



REPORT

2021 Annual Groundwater Monitoring and Corrective Action Report

SCPA Surface Impoundment, Sioux Energy Center, St. Charles County, Missouri, USA

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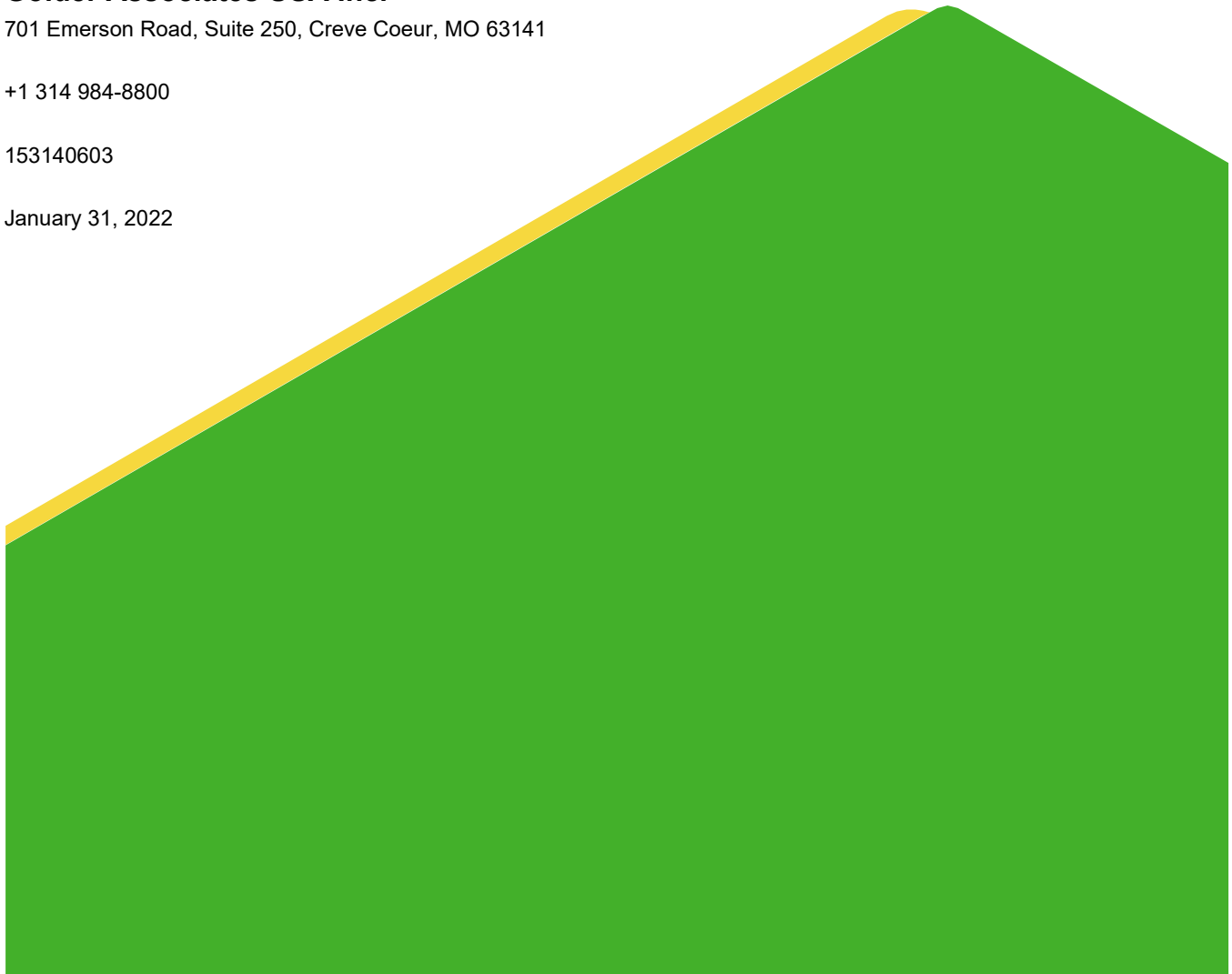
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1.0 EXECUTIVE SUMMARY AND STATUS OF THE SCPA GROUNDWATER MONITORING PROGRAM

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 SCPA Coal Combustion Residuals (CCR) Surface Impoundment at the Sioux Energy Center (SEC) is subject to the requirements of the CCR Rule. This Annual Report for the SCPA 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 SCPA 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 are provided in **Table 1**.

The Assessment Monitoring program was established at the SCPA 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 Molybdenum was present at an SSL. A summary of SSLs for the past year is provided in **Table 1**.

Table 1 - Summary of 2021 SCPA 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 11-16, 2020	December 17, 2020	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions	pH: UMW-2D Boron: UMW-2D, UMW-3D, UMW-4D, UMW-5D, UMW-6D Calcium: UMW-2D, UMW-3D, UMW-4D Chloride: UMW-1D, UMW-2D, UMW-3D, UMW-4D, UMW-5D, UMW-6D Fluoride: UMW-3D, UMW-4D, UMW-5D, UMW-6D Sulfate: UMW-2D, UMW-3D, UMW-4D, UMW-5D, UMW-6D TDS: UMW-2D, UMW-3D, UMW-4D, UMW-5D	Molybdenum: UMW-2D, UMW-3D, UMW-4D, UMW-5D	March 17, 2021
	Verification Sampling, January 11-12, 2021	January 20, 2021	Detected Appendix III parameters (See Note 2)			
April 2021 Sampling Event	Detection & Assessment Monitoring, April 9-14, 2021	May 12, 2021	Appendix III, Appendix IV, & Major Cations and Anions	pH: UMW-2D, UMW-3D Boron: UMW-2D, UMW-3D, UMW-4D, UMW-5D, UMW-6D Calcium: UMW-2D, UMW-3D, UMW-4D Chloride: UMW-1D, UMW-2D, UMW-3D, UMW-4D, UMW-5D, UMW-6D Fluoride: UMW-5D, UMW-6D Sulfate: UMW-2D, UMW-3D, UMW-4D, UMW-5D, UMW-6D TDS: UMW-2D, UMW-3D, UMW-4D, UMW-5D	Molybdenum: UMW-2D, UMW-3D, UMW-4D, UMW-5D	August 10, 2021
	Verification Sampling, June 2, 2021	June 18, 2021	Detected Appendix III parameters (See Note 3)			

