553	EPA 200.7	758694
60386031005	M-MW-9	EPA 200.7	758553	EPA 200.7	758694
60386031006	M-MW-10	EPA 200.7	758553	EPA 200.7	758694
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		
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		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

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

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
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		

Pace Analytical
www.pacelabs.com

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: T2QQ **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.9 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: _____

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:	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	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.
																		N	N	N	N	N		N	N							
1	M-MW-11S	WT	G			11-12-21	1100		4	1		3						/	/	/	/	/		/	/								6038 6031 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 5, 2022 **Project No.** 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

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

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).

Golder Associates Inc.
13515 Barrett Parkway Drive, Suite 260, Ballwin, Missouri, USA 63021 T: +1 314 984-8800 F: +1 314 984-8770

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc.
Project Manager: J. Ingram
Project Name: Ameren - MEC-CA
Project Number: 153140603
Reviewer: A. Muehlfarth
Validation Date: 1/5/2022

Laboratory: Pace Analytical Services, LLC
SDG #: 60386031
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			Max RPD: 8.2% [<20%]
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.

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:

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

Signature: Ann Muhlfarth Date: 1/5/2022

APPENDIX B

November 2020 Assessment Monitoring Statistical Evaluation

TECHNICAL MEMORANDUM

DATE March 12, 2021 **Project No.** 153-140602

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock **EMAIL JIngram@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 2020 sampling event at the Multi-unit Surface Impoundment Network of the Meramec Energy Center located in St. Louis County, Missouri. Included in this 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 outlier was removed prior to the calculation of confidence limits:

- Chromium
  - MW-6 at 2.4 micrograms per liter (µg/L) on 4/03/2018: Value was statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.

Molybdenum at MW-5, which was identified as an SSL in the April 2020 sampling event, is no longer an SSL based on the decreasing trend of the lower confidence interval observed in the trend tests (**Appendix B**). No new SSLs were noted and a summary of the SSLs for November 2020 event are as follows:

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

Golder Associates Inc.
13515 Barrett Parkway Drive, Suite 260, Ballwin, Missouri, USA 63021 T: +1 314 984-8800 F: +1 314 984-8770

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, R.G.
Senior Project Geologist

Sean Paulsen,
Associate, Senior Consultant

JSI/SCP/MNH

Enclosures:
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

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	2.319
Barium	µg/L	2000	2000	566
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	2.517
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.5214
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	40	20.3
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	DQR
Thallium	µg/L	2	2	DQR

Notes:

Prepared by: JSI
Checked by: EMS
Reviewed by: SCP

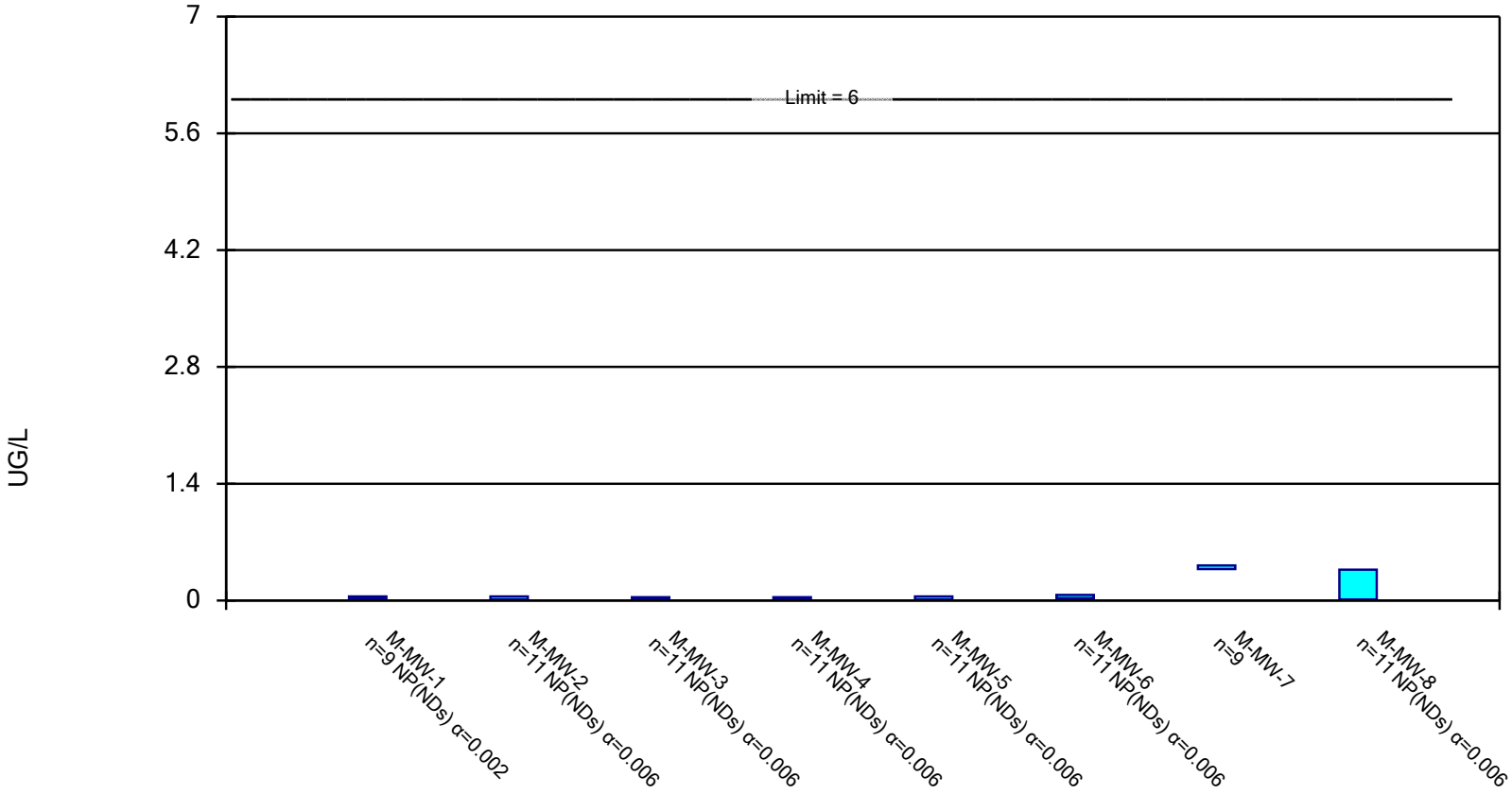
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Spring 2012. http://water.epa.gov/drink/contaminants/index.cfm.
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 August 2019 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 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

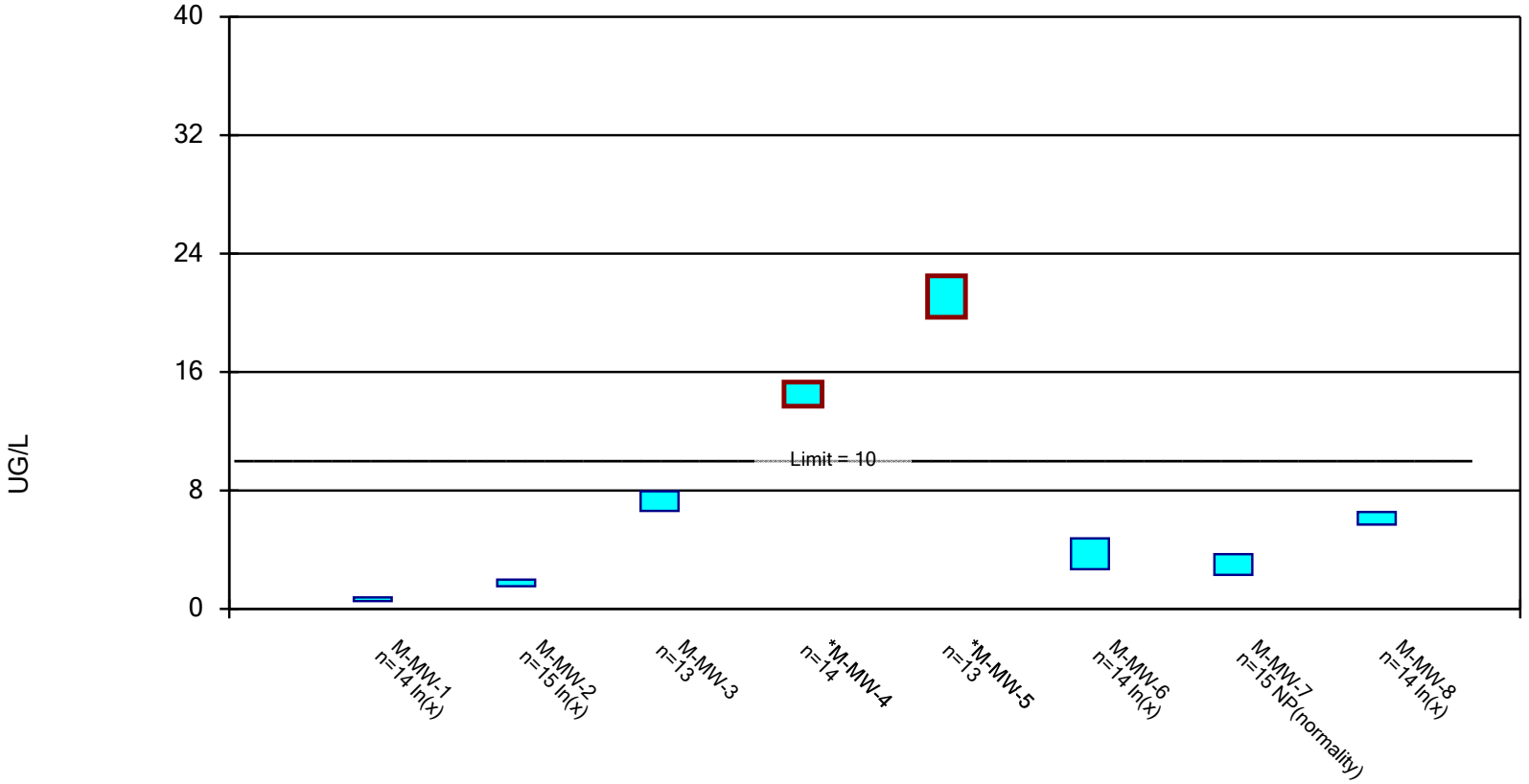


Constituent: ANTIMONY, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

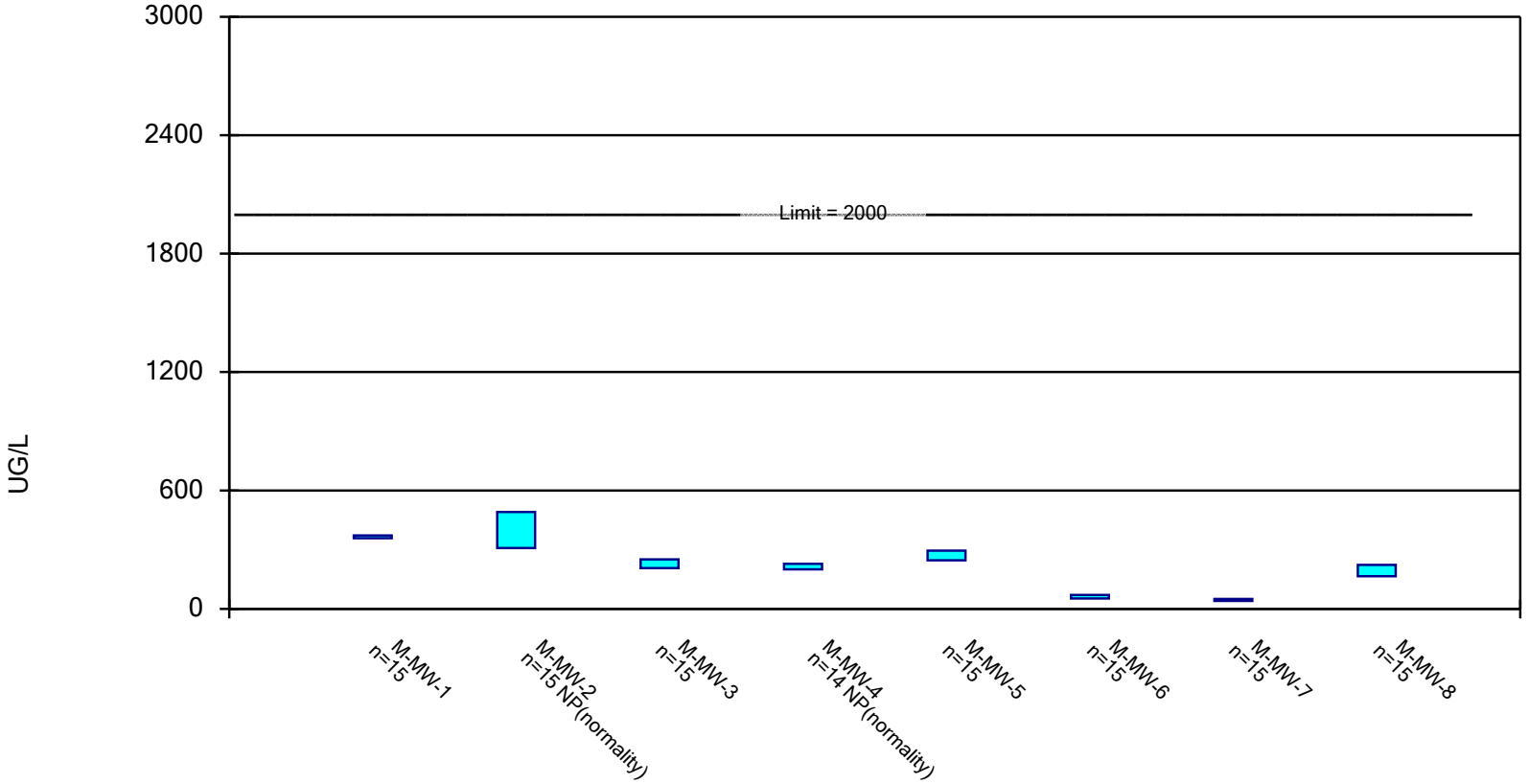


Constituent: ARSENIC, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

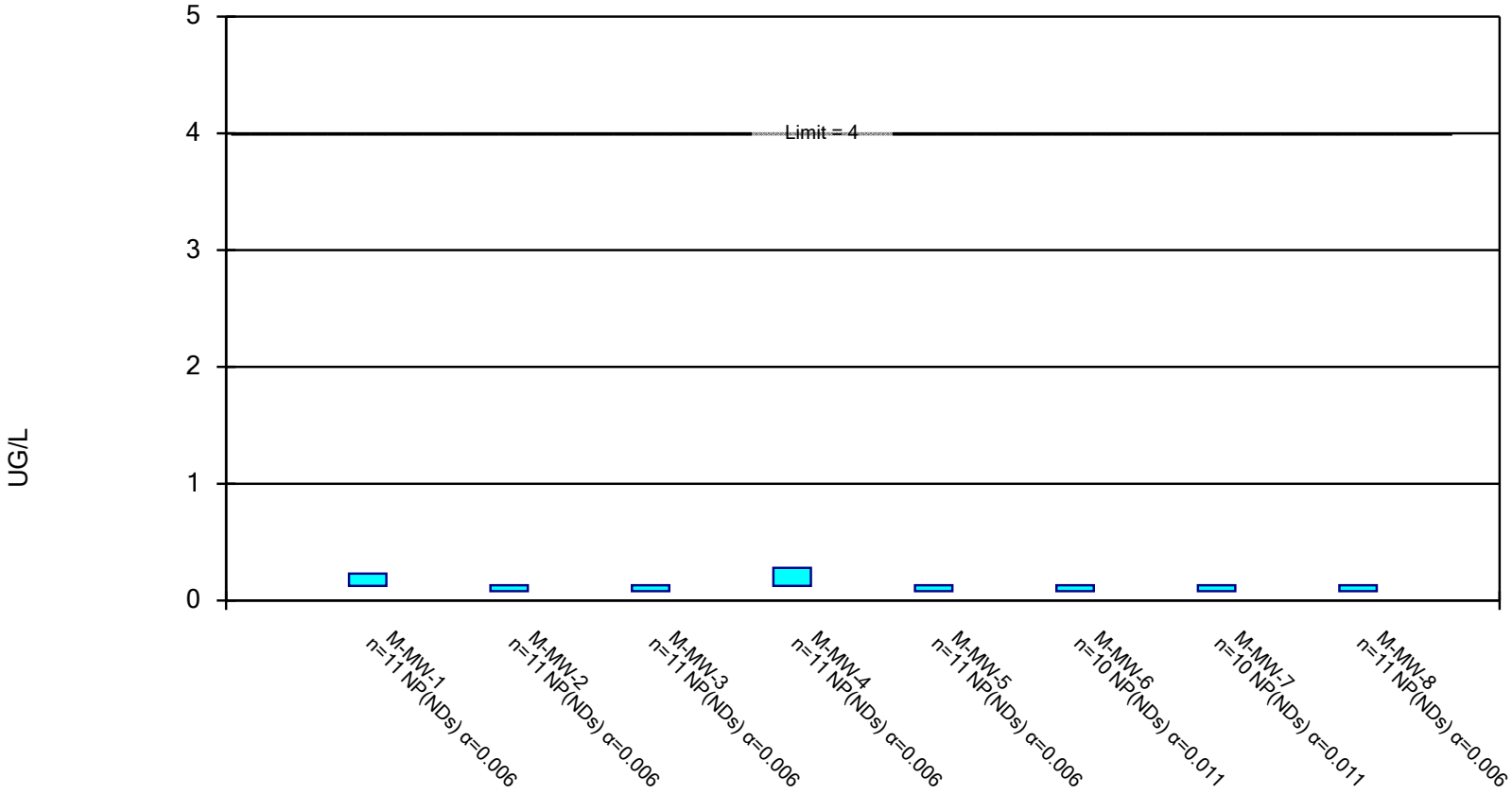


Constituent: BARIUM, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

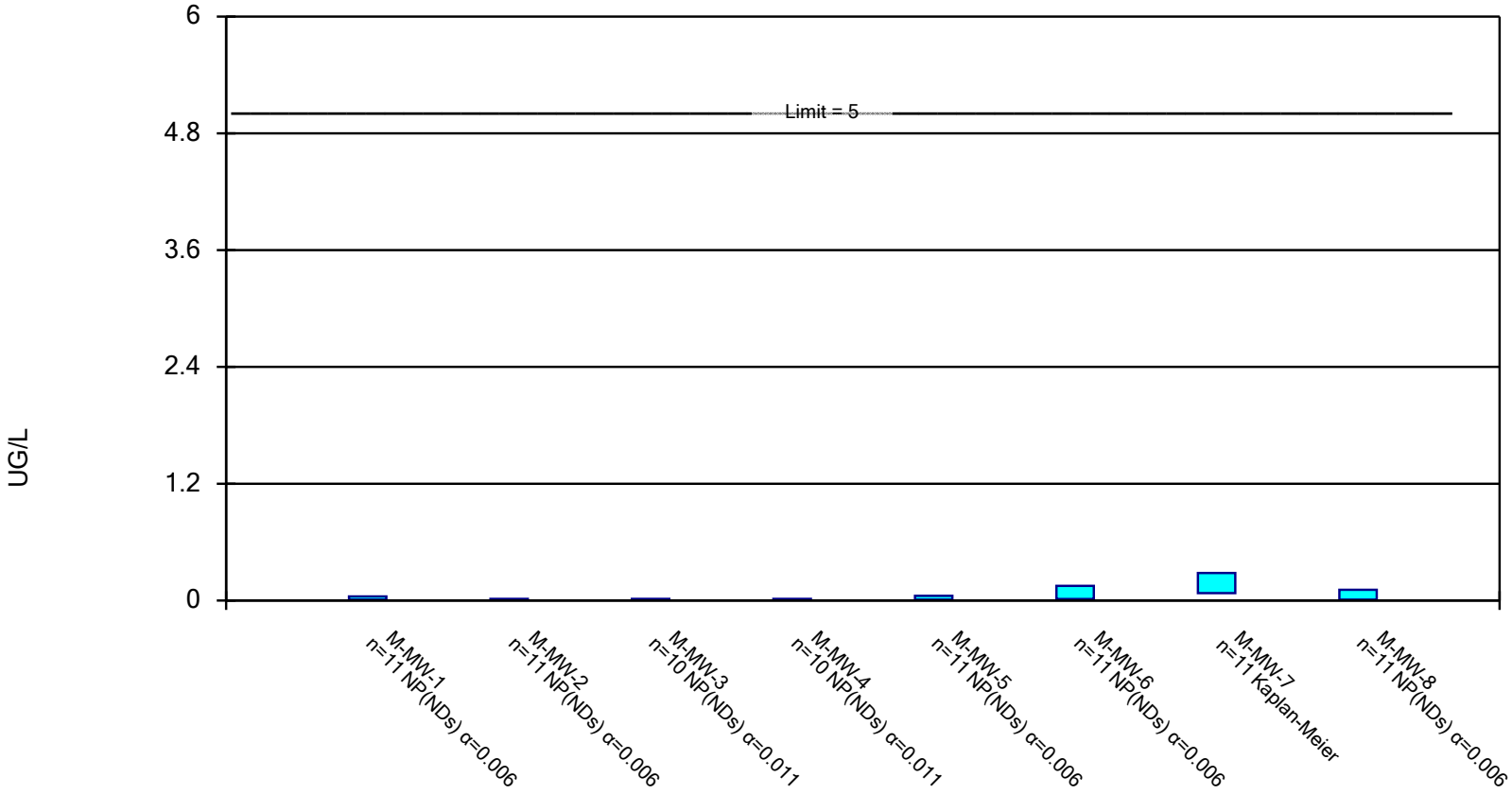


Constituent: BERYLLIUM, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

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 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

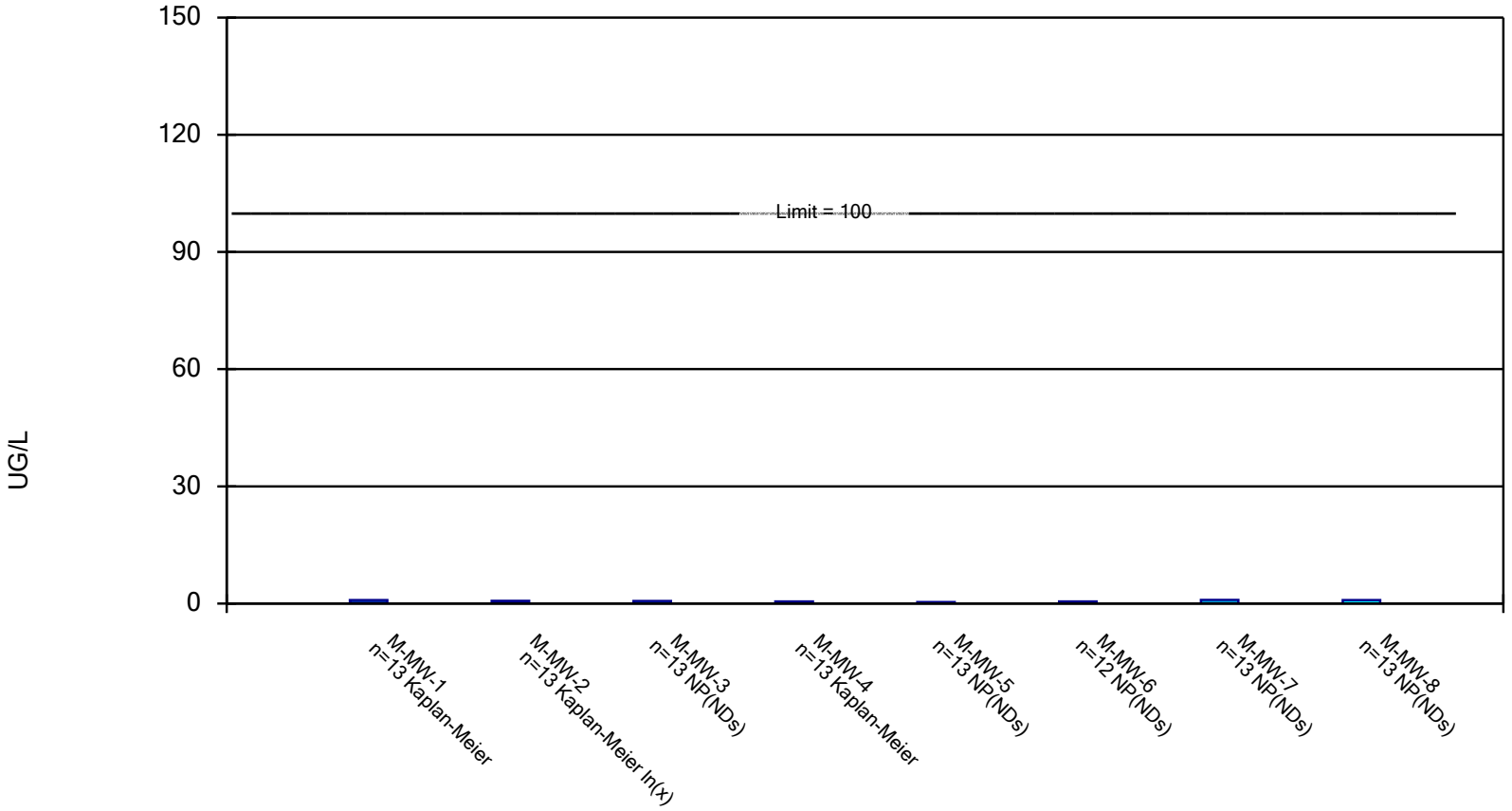


Constituent: CADMIUM, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

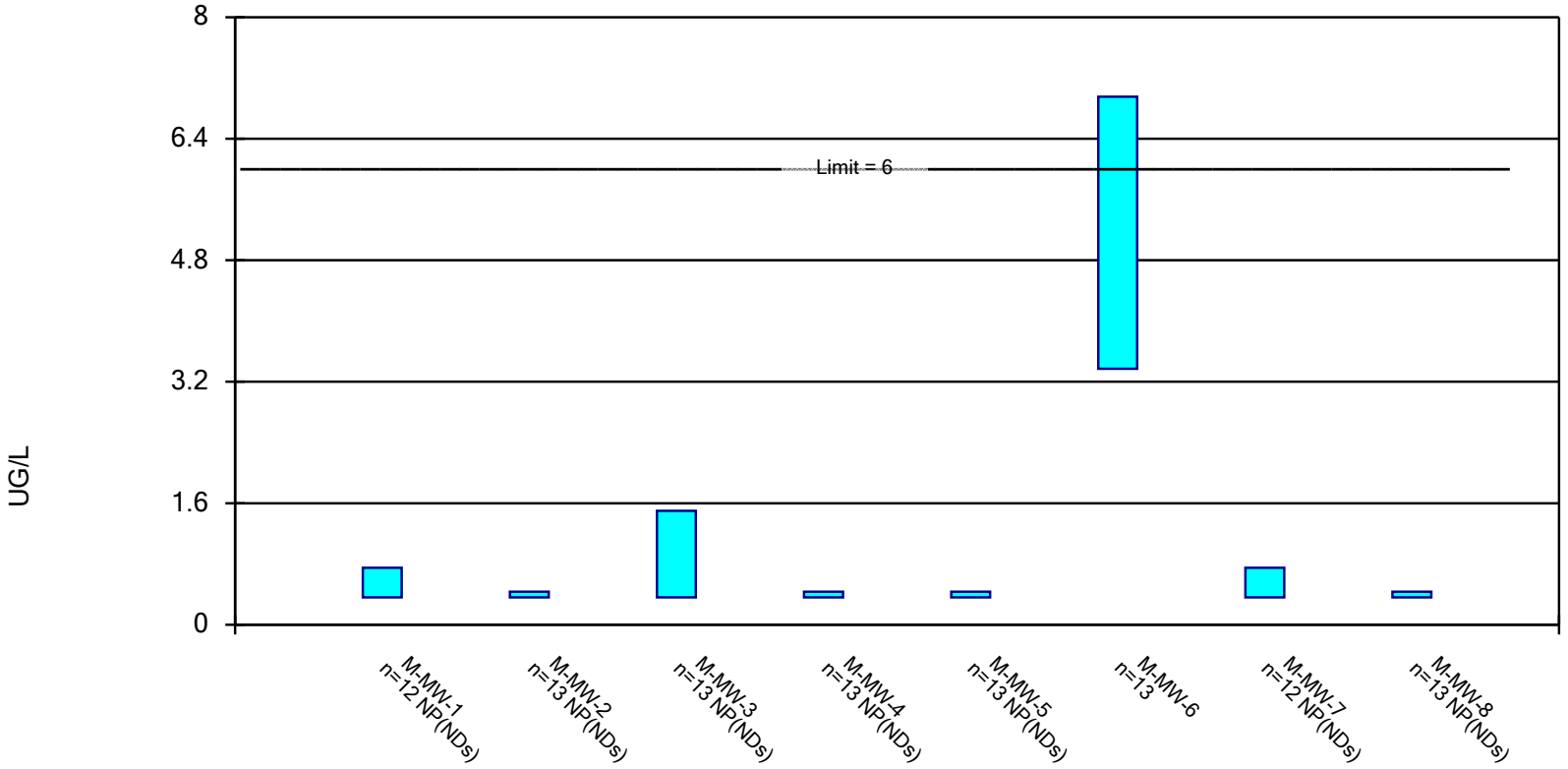


Constituent: CHROMIUM, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

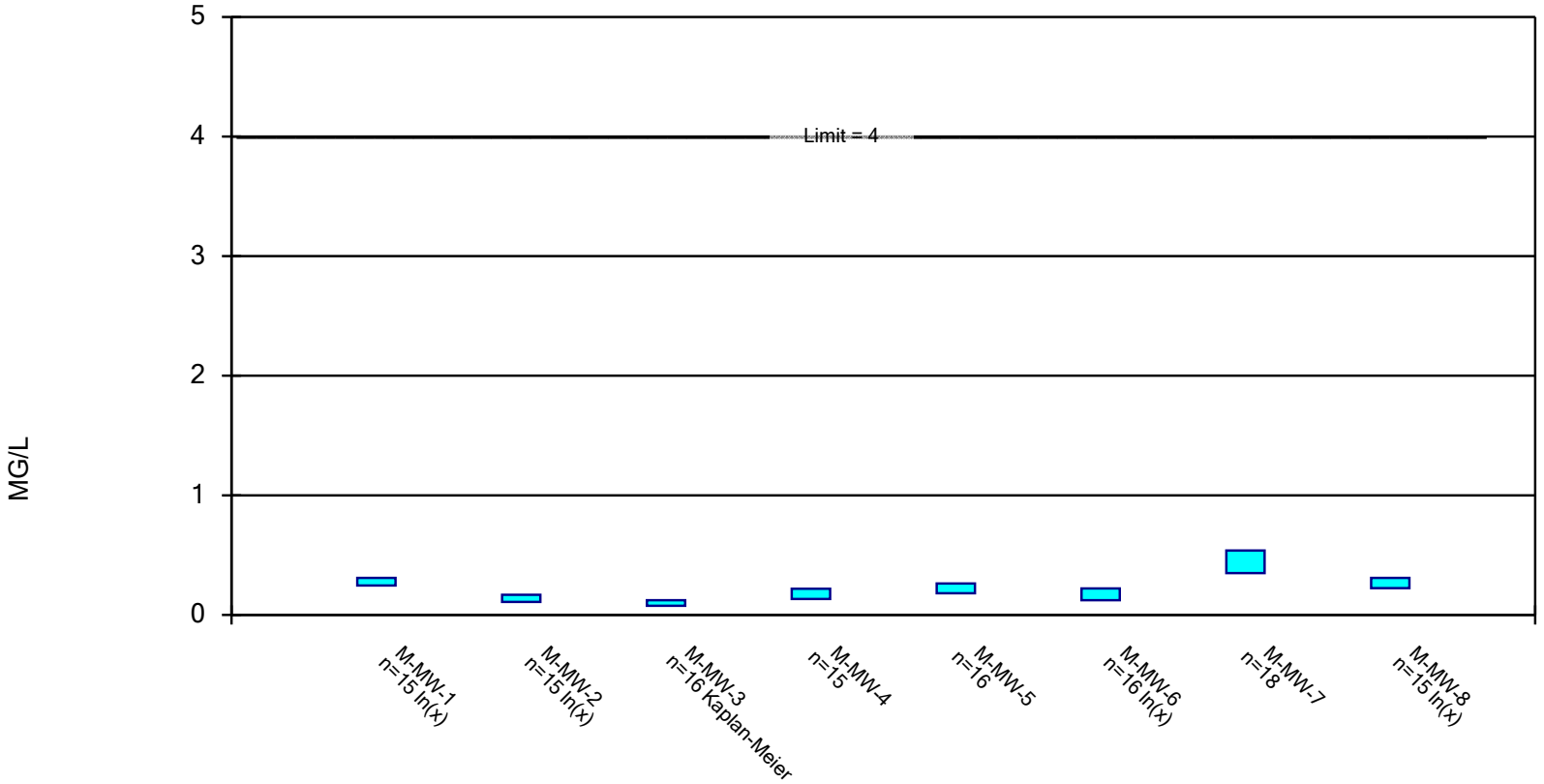


Constituent: COBALT, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

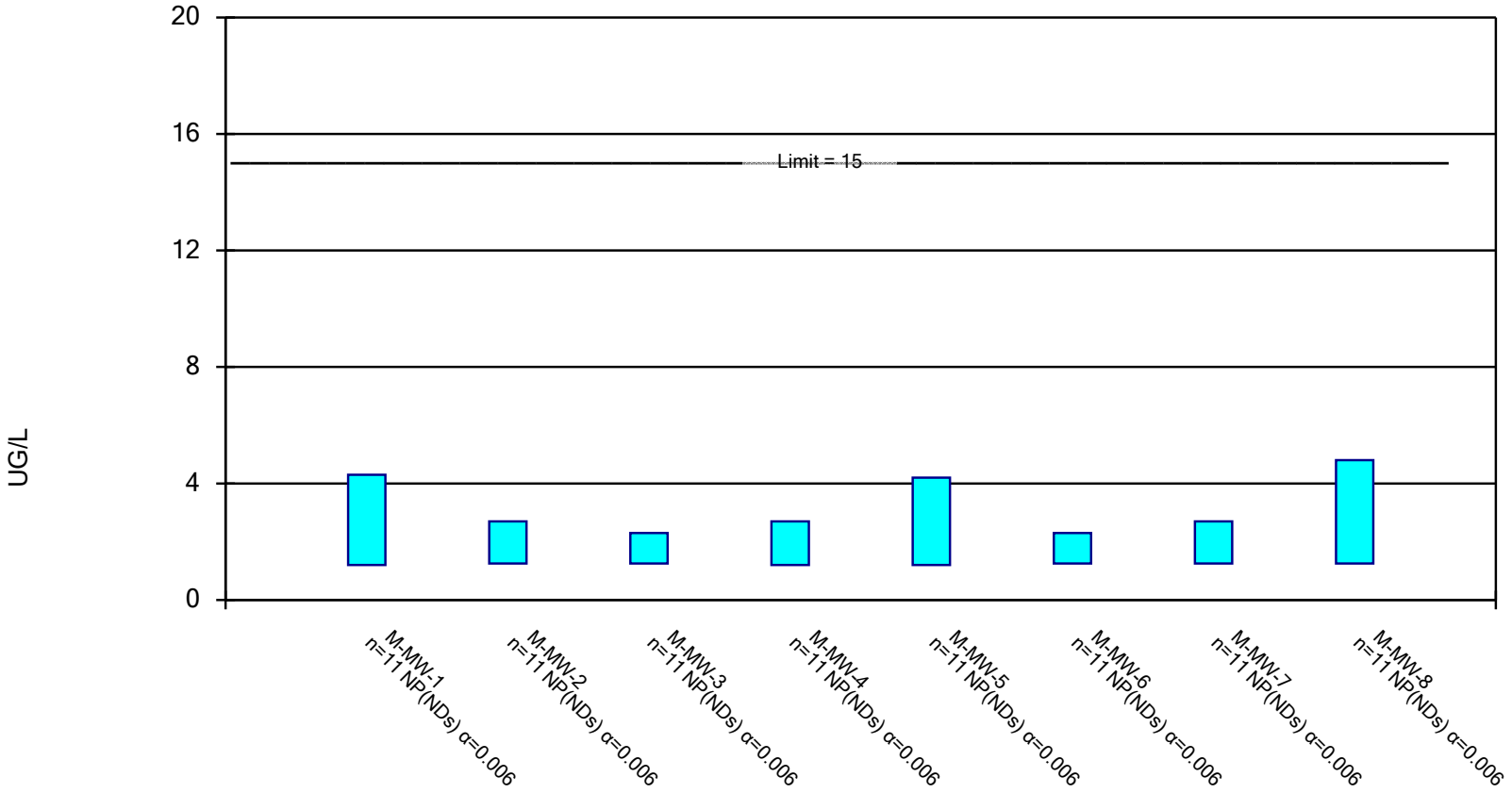


Constituent: FLUORIDE, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

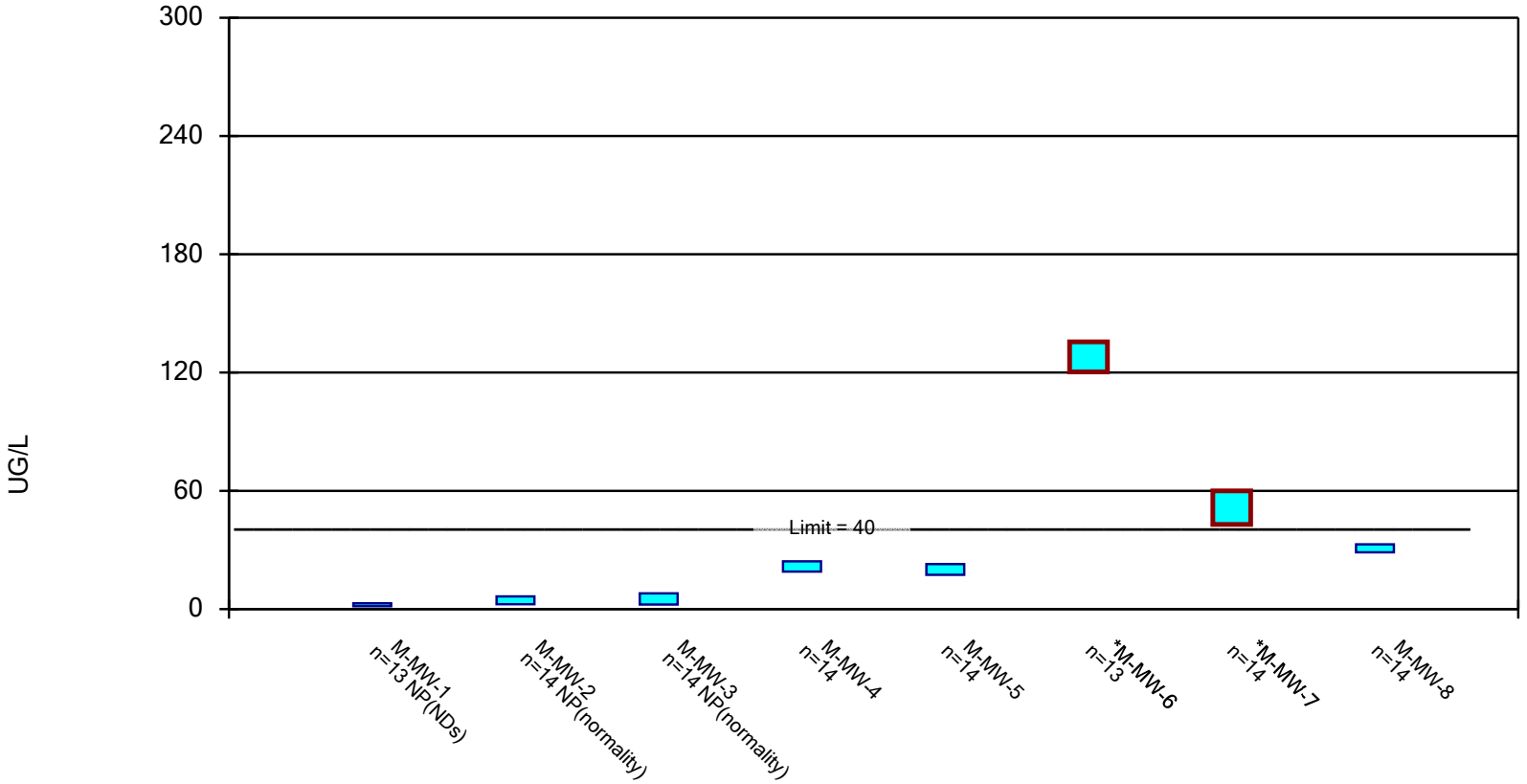


Constituent: LEAD, TOTAL Analysis Run 2/10/2021 5:06 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

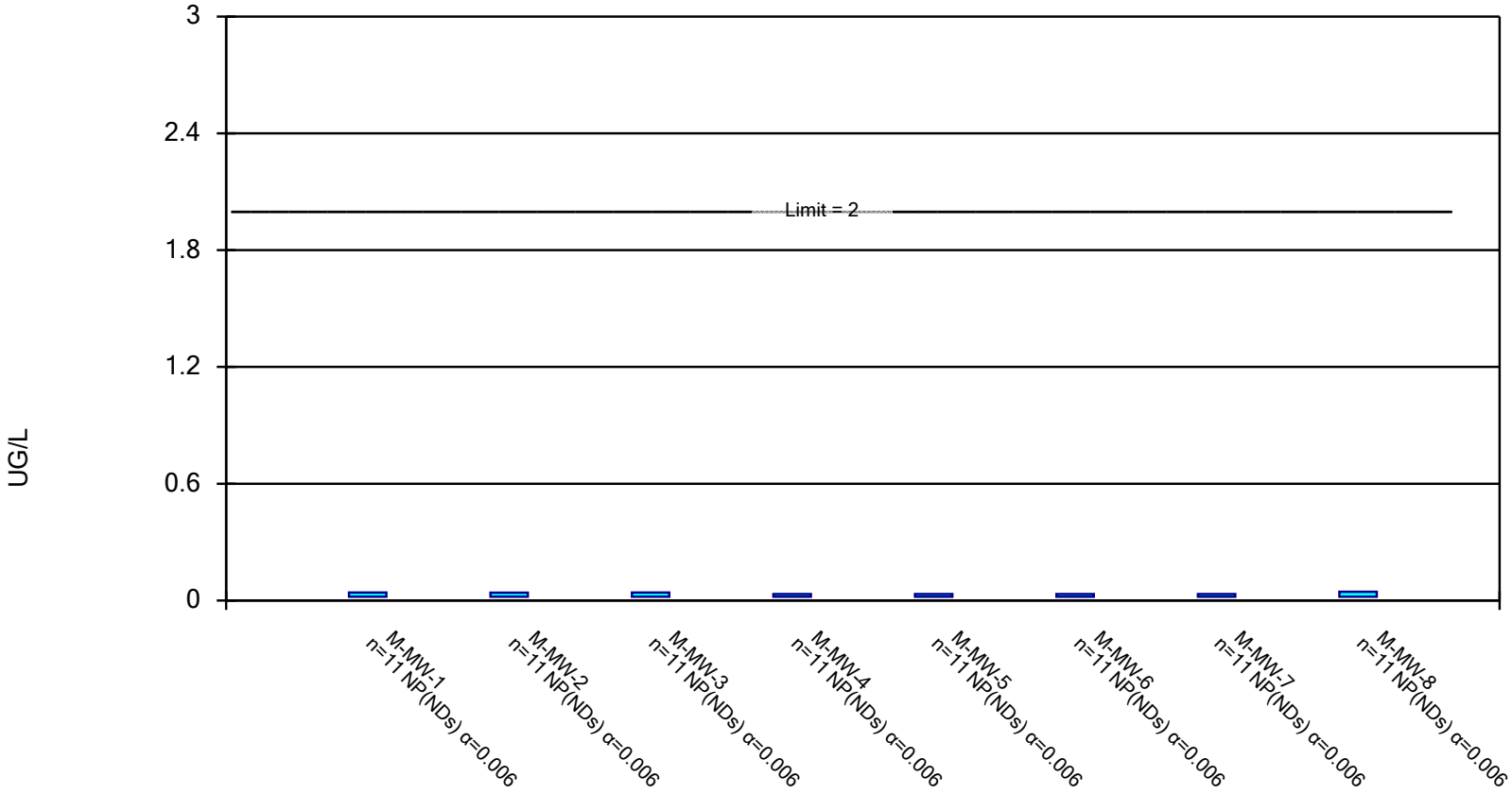


Constituent: LITHIUM, TOTAL Analysis Run 2/10/2021 5:07 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

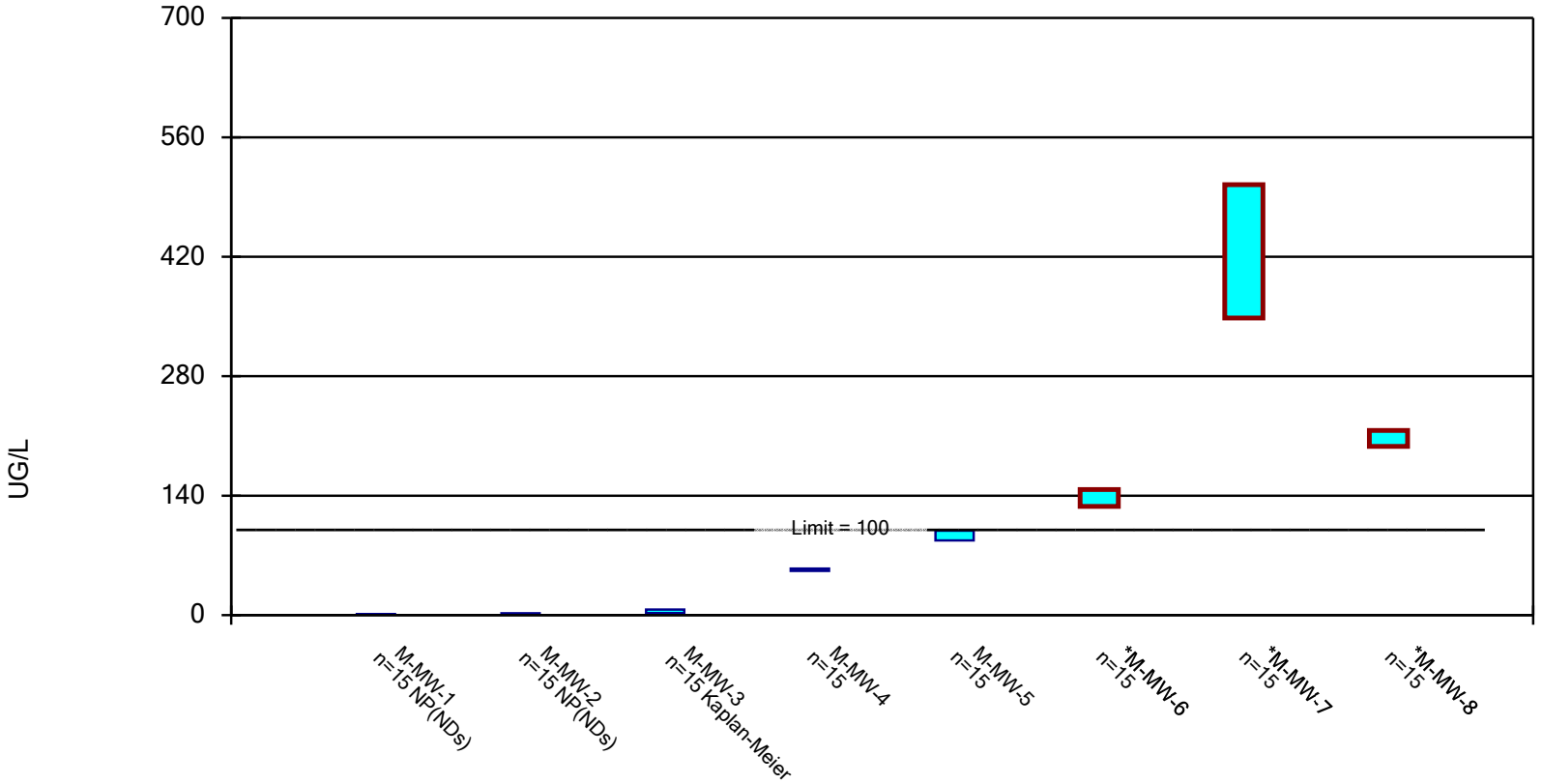


Constituent: MERCURY, TOTAL Analysis Run 2/10/2021 5:07 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

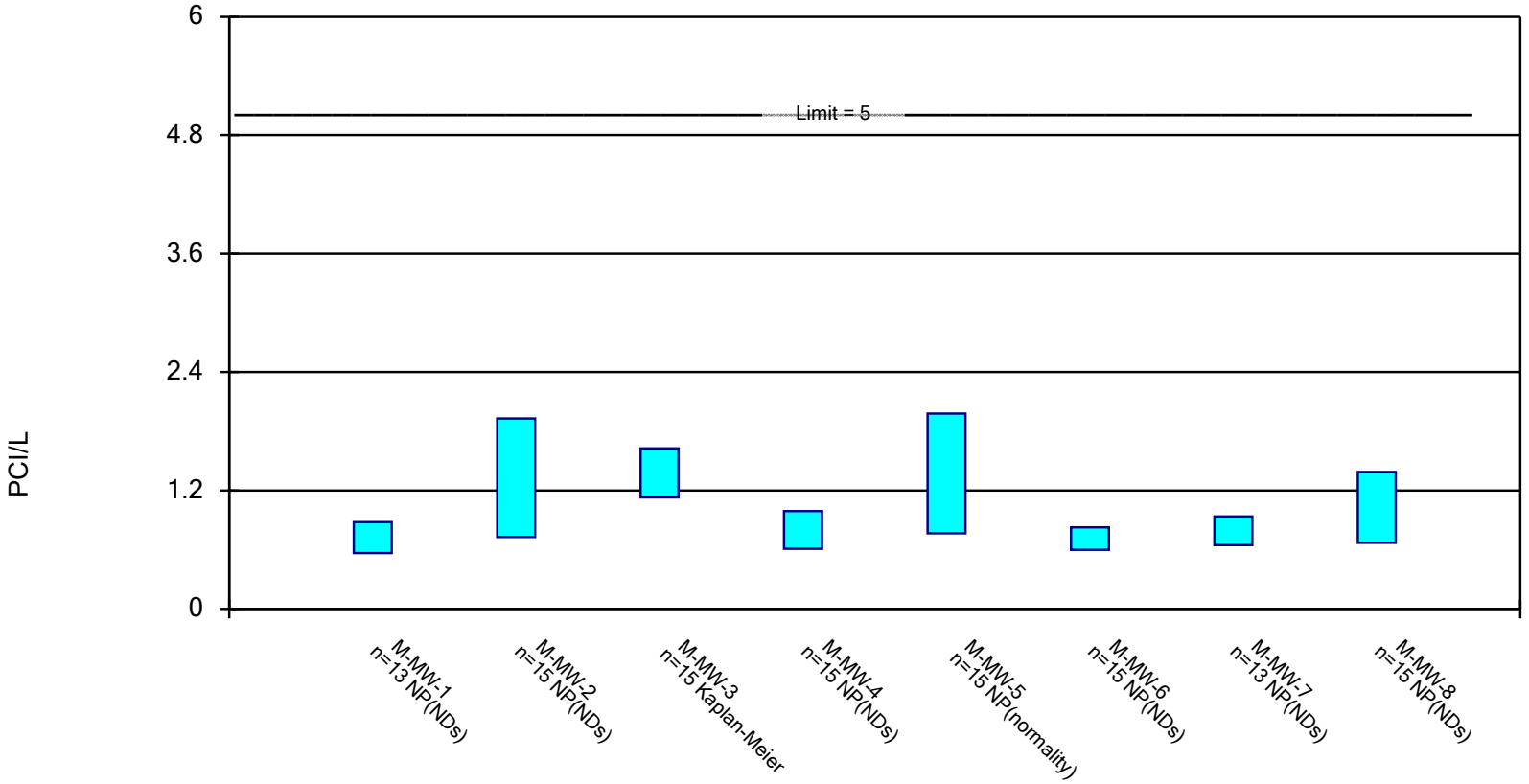


Constituent: MOLYBDENUM, TOTAL Analysis Run 2/10/2021 5:07 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

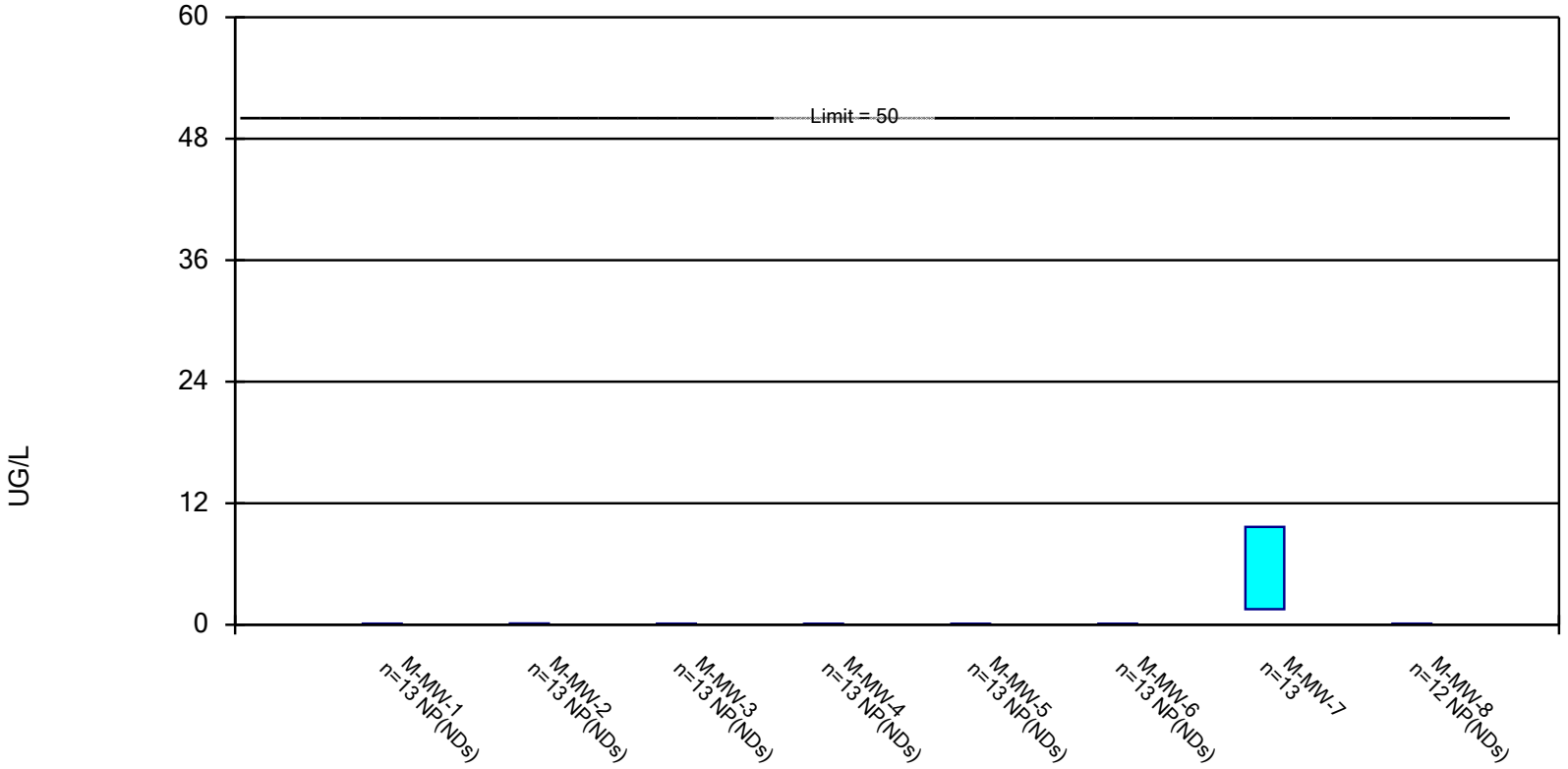


Constituent: Radium [226 + 228] Analysis Run 2/10/2021 5:07 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

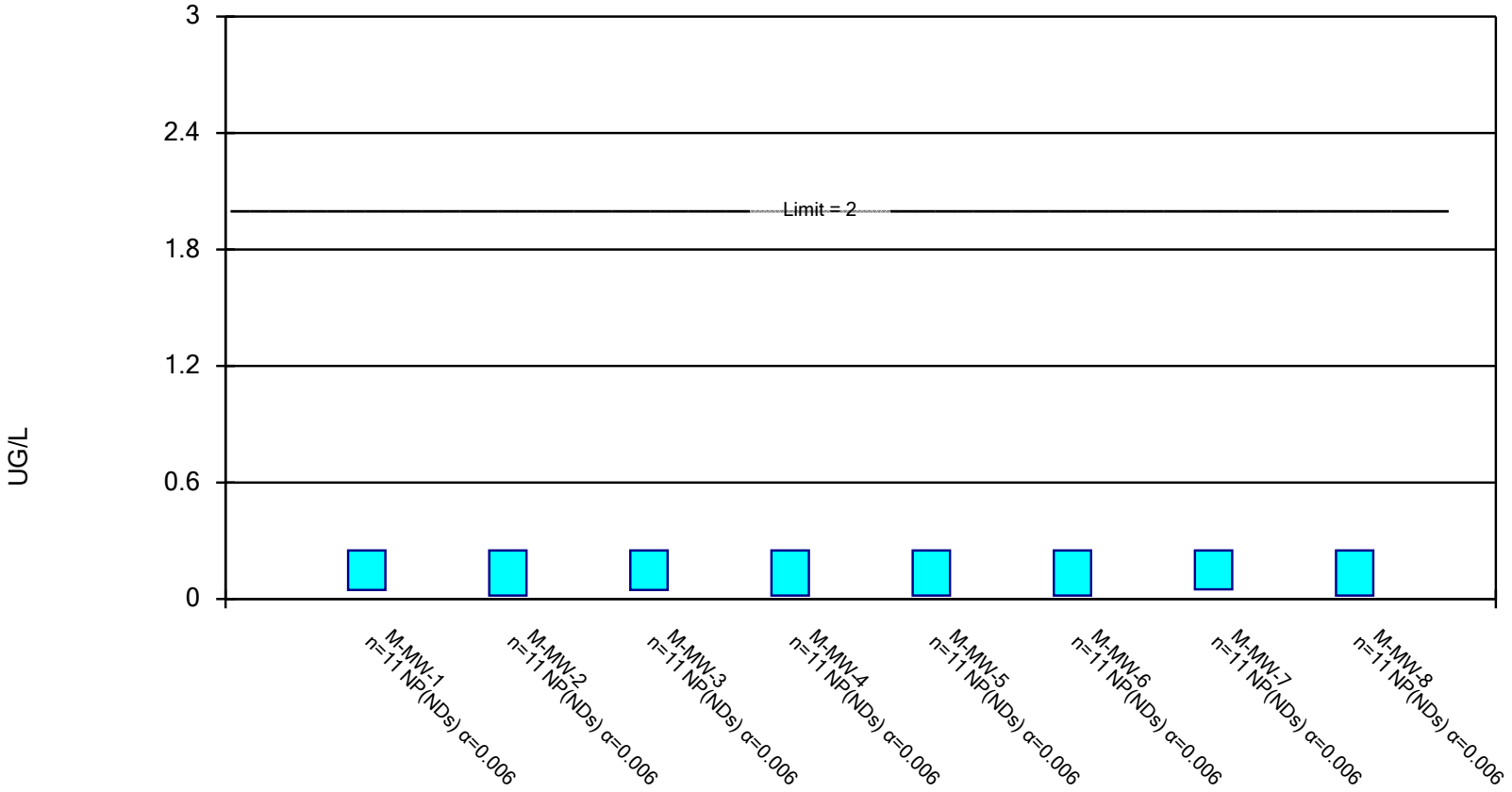


Constituent: SELENIUM, TOTAL Analysis Run 2/10/2021 5:07 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 5:07 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/10/2021, 5:08 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.0485	0.028	6	No	9	77.78	No	0.002	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.0485	0.013	6	No	11	90.91	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.039	0.013	6	No	11	90.91	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.039	0.013	6	No	11	90.91	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.0485	0.013	6	No	11	90.91	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.066	0.029	6	No	11	54.55	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.4198	0.3758	6	No	9	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.37	0.013	6	No	11	72.73	No	0.006	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-1	0.7756	0.528	10	No	14	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	1.972	1.53	10	No	15	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	7.947	6.622	10	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**15.32**	**13.7**	**10**	**Yes**	**14**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**22.5**	**19.7**	**10**	**Yes**	**13**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	M-MW-6	4.763	2.68	10	No	14	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.7	2.3	10	No	15	0	No	0.01	NP (normality)
ARSENIC, TOTAL (UG/L)	M-MW-8	6.545	5.7	10	No	14	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	371.8	358.1	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	491	308	2000	No	15	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	M-MW-3	251	206.8	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	228	200	2000	No	14	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	M-MW-5	295.2	246	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	70.7	53.02	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	50.35	39.84	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-8	223.2	165.1	2000	No	15	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0.23	0.125	4	No	11	81.82	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0.28	0.125	4	No	11	72.73	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0.13	0.08	4	No	10	100	No	0.011	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0.13	0.08	4	No	10	100	No	0.011	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-1	0.042	0.009	5	No	11	81.82	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-2	0.0165	0.009	5	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-3	0.0165	0.009	5	No	10	100	No	0.011	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-4	0.0165	0.009	5	No	10	100	No	0.011	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-5	0.048	0.009	5	No	11	81.82	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-6	0.15	0.0145	5	No	11	54.55	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-7	0.2831	0.0764	5	No	11	18.18	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-8	0.11	0.009	5	No	11	54.55	No	0.006	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-1	0.8826	0.2215	100	No	13	30.77	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.7017	0.1697	100	No	13	30.77	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-3	0.64	0.039	100	No	13	53.85	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.5503	0.1263	100	No	13	46.15	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.37	0.11	100	No	13	53.85	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.54	0.027	100	No	12	66.67	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-7	0.91	0.11	100	No	13	53.85	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.88	0.039	100	No	13	69.23	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-1	0.75	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-2	0.435	0.36	6	No	13	100	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/10/2021, 5:08 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	1.5	0.36	6	No	13	69.23	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-4	0.435	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-5	0.435	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-6	6.953	3.37	6	No	13	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-7	0.75	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-8	0.435	0.36	6	No	13	100	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.3092	0.2453	4	No	15	0	ln(x)	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1686	0.1085	4	No	15	6.667	ln(x)	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.1231	0.0762	4	No	16	25	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.219	0.1337	4	No	15	6.667	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.263	0.1807	4	No	16	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.2217	0.1226	4	No	16	6.25	ln(x)	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.5383	0.3494	4	No	18	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.3096	0.2238	4	No	15	0	ln(x)	0.01	Param.
LEAD, TOTAL (UG/L)	M-MW-1	4.3	1.2	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-2	2.7	1.25	15	No	11	63.64	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-3	2.3	1.25	15	No	11	90.91	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-4	2.7	1.2	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-5	4.2	1.2	15	No	11	63.64	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-6	2.3	1.25	15	No	11	90.91	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-7	2.7	1.25	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-8	4.8	1.25	15	No	11	72.73	No	0.006	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-1	2.95	1.45	40	No	13	92.31	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	6.4	2.45	40	No	14	35.71	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-3	8	2.3	40	No	14	42.86	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-4	24.22	19.03	40	No	14	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-5	22.81	17.41	40	No	14	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**M-MW-6**	**135.5**	**120.3**	**40**	**Yes**	**13**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	**M-MW-7**	**59.95**	**42.97**	**40**	**Yes**	**14**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	M-MW-8	32.82	28.79	40	No	14	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-1	0.041	0.0195	2	No	11	90.91	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-2	0.04	0.0195	2	No	11	90.91	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-3	0.041	0.0195	2	No	11	90.91	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-4	0.033	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-5	0.033	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-6	0.033	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-7	0.033	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-8	0.045	0.0195	2	No	11	90.91	No	0.006	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	1.3	0.26	100	No	15	93.33	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	2.1	0.26	100	No	15	80	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	6.539	2.329	100	No	15	20	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	54.55	51.77	100	No	15	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	99.02	87.51	100	No	15	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**M-MW-6**	**147.2**	**127.5**	**100**	**Yes**	**15**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-7**	**504.5**	**348.2**	**100**	**Yes**	**15**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-8**	**216.5**	**197.8**	**100**	**Yes**	**15**	**0**	**No**	**0.01**	**Param.**
Radium [226 + 228] (PCI/L)	M-MW-1	0.8785	0.565	5	No	13	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	1.93	0.728	5	No	15	73.33	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.627	1.129	5	No	15	40	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-4	0.991	0.6095	5	No	15	86.67	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/10/2021, 5:08 PM

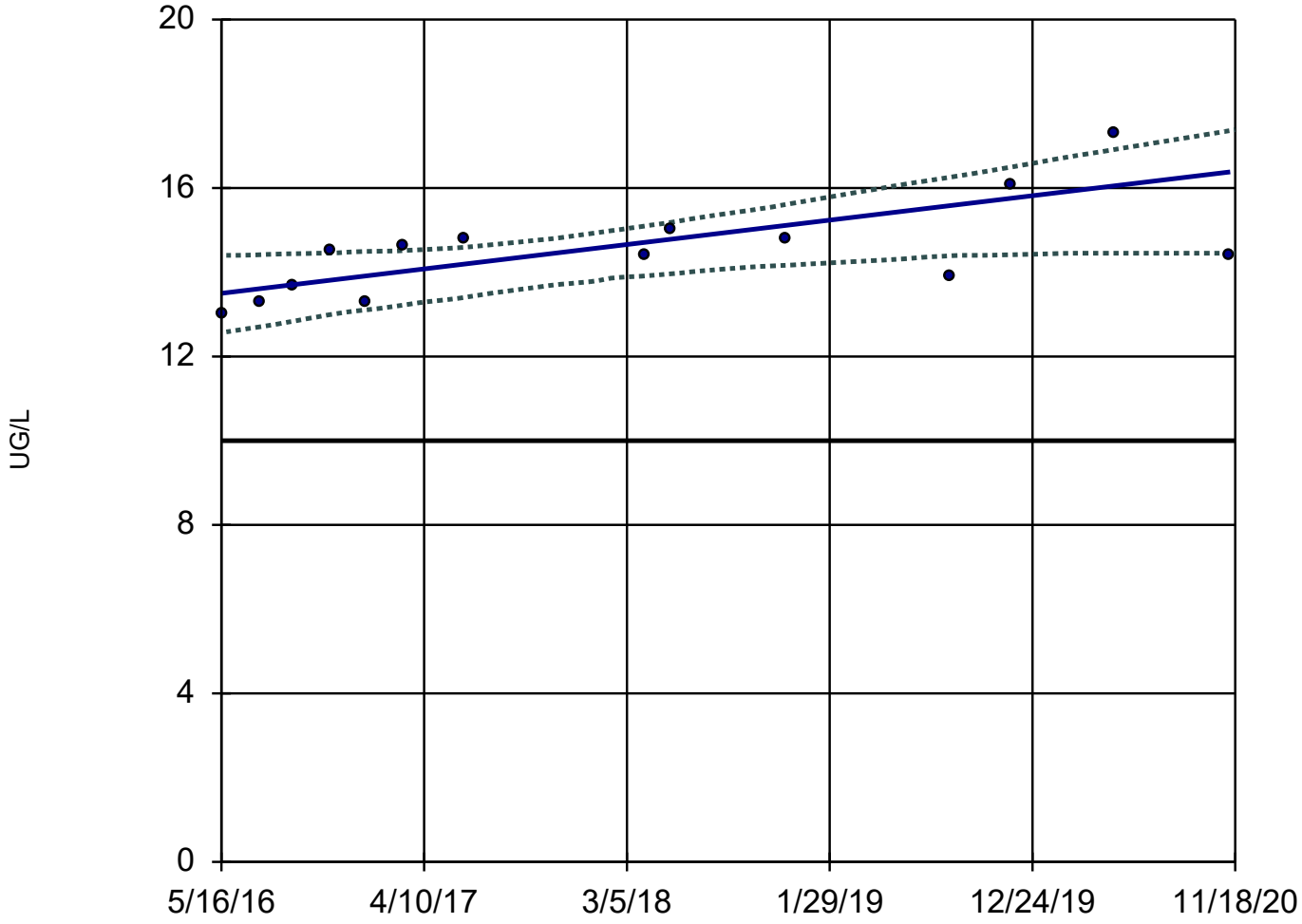
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	1.979	0.7655	5	No	15	46.67	No	0.01	NP (normality)
Radium [226 + 228] (PCI/L)	M-MW-6	0.827	0.5985	5	No	15	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.937	0.6455	5	No	13	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	1.387	0.67	5	No	15	80	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	13	84.62	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	13	84.62	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.043	50	No	13	84.62	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	13	84.62	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	13	92.31	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.043	50	No	13	92.31	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	9.668	1.532	50	No	13	7.692	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.043	50	No	12	83.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-1	0.25	0.0465	2	No	11	81.82	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-2	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-3	0.25	0.0465	2	No	11	81.82	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-4	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-5	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-6	0.25	0.018	2	No	11	90.91	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-7	0.25	0.0495	2	No	11	72.73	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-8	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)

APPENDIX B

Sanitas Trending Confidence Bands Statistical Output

Sen's Slope and 95% Confidence Band

M-MW-4



n = 14

Slope = 0.6419 units per year.

Mann-Kendall statistic = 50
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

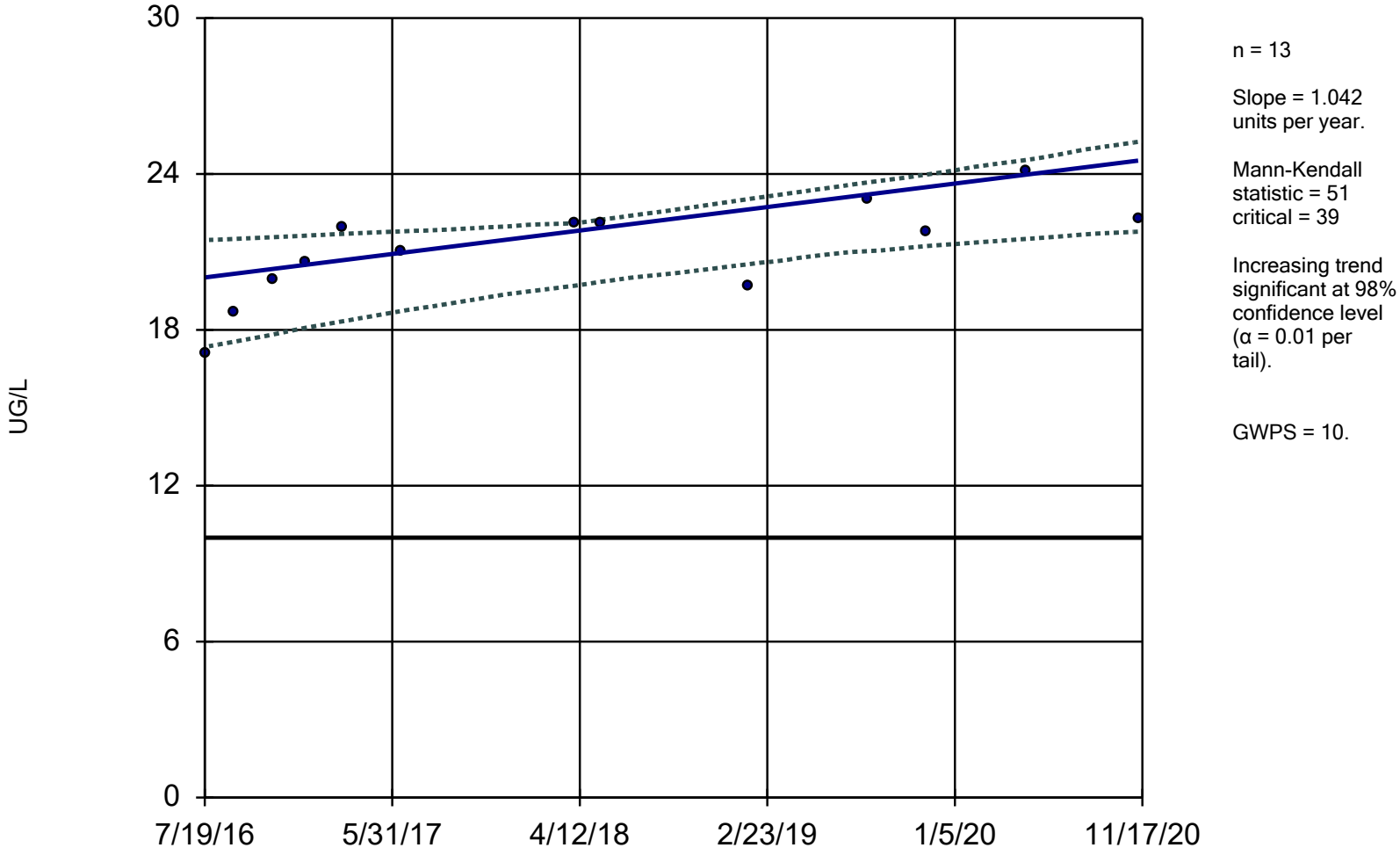
GWPS = 10.

Constituent: ARSENIC, TOTAL Analysis Run 2/10/2021 5:00 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 13

Slope = 1.042 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

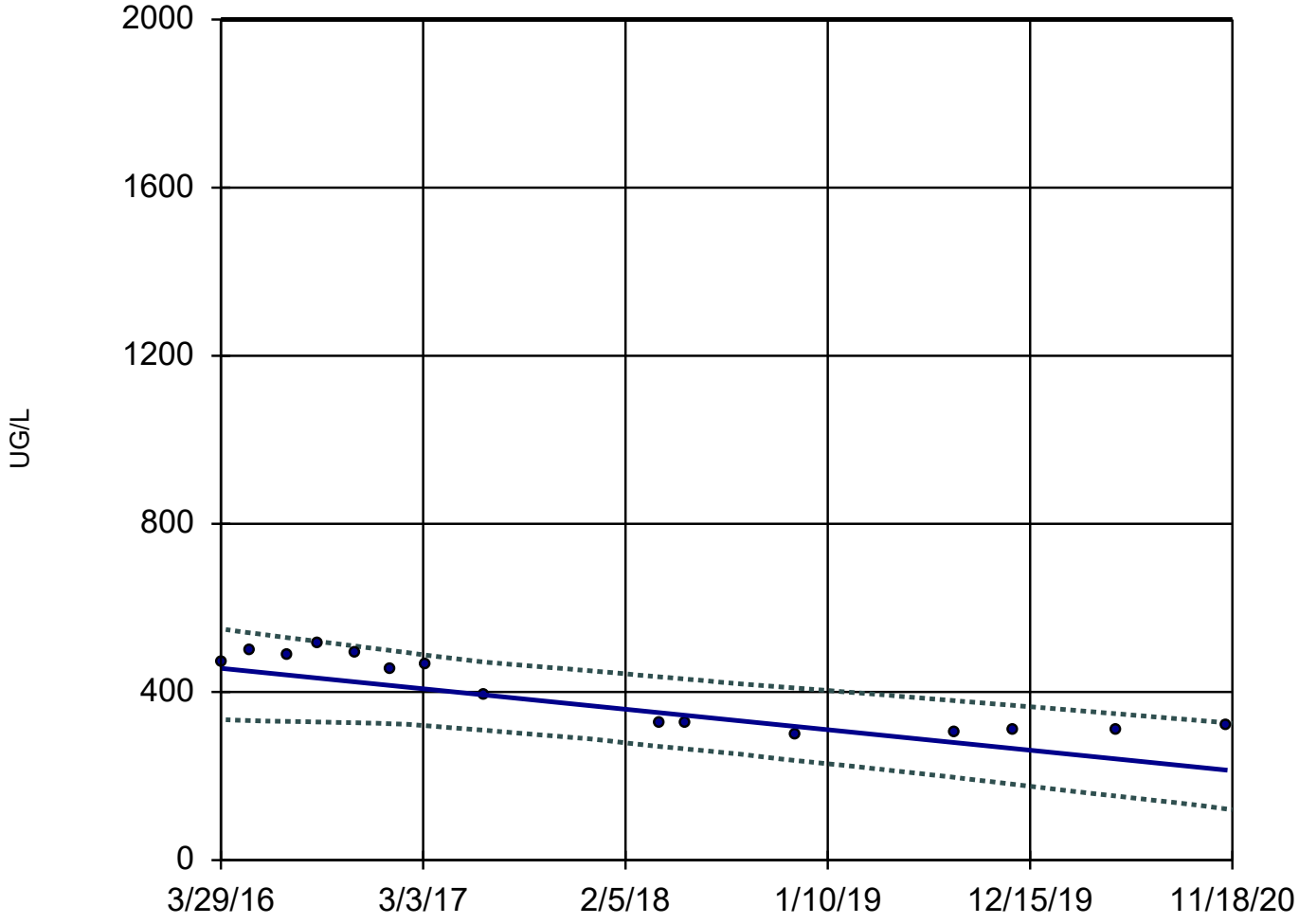
GWPS = 10.

Constituent: ARSENIC, TOTAL Analysis Run 2/10/2021 5:00 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-2



n = 15

Slope = -52.47 units per year.

Mann-Kendall statistic = -69
critical = -48

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

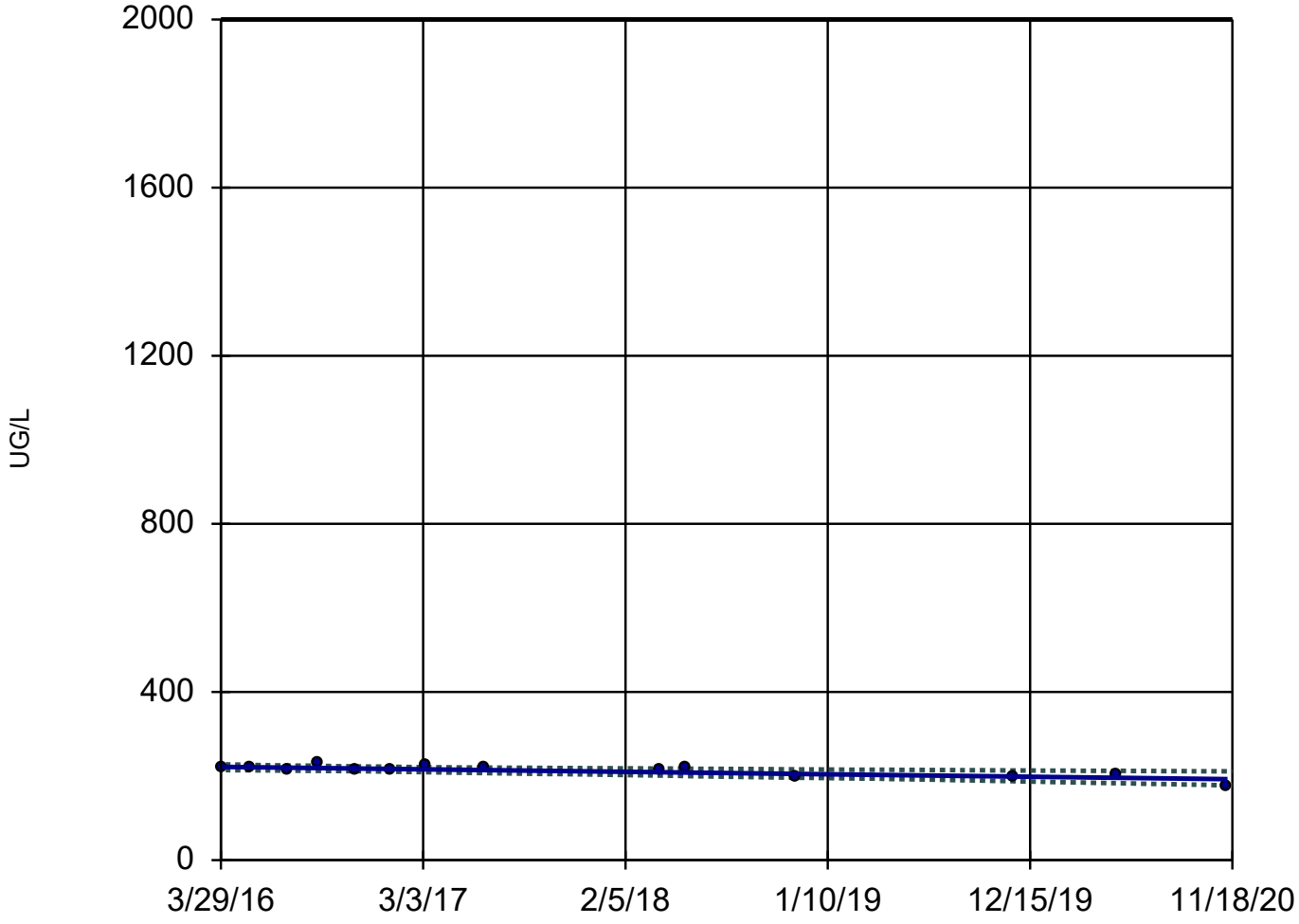
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 2/10/2021 5:00 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 14

Slope = -6.317 units per year.