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 8-11, 2021	December 20, 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-May 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 31, 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 1×10^{-7} centimeters per second (cm/sec) versus 1×10^{-5} cm/sec required by the CCR Rule).
- 2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. MNA occurs due to naturally occurring processes within the aquifer.

In January 2021, Ameren commenced Phase 1 of the corrective measures remedial plan by initiating closure at the SCPA. Closure of the SCPA is currently substantially completed with the completion of the liner cover system on December 21, 2021. Once closure is fully completed (anticipated Q2, 2022), the SCPA will transition into the post-closure care requirements of the CCR Rule. As outlined in §257.104 (Post-closure Care Requirements) of the CCR Rule, the monitoring system and programs must be maintained for at least 30 years. After 30 years, if the unit is in detection monitoring, the unit may cease groundwater sampling activities, otherwise post-closure care must continue until the unit can return to Detection Monitoring in accordance with section §257.95 (Assessment Monitoring Program). Phase 2 of the corrective measures remedial plan as outlined in the Remedy Selection Report will commence in 2022, with the first MNA sampling event and associated statistical analysis planned for the second quarter of 2022.

In addition to the Remedy Selection Report, the CCR Rule outlines that, at a minimum, Corrective Action Monitoring must meet the requirements of an Assessment Monitoring Program under §257.95 (Assessment Monitoring Program). Therefore, to comply with the requirements of the CCR Rule, two (2) sampling events were completed in 2021 for the Corrective Action Monitoring Well Network.

Supplemental Corrective Measures

In addition to MNA as a Corrective Action Remedy at Sioux, Ameren received an Underground Injection Control Missouri State Operating Permit (UI-0000044, available at <https://dnrservices.mo.gov/env/wpp/permits/issued/docs/UI0000044.pdf>) and a pilot groundwater treatment study was completed in 2021. The results of this pilot treatment study displayed significant reductions in key CCR indicator parameters. Due to the success, Ameren is currently expanding this technology around the SCPA, to supplement the MNA at the site. Drilling and installation of the full system is expected to be completed in 2022, and the system is expected to be fully operational by 2023.

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2.0 INSTALLATION OR DECOMMISSIONING OF MONITORING WELLS

There are currently two (2) different networks used for monitoring the SCPA 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, however, on March 26, 2021, the above-ground protective cover for monitoring wells TP-5S, TP-5M, and TP-5D, was modified to a flush-mount well protector due to ongoing construction at the SEC. The Missouri Department of Natural Resources (MDNR) Well Reconstruction Registration Reports and updated well construction diagrams can be found in **Appendix A**. 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 SCPA.

3.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the SCPA CCR Unit 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 B** provides laboratory analytical data for CCR Rule sampling events.

3.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 11-16, 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 11-12, 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 9-14, 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 this site, updates to the statistical limits are 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 SSIs. Detections of Appendix III analytes triggered Verification sampling, which was completed June 2, 2021, and the testing results verified 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 8-11, 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 11-16, 2020, and testing was completed for Appendix IV parameters detected above the Practical Quantitation Limit (PQL) during the April-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 and a table that displays the site-specific GWPS are provided in **Appendix C** and determined there were no new SSLs. The SSLs for the SCPA continue to be:

■ Molybdenum at UMW-2D, UMW-3D, UMW-4D, and UMW-5D

An Assessment Monitoring sampling event was completed April 9-14, 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 D** and determined that there were no new SSLs.

An Assessment Monitoring sampling event was completed November 8-11, 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 analyses to evaluate SSLs were 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 April 9-14, 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 8-11, 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 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 E**. As shown on the potentiometric surface maps, groundwater flow direction within the uppermost aquifer is dynamic and influenced by seasonal changes in the water level in the adjacent Mississippi and Missouri Rivers, since the alluvial aquifer is hydraulically connected to these water bodies. Groundwater in the alluvial aquifer will generally flow from the higher of the two rivers toward the lower elevation river. Water flows into and out of the alluvial aquifer as a result of fluctuating river water levels that produce “bank recharge” and “bank discharge” conditions. At this facility, groundwater can flow north and south toward the Mississippi and Missouri Rivers, depending on river levels.

Groundwater flow direction and hydraulic gradient were estimated for the alluvial aquifer wells at the SEC using commercially available software. Results from this assessment indicate that groundwater flow direction is variable from north to south and south to north due to fluctuating river levels. The overall net groundwater flow in the alluvial aquifer at the SEC was slightly to the east due to reversals in flow as a result of variable river levels in the Missouri and Mississippi Rivers. Horizontal gradients calculated by the program range from 0.00006 to 0.0009 feet/foot with an estimated net annual groundwater movement of approximately three (3) feet in the prevailing downgradient direction.

3.5 Sampling Issues

On April 8, 2021, while collecting water levels for the April 2021 sampling event, it was discovered that monitoring well UMW-1D had water and sediment seep into the flush mount well due to rain and nearby construction activities associated with the closure of the SCPA and SCPB Surface Impoundments. As a result of this discovery, the monitoring well was re-developed on April 9, 2021, to remove sediment and potential impacts prior to future groundwater elevation measurements or groundwater samples being collected. After the successful re-development, the well was returned to service.