Mann-Kendall statistic = -51 critical = -44

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

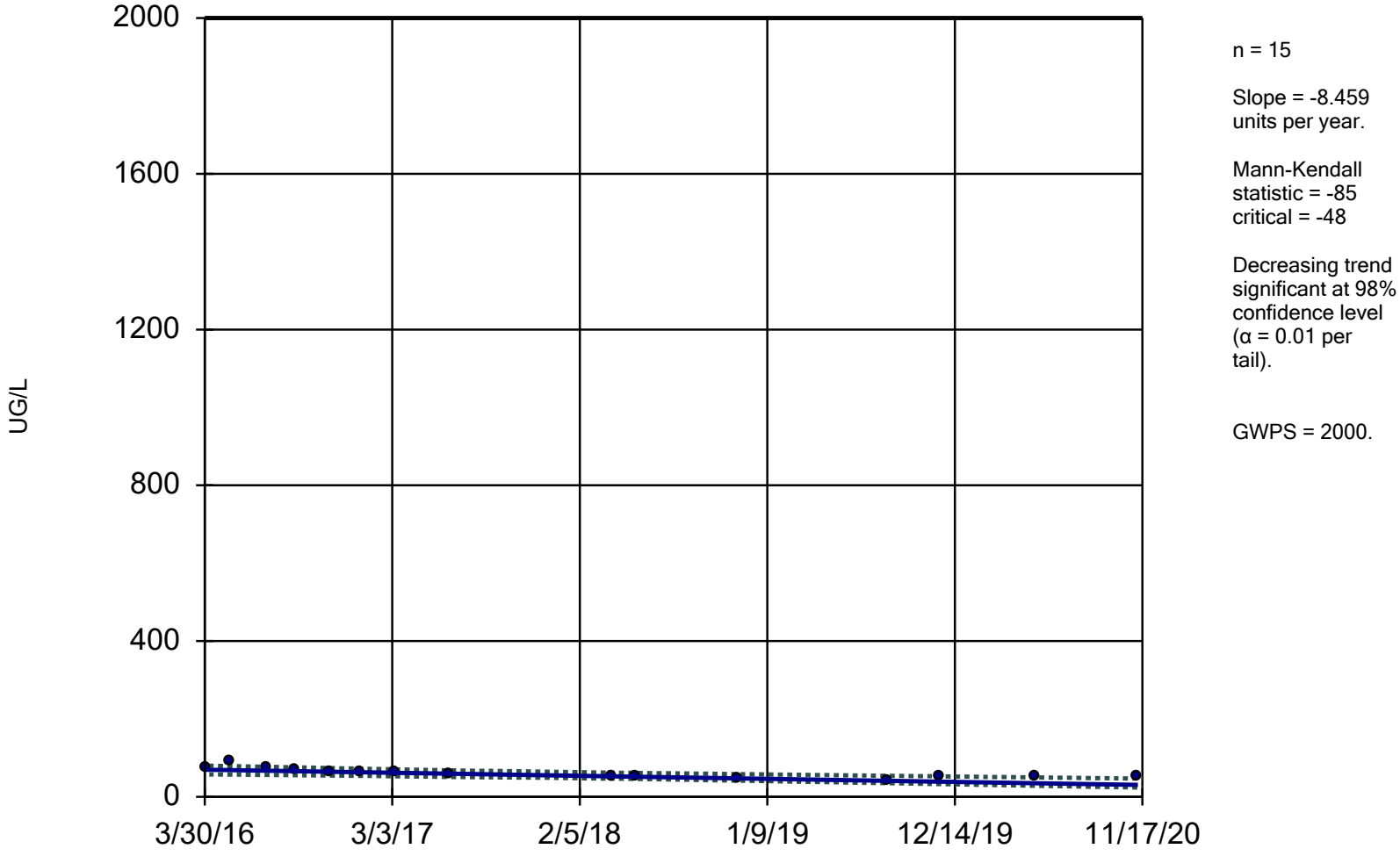
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-6



n = 15

Slope = -8.459 units per year.

Mann-Kendall statistic = -85 critical = -48

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

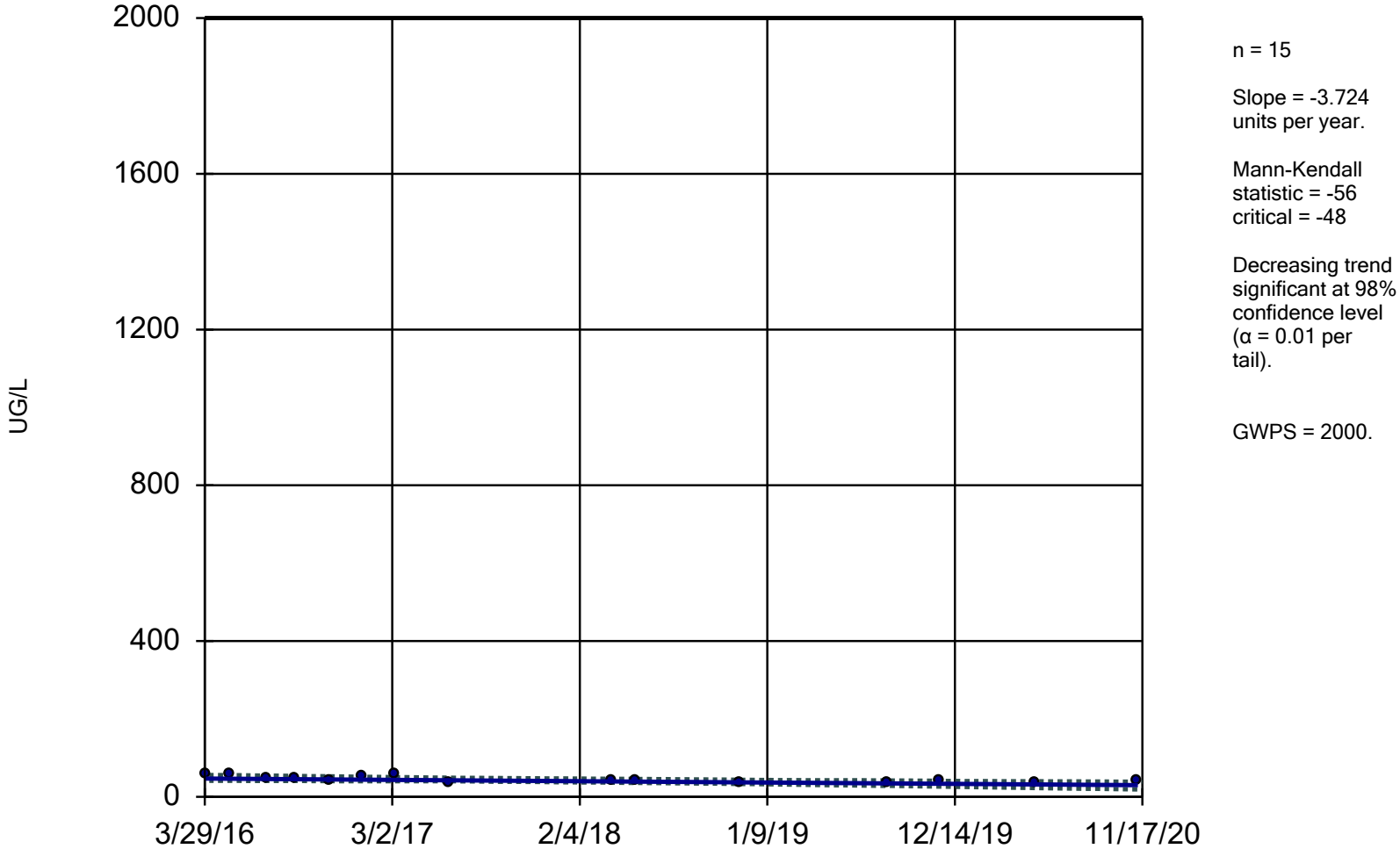
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-7



n = 15

Slope = -3.724 units per year.

Mann-Kendall statistic = -56
critical = -48

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2000.

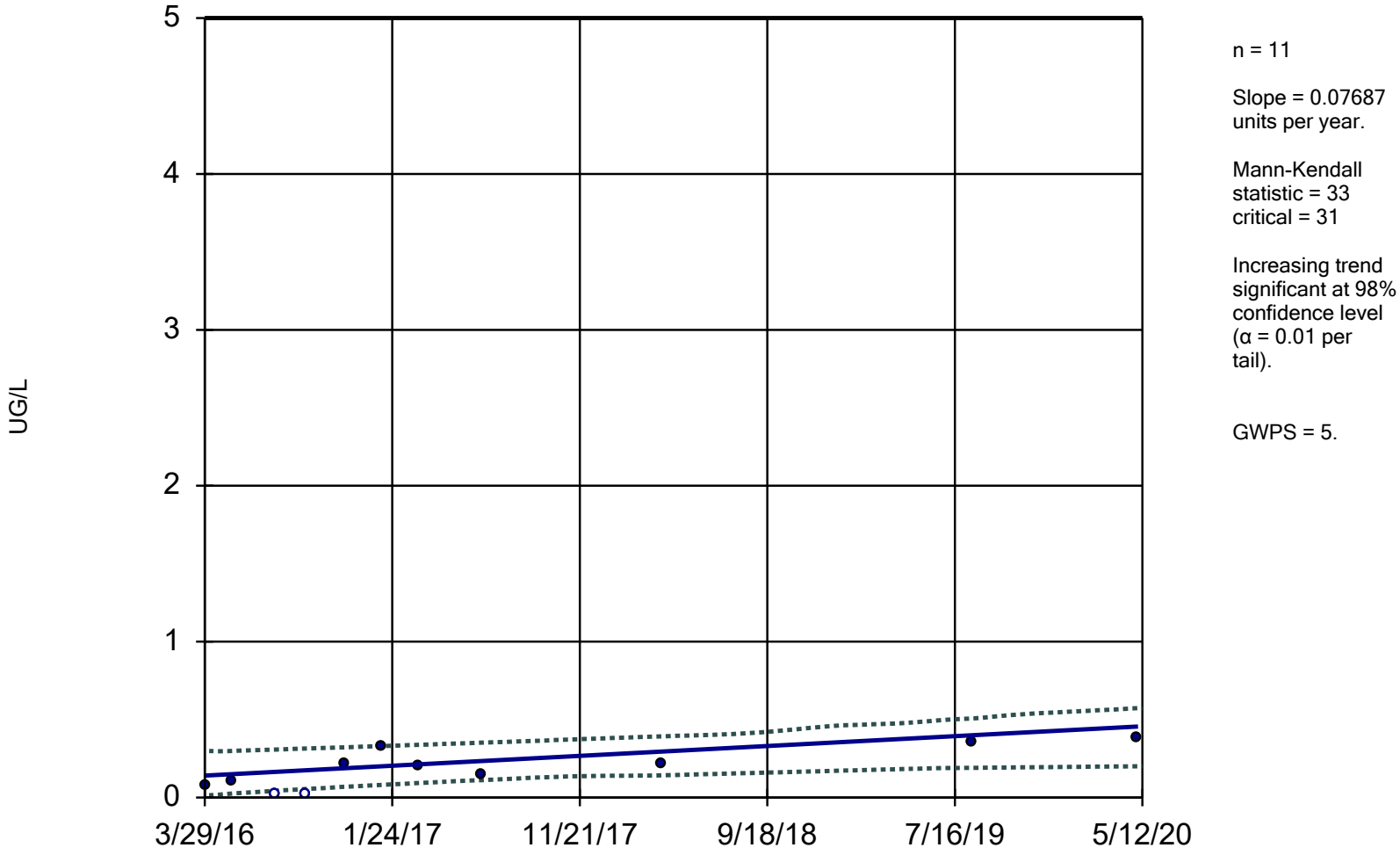
Constituent: BARIUM, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 11

Slope = 0.07687 units per year.

Mann-Kendall statistic = 33
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 5.

Constituent: CADMIUM, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

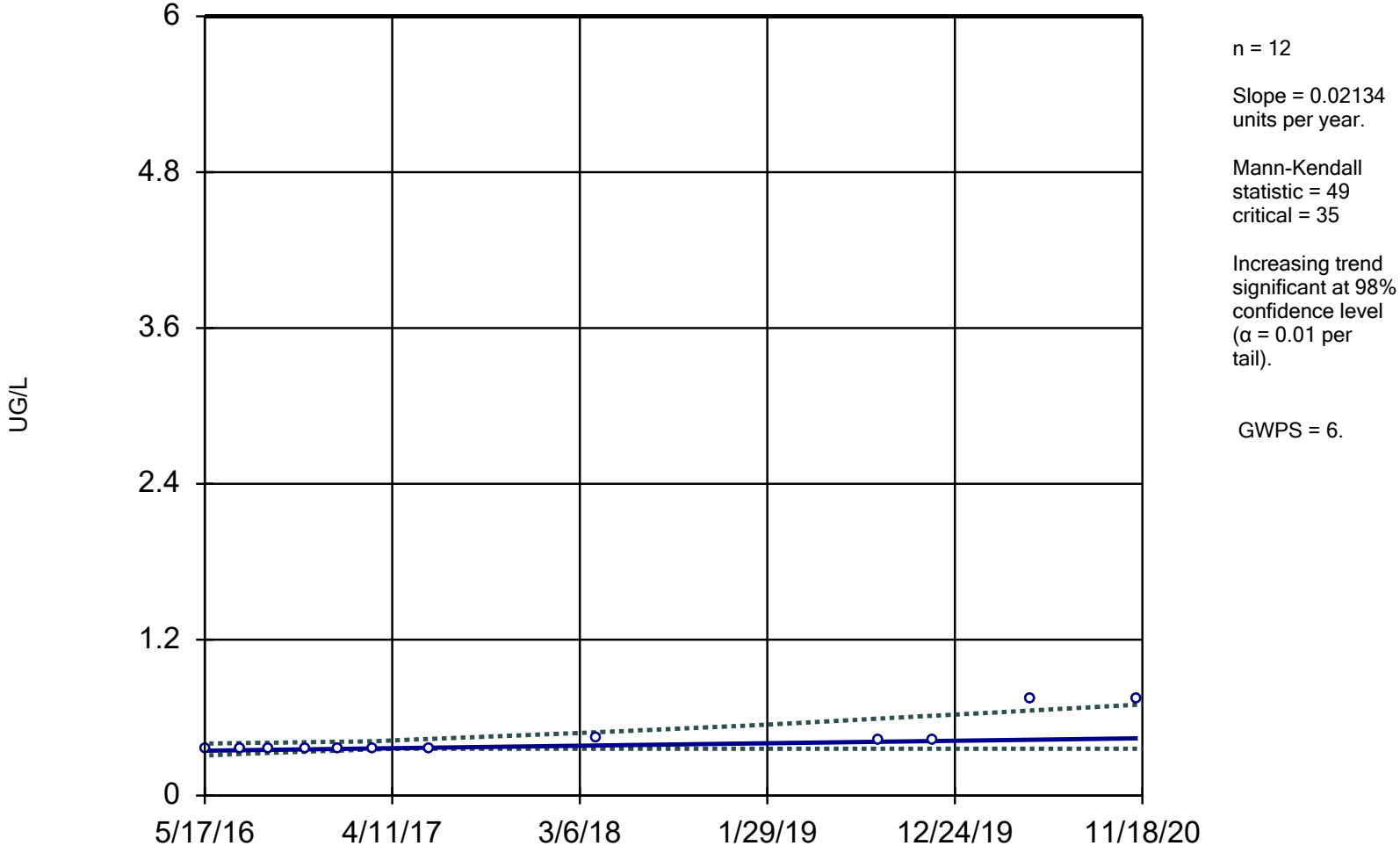
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.27 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 = 12

Slope = 0.02134 units per year.

Mann-Kendall statistic = 49
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

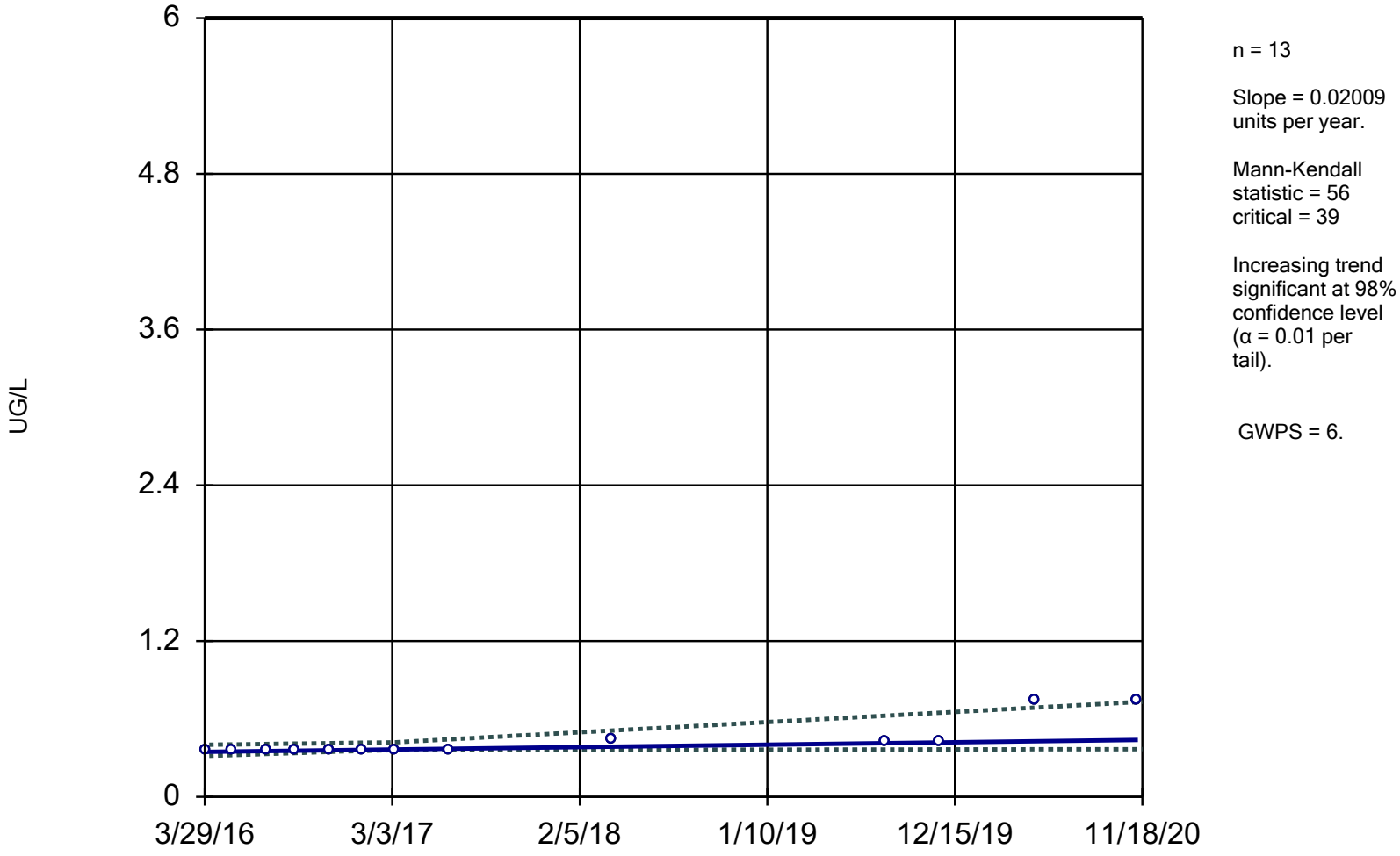
Constituent: COBALT, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-2



n = 13

Slope = 0.02009 units per year.

Mann-Kendall statistic = 56
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

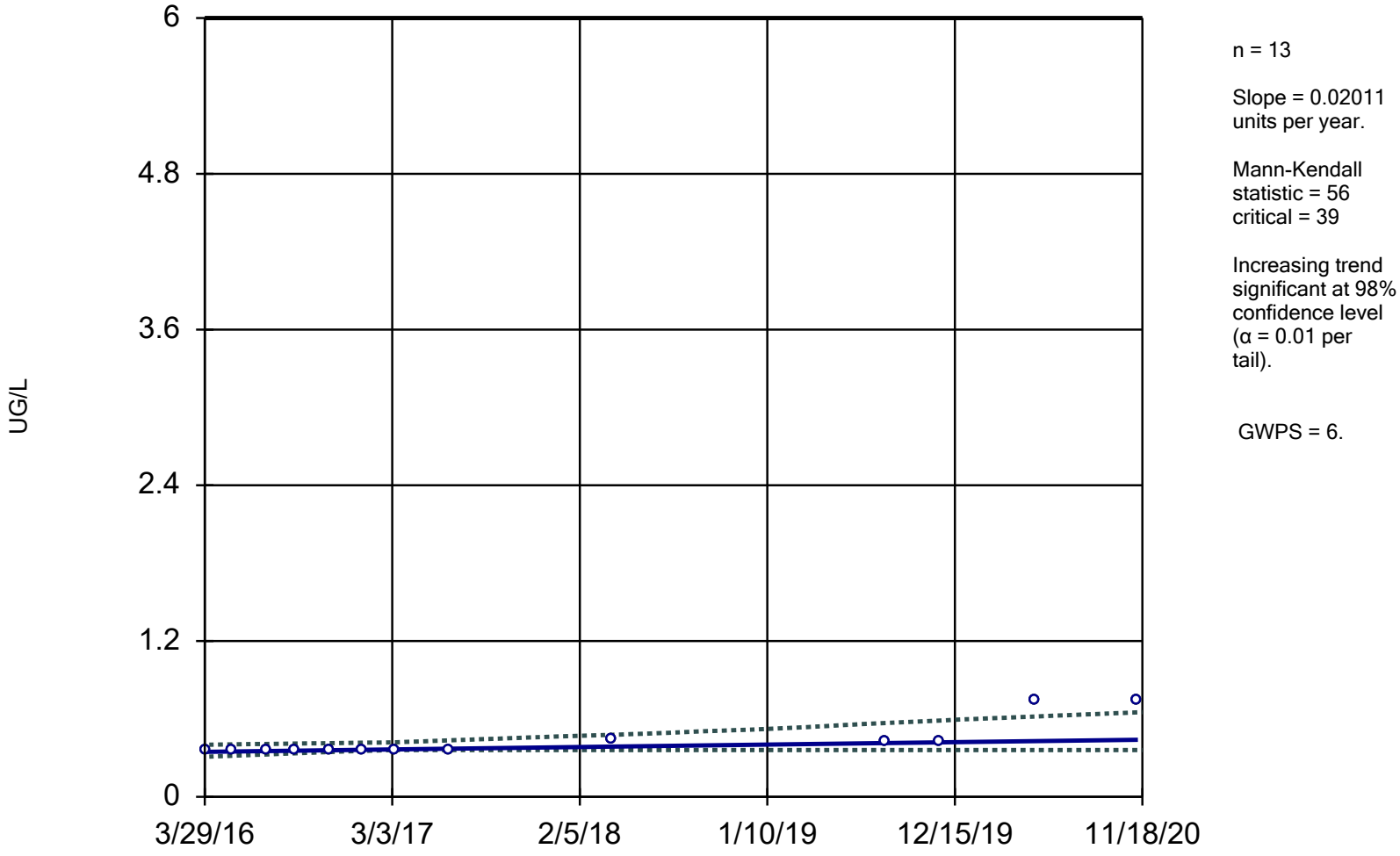
Constituent: COBALT, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

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 = 0.02011 units per year.

Mann-Kendall statistic = 56
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

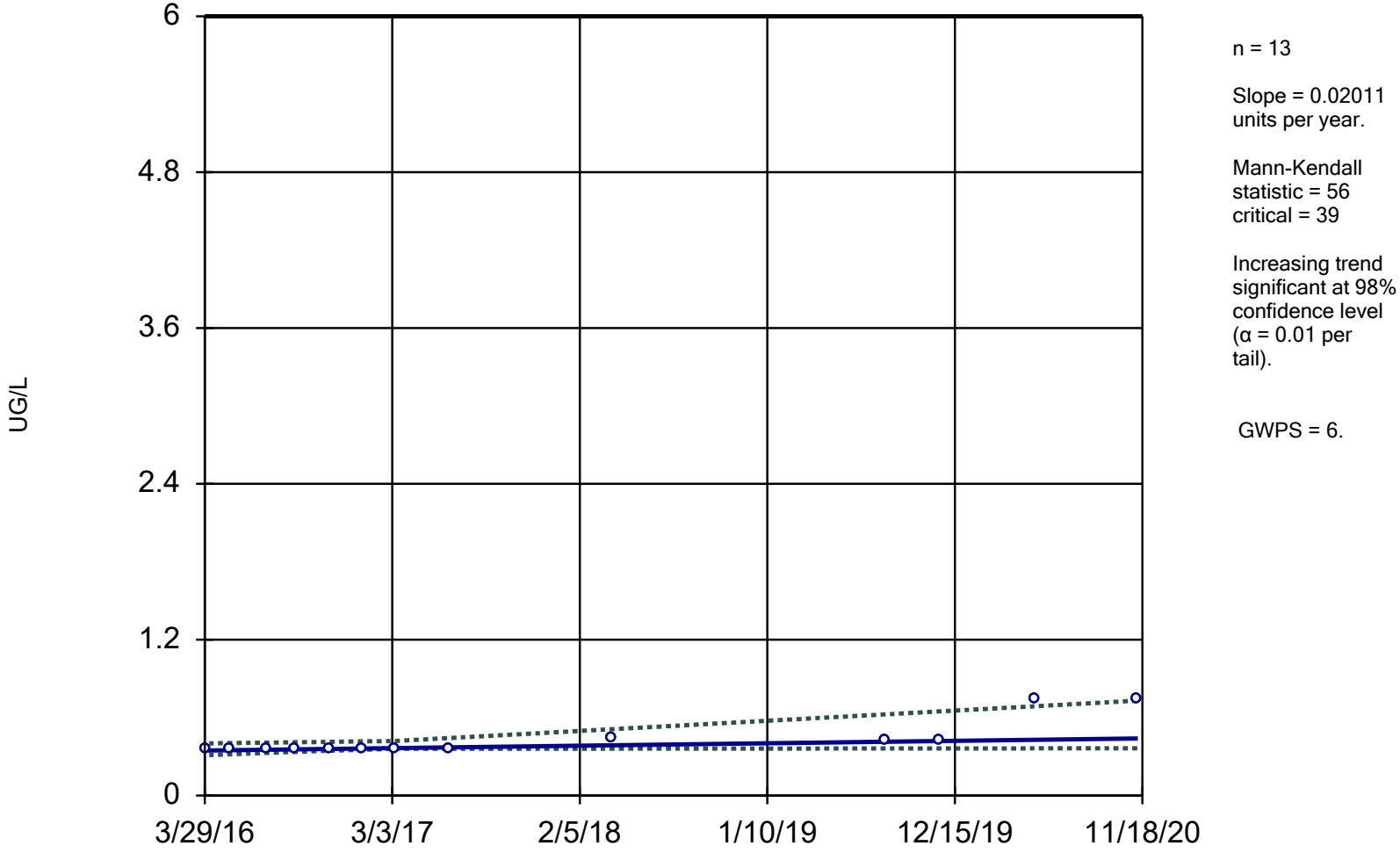
Constituent: COBALT, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.27 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 = 13

Slope = 0.02011 units per year.

Mann-Kendall statistic = 56
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

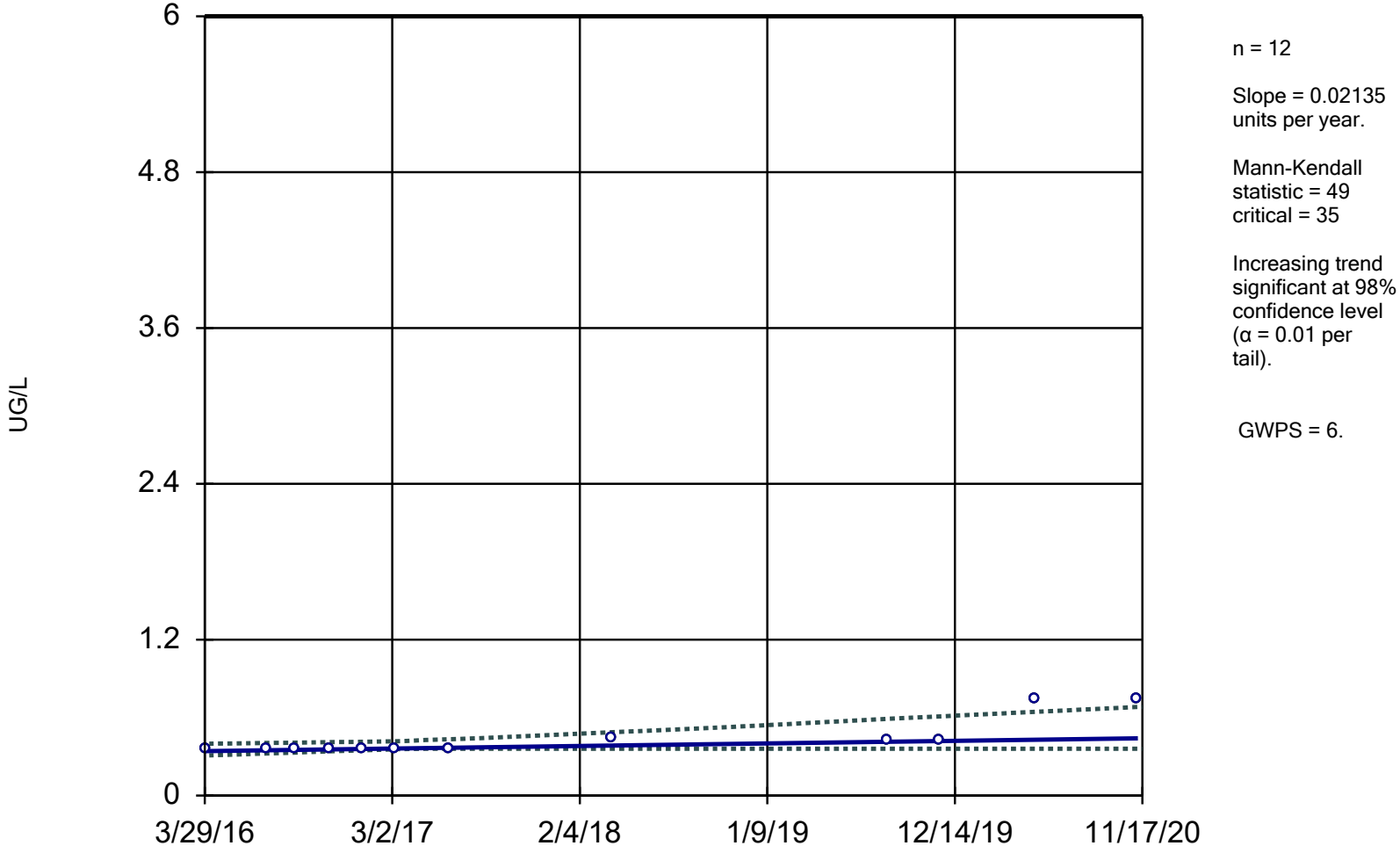
Constituent: COBALT, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.27 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 = 12

Slope = 0.02135 units per year.

Mann-Kendall statistic = 49
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

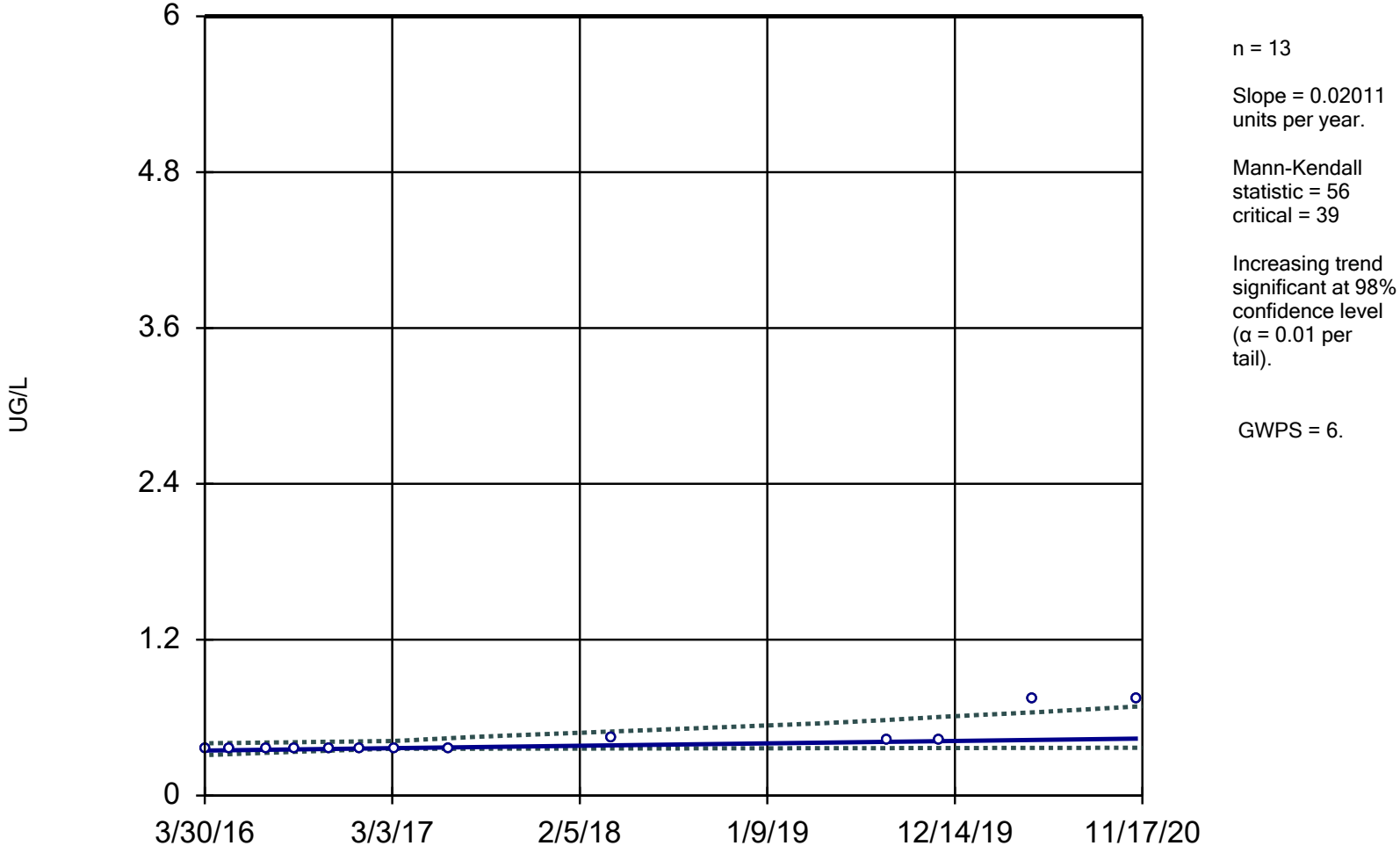
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.27 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 = 13

Slope = 0.02011 units per year.

Mann-Kendall statistic = 56
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

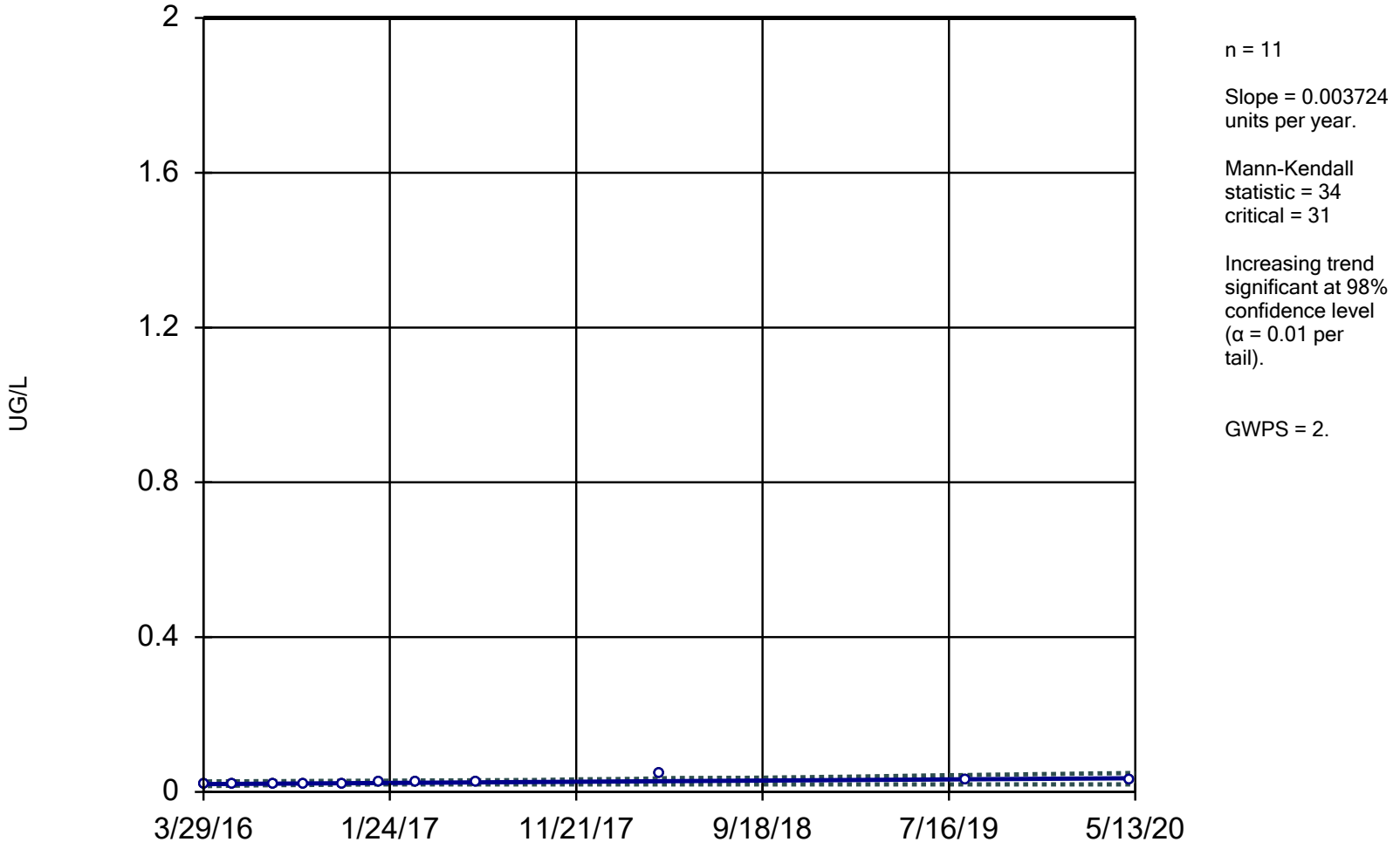
Constituent: COBALT, TOTAL Analysis Run 2/10/2021 5:01 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 11

Slope = 0.003724 units per year.

Mann-Kendall statistic = 34
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

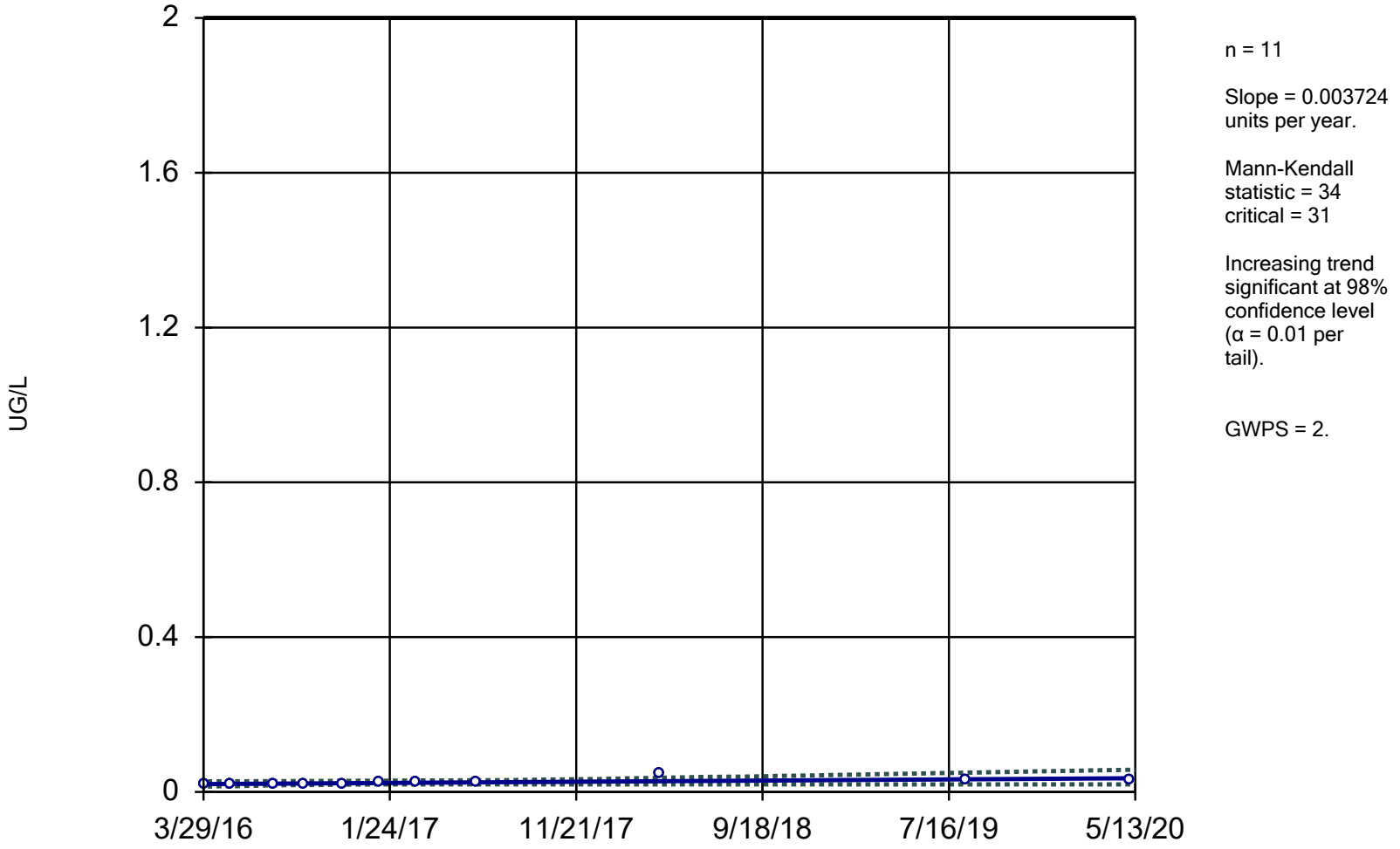
Constituent: MERCURY, TOTAL Analysis Run 2/10/2021 5:02 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 11

Slope = 0.003724 units per year.

Mann-Kendall statistic = 34
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

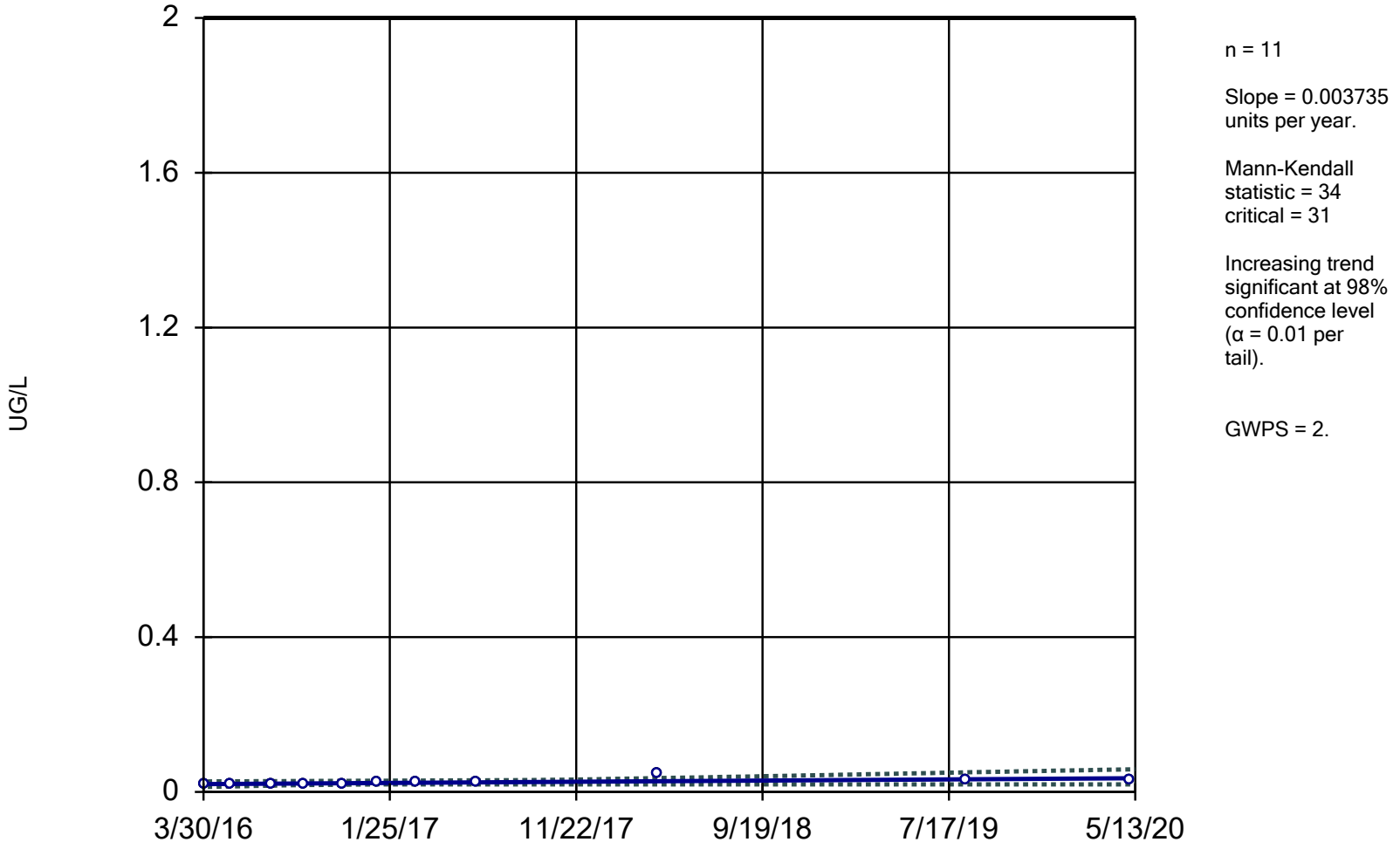
Constituent: MERCURY, TOTAL Analysis Run 2/10/2021 5:02 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 11

Slope = 0.003735 units per year.

Mann-Kendall statistic = 34
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

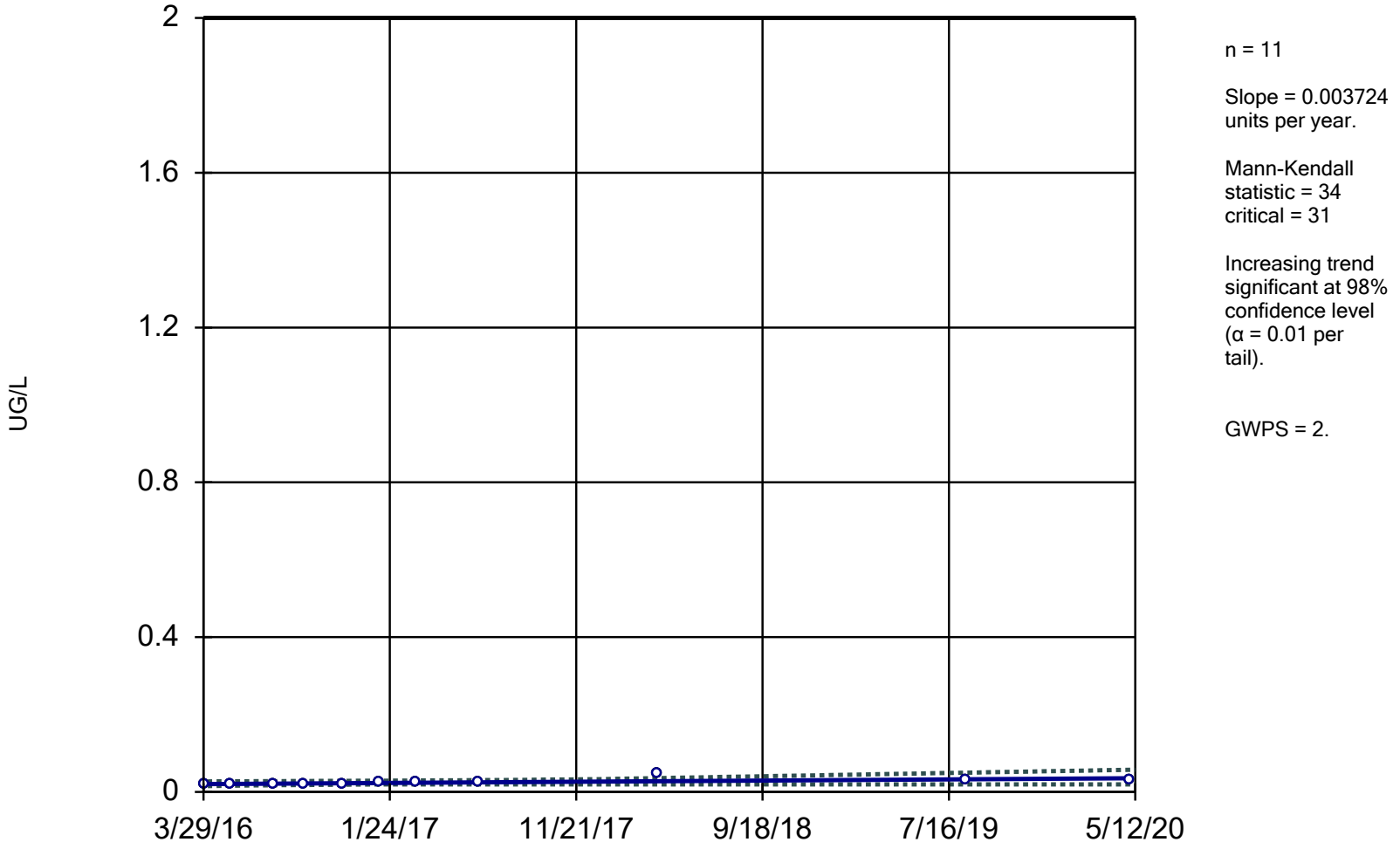
Constituent: MERCURY, TOTAL Analysis Run 2/10/2021 5:02 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 11

Slope = 0.003724 units per year.

Mann-Kendall statistic = 34
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

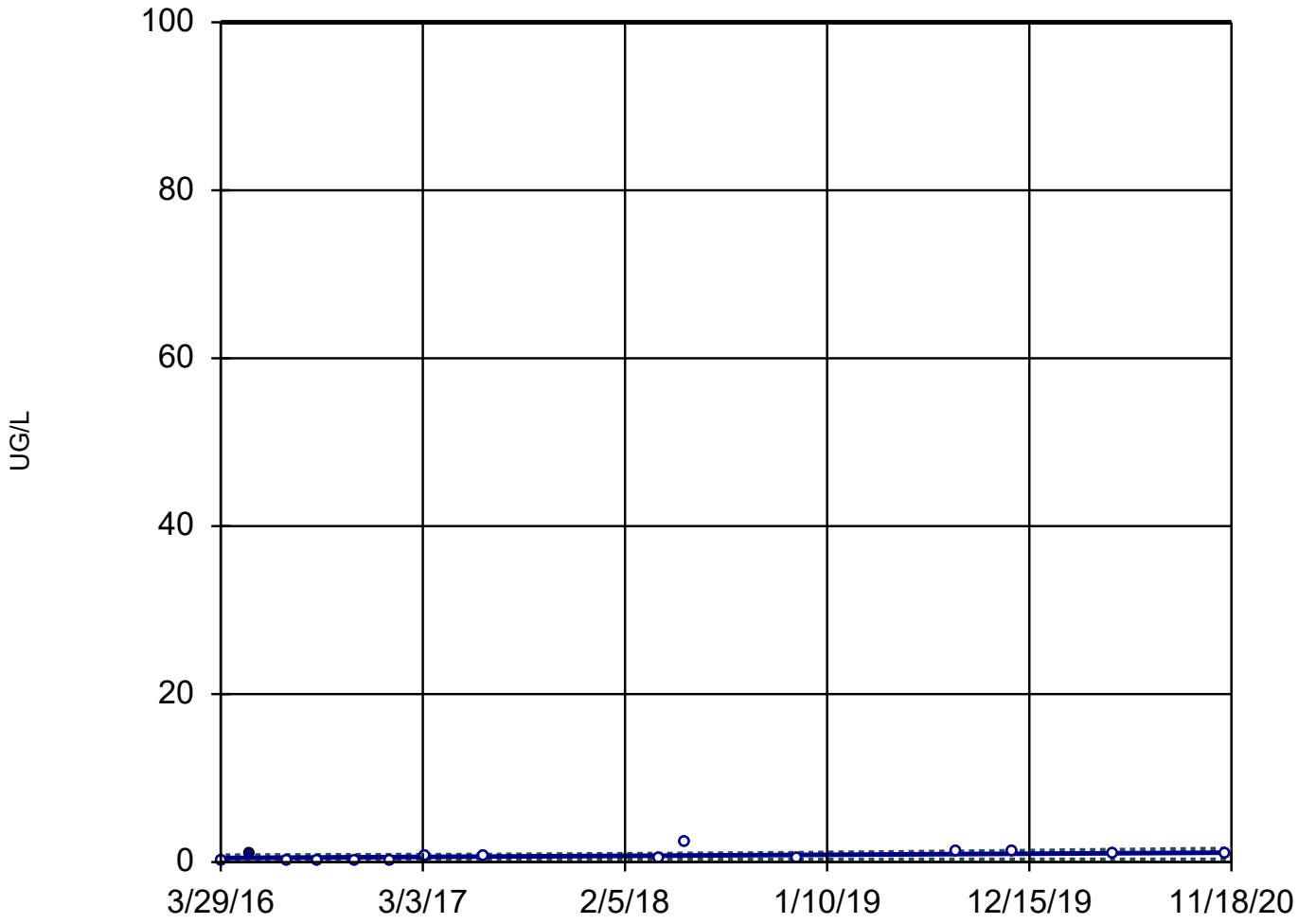
Constituent: MERCURY, TOTAL Analysis Run 2/10/2021 5:02 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 15

Slope = 0.1366 units per year.

Mann-Kendall statistic = 49
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

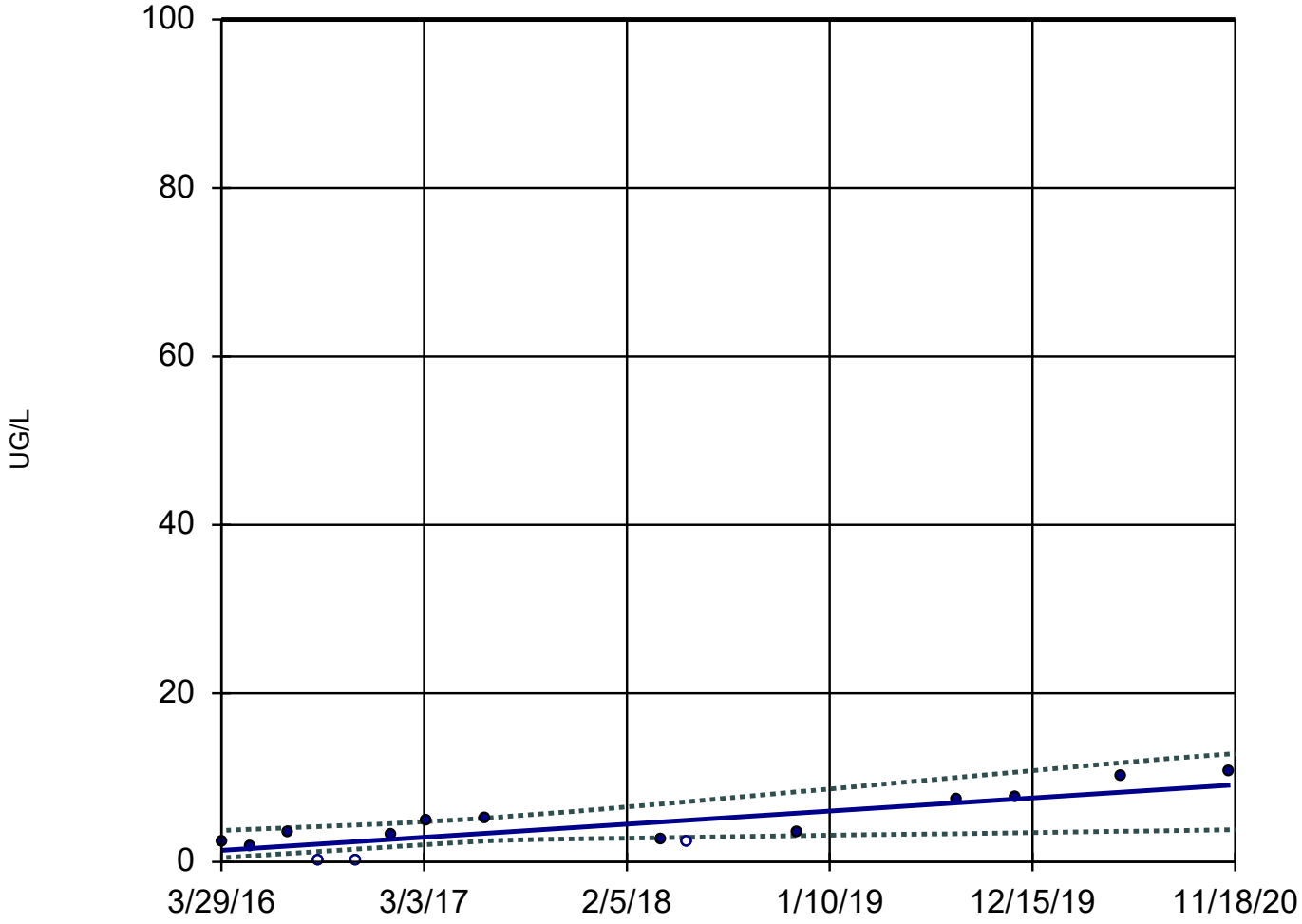
Constituent: MOLYBDENUM, TOTAL Analysis Run 2/10/2021 5:02 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 15

Slope = 1.675 units per year.

Mann-Kendall statistic = 65
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

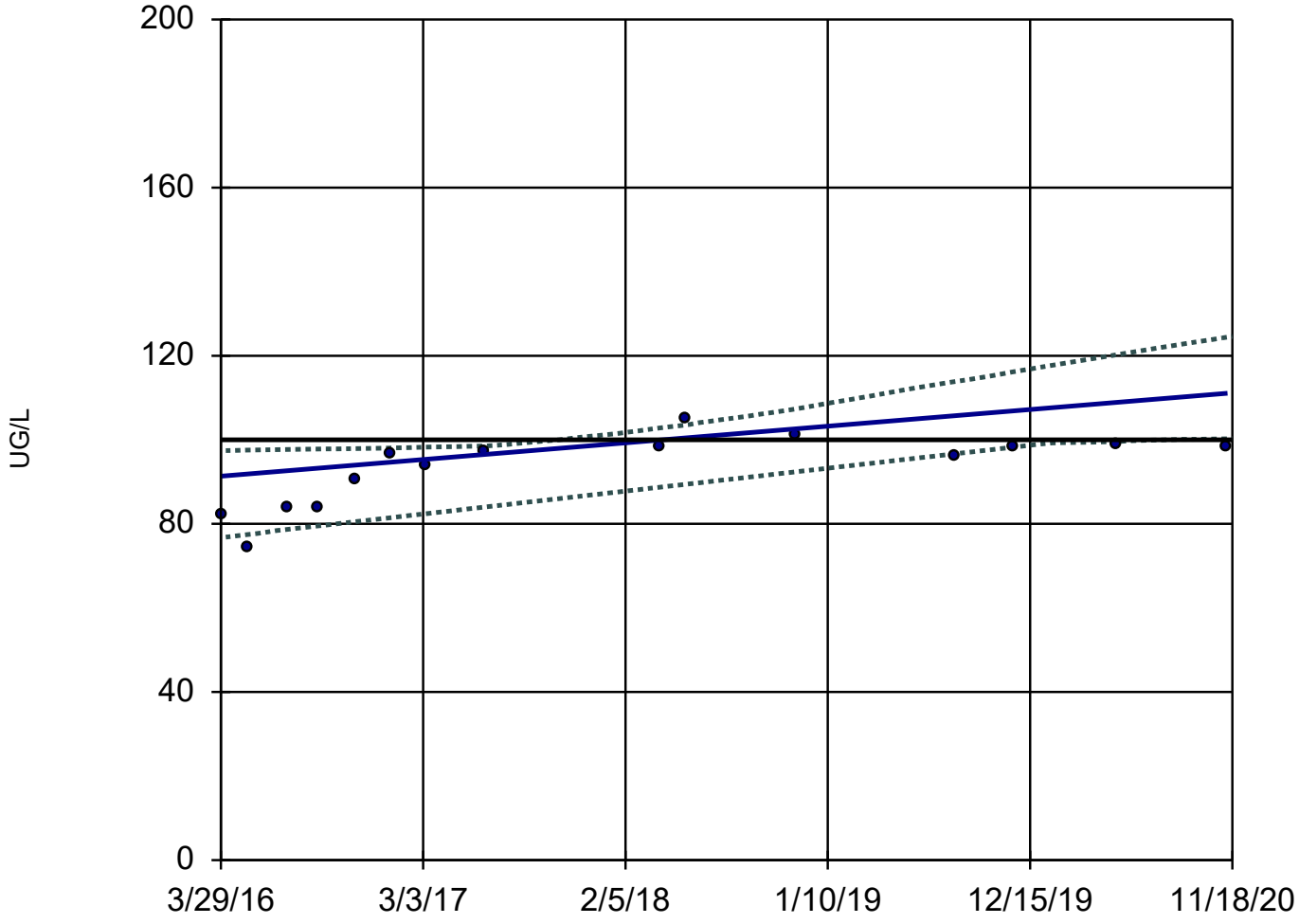
GWPS = 100.

Constituent: MOLYBDENUM, TOTAL Analysis Run 2/10/2021 5:02 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 15

Slope = 4.268 units per year.

Mann-Kendall statistic = 71
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

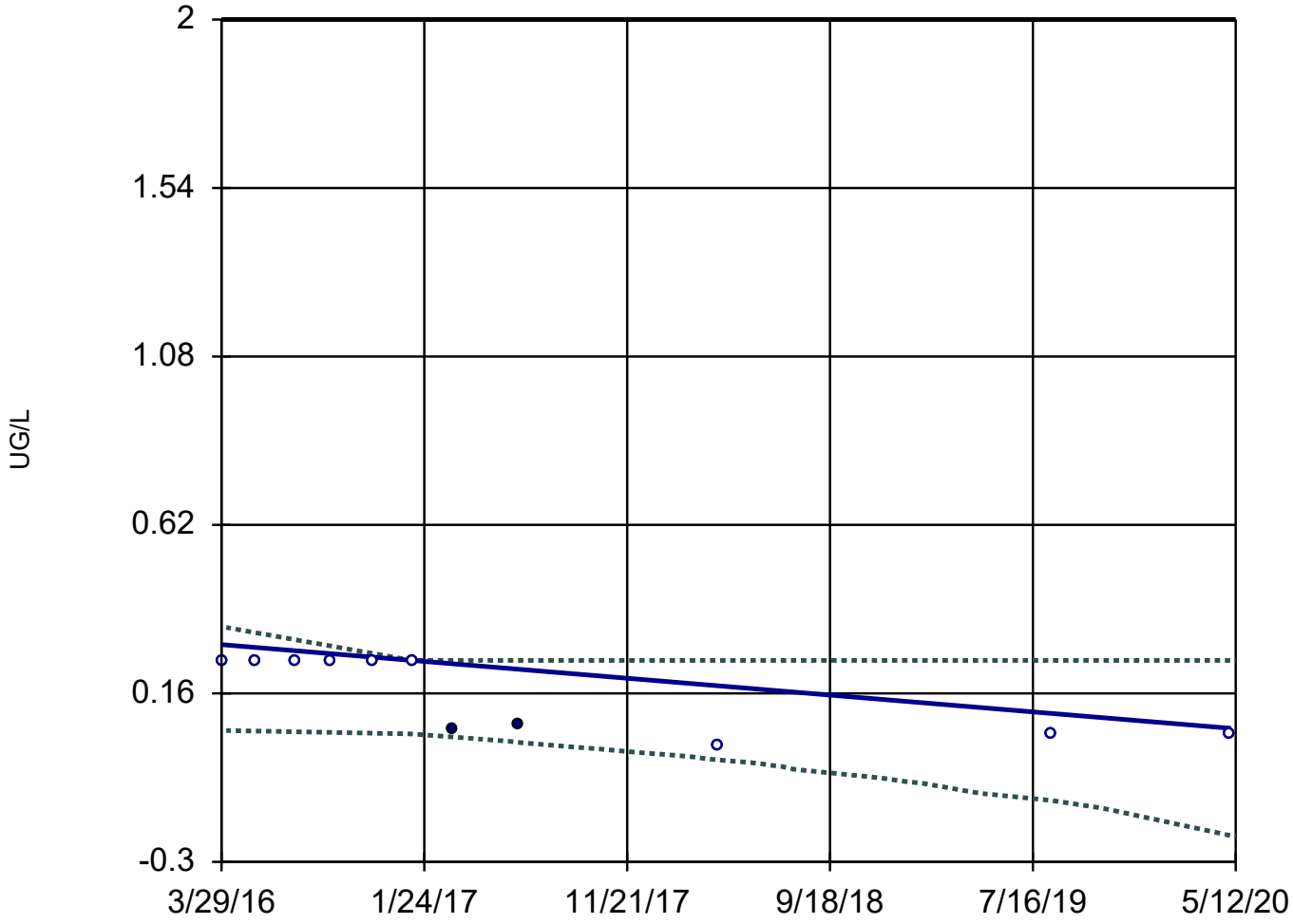
Constituent: MOLYBDENUM, TOTAL Analysis Run 2/10/2021 5:02 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 11

Slope = -0.05564 units per year.

Mann-Kendall statistic = -34
critical = -31

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

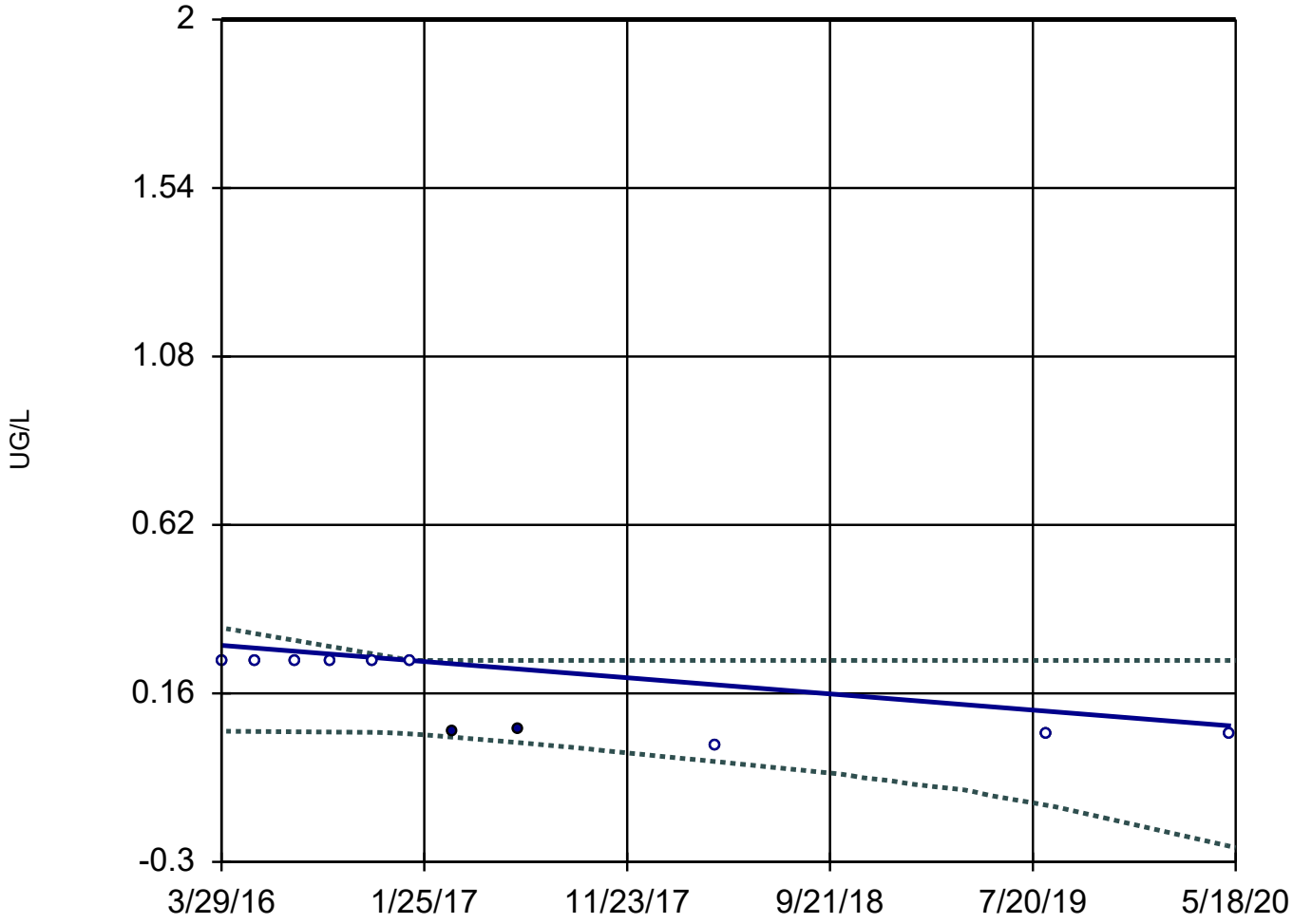
Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 5:03 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 11

Slope = -0.05338 units per year.

Mann-Kendall statistic = -34
critical = -31

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

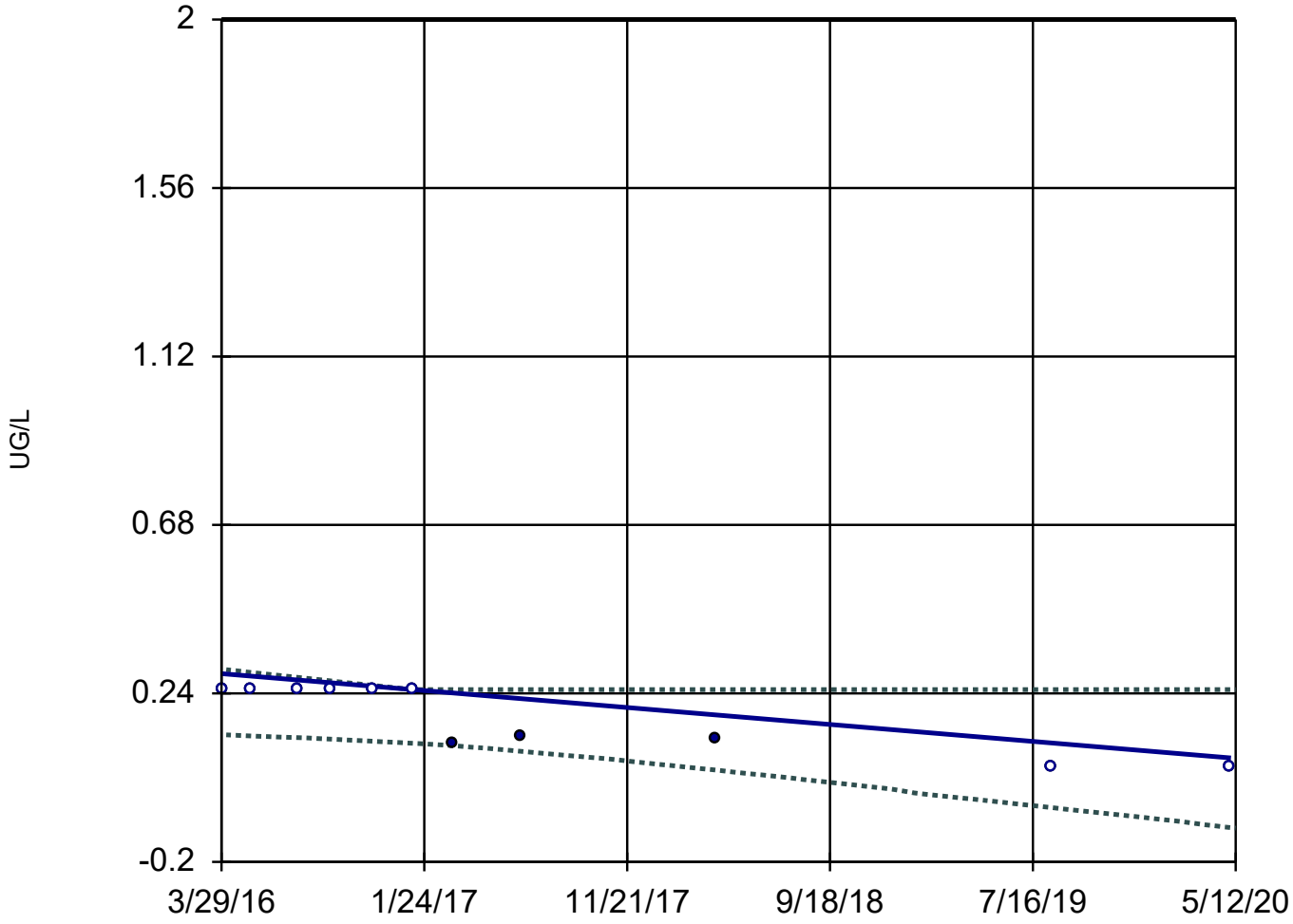
Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 5:03 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 11

Slope = -0.05359 units per year.

Mann-Kendall statistic = -36
critical = -31

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2.

Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 5:03 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/10/2021, 5:05 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.003156	14	23	No	9	77.78	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-2	0	11	31	No	11	90.91	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-3	0	13	31	No	11	90.91	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-4	0	3	31	No	11	90.91	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-5	0	-1	-31	No	11	90.91	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.003075	15	31	No	11	54.55	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-7	-0.00...	-6	-23	No	9	0	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-8	-0.00...	-8	-31	No	11	72.73	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-1	0.009248	10	44	No	14	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0	7	48	No	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-3	-0.06352	-3	-39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**0.6419**	**50**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**1.042**	**51**	**39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	M-MW-6	-0.5368	-42	-44	No	14	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-7	-0.0731	-21	-48	No	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	0.075	11	44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	-1.798	-22	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-2**	**-52.47**	**-69**	**-48**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-3	-10.43	-36	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-4**	**-6.317**	**-51**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-5	-14.04	-33	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-6**	**-8.459**	**-85**	**-48**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-7**	**-3.724**	**-56**	**-48**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-8	-21.65	-45	-48	No	15	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0	10	31	No	11	81.82	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0	1	31	No	11	72.73	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0	-7	-27	No	10	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0	-7	-27	No	10	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-1	0	2	31	No	11	81.82	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-2	0	1	31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-3	0	5	27	No	10	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-4	0	5	27	No	10	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-5	0	0	31	No	11	81.82	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-6	0.03193	29	31	No	11	54.55	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**M-MW-7**	**0.07687**	**33**	**31**	**Yes**	**11**	**18.18**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	M-MW-8	0.01086	11	31	No	11	54.55	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-1	-0.1845	-29	-39	No	13	30.77	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-2	-0.03502	-11	-39	No	13	30.77	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-3	-0.08177	-23	-39	No	13	53.85	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-4	-0.1632	-25	-39	No	13	46.15	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-5	-0.05461	-23	-39	No	13	53.85	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-6	-0.02208	-21	-35	No	12	66.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-7	-0.09339	-19	-39	No	13	53.85	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-8	0	-5	-39	No	13	69.23	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-1**	**0.02134**	**49**	**35**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-2**	**0.02009**	**56**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/10/2021, 5:05 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	0.01753	12	39	No	13	69.23	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-4**	**0.02011**	**56**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-5**	**0.02011**	**56**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	M-MW-6	1.098	36	39	No	13	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-7**	**0.02135**	**49**	**35**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-8**	**0.02011**	**56**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.01745	33	48	No	15	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.01674	33	48	No	15	6.667	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.001131	7	53	No	16	25	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.007264	9	48	No	15	6.667	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.01102	18	53	No	16	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.01003	10	53	No	16	6.25	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.008153	15	63	No	18	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.015	26	48	No	15	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-1	0	0	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-2	-0.07866	-8	-31	No	11	63.64	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-3	0.139	22	31	No	11	90.91	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-4	0	4	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-5	0	-3	-31	No	11	63.64	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-6	0.1334	20	31	No	11	90.91	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-7	0.1465	19	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-8	0	7	31	No	11	72.73	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-1	0	-4	-39	No	13	92.31	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0.1282	11	44	No	14	35.71	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	-0.347	-21	-44	No	14	42.86	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	-0.9749	-16	-44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-5	-0.9194	-23	-44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-6	-2.755	-22	-39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	2.602	15	44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	0.7274	17	44	No	14	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-1	0.002597	22	31	No	11	90.91	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-2	0.002653	22	31	No	11	90.91	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-3	0.002586	22	31	No	11	90.91	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	**M-MW-4**	**0.003724**	**34**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-5**	**0.003724**	**34**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-6**	**0.003735**	**34**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-7**	**0.003724**	**34**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	M-MW-8	0.002597	20	31	No	11	90.91	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-1**	**0.1366**	**49**	**48**	**Yes**	**15**	**93.33**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.09384	23	48	No	15	80	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-3**	**1.675**	**65**	**48**	**Yes**	**15**	**20**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	0.574	25	48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-5**	**4.268**	**71**	**48**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	0	-1	-48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	11.69	20	48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	-2.199	-9	-48	No	15	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.02296	-16	-39	No	13	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	-0.00...	-1	-48	No	15	73.33	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	0.03954	11	48	No	15	40	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.01784	5	48	No	15	86.67	n/a	n/a	0.02	NP

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/10/2021, 5:05 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	0.03914	13	48	No	15	46.67	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	0.007669	3	48	No	15	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	0.001612	0	39	No	13	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	0.01431	3	48	No	15	80	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	-3	-39	No	13	84.62	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	1	39	No	13	84.62	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	-7	-39	No	13	84.62	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	-3	-39	No	13	84.62	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	-11	-39	No	13	92.31	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	-21	-39	No	13	92.31	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	0.07081	2	39	No	13	7.692	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	-4	-35	No	12	83.33	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-1**	**-0.05564**	**-34**	**-31**	**Yes**	**11**	**81.82**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-2	-0.05351	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-3**	**-0.05338**	**-34**	**-31**	**Yes**	**11**	**81.82**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-4	-0.05355	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-5	-0.05355	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-6	-0.0556	-27	-31	No	11	90.91	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-7**	**-0.05359**	**-36**	**-31**	**Yes**	**11**	**72.73**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-8	-0.05359	-25	-31	No	11	100	n/a	n/a	0.02	NP

APPENDIX C

April 2021 Assessment Monitoring Statistical Evaluation

TECHNICAL MEMORANDUM

DATE July 30, 2021 **Project No.** 153-140603

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock **EMAIL JIngram@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 April 2021 sampling event at the Multi-unit Surface Impoundment Network of the Meramec Energy Center located in St. Louis County, Missouri. Included in this 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:

- Barium
  - MW-4 at 175 micrograms per liter (µg/L) on 11/10/2020: Value was statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events.

An analysis of the outliers removed to-date was completed and several statistical outliers that were previously removed were added back into the dataset, as they are no longer outliers. The following statistical outliers were added back into the dataset prior to the calculation of confidence limits:

- Antimony
  - MW-1 at 0.063J µg/L and Non-Detect (ND) on 3/29/2016 and 3/7/2017: Values were originally removed as outliers for the August 2019 statistical analysis because the values were either statistically lower or higher than other results at the same well. Additional sampling results have displayed greater temporal variability in this well and therefore, these previous outliers are no longer statistical outliers.
- Arsenic
  - MW-4 at 10.5 µg/L on 3/29/2016: Value was originally removed as an outlier for the August 2019 statistical analysis because the value was statistically lower than other results at the same well. Additional sampling results have displayed greater temporal variability in this well and it is no longer a statistical outlier.

Golder Associates Inc.
13515 Barrett Parkway Drive, Suite 260, Ballwin, Missouri, USA 63021 T: +1 314 984-8800 F: +1 314 984-8770

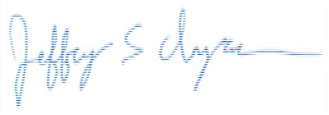
- Beryllium
  - MW-6 at 0.36J on 4/3/2018: Value was originally removed as an outlier for the August 2019 statistical analysis because the value was statistically higher than other results at the same well. Additional sampling results have displayed greater temporal variability in this well and it is no longer a statistical outlier.
- Fluoride
  - MW-2 ND on 6/14/2017 and 4/4/2018: Values were originally removed as outliers for the November 2019 statistical analysis because the values were statistically lower than other results at the same well. Additional sampling results have displayed greater temporal variability in this well and these are no longer statistical outliers.