No other notable sampling issues were encountered at the SCPA 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 first Corrective Action sampling event associated with Phase 2 of the Remedy Selection Report's corrective measures remedial plan is scheduled to be completed in second quarter of 2022. This event will be followed by a second semi-annual event scheduled for fourth quarter of 2022. Monitoring and statistical evaluation of MNA will be completed in accordance with the corrective measures plan discussed in the Remedy Selection Plan.

Additionally, based on the successful pilot study results, a groundwater treatment system is expected to be installed in 2022 and operational by 2023.

Tables

Table 2
Summary of Well Construction Details
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

Monitoring Well ID	Installation Date	Location		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								
UMW-1D*	12/15/2015	1121321.4	879420.3	444.95	445.4	383.9	373.7	71.7
UMW-2D	12/17/2015	1120266.7	878981.6	433.86	431.7	386.6	376.4	55.4
UMW-3D	12/16/2015	1120570.4	878251.1	431.67	430.1	384.3	374.1	56.0
UMW-4D	12/16/2015	1121077.9	877859.9	423.52	421.7	380.7	370.5	51.2
UMW-5D	12/17/2015	1121815.0	877799.1	446.66	444.8	384.8	374.6	70.2
UMW-6D	12/18/2015	1122312.0	878639.5	447.02	444.9	384.1	373.9	71.0
BMW-1D	12/8/2015	1121713.6	876740.9	428.28	426.0	383.1	372.9	53.2
BMW-3D	11/8/2016	1121798.8	875798.3	426.41	424.2	381.8	371.6	52.6
CORRECTIVE ACTION MONITORING WELL NETWORK								
LMW-1S*	12/15/2015	1121320.4	879427.6	445.07	445.4	414.8	404.6	40.8
LMW-2S	12/16/2015	1120332.8	879283.7	447.16	445.2	414.7	404.5	40.8
LMW-4S	12/8/2015	1119226.6	879561.5	429.40	427.3	412.4	402.2	25.1
LMW-5S	12/14/2015	1119250.6	880348.6	447.36	445.5	410.1	399.9	45.6
LMW-6S	12/14/2015	1119782.0	880867.8	446.00	444.1	414.1	403.9	40.2
BMW-1S	12/8/2015	1121709.2	876755.6	427.77	426.0	412.0	401.8	24.2
BMW-3S	11/8/2016	1121792.9	875809.5	426.69	424.1	410.2	400.0	24.2
UMW-7S (AM-1S)	7/11/2018	1122151.7	877672.3	425.56	423.3	408.5	398.2	25.1
UMW-7D (AM-1D)	7/11/2018	1122156.7	877672.7	425.47	423.5	378.7	368.4	55.1
PZ-1S	6/17/2018	1121157.5	877799.8	423.94	422.1	402.4	391.7	30.5
PZ-9D	6/19/2018	1119526.8	881125.3	434.30	432.4	377.2	366.5	65.9
UG-3	12/16/2007	1118608.5	880519.4	429.71	427.1	410.0	399.7	27.4
TP-2D	7/9/2018	1123221.1	881698.8	429.26	426.7	347.3	342.2	84.4
TP-3D	7/9/2018	1120614.0	882877.1	434.82	432.1	356.1	351.0	81.1
TP-4D	7/8/2018	1118472.8	882589.0	428.72	426.4	349.3	344.2	82.2
TP-5D**	7/6/2018	1118812.3	879517.5	429.00	429.9	352.5	347.4	80.9
TP-6S	7/11/2018	1119284.6	876381.5	428.07	426.1	408.1	403.0	23.0
TP-6D	7/11/2018	1119284.6	876381.5	428.06	426.1	345.6	340.5	85.6
TP-8D	7/14/2018	1114533.1	881307.7	431.30	428.8	351.7	346.6	82.3

Notes:

- 1) Horizontal Datum: State Plane Coordinates NAD83 (2000) Missouri East Zone feet.
- 2) FT MSL - Feet above mean sea level.
- 3) FT BGS - Feet below ground surface.
- 4) Vertical Datum: NAVD88 feet.
- 5) *UMW-1D and LMW-1S were modified on 04/29/2020.
- 6) **TP-5D was modified on 3/26/2021.

Table 3
Summary of Detection and Assessment Groundwater Network Sampling Dates
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

Groundwater Monitoring Wells	Date of Sample Collection				Total Number of Samples
	January 2021 Verification Sampling	April 2021 Assessment/ Detection Monitoring	June 2021 Verification Sampling	November 2021 Assessment/ Detection Monitoring	
CCR Rule Compliance Monitoring Well Network					
BMW-1D	-	4/13/2021	-	11/8/2021	2
BMW-3D	-	4/13/2021	-	11/8/2021	2
UMW-1D	1/11/2021	4/14/2021	6/2/2021	11/11/2021	4
UMW-2D	1/12/2021	4/9/2021	6/2/2021	11/11/2021	4
UMW-3D	1/12/2021	4/9/2021	-	11/11/2021	3
UMW-4D	1/12/2021	4/9/2021	-	11/11/2021	3
UMW-5D	-	4/9/2021	-	11/11/2021	2
UMW-6D	-	4/9/2021	-	11/10/2021	2
Assessment or Detection Monitoring	Detection	Assessment/ Detection	Detection	Assessment/ Detection	NA

Notes:

- 1.) Detection Monitoring results provided in Tables 5-7.
- 2.) Verification Sampling results provided in Tables 5-6.
- 3.) Assessment Monitoring results provided in Tables 8-10.
- 4.) "-" No sample collected.
- 5.) NA - Not Applicable.