No new SSLs were noted, and a summary of the SSLs for April 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, R.G.
Senior Project Geologist

Sean Paulsen
Associate, Senior Consultant

JSI/SCP

Enclosures:
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

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 5/12/2021
Checked by: EMS 5/26/2021
Reviewed by: SCP 7/27/2021

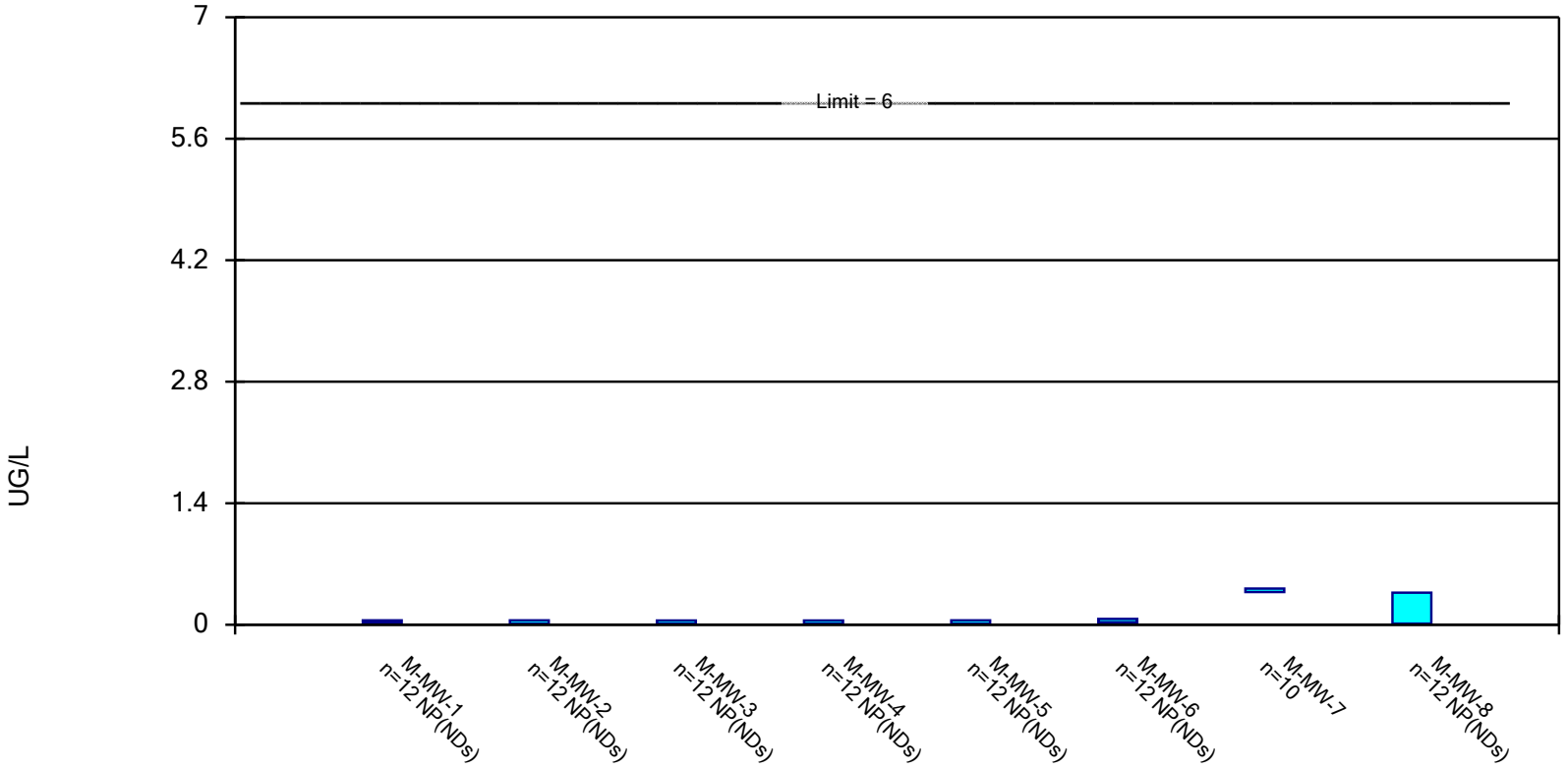
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Spring 2012. http://water.epa.gov/drink/contaminants/index.cfm.
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.



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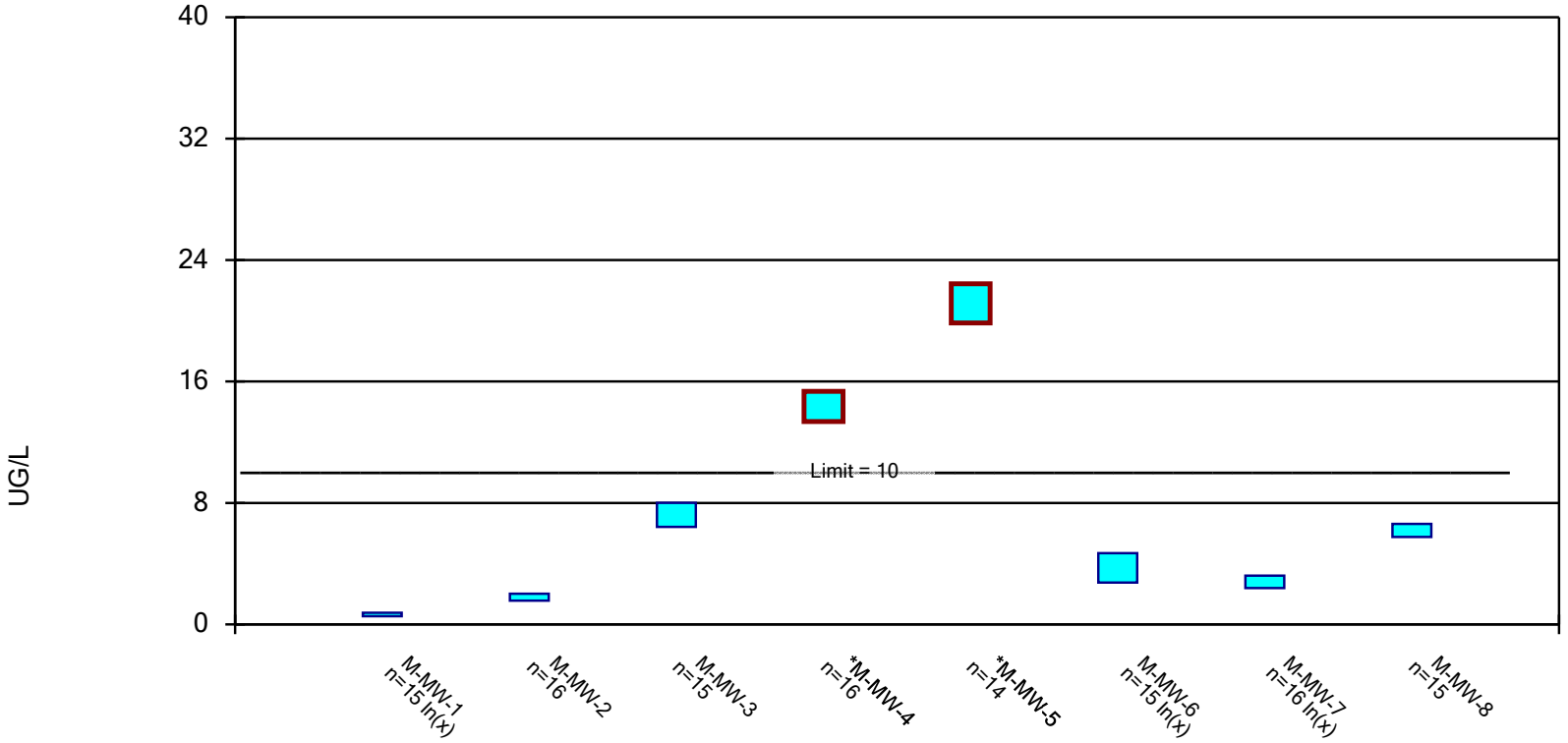
Meramec E.C. Client: Ameren Data: MEC Data

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 7/19/2021 5:11 PM

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

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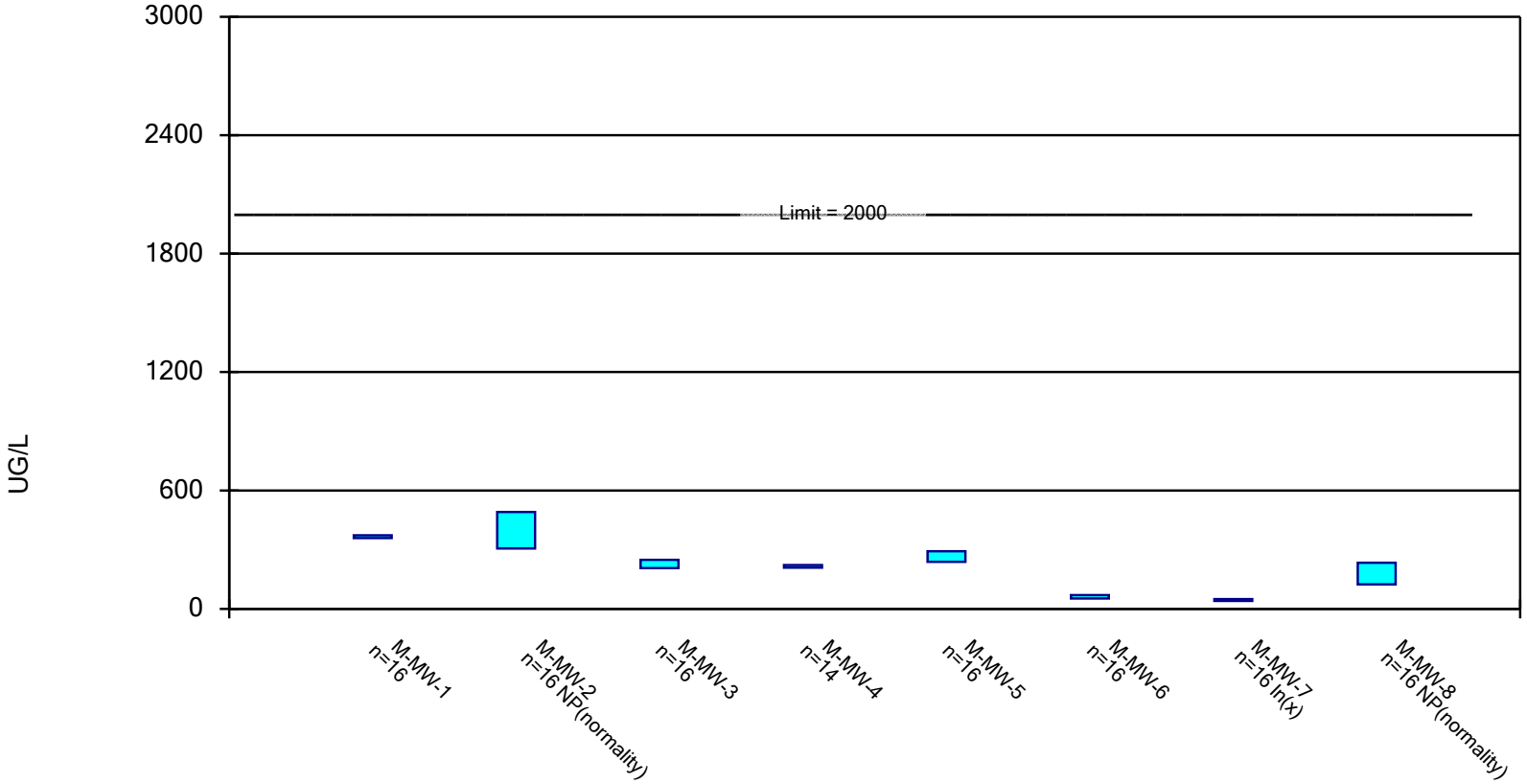

Constituent: BARIUM, TOTAL Analysis Run 7/19/2021 5:11 PM

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

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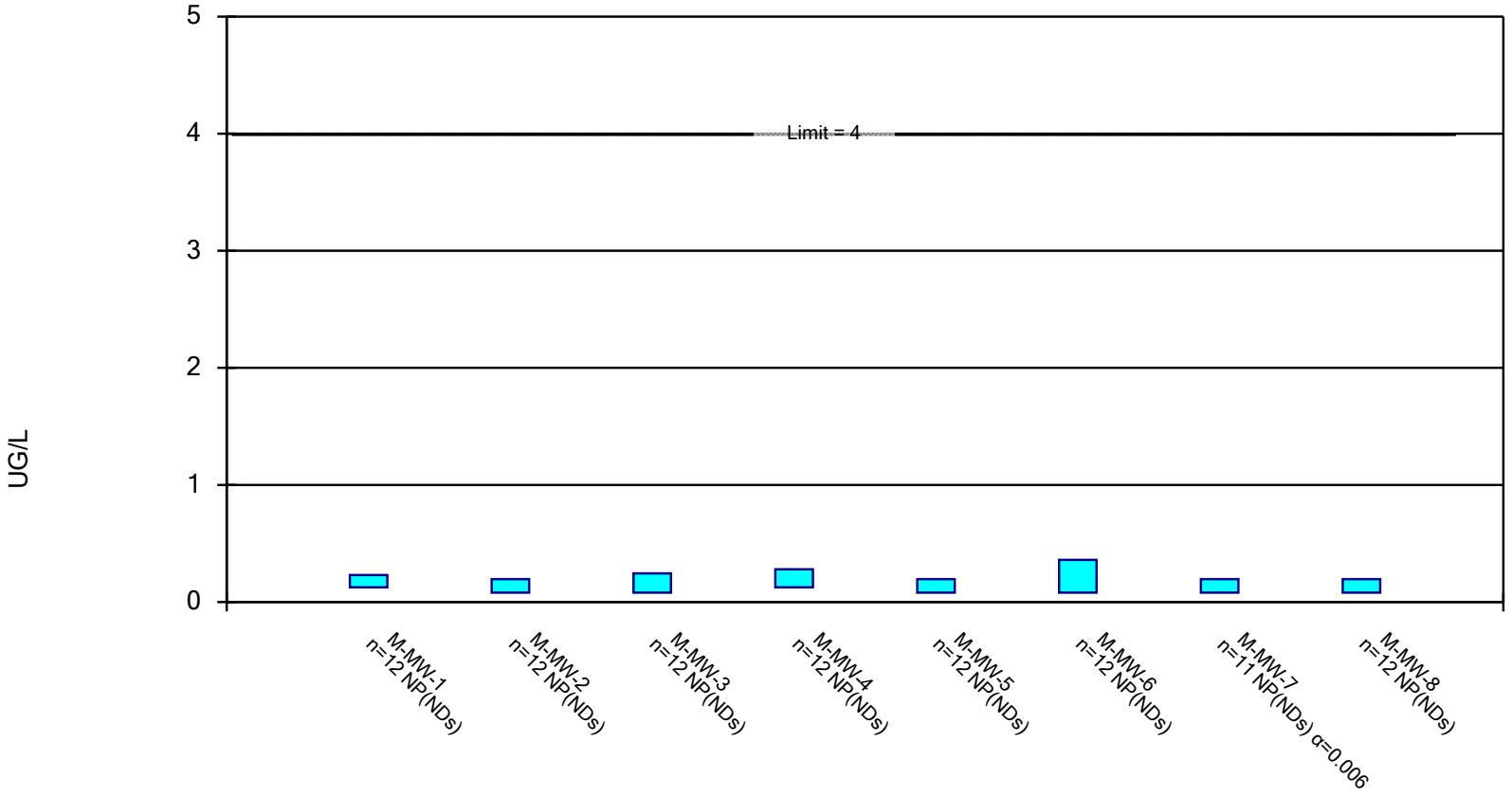

Constituent: BERYLLIUM, TOTAL Analysis Run 7/19/2021 5:11 PM

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

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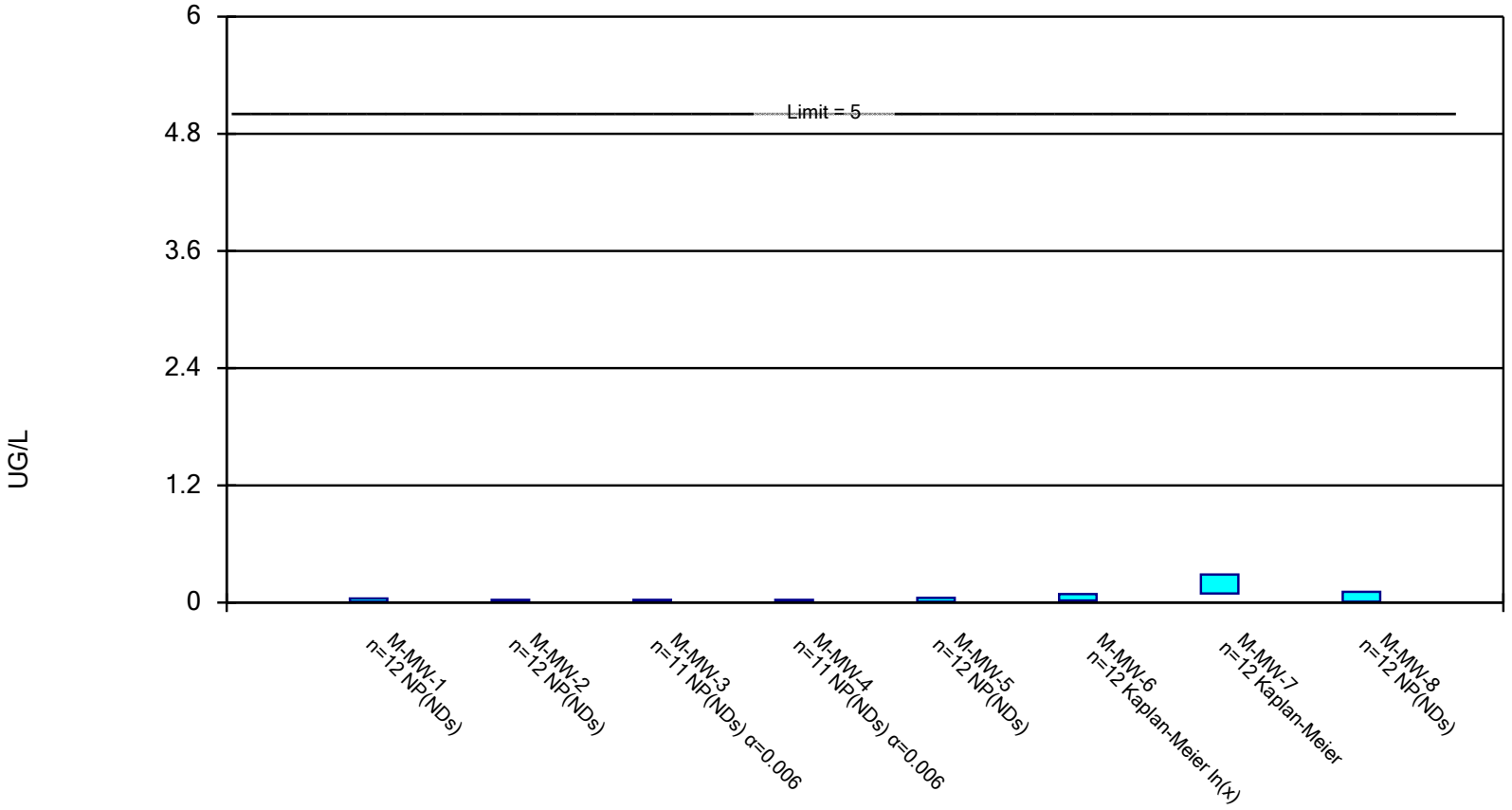
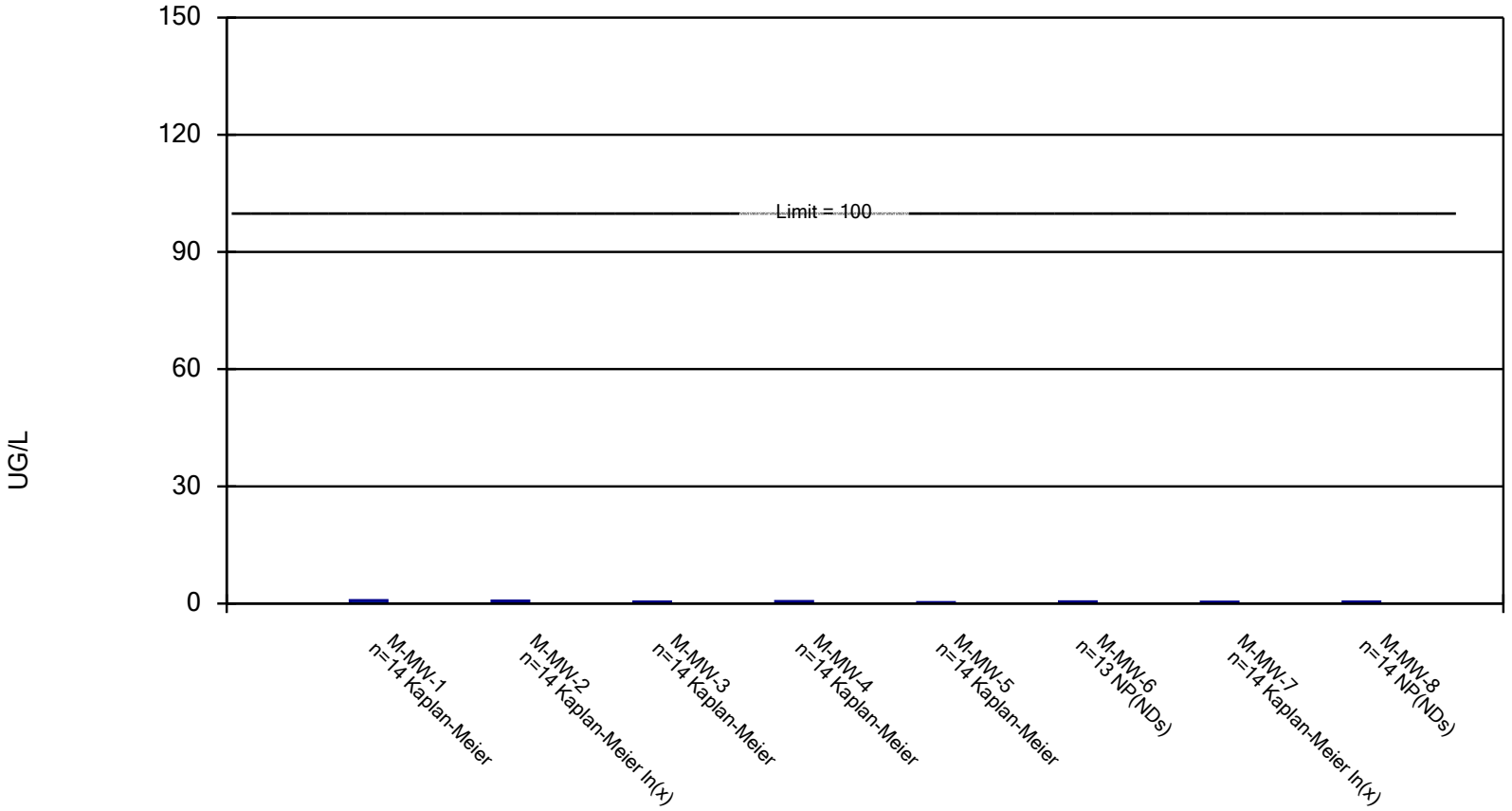


Constituent: CADMIUM, TOTAL Analysis Run 7/19/2021 5:11 PM

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.

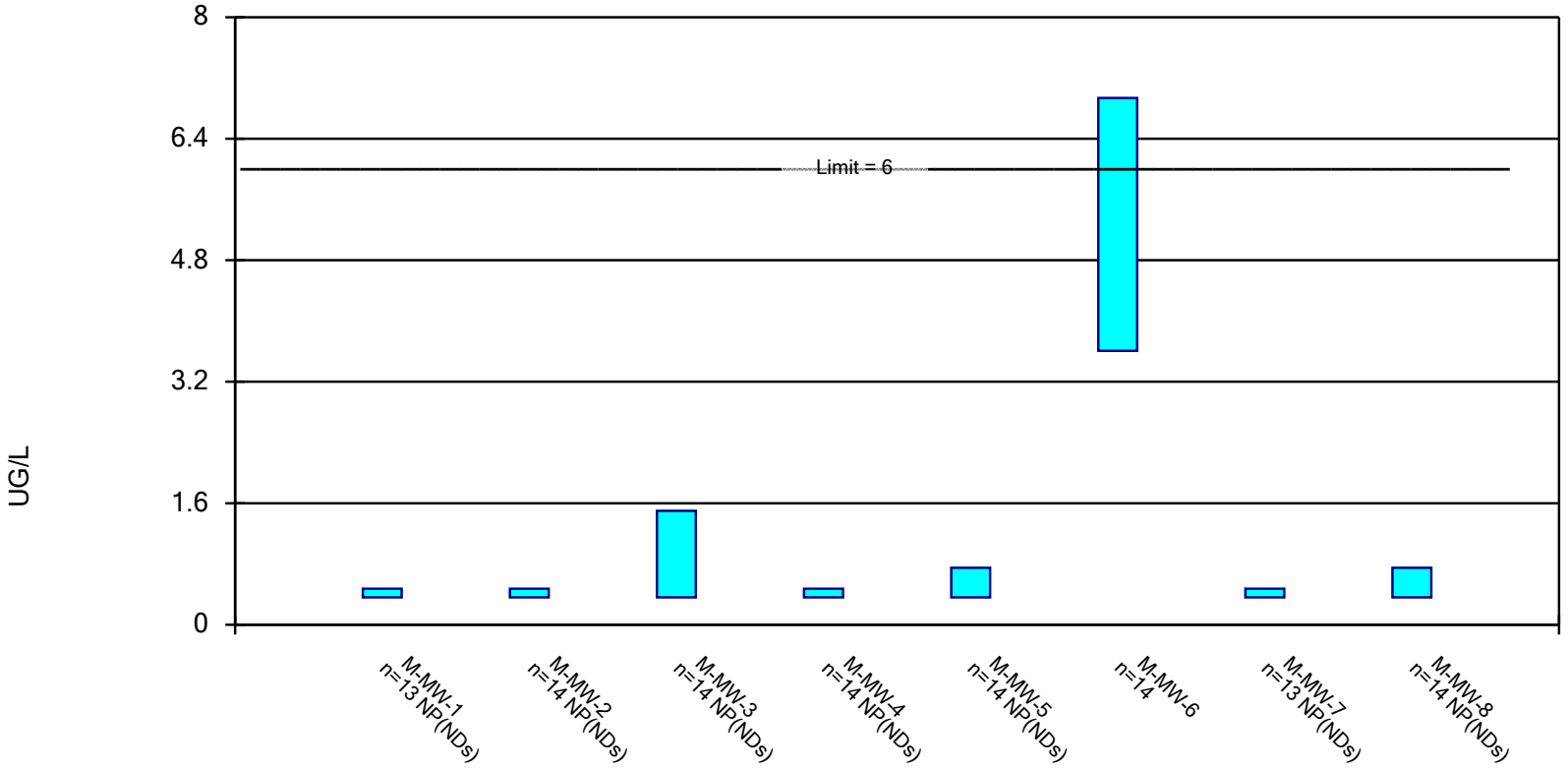


Constituent: CHROMIUM, TOTAL Analysis Run 7/19/2021 5:11 PM

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.

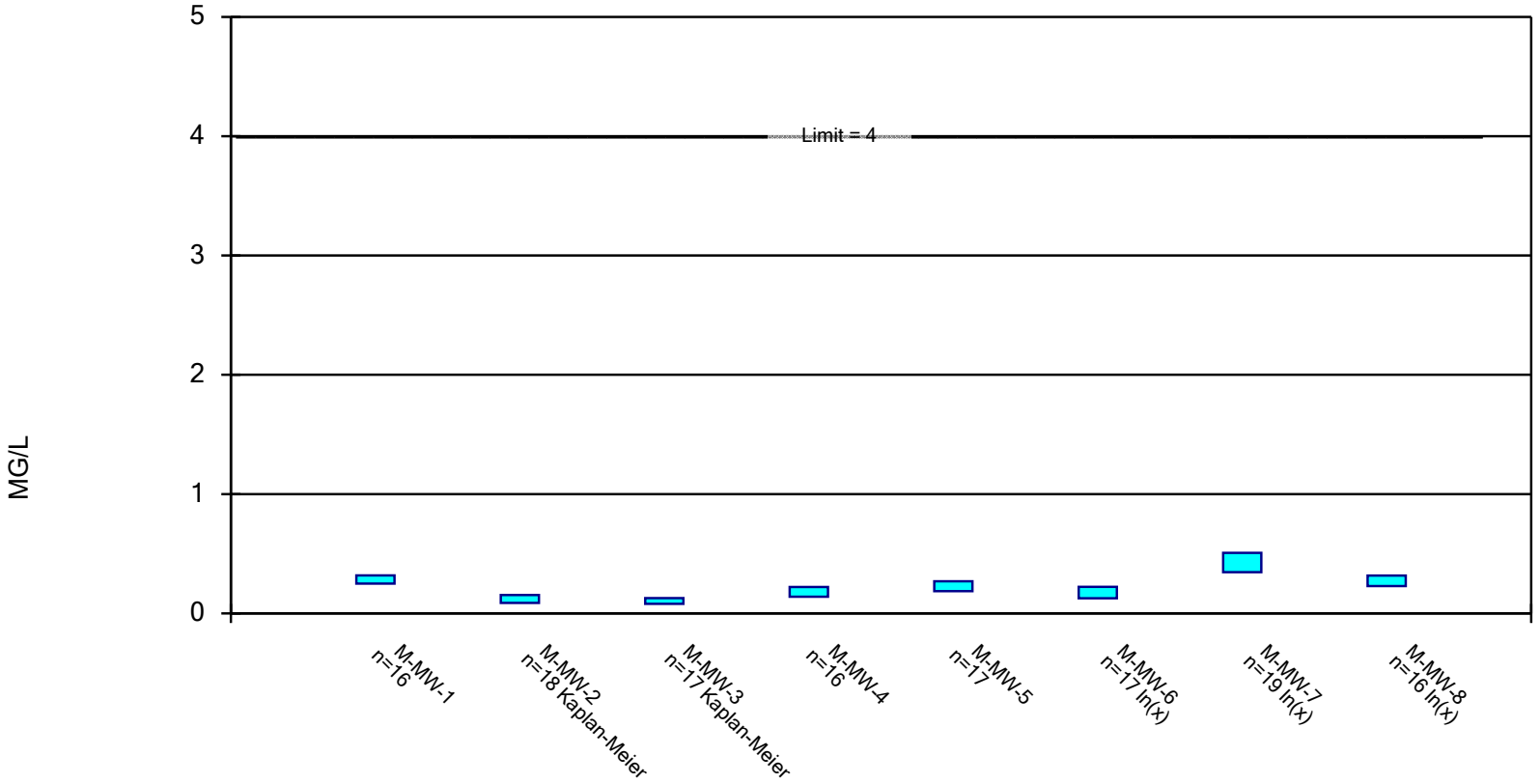


Constituent: COBALT, TOTAL Analysis Run 7/19/2021 5:11 PM

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.

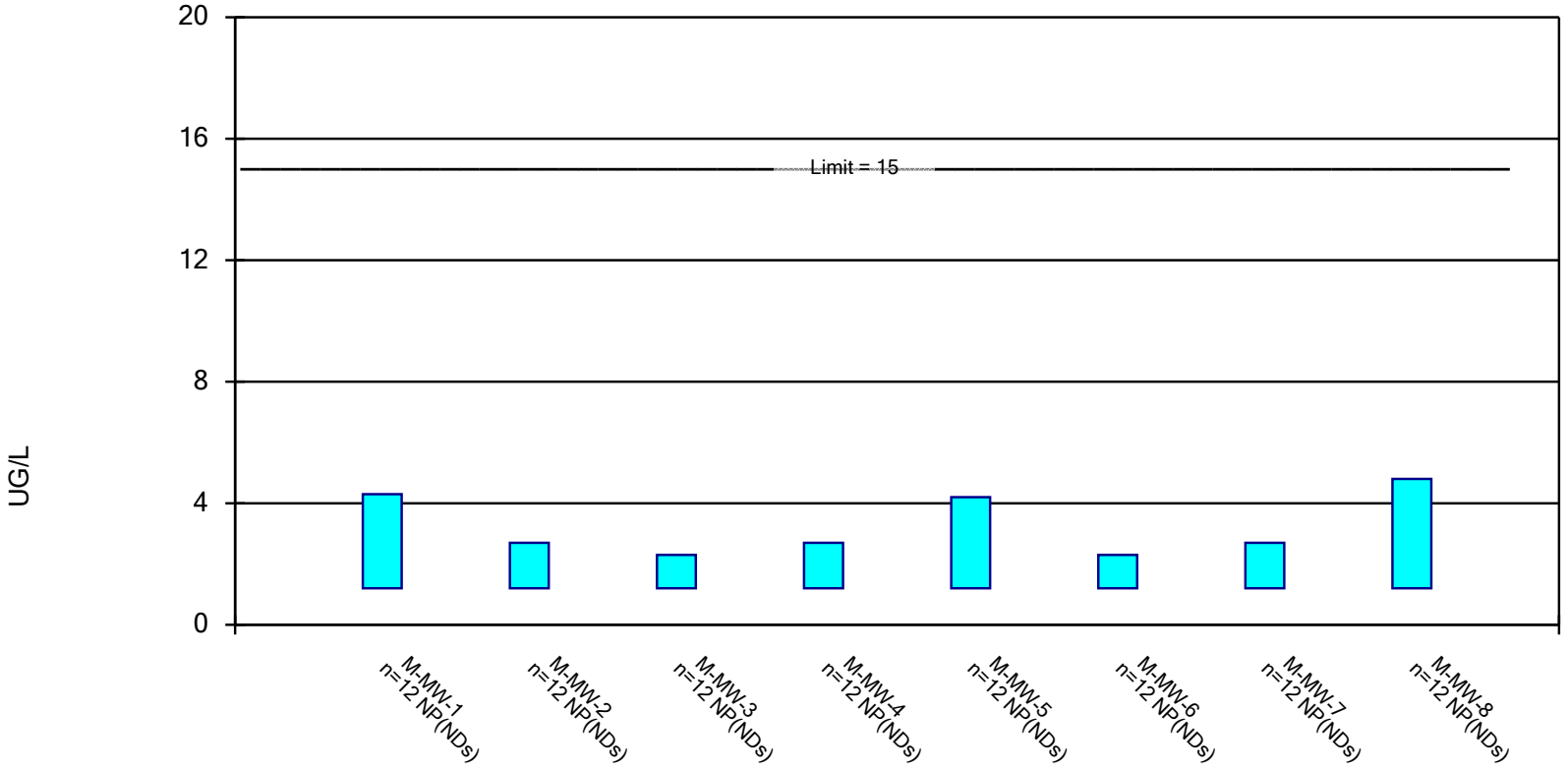


Constituent: FLUORIDE, TOTAL Analysis Run 7/19/2021 5:11 PM

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

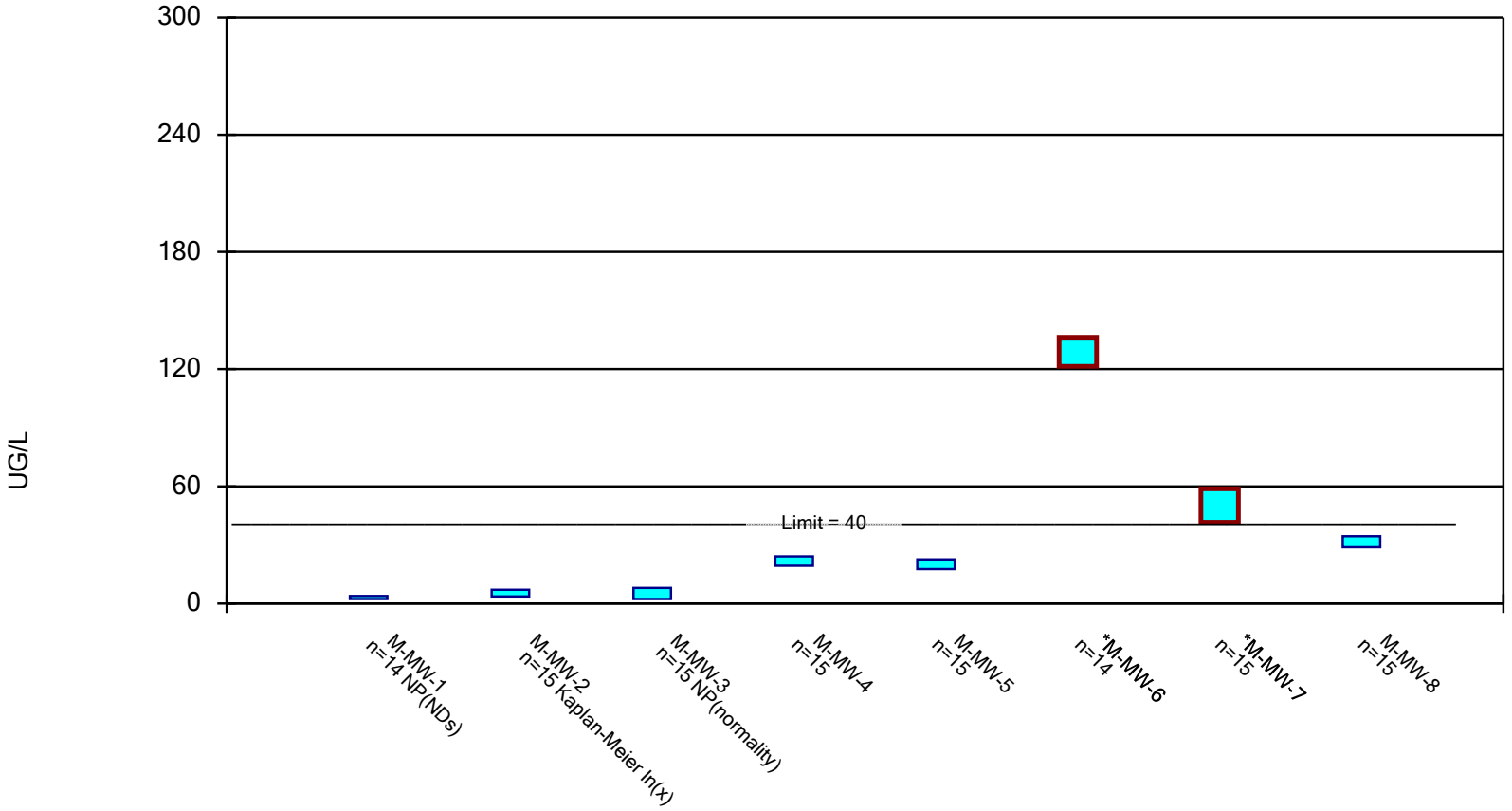


Constituent: LEAD, TOTAL Analysis Run 7/19/2021 5:11 PM

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.

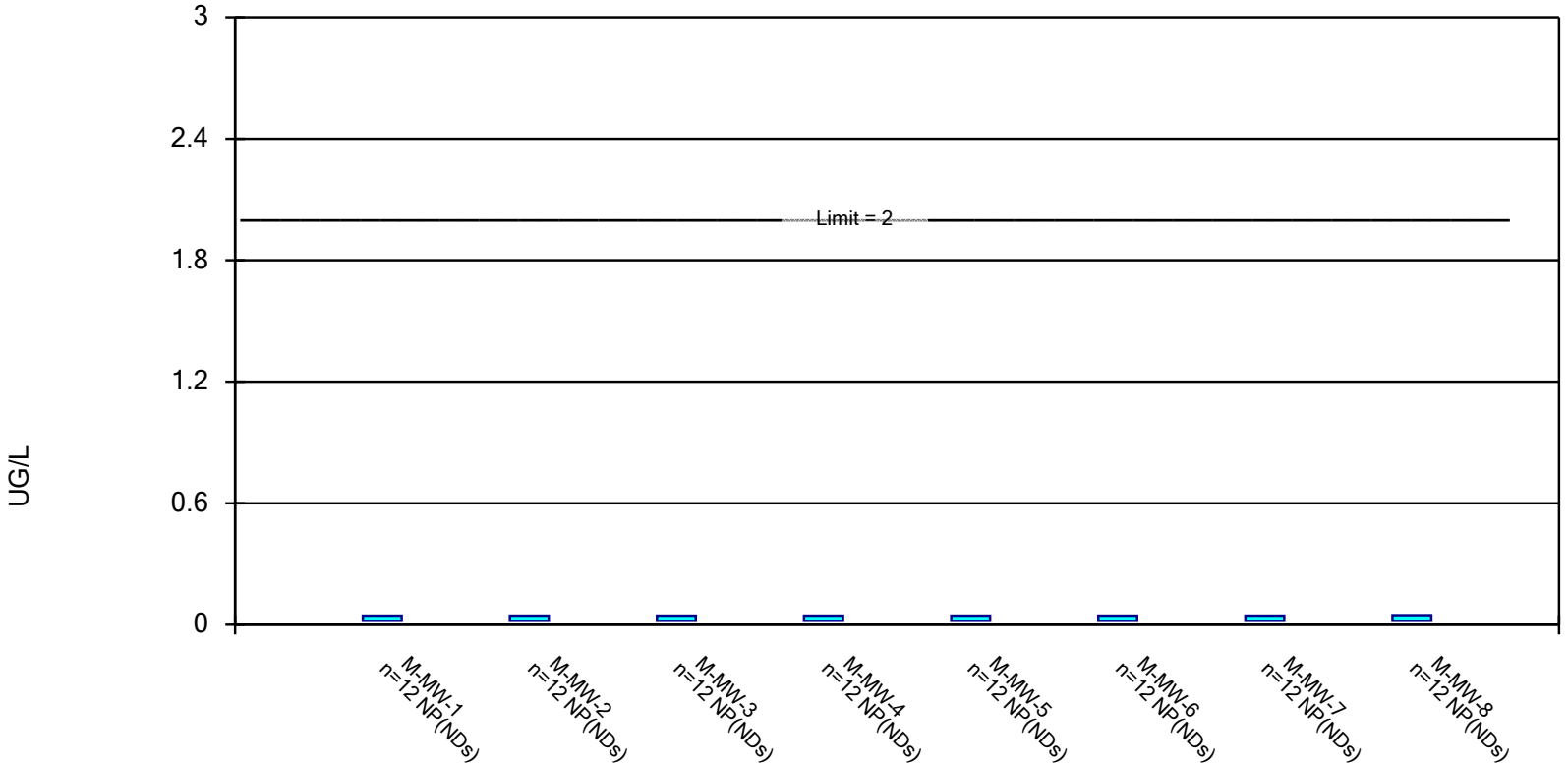


Constituent: LITHIUM, TOTAL Analysis Run 7/19/2021 5:11 PM

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

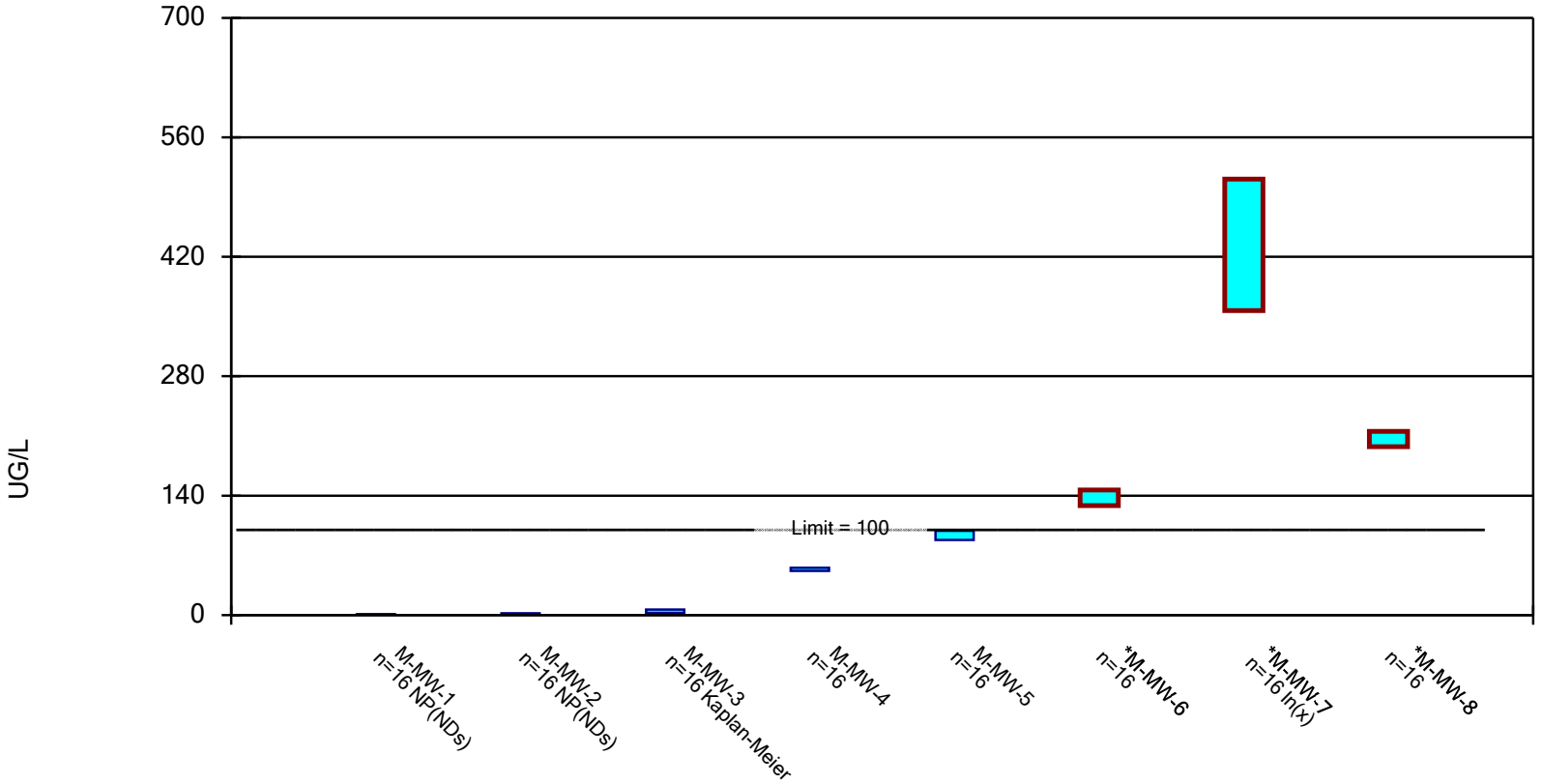


Constituent: MERCURY, TOTAL Analysis Run 7/19/2021 5:11 PM

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.

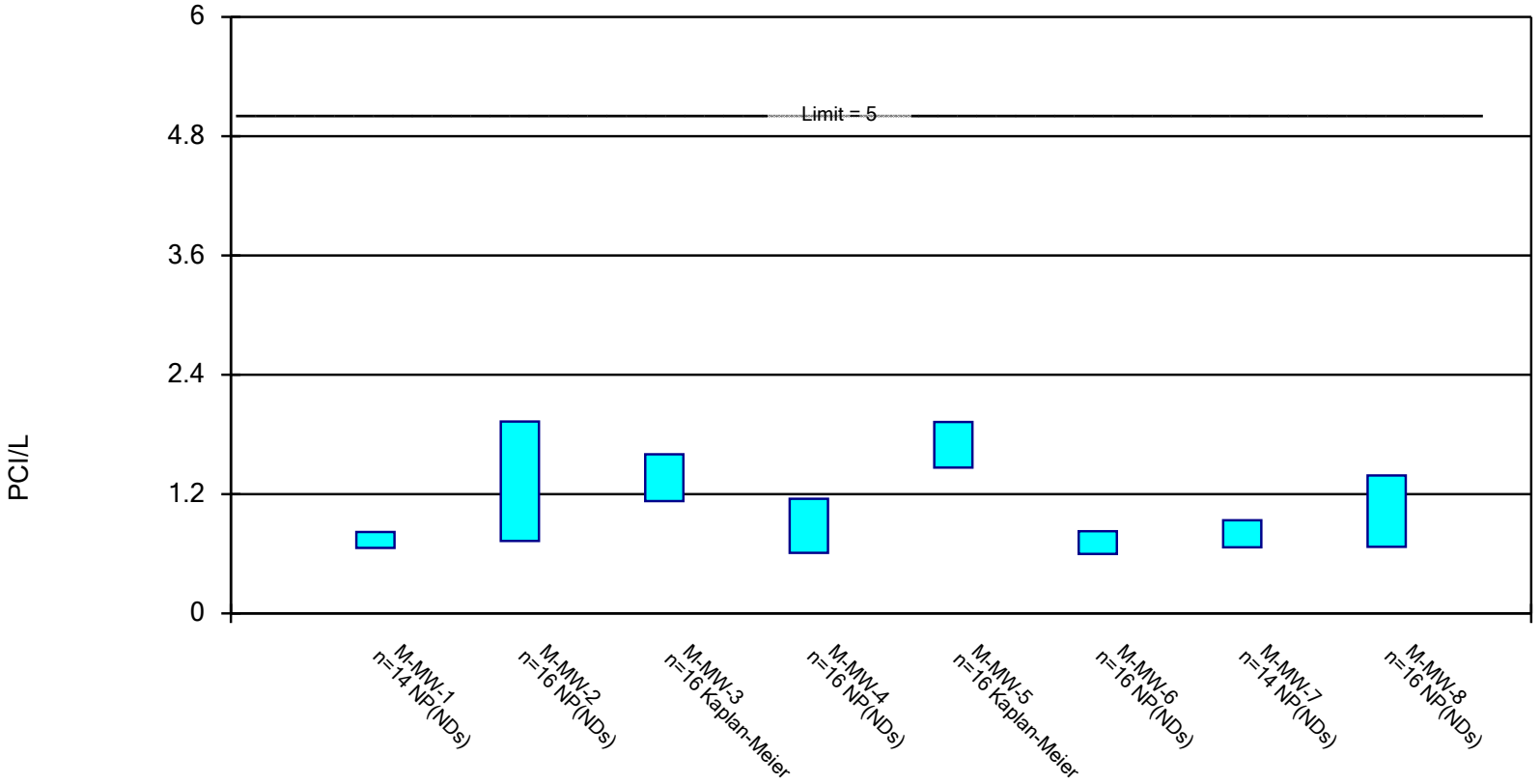


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/19/2021 5:11 PM

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.

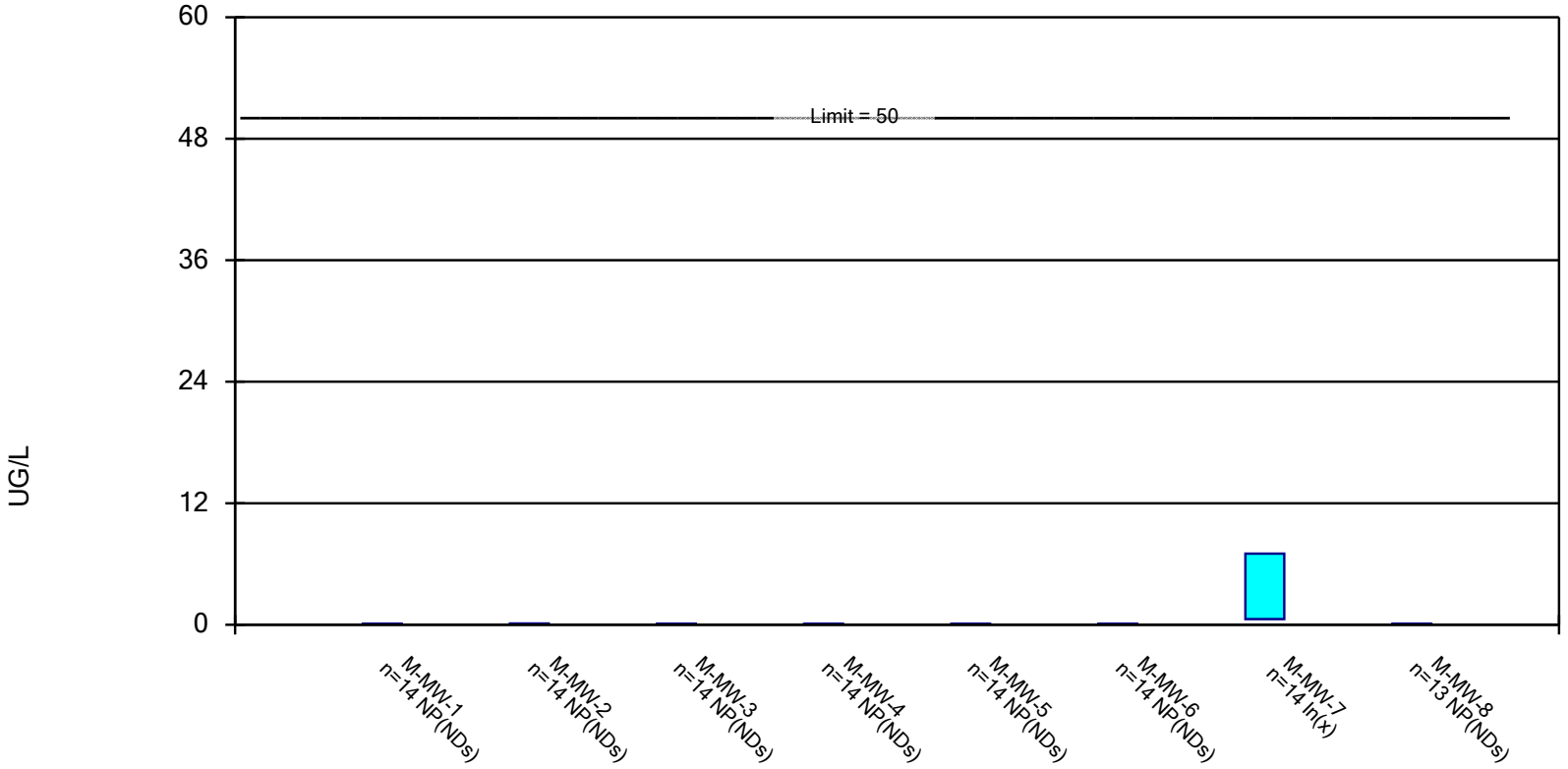


Constituent: Radium [226 + 228] Analysis Run 7/19/2021 5:11 PM

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.

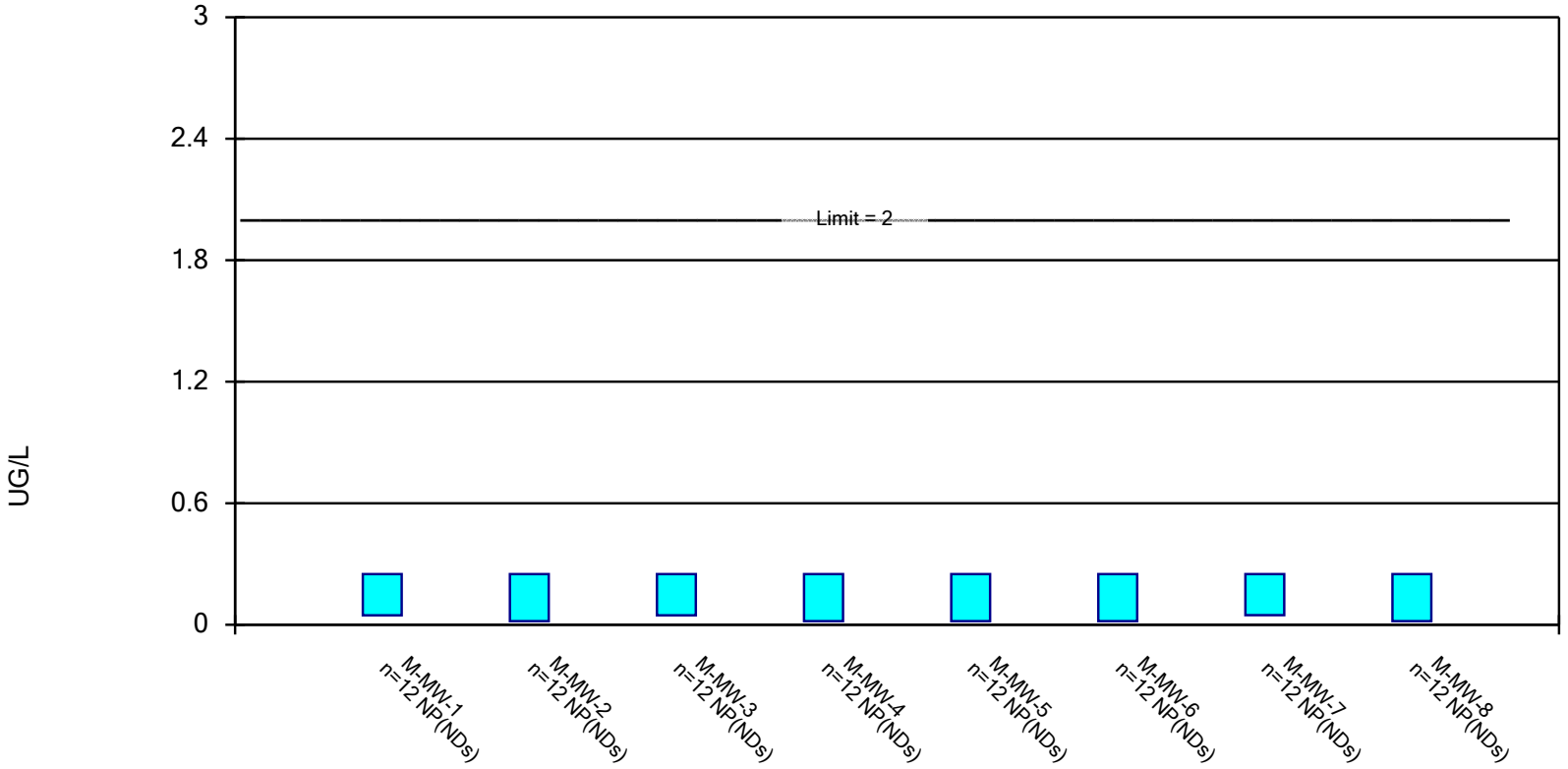


Constituent: SELENIUM, TOTAL Analysis Run 7/19/2021 5:11 PM

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 7/19/2021 5:11 PM

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/19/2021, 5:12 PM

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	0.7641	0.536	10	No	15	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	2.015	1.56	10	No	16	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	8.008	6.419	10	No	15	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**15.35**	**13.36**	**10**	**Yes**	**16**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**22.44**	**19.86**	**10**	**Yes**	**14**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	M-MW-6	4.686	2.755	10	No	15	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.211	2.392	10	No	16	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-8	6.62	5.753	10	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	372.6	359.1	2000	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	491	306	2000	No	16	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	M-MW-3	248.3	206.7	2000	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	221.8	209	2000	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-5	292	238.5	2000	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	69.63	52.98	2000	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	49.2	39.93	2000	No	16	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-8	234	124	2000	No	16	0	No	0.01	NP (normality)
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	0.195	0.08	4	No	11	100	No	0.006	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	0.8563	0.2353	100	No	14	35.71	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.7135	0.1875	100	No	14	28.57	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-3	0.4814	0.09722	100	No	14	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.6112	0.1571	100	No	14	42.86	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.3381	0.08409	100	No	14	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.54	0.039	100	No	13	61.54	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-7	0.4663	0.09376	100	No	14	50	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.5	0.039	100	No	14	71.43	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-1	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-2	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/19/2021, 5:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	1.5	0.36	6	No	14	64.29	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-4	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-5	0.75	0.36	6	No	14	92.86	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-6	6.937	3.606	6	No	14	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-7	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-8	0.75	0.36	6	No	14	92.86	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.3178	0.2497	4	No	16	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1535	0.08758	4	No	18	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.1285	0.07974	4	No	17	23.53	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.2212	0.1394	4	No	16	6.25	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.2688	0.1865	4	No	17	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.2226	0.1269	4	No	17	5.882	ln(x)	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.5069	0.3457	4	No	19	0	ln(x)	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.3167	0.2291	4	No	16	0	ln(x)	0.01	Param.
LEAD, TOTAL (UG/L)	M-MW-1	4.3	1.2	15	No	12	83.33	No	0.01	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	14	92.86	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	7.024	3.625	40	No	15	33.33	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-3	8	2.3	40	No	15	46.67	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-4	24.13	19.31	40	No	15	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-5	22.58	17.6	40	No	15	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**M-MW-6**	**136.3**	**121.5**	**40**	**Yes**	**14**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	**M-MW-7**	**58.69**	**41.67**	**40**	**Yes**	**15**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	M-MW-8	34.45	28.79	40	No	15	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	16	93.75	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	2.1	0.26	100	No	16	81.25	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	6.464	2.55	100	No	16	18.75	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	55.52	51.82	100	No	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	98.69	88	100	No	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**M-MW-6**	**146.7**	**128.3**	**100**	**Yes**	**16**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-7**	**511**	**357**	**100**	**Yes**	**16**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-8**	**215.3**	**197.5**	**100**	**Yes**	**16**	**0**	**No**	**0.01**	**Param.**
Radium [226 + 228] (PCI/L)	M-MW-1	0.8185	0.6585	5	No	14	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	1.93	0.728	5	No	16	75	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.601	1.13	5	No	16	43.75	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-4	1.153	0.6095	5	No	16	81.25	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/19/2021, 5:12 PM

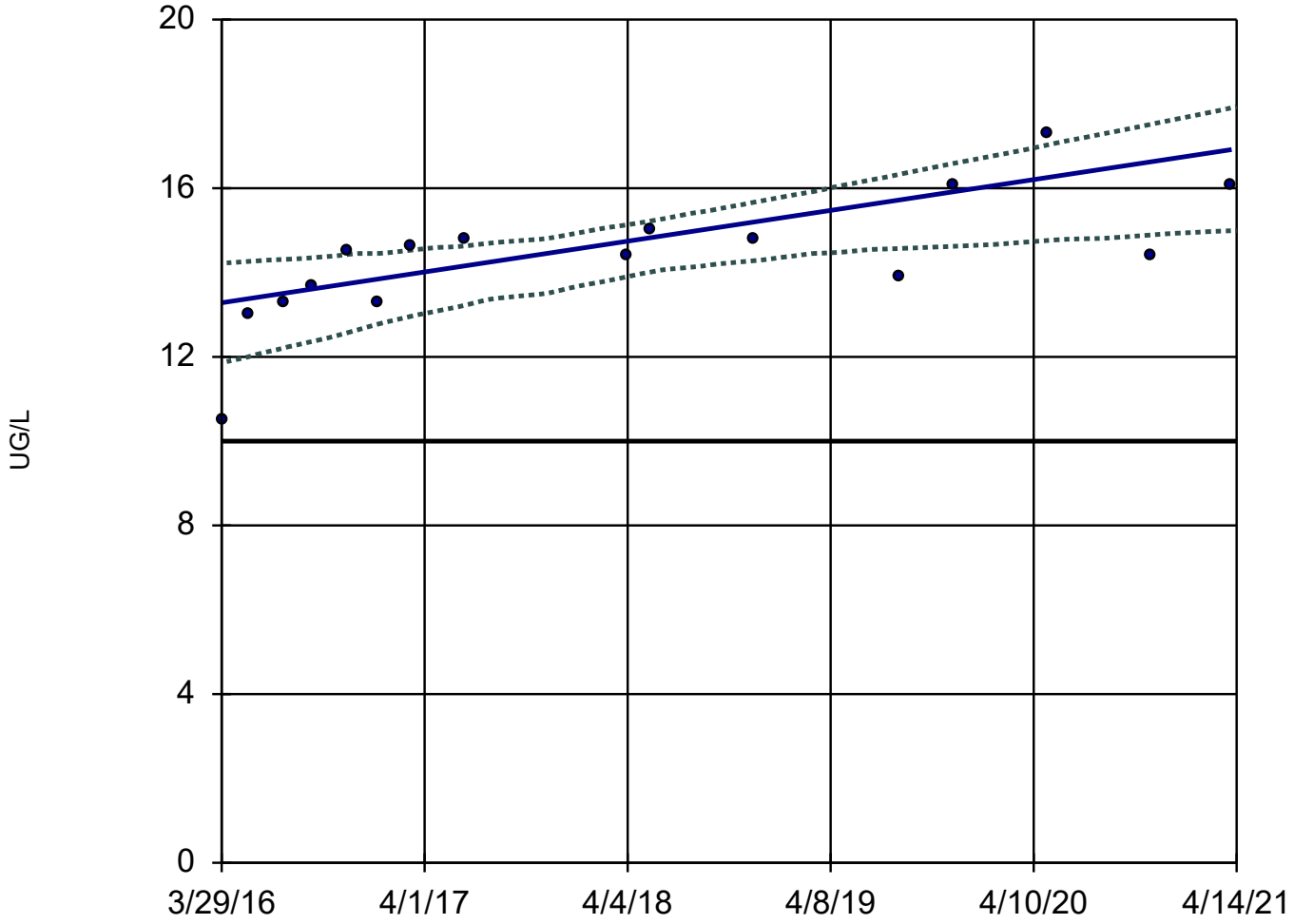
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	1.924	1.467	5	No	16	43.75	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-6	0.827	0.5985	5	No	16	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.937	0.6655	5	No	14	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	1.387	0.67	5	No	16	81.25	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	14	85.71	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	14	85.71	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.043	50	No	14	85.71	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	14	85.71	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	14	92.86	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.043	50	No	14	92.86	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	7.015	0.5586	50	No	14	14.29	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.043	50	No	13	84.62	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 = 0.7232 units per year.

Mann-Kendall statistic = 76
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

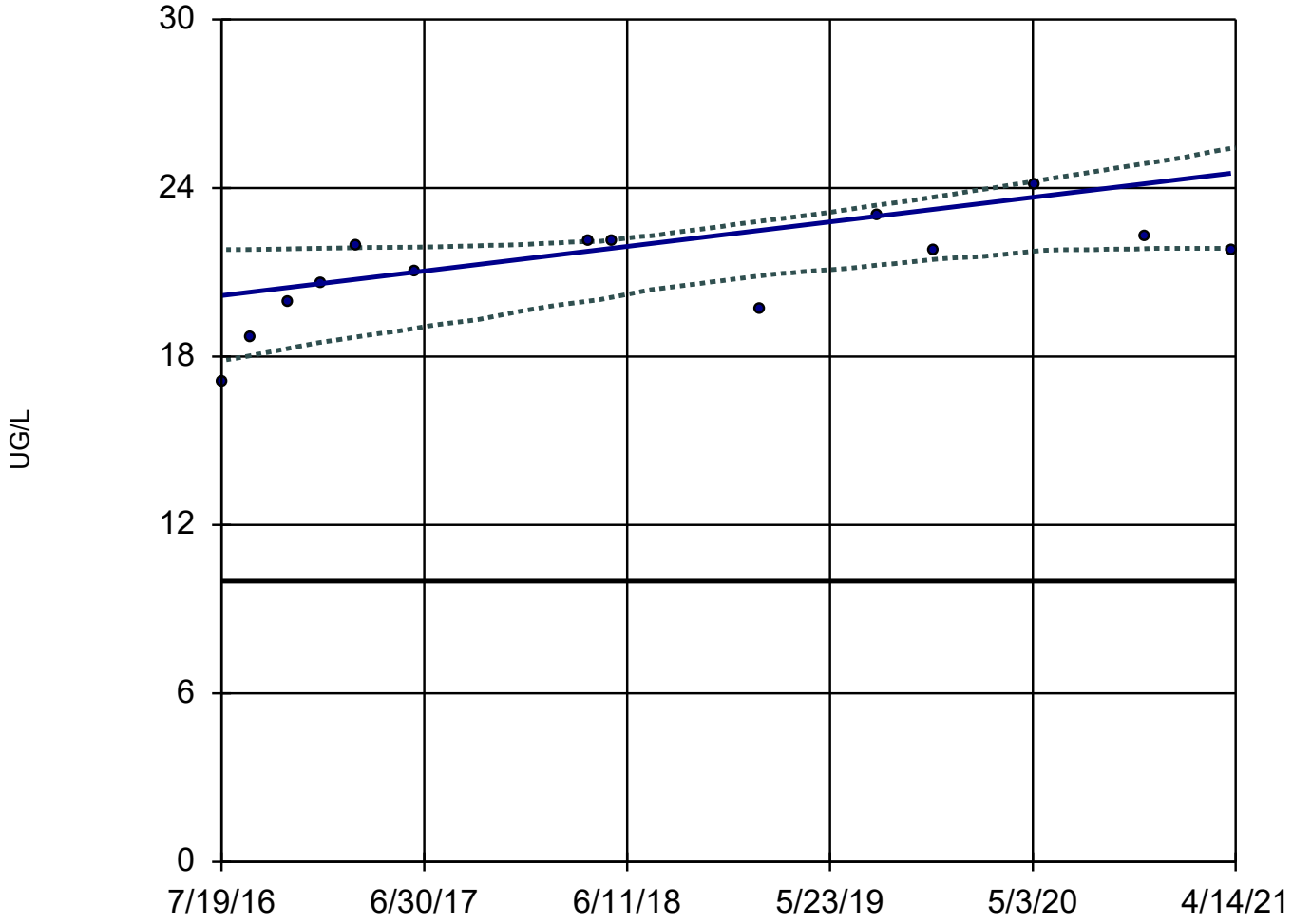
GWPS = 10.

Constituent: ARSENIC, TOTAL Analysis Run 7/19/2021 5:13 PM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 14

Slope = 0.9241 units per year.

Mann-Kendall statistic = 51
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

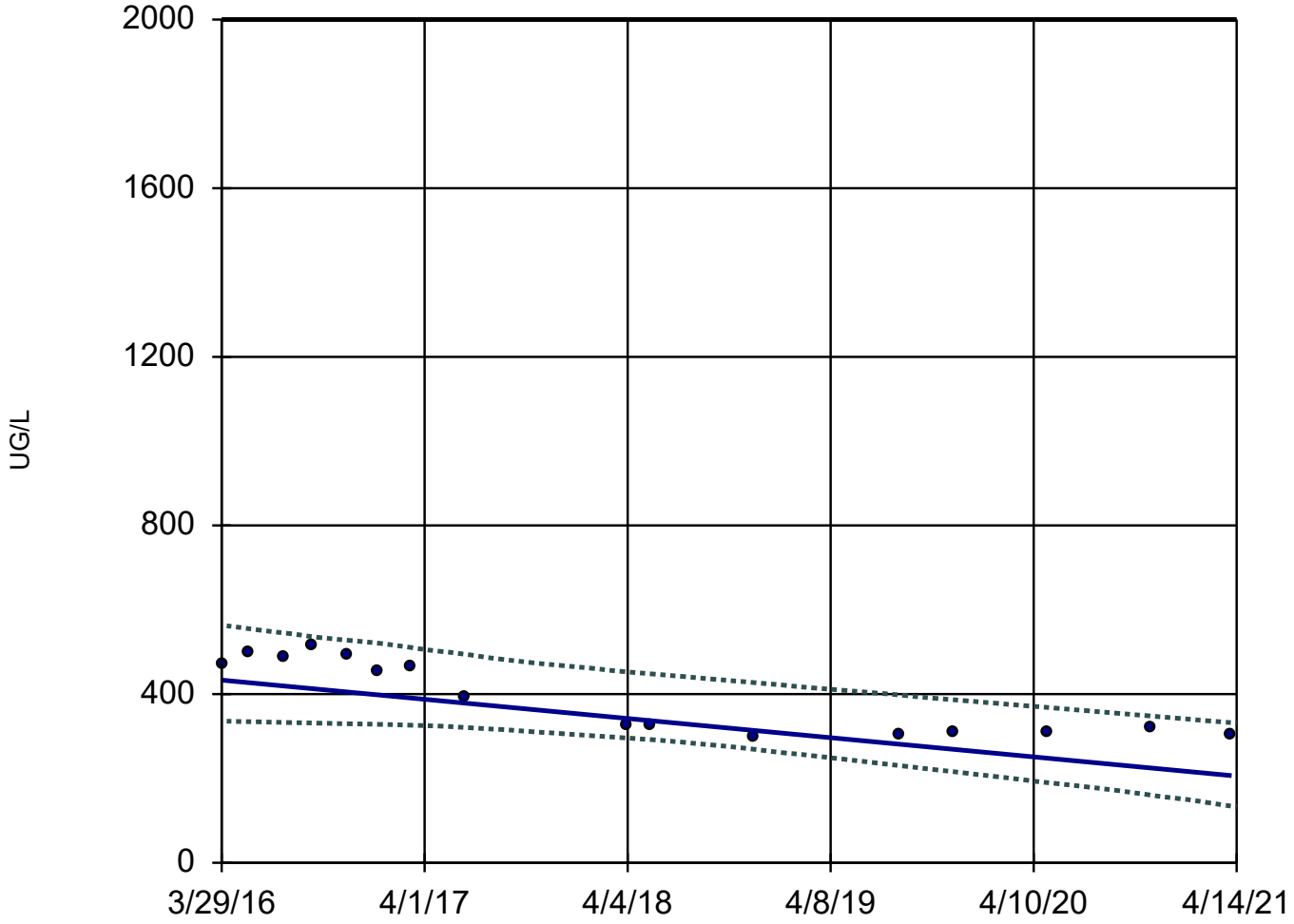
GWPS = 10.

Constituent: ARSENIC, TOTAL Analysis Run 7/19/2021 5:13 PM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-2



n = 16

Slope = -45.07 units per year.

Mann-Kendall statistic = -80
critical = -53

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

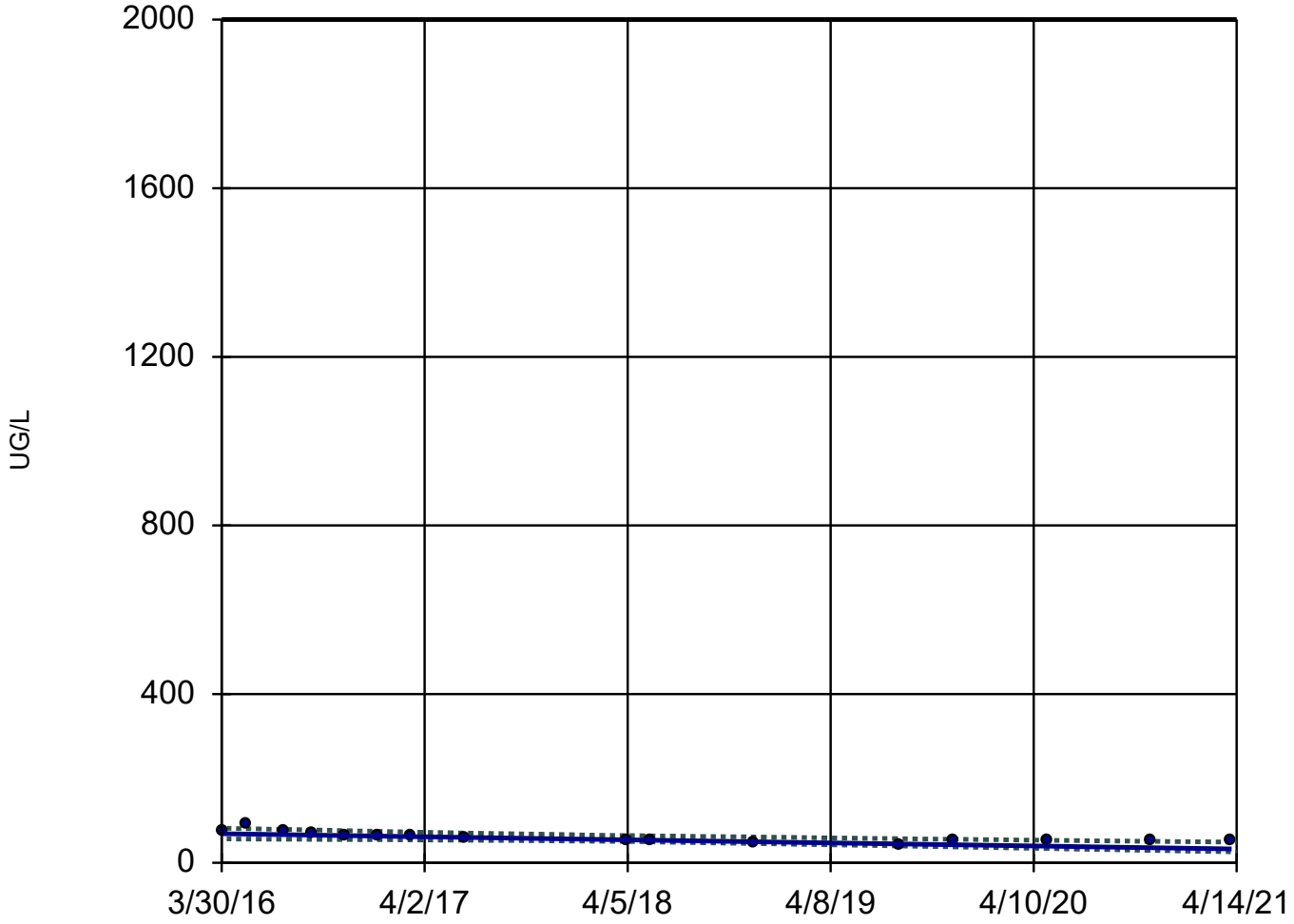
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 7/19/2021 5:14 PM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-6



n = 16

Slope = -7.151 units per year.

Mann-Kendall statistic = -92
critical = -53

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

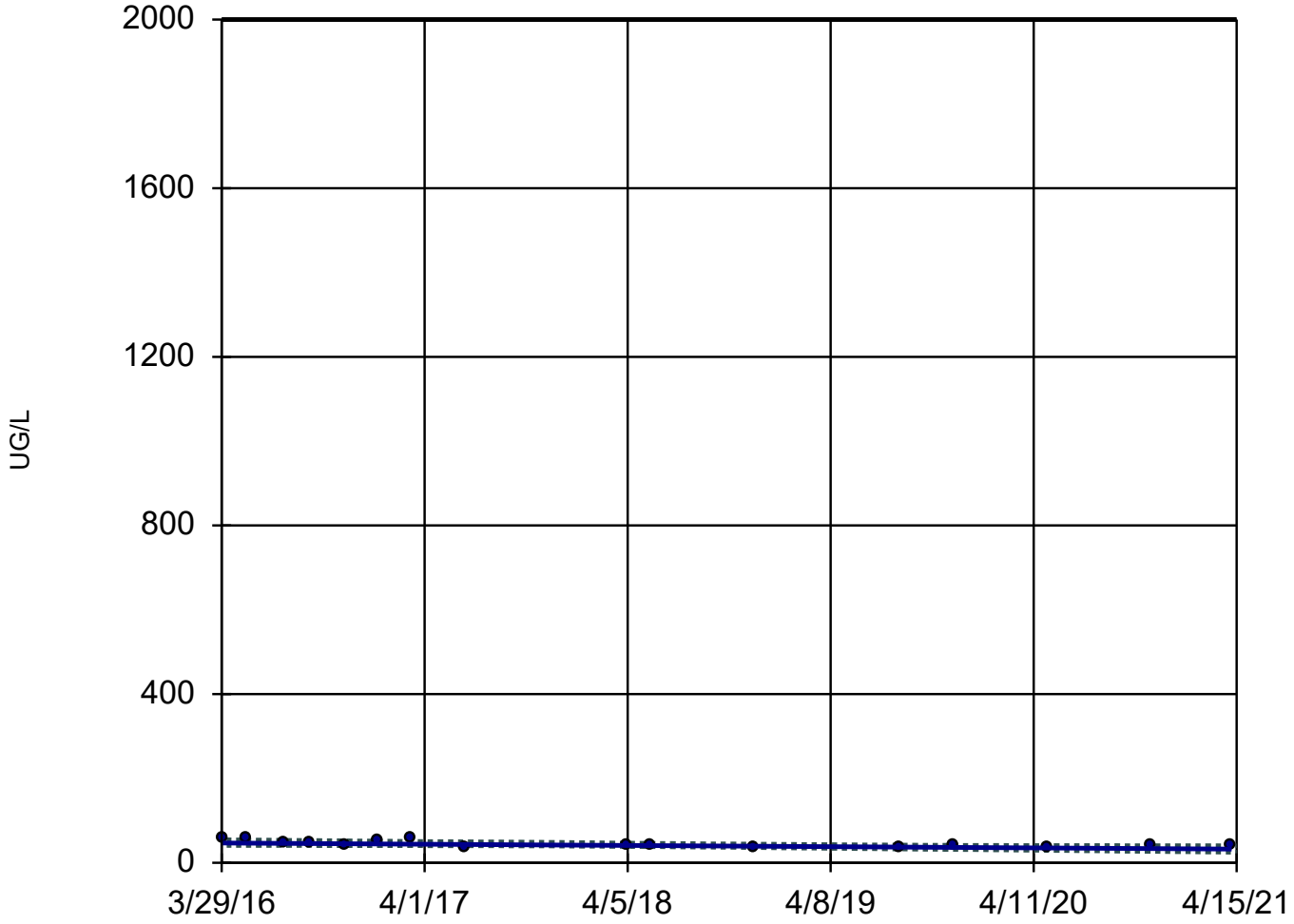
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 7/19/2021 5:14 PM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-7



n = 16

Slope = -2.839 units per year.