Table 4
Summary of Corrective Action Groundwater Network Sampling Dates
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

Groundwater Monitoring Wells			
	April 2021 Sampling Event	November 2021 Sampling Event	Total Number of Samples
Corrective Action Monitoring Well Network			
LMW-1S	4/14/2021	11/11/2021	2
LMW-2S	4/12/2021	11/10/2021	2
LMW-4S	4/12/2021	11/10/2021	2
LMW-5S	4/14/2021	11/9/2021	2
LMW-6S	4/14/2021	11/9/2021	2
UMW-7S (AM-1S)	4/13/2021	11/8/2021	2
UMW-7D (AM-1D)	4/13/2021	11/8/2021	2
PZ-1S	4/9/2021	11/11/2021	2
PZ-9D	4/14/2021	11/10/2021	2
UG-3	4/13/2021	11/9/2021	2
TP-2D	4/14/2021	11/12/2021	2
TP-3D	4/14/2021	11/10/2021	2
TP-4D	4/14/2021	11/8/2021	2
TP-5D	4/13/2021	11/9/2021	2
TP-6S	4/8/2021	11/10/2021	2
TP-6D	4/8/2021	11/10/2021	2
TP-8D	4/14/2021	11/10/2021	2
BMW-1S	4/13/2021	11/8/2021	2
BMW-3S	4/13/2021	11/8/2021	2
Event Type	Corrective Action	Corrective Action	NA

Notes:

- 1.) Corrective Action sampling results provided in Tables 11-12.
- 2.) NA - Not Applicable.

Table 5
November 2020 Detection Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	PREDICTION LIMITS	BACKGROUND		GROUNDWATER MONITORING WELLS					
			BMW-1D	BMW-3D	UMW-1D	UMW-2D	UMW-3D	UMW-4D	UMW-5D	UMW-6D
November 2020 Detection Monitoring Event										
DATE	NA	NA	11/16/2020	11/16/2020	11/11/2020	11/13/2020	11/13/2020	11/13/2020	11/13/2020	11/12/2020
pH	SU	6.308-7.828	7.12	7.12	7.40	8.10	8.03	7.32	7.28	7.24
BORON, TOTAL	µg/L	416.3	199	59.1 J	266	18,300 J	30,600	30,100	20,200	829
CALCIUM, TOTAL	µg/L	147,892	130,000	103,000	64,300	250,000 J	270,000	226,000	110,000	85,500
CHLORIDE, TOTAL	mg/L	11.2	7.1	8.1	17.1	19.8 J	14.3	15.2	27.1	14.1
FLUORIDE, TOTAL	mg/L	0.3646	0.30	0.30	0.25	0.22	0.53	0.42	0.58	0.40
SULFATE, TOTAL	mg/L	44.89	58	25.2	50.4	599	711	681	181	75.5
TOTAL DISSOLVED SOLIDS	mg/L	513	498	395	304	1,090	1,370	1,290	625	391
January 2021 Verification Sampling Event										
DATE	NA	NA			1/11/2021	1/12/2021	1/12/2021	1/12/2021		
pH	SU	6.308-7.828				7.98	7.76			
BORON, TOTAL	µg/L	416.3								
CALCIUM, TOTAL	µg/L	147,892								
CHLORIDE, TOTAL	mg/L	11.2								
FLUORIDE, TOTAL	mg/L	0.3646						0.74		
SULFATE, TOTAL	mg/L	44.89			34.2					
TOTAL DISSOLVED SOLIDS	mg/L	513								

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. Values highlighted in green indicate an initial exceedance above the prediction limit that was not confirmed by Verification Sampling (not an SSI).
7. Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.

Table 6
April 2021 Detection Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	PREDICTION LIMITS	BACKGROUND		GROUNDWATER MONITORING WELLS					
			BMW-1D	BMW-3D	UMW-1D	UMW-2D	UMW-3D	UMW-4D	UMW-5D	UMW-6D
April 2021 Detection Monitoring Event										
DATE	NA	NA	4/13/2021	4/13/2021	4/14/2021	4/9/2021	4/9/2021	4/9/2021	4/9/2021	4/9/2021
pH	SU	6.12-7.63	6.92	6.84	7.74	8.03	7.82	7.20	7.03	6.88
BORON, TOTAL	µg/L	240	65.3 J	238	360	19,100	29,800	27,400	15,600	685
CALCIUM, TOTAL	µg/L	146,231	111,000	140,000	65,700	200,000	247,000	208,000	93,000	82,200
CHLORIDE, TOTAL	mg/L	11.2	7.4	8.5	19.2	21.5	14.7	20.4	26.3	11.5
FLUORIDE, TOTAL	mg/L	0.3938	0.39	0.44	0.33	0.59	ND	ND	0.72	0.41
SULFATE, TOTAL	mg/L	54.84	58.4	26.8	44.4	465	989	590	115	62.8
TOTAL DISSOLVED SOLIDS	mg/L	522.7	498	425	324	976	1,440	1,240	523	369
June 2021 Verification Sampling Event										
DATE	NA	NA			6/2/2021	6/2/2021				
pH	SU	6.12-7.63			7.30					
BORON, TOTAL	µg/L	240			197 J					
CALCIUM, TOTAL	µg/L	146,231								
CHLORIDE, TOTAL	mg/L	11.2								
FLUORIDE, TOTAL	mg/L	0.3938				ND				
SULFATE, TOTAL	mg/L	54.84								
TOTAL DISSOLVED SOLIDS	mg/L	522.7								

NOTES:

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

Prepared By: EMS
Checked By: LMS
Reviewed By: SCP

Table 7
November 2021 Detection Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS					
		BMW-1D	BMW-3D	UMW-1D	UMW-2D	UMW-3D	UMW-4D	UMW-5D	UMW-6D
November 2021 Detection Monitoring Event									
DATE	NA	11/8/2021	11/8/2021	11/11/2021	11/11/2021	11/11/2021	11/11/2021	11/11/2021	11/10/2021
pH	SU	7.17	7.09	7.29	8.13	7.91	7.19	7.12	7.04
BORON, TOTAL	µg/L	123	51.7 J	195	21,300	32,200	30,000	19,500	702
CALCIUM, TOTAL	µg/L	139,000	113,000	64,300	199,000 J	260,000	218,000	99,200	80,800
CHLORIDE, TOTAL	mg/L	4.9 J	8.6	18.7	21.1	16.6	22.1	26.5	7.0
FLUORIDE, TOTAL	mg/L	0.37	0.39	0.25	0.68	0.58	0.26	0.66	0.41
SULFATE, TOTAL	mg/L	38.6	25.5	42.4	480	712	628	120	52.9
TOTAL DISSOLVED SOLIDS	mg/L	489	415	304	938	1,310	1,170	570	344

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.

Table 8
November 2020 Assessment Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS					
		BMW-1D	BMW-3D	UMW-1D	UMW-2D	UMW-3D	UMW-4D	UMW-5D	UMW-6D
FIELD PARAMETERS									
DATE	NA	11/16/2020	11/16/2020	11/11/2020	11/13/2020	11/13/2020	11/13/2020	11/13/2020	11/12/2020
DISSOLVED OXYGEN	mg/L	0.42	0.18	0.29	0.27	5.94	0.22	0.30	0.26
pH	SU	7.12	7.12	7.40	8.10	8.03	7.32	7.28	7.24
REDOX POTENTIAL	mV	-115.6	-118.6	-87.8	-92.6	-138.0	-121.9	-117.1	-91.2
SPECIFIC CONDUCTIVITY	mS/cm	0.856	0.728	0.537	1.500	1.693	1.631	0.935	0.693
TURBIDITY	NTU	1.85	4.54	3.72	1.47	1.00	0.81	1.46	3.17
APPENDIX IV PARAMETERS									
ARSENIC, TOTAL	µg/L	0.23 J	0.097 J	7.4	3.2	ND	ND	ND	ND
BARIUM, TOTAL	µg/L	312	658	233	89.3	77.8	74.9	346	125
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.59	ND	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.30	0.30	0.25	0.22	0.53	0.42	0.58	0.40
LEAD, TOTAL	µg/L	ND	ND	ND	4.9 J	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	20.6	24.5	12.7	30.2	18.1	31.5	31.3	5.2 J
MOLYBDENUM, TOTAL	µg/L	ND	ND	50.3	1,060	3,400	9,040	2,400	63.0
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	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, and 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 provided in Appendix C.

Table 9
April 2021 Assessment Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS					
		BMW-1D	BMW-3D	UMW-1D	UMW-2D	UMW-3D	UMW-4D	UMW-5D	UMW-6D
FIELD PARAMETERS									
DATE	NA	4/13/2021	4/13/2021	4/14/2021	4/9/2021	4/9/2021	4/9/2021	4/9/2021	4/9/2021
DISSOLVED OXYGEN	mg/L	0.49	0.48	1.24	0.27	2.30	0.10	0.61	0.60
pH	SU	6.92	6.84	7.74	8.03	7.82	7.20	7.03	6.88
REDOX POTENTIAL	mV	-125.0	-117.1	60.0	-38.7	-37.1	92.1	-121.0	-96.0
SPECIFIC CONDUCTIVITY	mS/cm	0.889	0.749	0.467	1.222	1.613	1.492	0.798	0.607
TURBIDITY	NTU	3.58	5.06	5.78	1.05	0.44	0.44	1.88	4.50
APPENDIX IV PARAMETERS									
ANTIMONY, TOTAL	µg/L	ND	ND	0.31 J	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	0.14 J	0.29 J	2.7	3.4	0.55 J	0.36 J	0.47 J	0.55 J
BARIUM, TOTAL	µg/L	666	365	179	72.7	67.6	66.5	288	113
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	0.25 J	0.28 J	0.76	1.6	0.38 J	ND
CHROMIUM, TOTAL	µg/L	0.43 J	0.44 J	0.94 J	ND	ND	ND	ND	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.39	0.44	0.33	0.59	ND	ND	0.72	0.41
LEAD, TOTAL	µg/L	6.0 J	ND	5.2 J	4.0 J	5.3 J	6.6 J	ND	ND
LITHIUM, TOTAL	µg/L	19.2	11.4	12.0	22.7	19.4	33.6	25.9	9.0 J
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	ND	ND	35.7	1,330	3,720	7,940	1,910	66.1
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	0.36 J	ND	0.22 J	0.18 J	0.22 J	ND
THALLIUM, TOTAL	µg/L	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, and 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 of the April 2021 Assessment Monitoring Data is provided in Appendix D.