Mann-Kendall statistic = -59
critical = -53

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

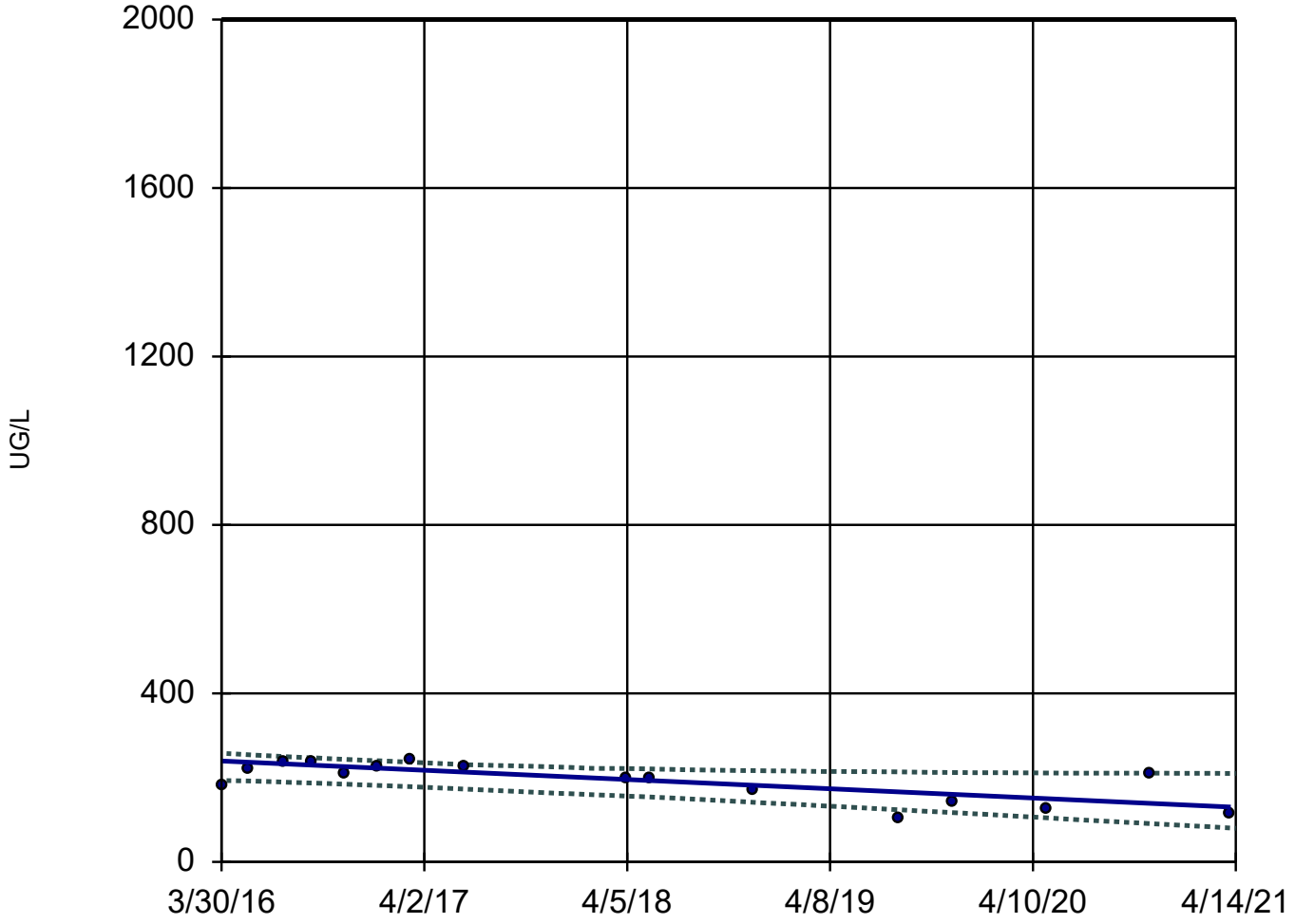
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 7/19/2021 5:14 PM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-8



n = 16

Slope = -21.79 units per year.

Mann-Kendall statistic = -58
critical = -53

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2000.

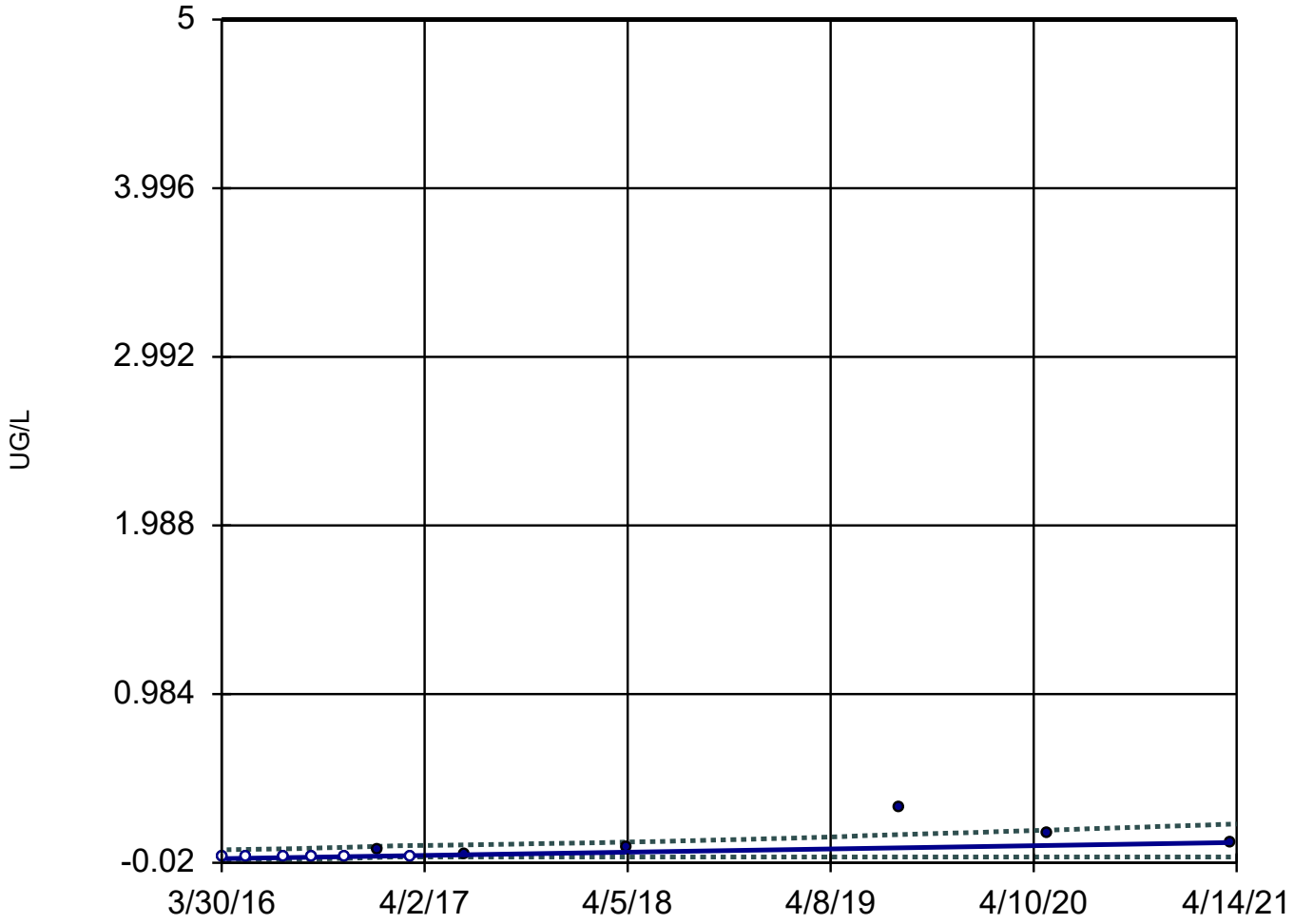
Constituent: BARIUM, TOTAL Analysis Run 7/19/2021 5:14 PM

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 = 0.0192 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 7/19/2021 5:14 PM

Meramec E.C. Client: Ameren Data: MEC Data

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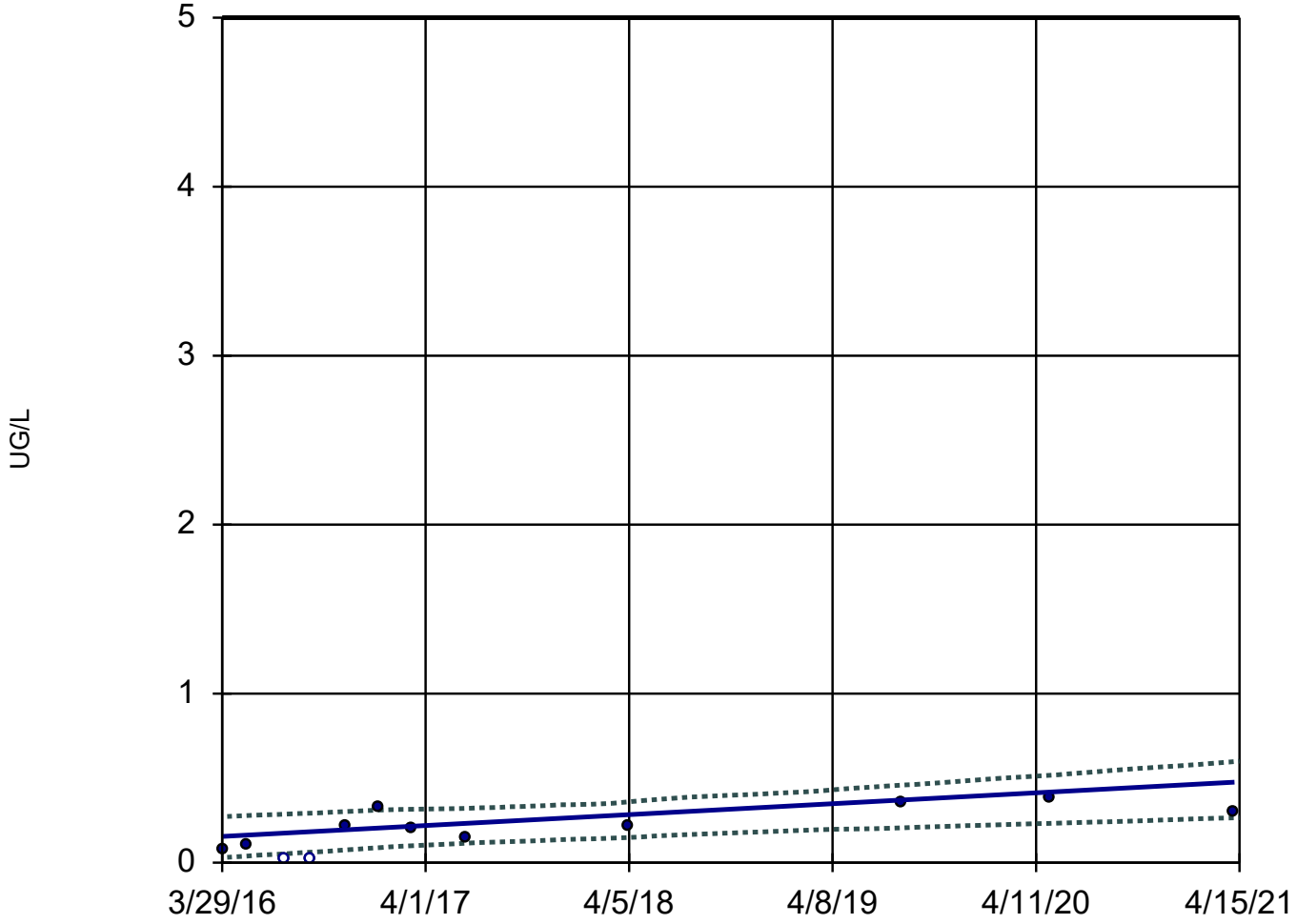
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 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 7/19/2021 5:14 PM

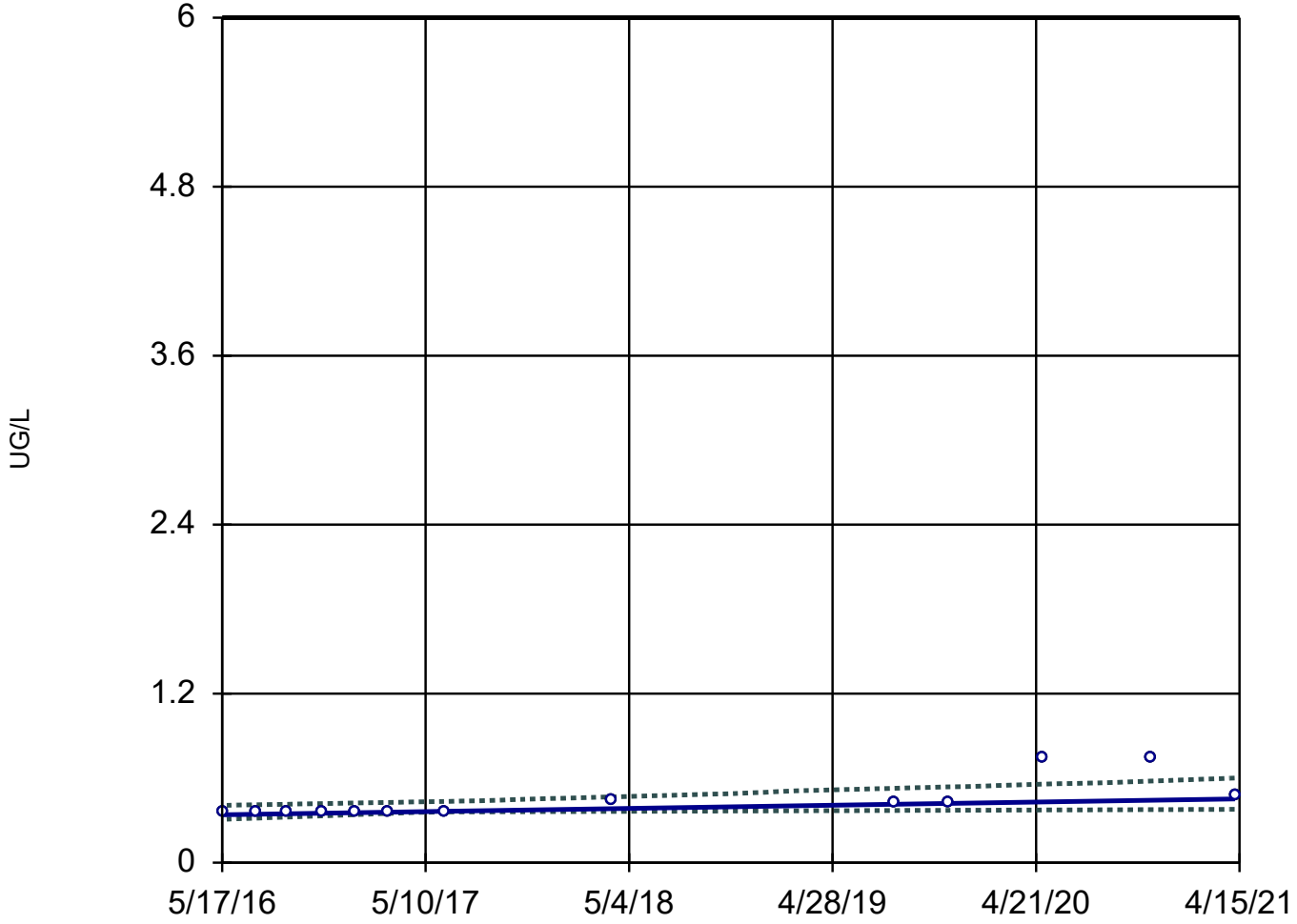
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.30 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 = 13

Slope = 0.02284 units per year.

Mann-Kendall statistic = 57
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

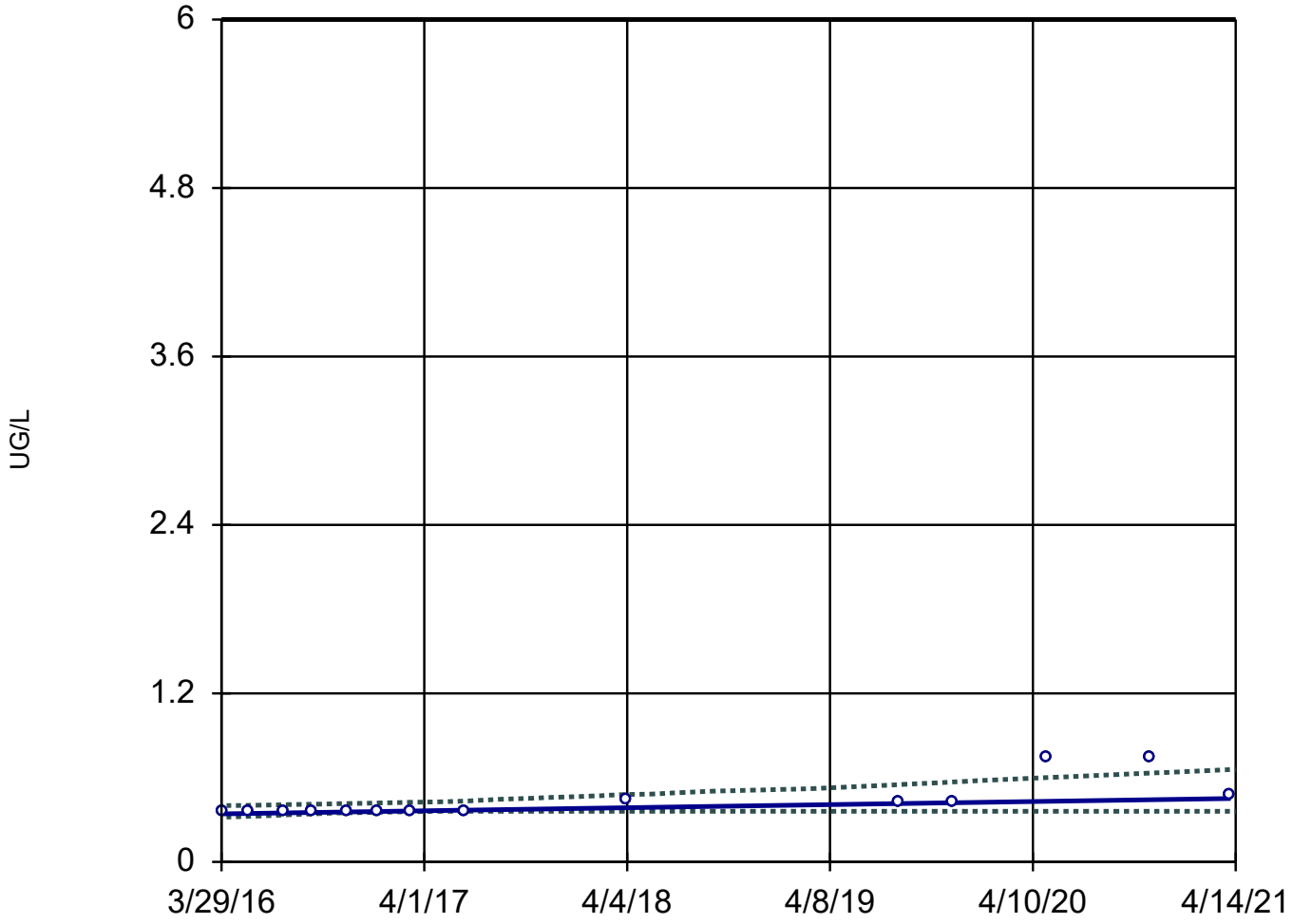
Constituent: COBALT, TOTAL Analysis Run 7/19/2021 5:14 PM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-2



n = 14

Slope = 0.02179 units per year.

Mann-Kendall statistic = 65
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

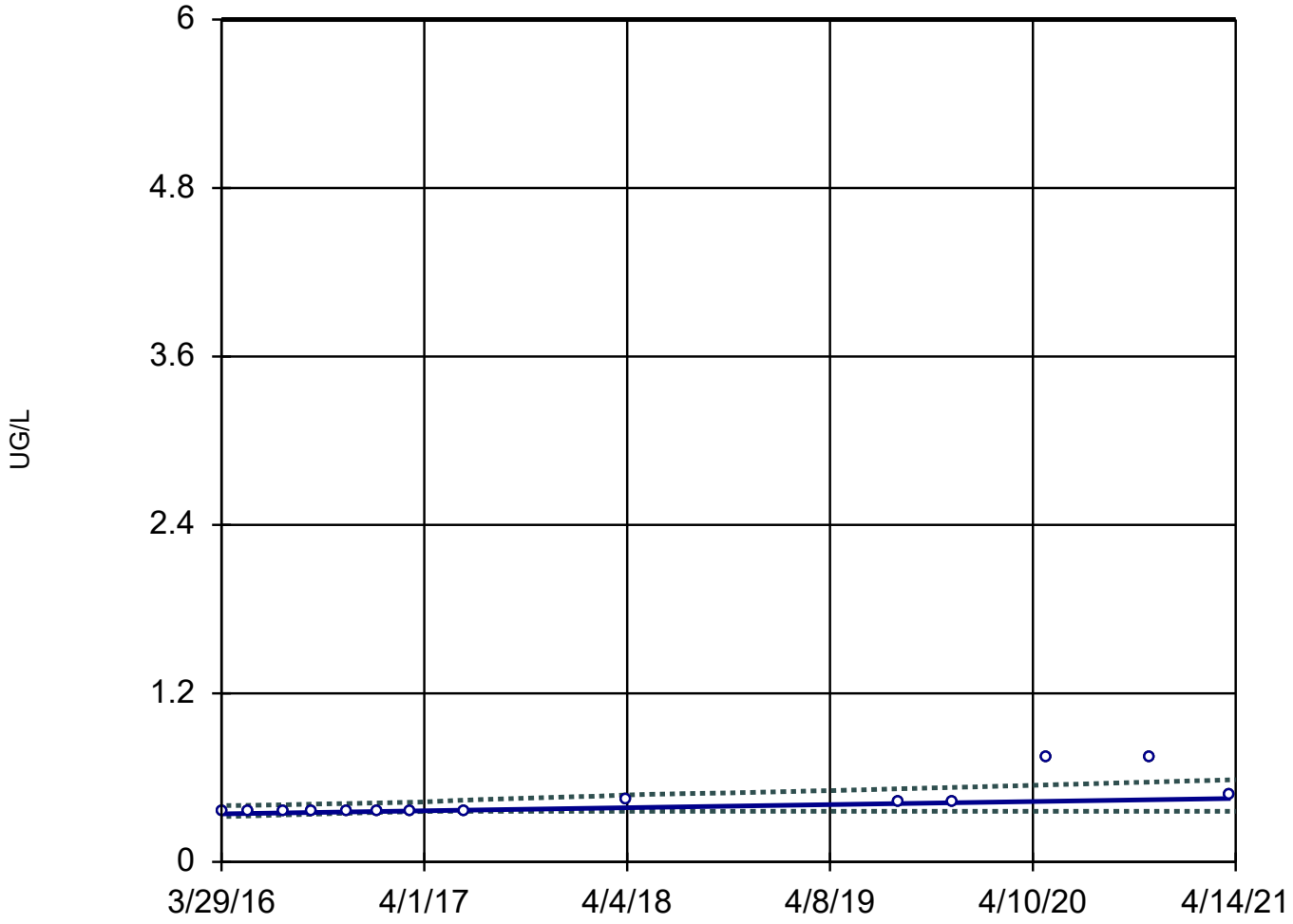
Constituent: COBALT, TOTAL Analysis Run 7/19/2021 5:14 PM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 14

Slope = 0.02179 units per year.

Mann-Kendall statistic = 65
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 7/19/2021 5:14 PM

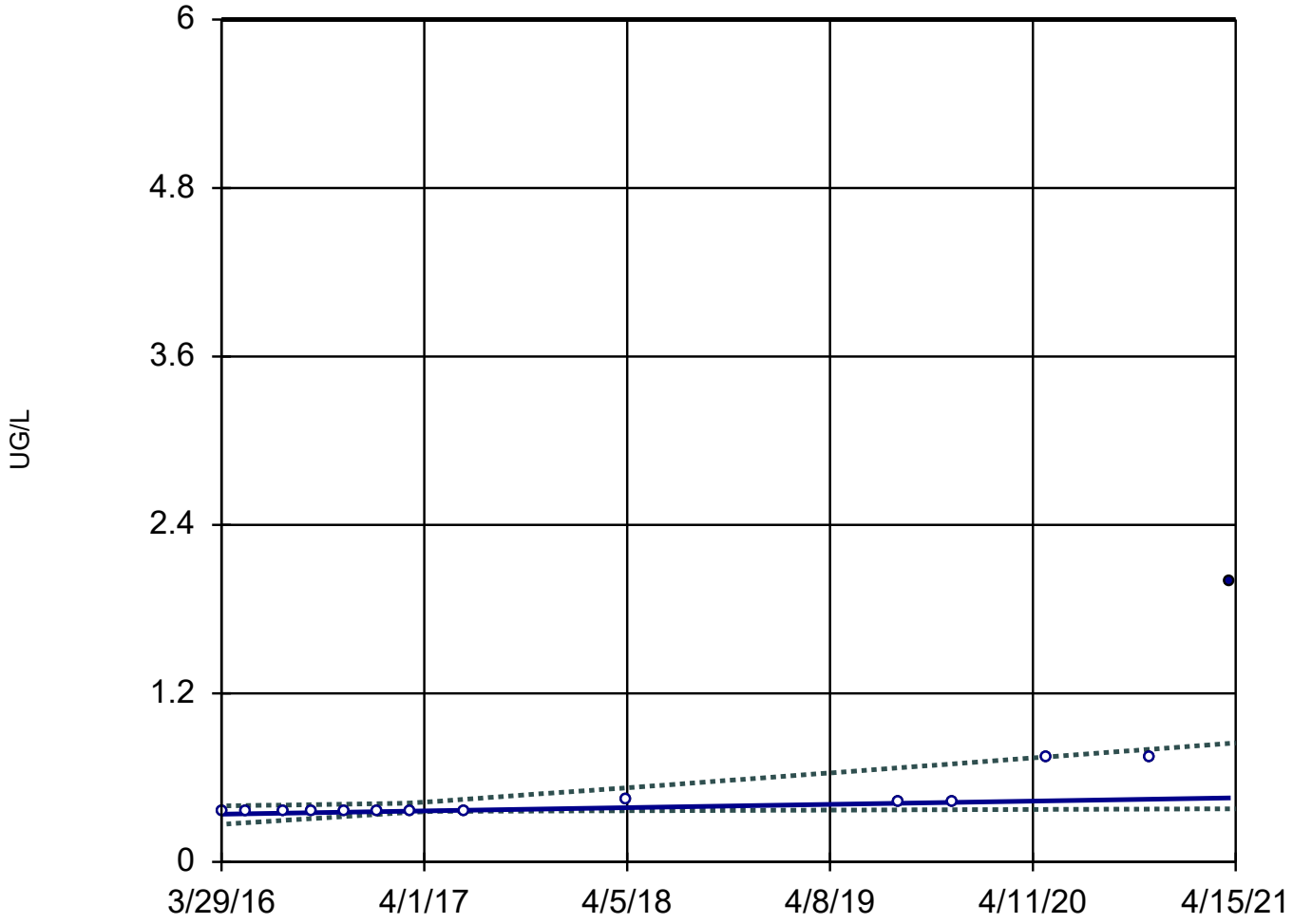
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.30 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 = 14

Slope = 0.02308 units per year.

Mann-Kendall statistic = 69
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

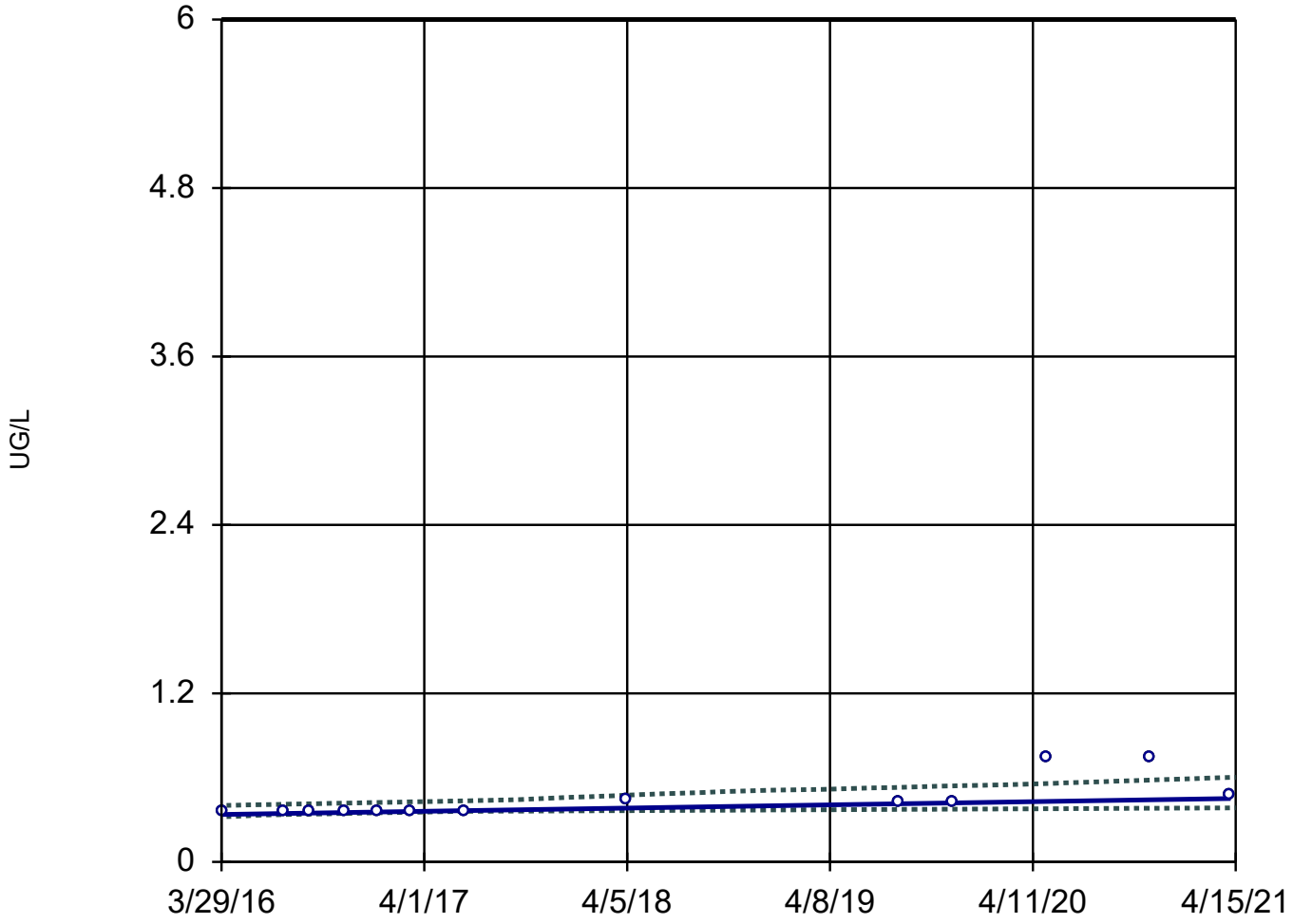
Constituent: COBALT, TOTAL Analysis Run 7/19/2021 5:14 PM

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 = 0.02277 units per year.

Mann-Kendall statistic = 57
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 7/19/2021 5:14 PM

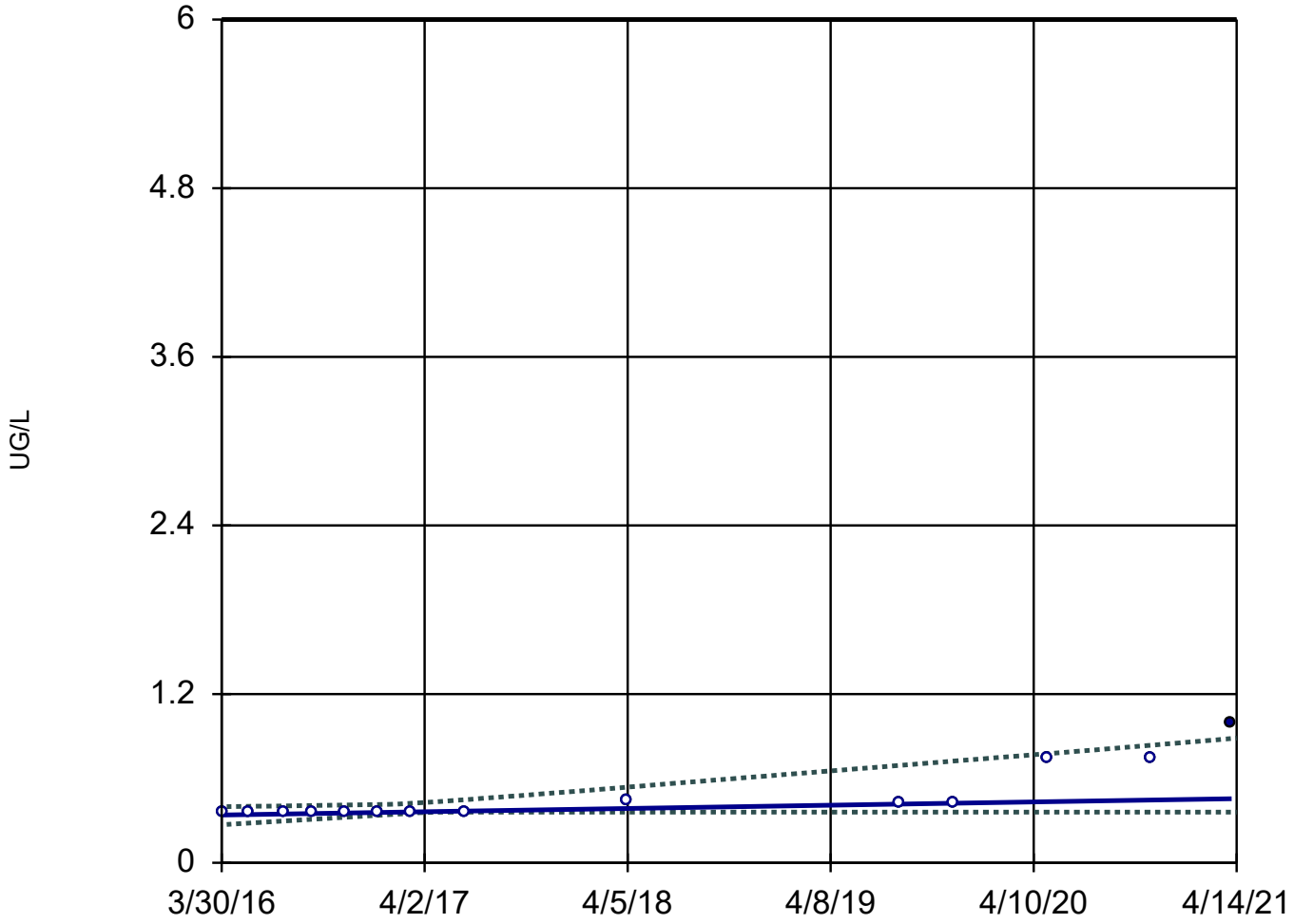
Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.30 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 = 14

Slope = 0.02308 units per year.

Mann-Kendall statistic = 69
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

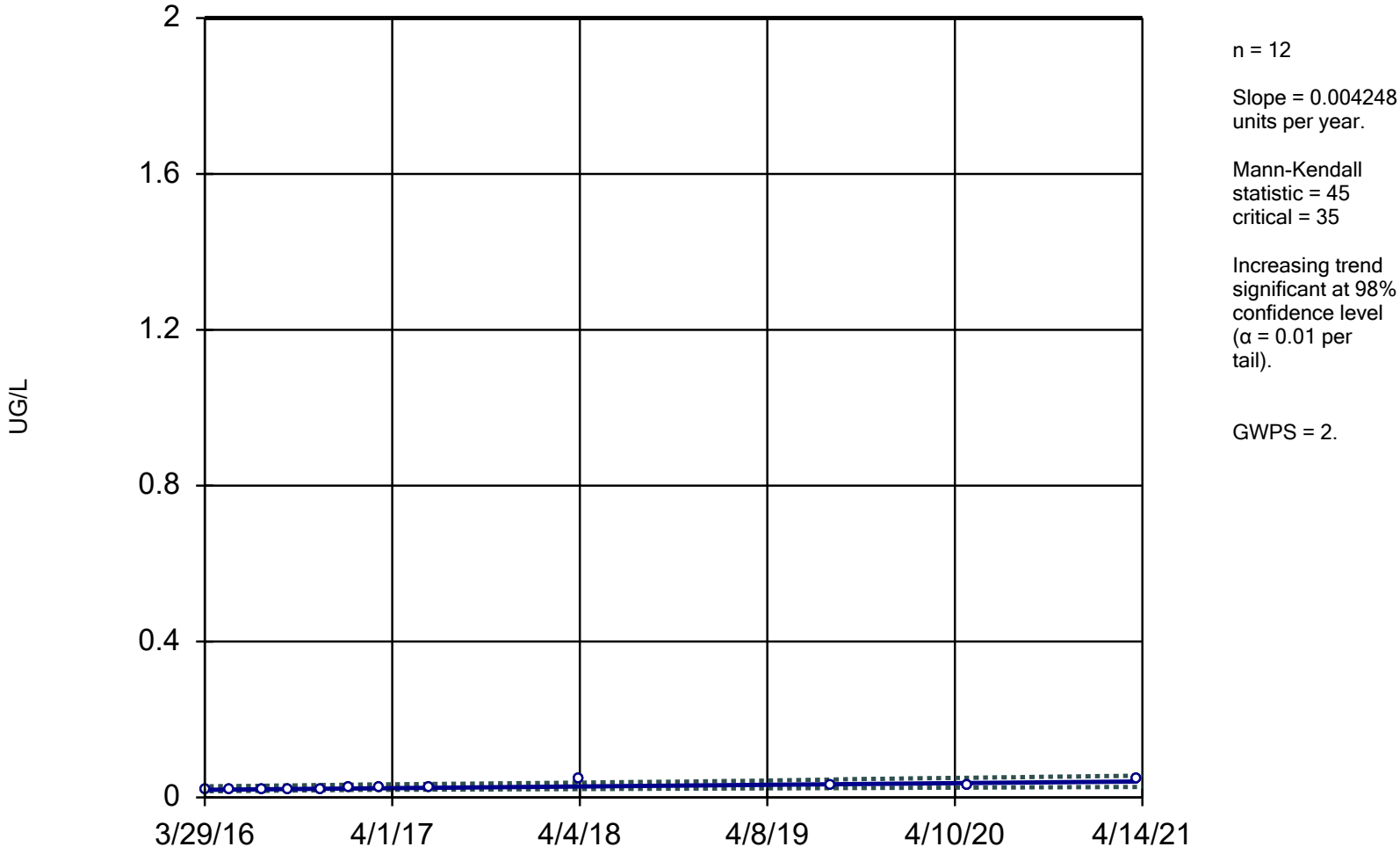
Constituent: COBALT, TOTAL Analysis Run 7/19/2021 5:14 PM

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.

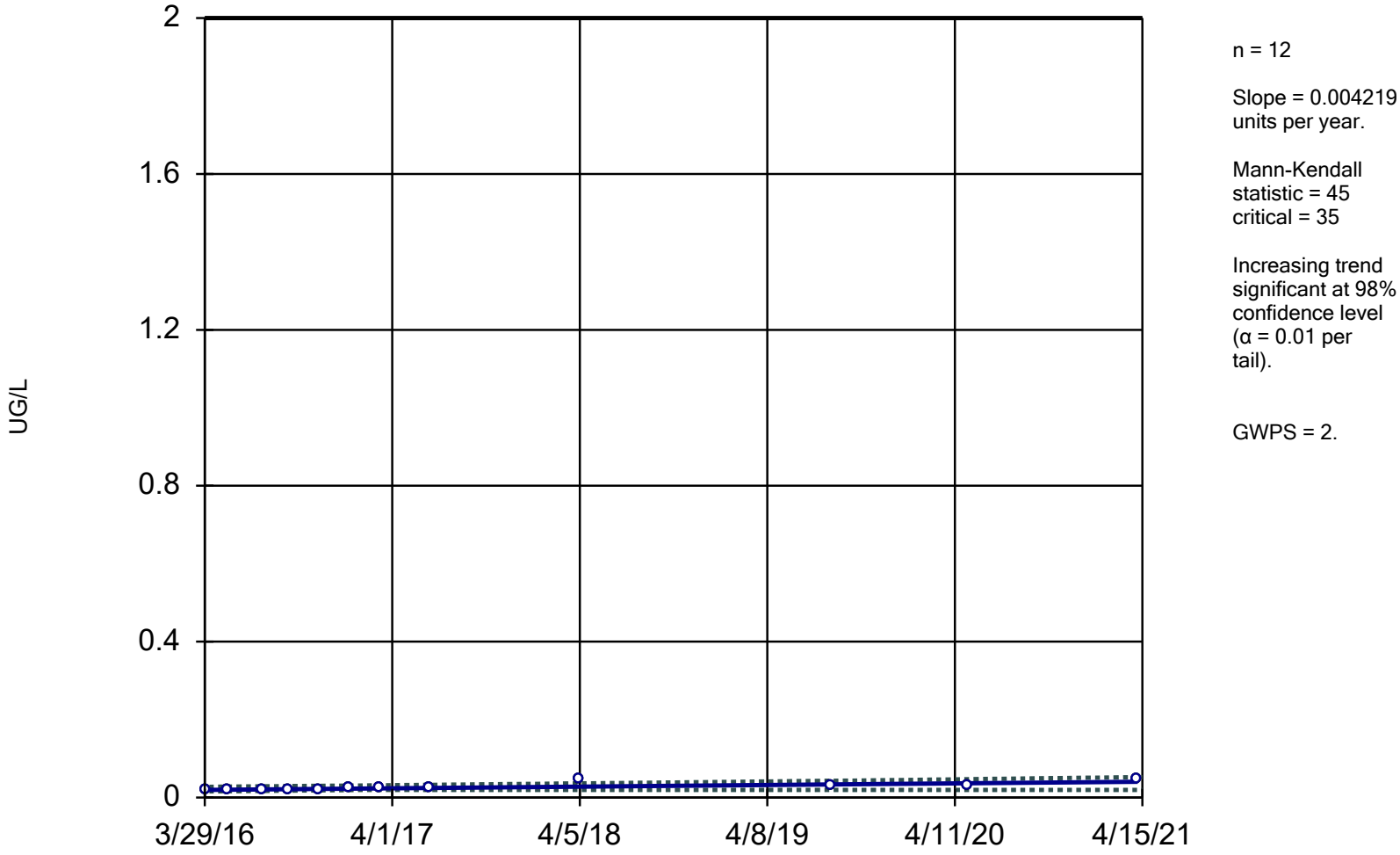
Constituent: MERCURY, TOTAL Analysis Run 7/19/2021 5:15 PM

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.

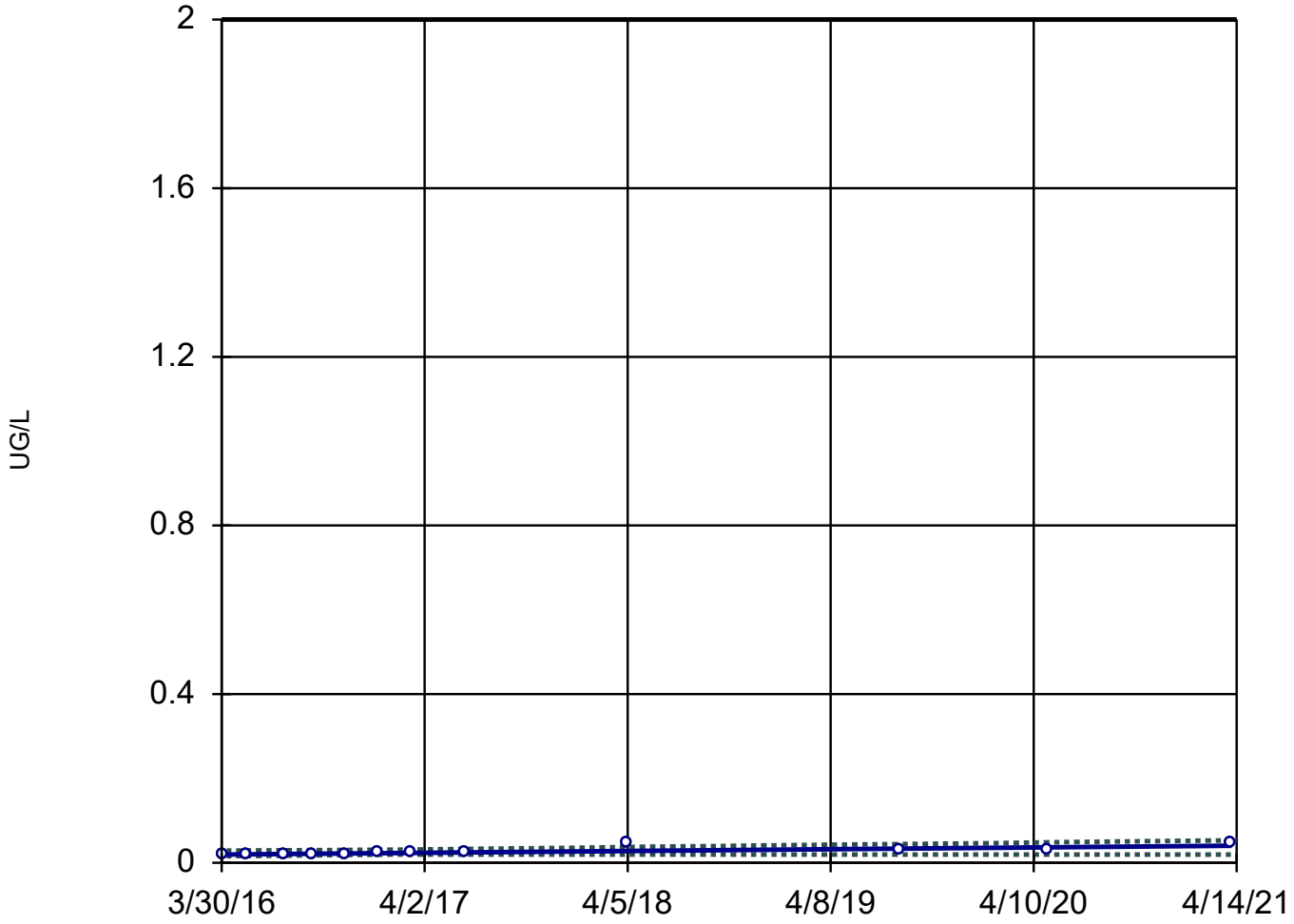
Constituent: MERCURY, TOTAL Analysis Run 7/19/2021 5:15 PM

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.

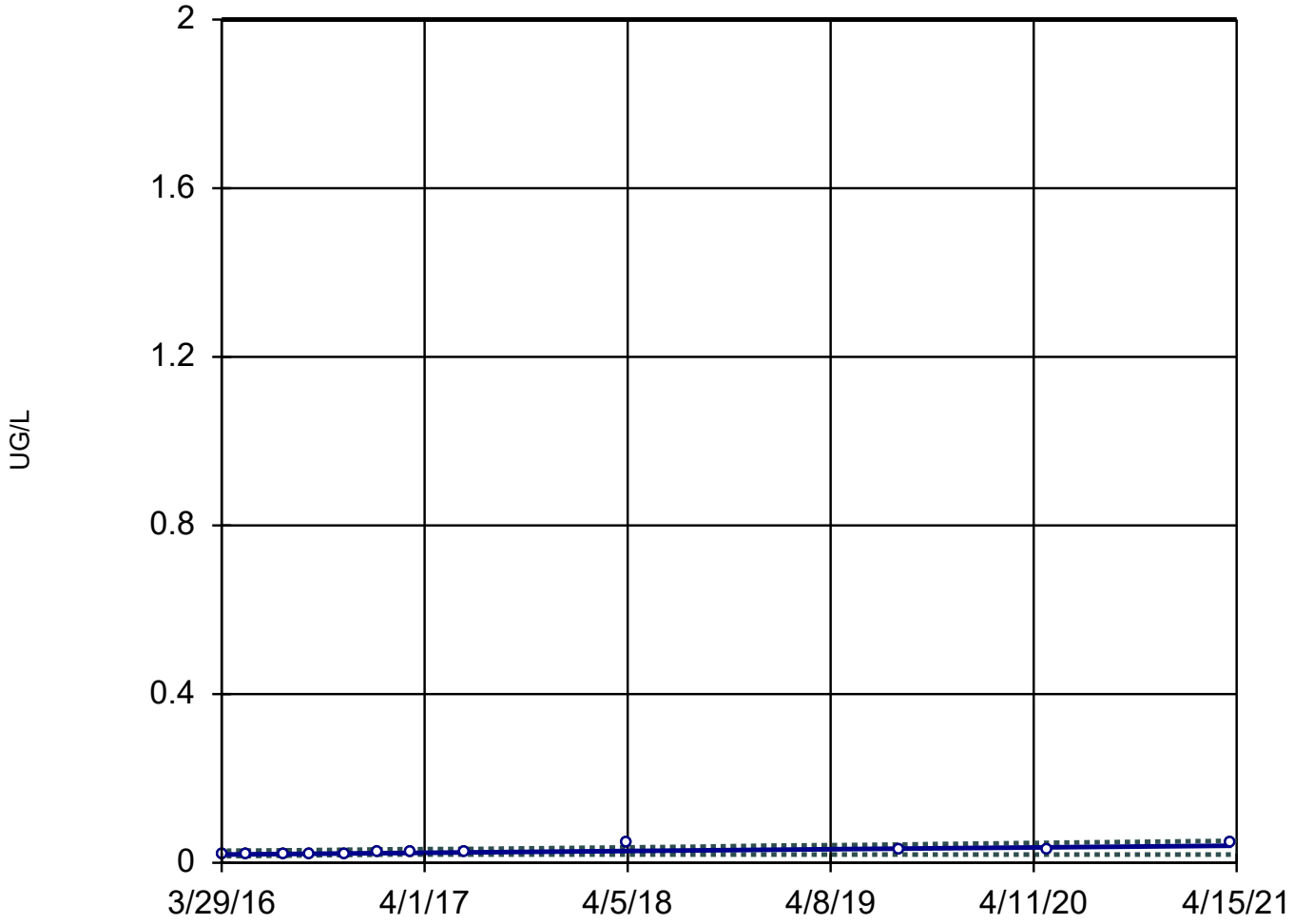
Constituent: MERCURY, TOTAL Analysis Run 7/19/2021 5:15 PM

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.

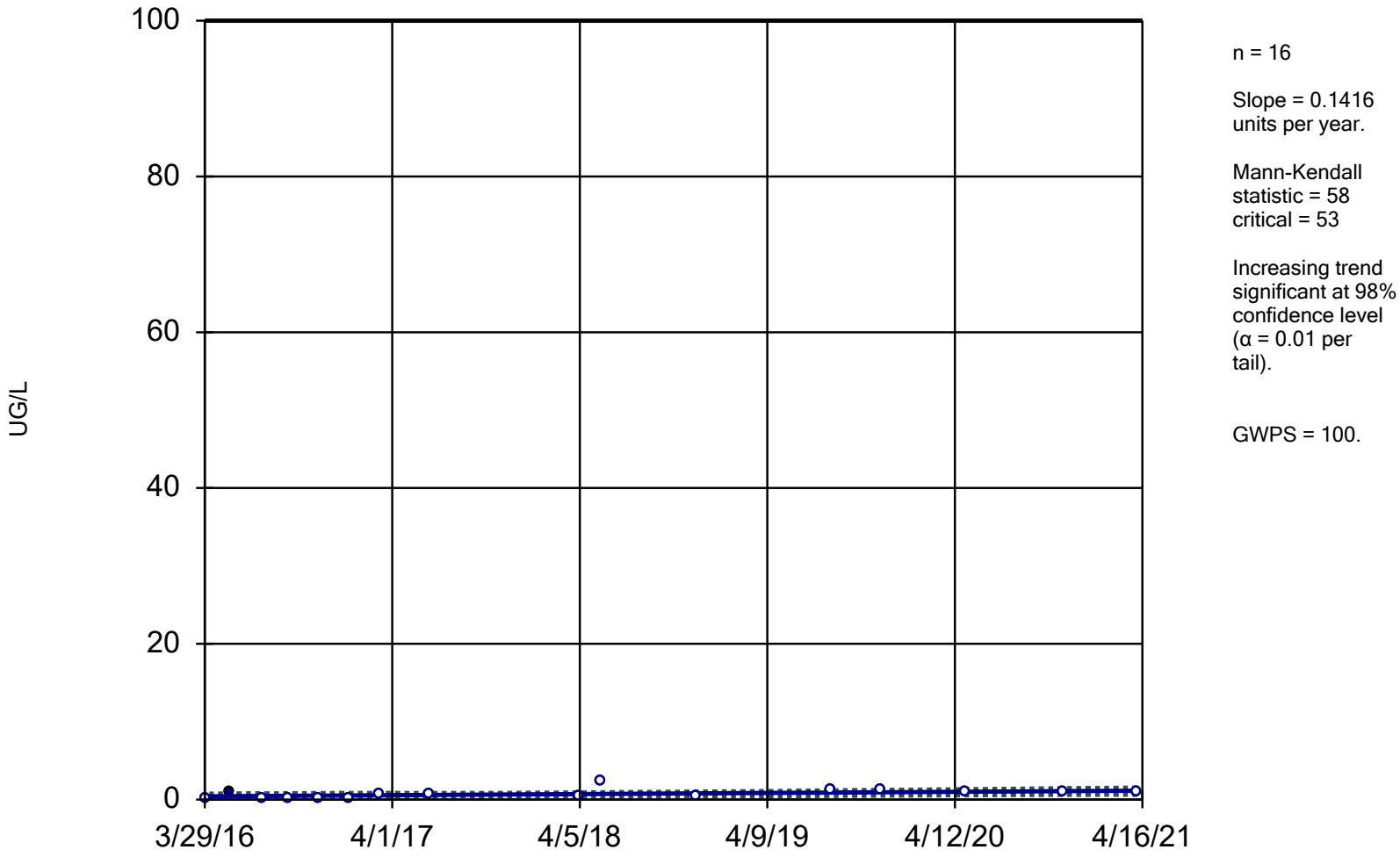
Constituent: MERCURY, TOTAL Analysis Run 7/19/2021 5:15 PM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 16

Slope = 0.1416 units per year.

Mann-Kendall statistic = 58
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

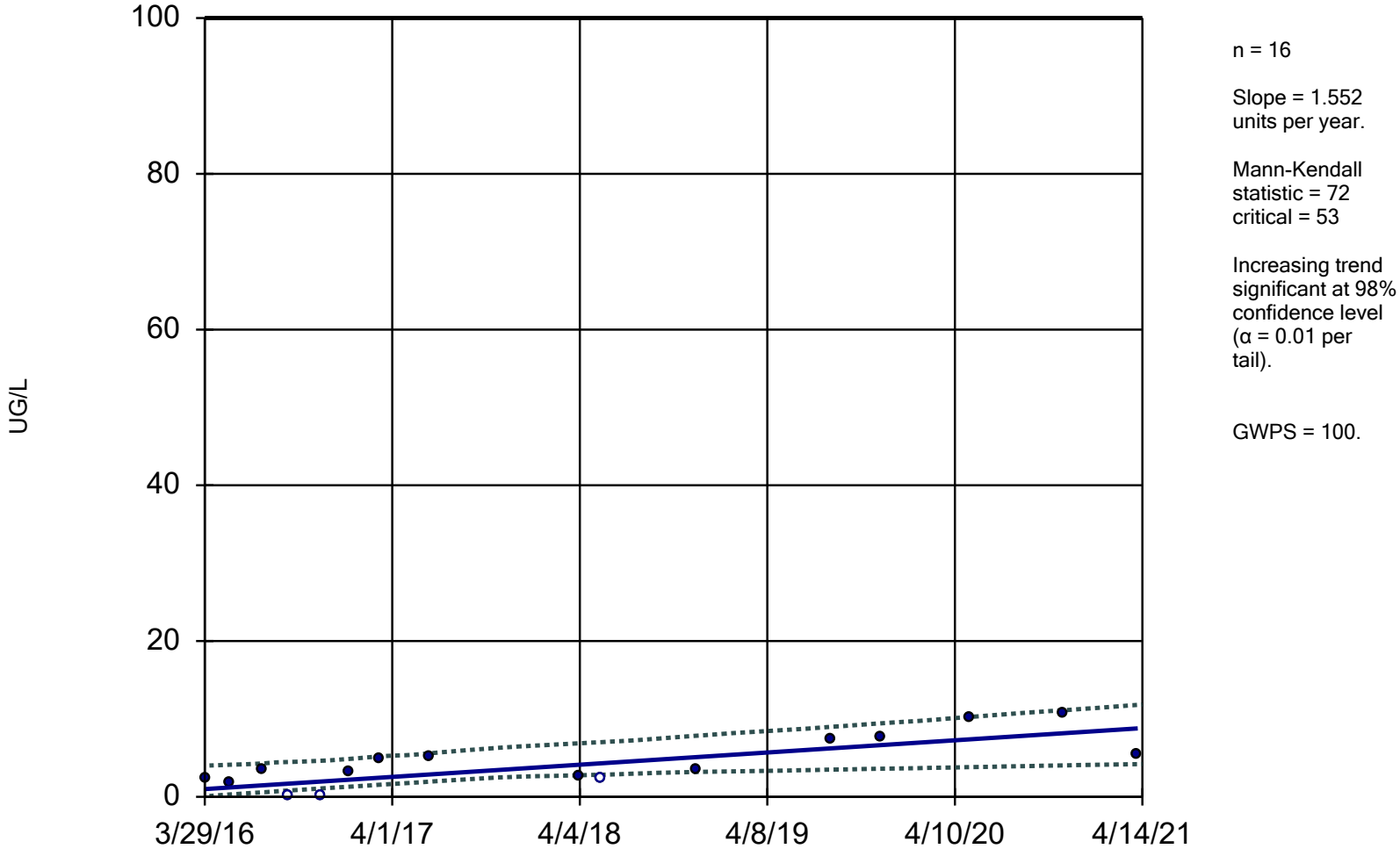
Constituent: MOLYBDENUM, TOTAL Analysis Run 7/19/2021 5:15 PM

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 16

Slope = 1.552 units per year.

Mann-Kendall statistic = 72
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

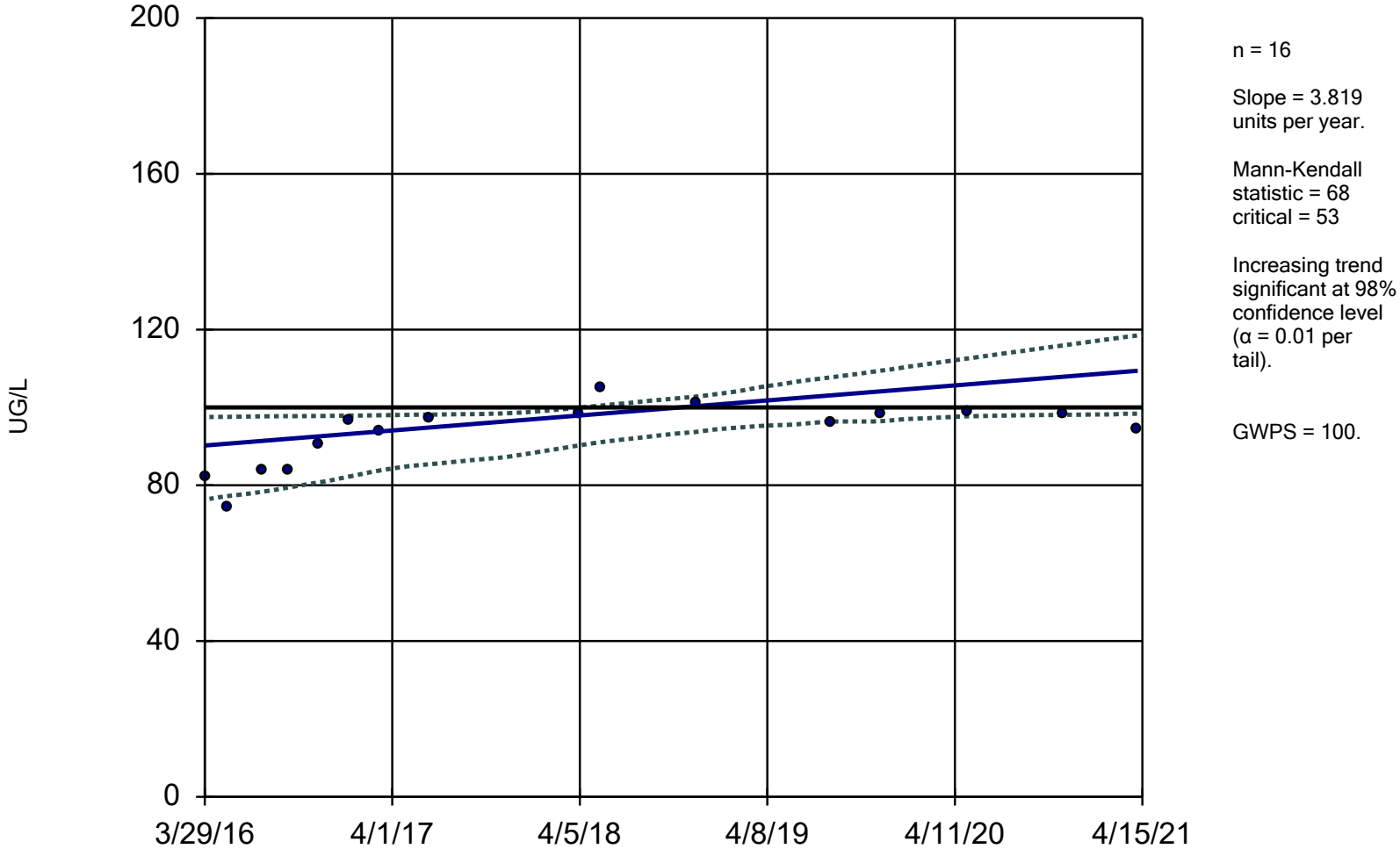
GWPS = 100.

Constituent: MOLYBDENUM, TOTAL Analysis Run 7/19/2021 5:15 PM

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 16

Slope = 3.819 units per year.

Mann-Kendall statistic = 68
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

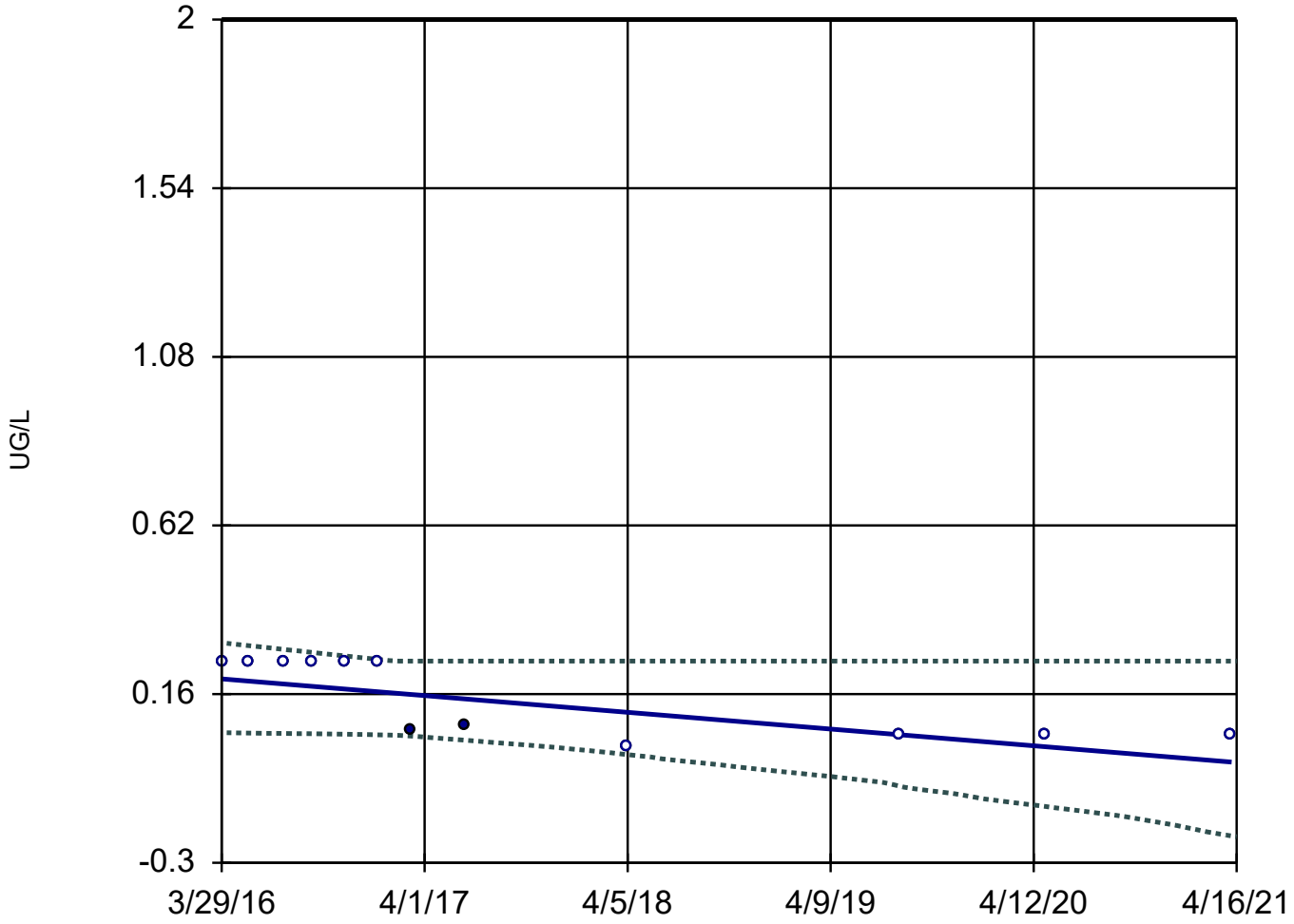
Constituent: MOLYBDENUM, TOTAL Analysis Run 7/19/2021 5:15 PM

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.

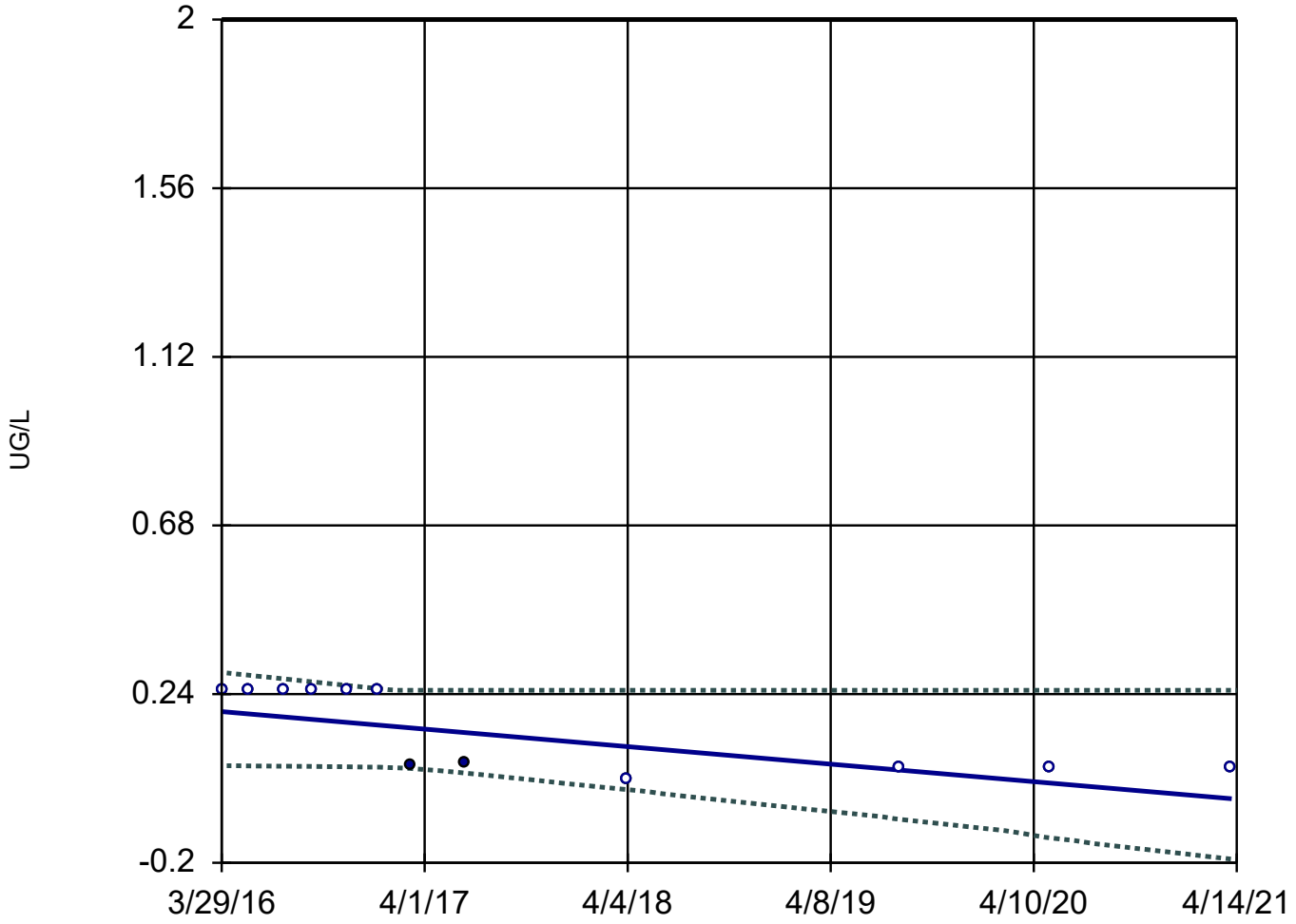
Constituent: THALLIUM, TOTAL Analysis Run 7/19/2021 5:15 PM

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.

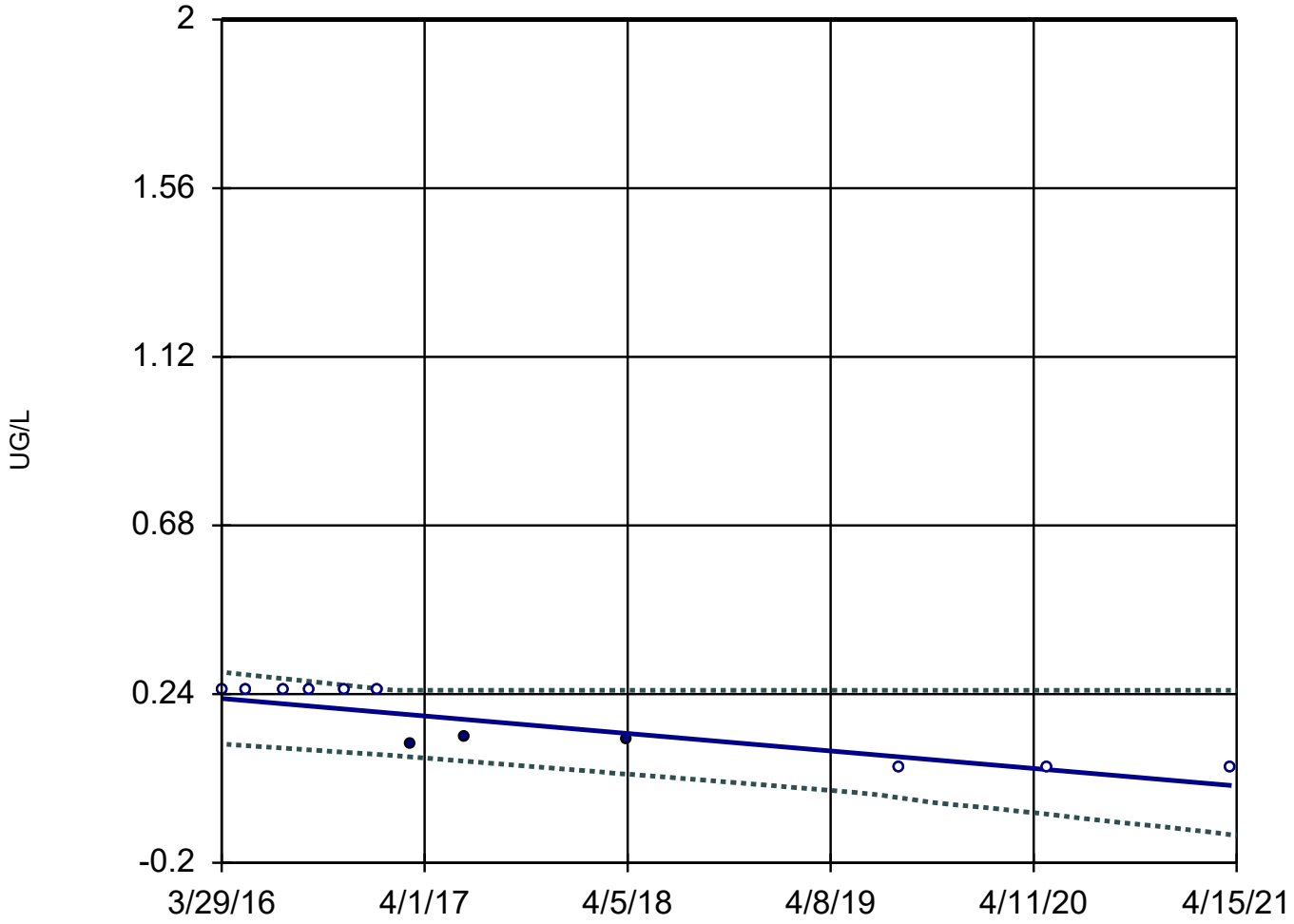
Constituent: THALLIUM, TOTAL Analysis Run 7/19/2021 5:15 PM

Meramec E.C. Client: Ameren Data: MEC Data

Sanitas™ v.9.6.30 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 = 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 7/19/2021 5:15 PM

Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/19/2021, 5:16 PM

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	0.00632	8	48	No	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0.04592	18	53	No	16	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-3	0.2548	24	48	No	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**0.7232**	**76**	**53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**0.9241**	**51**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	M-MW-6	-0.4101	-41	-48	No	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-7	-0.04056	-14	-53	No	16	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	0.1385	23	48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	-0.9384	-7	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-2**	**-45.07**	**-80**	**-53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-3	-9.458	-41	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-4	-3.827	-38	-44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-5	-16.22	-48	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-6**	**-7.151**	**-92**	**-53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-7**	**-2.839**	**-59**	**-53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-8**	**-21.79**	**-58**	**-53**	**Yes**	**16**	**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	1	31	No	11	100	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	-0.1515	-30	-44	No	14	35.71	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-2	-0.00...	-2	-44	No	14	28.57	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-3	-0.02051	-18	-44	No	14	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-4	-0.08743	-14	-44	No	14	42.86	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-5	-0.01506	-10	-44	No	14	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-6	-0.01609	-15	-39	No	13	61.54	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-7	-0.05653	-14	-44	No	14	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-8	0	4	44	No	14	71.43	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-1**	**0.02284**	**57**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-2**	**0.02179**	**65**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/19/2021, 5:16 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	0.0231	25	44	No	14	64.29	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-4**	**0.02179**	**65**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-5**	**0.02308**	**69**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	M-MW-6	0.918	43	44	No	14	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-7**	**0.02277**	**57**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-8**	**0.02308**	**69**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.02004	44	53	No	16	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.01465	38	63	No	18	16.67	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.006381	21	58	No	17	23.53	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.009812	20	53	No	16	6.25	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.01544	32	58	No	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.01237	16	58	No	17	5.882	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.007676	15	68	No	19	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.02133	39	53	No	16	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-1	0	5	35	No	12	83.33	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	7	44	No	14	92.86	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0.4791	25	48	No	15	33.33	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	-0.2944	-21	-48	No	15	46.67	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	-0.1894	-12	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-5	-0.7742	-25	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-6	-0.9927	-11	-44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	0.2472	1	48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	1.143	31	48	No	15	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**	**0.1416**	**58**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.1012	26	53	No	16	81.25	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-3**	**1.552**	**72**	**53**	**Yes**	**16**	**18.75**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	0.7636	40	53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-5**	**3.819**	**68**	**53**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	0.4289	5	53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	29.97	33	53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	-2.993	-16	-53	No	16	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.00...	-9	-44	No	14	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	0.005805	4	53	No	16	75	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	0.002081	0	53	No	16	43.75	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.04815	18	53	No	16	81.25	n/a	n/a	0.02	NP

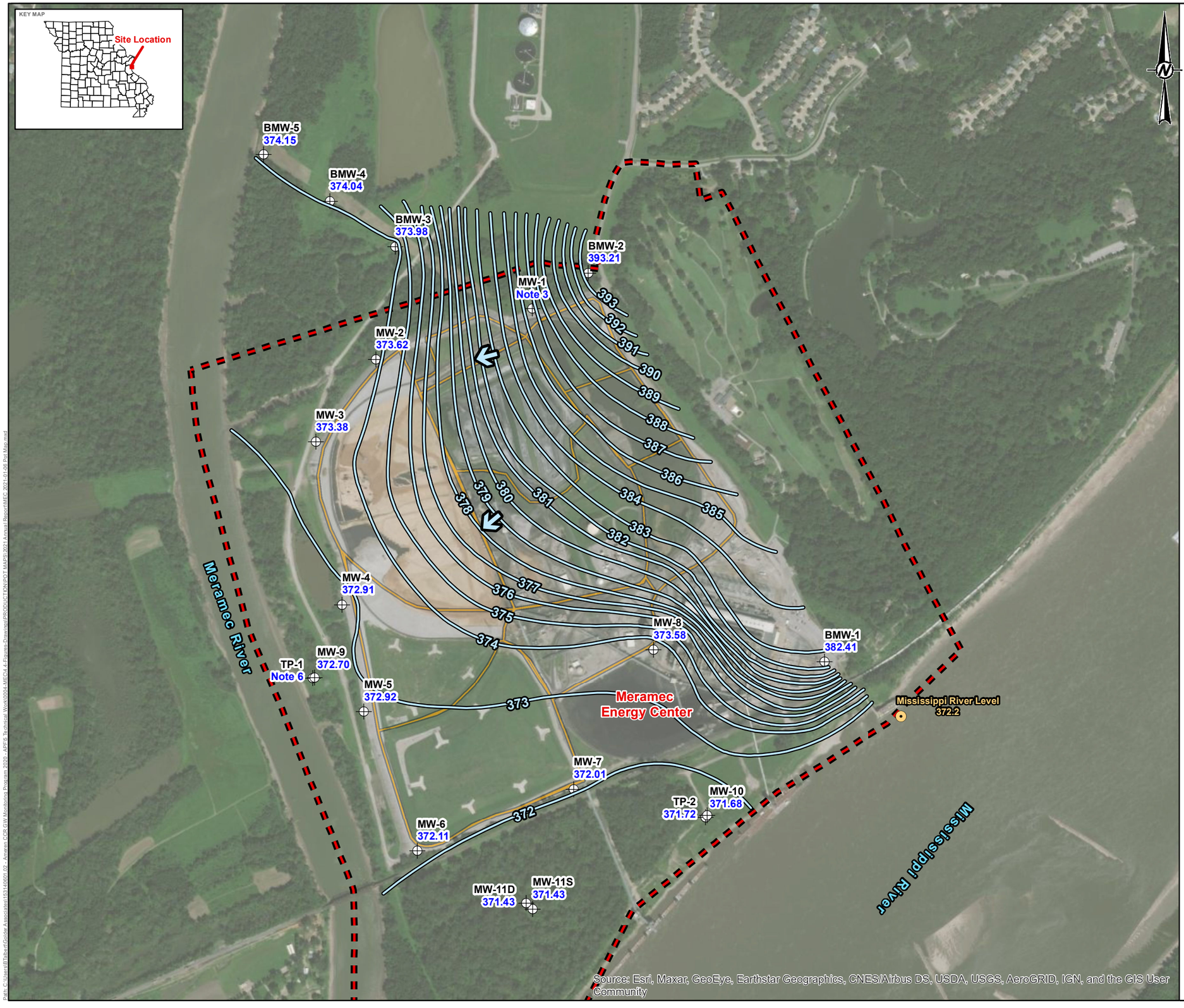
Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/19/2021, 5:16 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	0.04918	16	53	No	16	43.75	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	-0.00...	-1	-53	No	16	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	0.02258	13	44	No	14	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	-0.00...	-4	-53	No	16	81.25	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	-2	-44	No	14	85.71	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	2	44	No	14	85.71	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	-4	-44	No	14	85.71	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	-2	-44	No	14	85.71	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	-8	-44	No	14	92.86	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	-16	-44	No	14	92.86	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	-0.2	-10	-44	No	14	14.29	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	-1	-39	No	13	84.62	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 D

2021 Potentiometric Surface Maps



LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments

Groundwater ElevationContours

- Groundwater Elevation Contours (FT MSL)
- Inferred Groundwater Elevation Contours (FT MSL)

Ground/Surface Water Measurement Locations

- Groundwater Monitoring Well
- Mississippi River Gauge
- 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 POTENTIOMETRIC SURFACE MAP CONTOURING DUE TO WATER LEVEL 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 - JANUARY 6, 2021

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-02-02
PREPARED	BTT
DESIGN	JSI
REVIEW	EMS
APPROVED	MNH

PROJECT No. 153-140603
PHASE 0004
FIGURE **D1**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 0 1in

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LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments

Groundwater ElevationContours

- Groundwater Elevation Contours (FT MSL)
- Inferred Groundwater Elevation Contours (FT MSL)

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- Mississippi River Gauge
- Groundwater Flow Direction

NOTES

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3.) WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
4.) GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
5.) MISSISSIPPI RIVER LEVEL PROVIDED BY AMEREN.

REFERENCES

1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 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 5, 2021

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-05-12
PREPARED	BTT
DESIGN	JSI
REVIEW	EMS
APPROVED	MNH

PROJECT No. 153-140603
PHASE 0004
FIGURE **D2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
1 in
0

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KEY MAP

Site Location

BMW-5 376.53

BMW-4 376.70

BMW-3 376.73

BMW-2 392.33

MW-1 Note 3

MW-2 376.75

MW-3 376.80

MW-4 377.05

MW-5 377.24

MW-6 377.47

MW-7 377.61

MW-8 378.28

MW-9 377.04

MW-10 376.98

MW-11D 377.39

MW-11S 377.43

TP-1 377.66

TP-2 377.04

BMW-1 381.77

Mississippi River Level 377.3

392

391

390

389

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380

379

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377

Meramec River

Meramec Energy Center

Mississippi River

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

Groundwater ElevationContours

Groundwater Elevation Contours (FT MSL)

Inferred Groundwater Elevation Contours (FT MSL)

Ground/Surface Water Measurement Locations

Groundwater Monitoring Well

Mississippi River Gauge

Groundwater Flow Direction

NOTES

1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
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3.) WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
4.) GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
5.) MISSISSIPPI RIVER LEVEL PROVIDED BY AMEREN.

REFERENCES

1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 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 11, 2021

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-12-02
PREPARED	ETF
DESIGN	JSI
REVIEW	BTT
APPROVED	MNH

PROJECT No. 153-140603
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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