Table 10
November 2021 Assessment Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS					
		BMW-1D	BMW-3D	UMW-1D	UMW-2D	UMW-3D	UMW-4D	UMW-5D	UMW-6D
FIELD PARAMETERS									
DATE	NA	11/8/2021	11/8/2021	11/11/2021	11/11/2021	11/11/2021	11/11/2021	11/11/2021	11/10/2021
DISSOLVED OXYGEN	mg/L	0.66	0.19	2.04	0.29	0.98	0.43	0.59	0.44
pH	SU	7.17	7.09	7.29	8.13	7.91	7.19	7.12	7.04
REDOX POTENTIAL	mV	-115.7	-122.9	23.9	-92.3	-117.2	-109.1	-121.5	-76.6
SPECIFIC CONDUCTIVITY	mS/cm	0.871	0.710	0.484	1.243	1.573	1.455	0.786	0.588
TURBIDITY	NTU	2.34	3.13	6.41	1.02	0.74	1.82	1.60	3.94
APPENDIX IV PARAMETERS									
ARSENIC, TOTAL	µg/L	0.25 J	ND	1.7	2.9	0.63 J	0.35 J	0.46 J	0.37 J
BARIUM, TOTAL	µg/L	348	658	136	69.4	71.0	65.9	304	115
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	0.43 J	1.1	2.4	0.58	ND
CHROMIUM, TOTAL	µg/L	0.28 J	0.32 J	ND	0.29 J	0.32 J	0.28 J	0.35 J	0.27 J
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.37	0.39	0.25	0.68	0.58	0.26	0.66	0.41
LITHIUM, TOTAL	µg/L	ND	ND	12.7	ND	ND	ND	29.5	10.5
MOLYBDENUM, TOTAL	µg/L	ND	ND	37.6	1,420	3,610	8,100	1,860	61.9
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	0.22 J	ND	0.26 J	0.20 J	0.24 J	ND

NOTES

1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, and 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.

Table 11
April 2021 Corrective Action Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-4S	LMW-5S	LMW-6S	TP-6S	PZ-1S	UG-3	AM-1S	AM-1D	PZ-9D	TP-2D	TP-3D	TP-4D	TP-5D	TP-6D	TP-8D
FIELD PARAMETERS																				
DATE	NA	4/13/2021	4/13/2021	4/14/2021	4/12/2021	4/12/2021	4/14/2021	4/14/2021	4/8/2021	4/9/2021	4/13/2021	4/13/2021	4/13/2021	4/14/2021	4/14/2021	4/14/2021	4/14/2021	4/13/2021	4/8/2021	4/14/2021
DISSOLVED OXYGEN	mg/L	0.56	0.40	2.99	0.93	1.23	0.33	0.61	0.97	0.17	0.65	0.30	1.21	0.78	0.65	0.26	0.38	0.46	0.22	0.34
REDOX POTENTIAL	mV	34.4	13.8	61.7	61.8	51.5	5.9	21.8	150.3	-35.8	52.8	51.2	-132.5	-123.5	19.4	-13.9	-12.9	-119.2	-134.5	-117.2
SPECIFIC CONDUCTIVITY	mS/cm	0.955	0.831	0.538	1.486	1.182	1.932	1.583	0.846	1.187	0.938	0.678	0.660	1.368	1.710	0.742	0.681	1.019	0.786	0.763
TURBIDITY	NTU	0.44	0.47	1.60	0.31	0.69	5.70	0.88	2.91	2.05	2.27	9.24	2.75	14.74	2.04	2.12	2.90	1.71	2.51	0.64
APPENDIX III PARAMETERS																				
BORON, TOTAL	µg/L	70.8 J	74.2 J	532	10,400	356	15,200	16,500	89.7 J	22,100	225	8,360	7,060	2,750	72.6 J	57.9 J	54.2 J	6,000	56.2 J	74.3 J
CALCIUM, TOTAL	µg/L	149,000	134,000	68,900	199,000	189,000	254,000	249,000	135,000	167,000	139,000	80,900	77,100	209,000	284,000	117,000	106,000	144,000	124,000	113,000
CHLORIDE, TOTAL	mg/L	8.2	12.8	18.1	120	5.4	19.2	2.6 J	14.1	19.8	41.4	26.2	28.1	17.3	74.2	8.9	9.0	27.4	15.6	13.9
pH	SU	6.85	6.98	7.41	7.00	6.78	6.88	6.90	7.03	7.04	7.08	7.30	7.03	7.10	6.89	7.05	7.09	7.08	7.13	6.84
SULFATE, TOTAL	mg/L	29.4	34.8	41.4	258	50.5	920	571	37.5	421	58.2	65.7	61.6	442	472	89.8	88.9	226	65.8	52.1
TOTAL DISSOLVED SOLIDS	mg/L	579	509	316	989	747	1,670	1,300	505	933	578	412	405	1,010	1,380	501	472	677	500	458
APPENDIX IV PARAMETERS																				
ANTIMONY, TOTAL	µg/L	ND	ND	0.39 J	0.19 J	0.18 J	0.15 J	0.22 J	0.15 J	ND	0.15 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	1.1	0.70 J	2.4	0.97 J	0.62 J	0.97 J	0.76 J	0.49 J	0.53 J	0.49 J	1.4	0.21 J	0.70 J	0.27 J	0.21 J	1.7	0.27 J	0.13 J	1.7
BARIUM, TOTAL	µg/L	147	118	121	130	226	57.3	39.4	282	168	234	148	228	122	63.7	585	537	184	415	376
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	0.61 J	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	0.11 J	0.065 J	ND	0.44 J	ND	0.89	0.91	ND	1.1	0.15 J	0.083 J	0.11 J	ND	ND	ND	ND	ND	ND	ND
CHROMIUM, TOTAL	µg/L	0.41 J	0.38 J	0.62 J	0.71 J	0.41 J	0.60 J	0.82 J	ND	ND	ND	0.83 J	1.4	1.2	1.5	0.40 J	0.42 J	ND	2.6 J	9.4
COBALT, TOTAL	µg/L	ND	ND	ND	2.7 J	ND	ND	6.9	ND	ND	ND	1.9 J	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.36	0.39	0.54	ND	0.24	0.57	0.38	0.36	0.80	0.38	0.56	0.57	0.35	0.25	0.28	0.31	0.42	0.33	0.33
LEAD, TOTAL	µg/L	ND	ND	4.0 J	ND	ND	3.9 J	ND	ND	6.1 J	ND	ND	ND	ND	7.7 J	5.9 J	4.6 J	5.7 J	ND	ND
LITHIUM, TOTAL	µg/L	ND	9.1 J	13.2	35.1	26.8	46.2	16.6	31.1	14.7	26.1	27.2	34.6	35.1	46.6	30.6	28.6	30.3	22.2	31.0
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	2.5 J	2.7 J	86.5	987	ND	2,640	ND	2.3 J	5,660	2.5 J	282	560	4.2 J	ND	2.2 J	ND	186	ND	ND
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.266	1.493
SELENIUM, TOTAL	µg/L	0.23 J	0.47 J	2.5	ND	0.81 J	ND	ND	0.96 J	ND	1.5	ND	ND	0.21 J	ND	ND	ND	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																				
ALKALINITY	mg/L	450	399	210	338	591	349	413	401	185	356	243	208	295	476	334	291	257	347	324
IRON, FERRIC, TOTAL	mg/L	ND	0.014 J	0.007 J	0.045 J	0.014 J	0.12	0.11	0.061	5.6	ND	1.3	2.2	12.1	15.6	7.2	5.9	8.8	7.5	5.7
IRON, FERROUS, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.78 J	ND	0.32 J	0.63 J	0.55 J	0.47 J	0.33 J	0.14 J	0.67 J	0.44 J	0.37 J
IRON, TOTAL	µg/L	ND	ND	ND	45.0 J	ND	122	112	61.4	6,350	ND	1,650	2,870	12,700	16,000	7,540	6,030	9,430	7,900	6,070
MAGNESIUM, TOTAL	µg/L	28,500	23,800	16,800	29,400	40,400	46,900	57,700	28,600	24,400	27,700	17,100	16,000	48,800	74,600	29,000	25,200	35,300	31,000	25,300
MANGANESE, TOTAL	µg/L	393	161	39.2	407	47.4 J	1,420	425	167	1,420	285	886	349	1,340	1,340	653	450	1,130	496	449
POTASSIUM, TOTAL	µg/L	397 J	520	6,290	9,890	4,860	5,000	4,500	2,160	6,020	5,960	7,560	7,120	5,250	6,280	4,080	3,410	5,020	3,640	3,660
SODIUM, TOTAL	mg/L	4.8	5.5	17.2	70.8	11.7	182	66.8	5.6	46.4	25.6	22.6	22.0	17.3	26.8	6.7	6.9	22.6	5.2	5.9
SULFIDE, TOTAL	mg/L	0.039 J	ND	0.027 J	0.031 J	0.026 J	0.028 J	0.029 J	0.032 J	0.054	0.027 J	0.026 J	0.038 J	0.062	0.035 J	0.031 J	0.051	0.034 J	0.032 J	0.035 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 centimeter, and NTU - nephelometric turbidity 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. 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.
5. NA - Not Applicable.

Table 12
November 2021 Corrective Action Monitoring Results
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO

ANALYTE	UNITS	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-4S	LMW-5S	LMW-6S	TP-6S	PZ-1S	UG-3	AM-1S	AM-1D	PZ-9D	TP-2D	TP-3D	TP-4D	TP-5D	TP-6D	TP-8D
FIELD PARAMETERS																				
DATE	NA	11/8/2021	11/8/2021	11/11/2021	11/10/2021	11/10/2021	11/9/2021	11/9/2021	11/10/2021	11/11/2021	11/9/2021	11/8/2021	11/8/2021	11/10/2021	11/12/2021	11/10/2021	11/8/2021	11/9/2021	11/10/2021	11/10/2021
DISSOLVED OXYGEN	mg/L	3.65	0.13	1.06	1.17	0.46	1.07	1.95	0.32	0.31	0.41	0.34	0.08	0.10	0.11	0.48	1.28	0.51	0.28	0.40
REDOX POTENTIAL	mV	-23.6	-33.3	102.1	35.2	-10.9	66.4	75.0	67.1	-110.3	66.0	-119.9	-134.9	-118.1	-94.5	-108.4	-111.4	-114.0	-117.7	-112.3
SPECIFIC CONDUCTIVITY	mS/cm	0.965	0.763	0.554	1.630	1.087	2.073	1.896	0.834	0.731	0.813	0.665	0.631	1.350	1.796	0.791	0.778	0.912	0.826	0.715
TURBIDITY	NTU	1.70	0.28	5.98	0.72	2.24	6.50	4.41	2.38	2.43	1.00	5.00	0.78	18.50	0.48	1.28	1.14	0.76	0.53	3.86
APPENDIX III PARAMETERS																				
BORON, TOTAL	µg/L	66.9 J	67.8 J	307	8,000	254	12,900	22,500 J	118	6,390	210	9,630	7,640	3,840	72.2 J	60.3 J	64.5 J	6,160	62.3 J	72.0 J
CALCIUM, TOTAL	µg/L	160,000	137,000	70,500	236,000	185,000	253,000 J	291,000	138,000	108,000	126,000	84,200	79,100	218,000	284,000	122,000	114,000	132,000	125,000	112,000
CHLORIDE, TOTAL	mg/L	7.4	12.0	18.9	155	2.5 J	21.8	3.3 J	11.2	19.3	24.5	26.6	28.9	16.7	74.4	9.3	10.0	27.3	15.8	15.0
pH	SU	6.86	6.99	7.36	6.87	6.70	7.11	7.07	6.76	6.79	6.71	7.24	7.34	7.00	6.92	6.93	6.93	6.96	6.97	7.00
SULFATE, TOTAL	mg/L	31.8	31.2	46.0	186	31.4	835	809	39.7	105	66.0	60.6	69.5	431	480	89.1	94.0	228	63.9	47.3
TOTAL DISSOLVED SOLIDS	mg/L	534	461	320	967	624	1,620	1,570	500	478	519	422	396	987	1,300	482	474	627	488	431
APPENDIX IV PARAMETERS																				
ARSENIC, TOTAL	µg/L	1.0	0.53 J	2.1	0.91 J	0.62 J	0.76 J	0.67 J	0.52 J	0.43 J	0.39 J	1.5	0.19 J	0.71 J	0.18 J	0.13 J	1.6	0.22 J	ND	1.4
BARIUM, TOTAL	µg/L	155	116	128	140	223	56.5	46.0	284	107	213	154	243	121	60.2	564	536	154	419	357
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	0.13 J	ND	0.11 J	0.55	0.17 J	0.98	0.75	ND	0.46 J	0.21 J	0.12 J	0.19 J	ND	ND	ND	ND	0.075 J	ND	ND
CHROMIUM, TOTAL	µg/L	0.42 J	ND	0.40 J	0.28 J	ND	0.30 J	0.36 J	0.27 J	0.35 J	ND	ND	0.37 J	1.0	0.24 J	0.34 J	ND	ND	0.31 J	0.40 J
COBALT, TOTAL	µg/L	ND	1.4 J	3.0 J	2.5 J	ND	ND	7.4	ND	ND	2.6 J	1.9 J	ND	ND	ND	1.2 J	1.4 J	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	0.46	0.42	ND	0.22	0.55	ND	0.34	0.58	0.38	0.59	0.60	ND	ND	0.24	0.27	0.20 J	0.29	0.28
LITHIUM, TOTAL	µg/L	ND	ND	15.8	ND	ND	ND	ND	ND	ND	ND	29.7	34.0	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	ND	ND	78.0	764	ND	1,580	ND	6.9 J	1,440	ND	289	575	ND	ND	ND	ND	234	ND	2.9 J
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.025	2.182 J	ND	2.241	ND
SELENIUM, TOTAL	µg/L	0.39 J	0.23 J	2.5	ND	0.53 J	0.37 J	ND	0.58 J	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	0.33 J
ADDITIONAL PARAMETERS																				
ALKALINITY	mg/L	426	356	198	427	557	310	342	385	249	328	241	204	237	449	307	267	198	343	300
IRON, TOTAL	µg/L	ND	56.3	72.9	78.3	25.0 J	59.1	43.0 J	135	5,060	ND	1,840	3,020	13,300	16,200	7,700	6,260	8,750	7,860	6,110
MAGNESIUM, TOTAL	µg/L	29,800	23,500	17,400	39,500	40,500	47,100 J	71,300	28,500	18,600	24,000	18,000	17,000	49,600	79,000	28,900	25,800	31,000	30,900	24,500
MANGANESE, TOTAL	µg/L	895	364	276	486	269	1,410	509	244	1,070	614	747	368	1,410	1,290	642	427	984	508	425
POTASSIUM, TOTAL	µg/L	470 J	533	6,080	8,360	5,150	5,450	4,790	2,590	4,150	5,570	8,220	7,270	5,320	5,870	3,860	3,350	4,480	3,880	3,400
SODIUM, TOTAL	mg/L	4.8	5.7	17.6	60.9	11.9	157	97.5	5.6	25.0	24.5	24.3	23.4	19.8	26.9	6.6	7.3	23.7	5.5	5.9

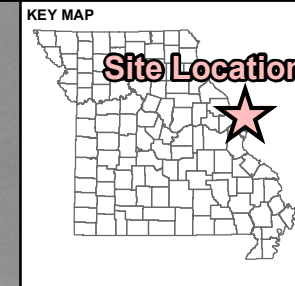
NOTES

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. 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. 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.
5. NA - Not Applicable.

Figures



Mississippi River



LEGEND

- Sioux Energy Center Property Boundary
- SCPA - Bottom Ash Surface Impoundment
- SCPB - Fly Ash Surface Impoundment
- SCPC - WFGD Disposal Area
- SCL4A - Dry CCR Disposal Area

Monitoring Well Networks

- Corrective Action Monitoring Well
- SCPA Detection and Assessment Monitoring Well
- SCPB Detection Monitoring and SCPA Corrective Action Monitoring Well
- SCPB Detection Monitoring Well
- SCPB, SCPC and SCL4A Detection Monitoring and SCPA Corrective Action Monitoring Well
- SCPC Detection Monitoring Well
- SCL4A Detection Monitoring and SCPA Corrective Action Monitoring Well
- SCL4A Detection Monitoring Well
- Monitoring Well Used for Water Level Elevation Measurements



NOTE(S)
 1.) ALL BOUNDARIES AND LOCATIONS ARE APPROXIMATE.
 2.) WFGD - WET FLUE GAS DESULFURIZATION.

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

CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER



PROJECT
GROUNDWATER MONITORING PROGRAM

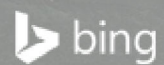
TITLE
SIOUX ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

CONSULTANT	YYYY-MM-DD	2021-12-21
	DESIGNED	JSI
	PREPARED	BTT
	REVIEWED	GTM
	APPROVED	MNH

PROJECT NO. 153140603 CONTROL 1240

FIGURE 1

PATH: C:\Users\E.Schneider\Code\Associates\153140601_02 - Ameren CCR GW Monitoring Program 2020 - 15314106 - All Project Files (1) Technical\Work\0003-SEC03-3-Figure-Drawings\PRODUCTION\Other Maps\Figure 3 - CCR Well Programs - Copy.mxd PRINTED ON: 2021-01-22 AT: 4:28:44 PM

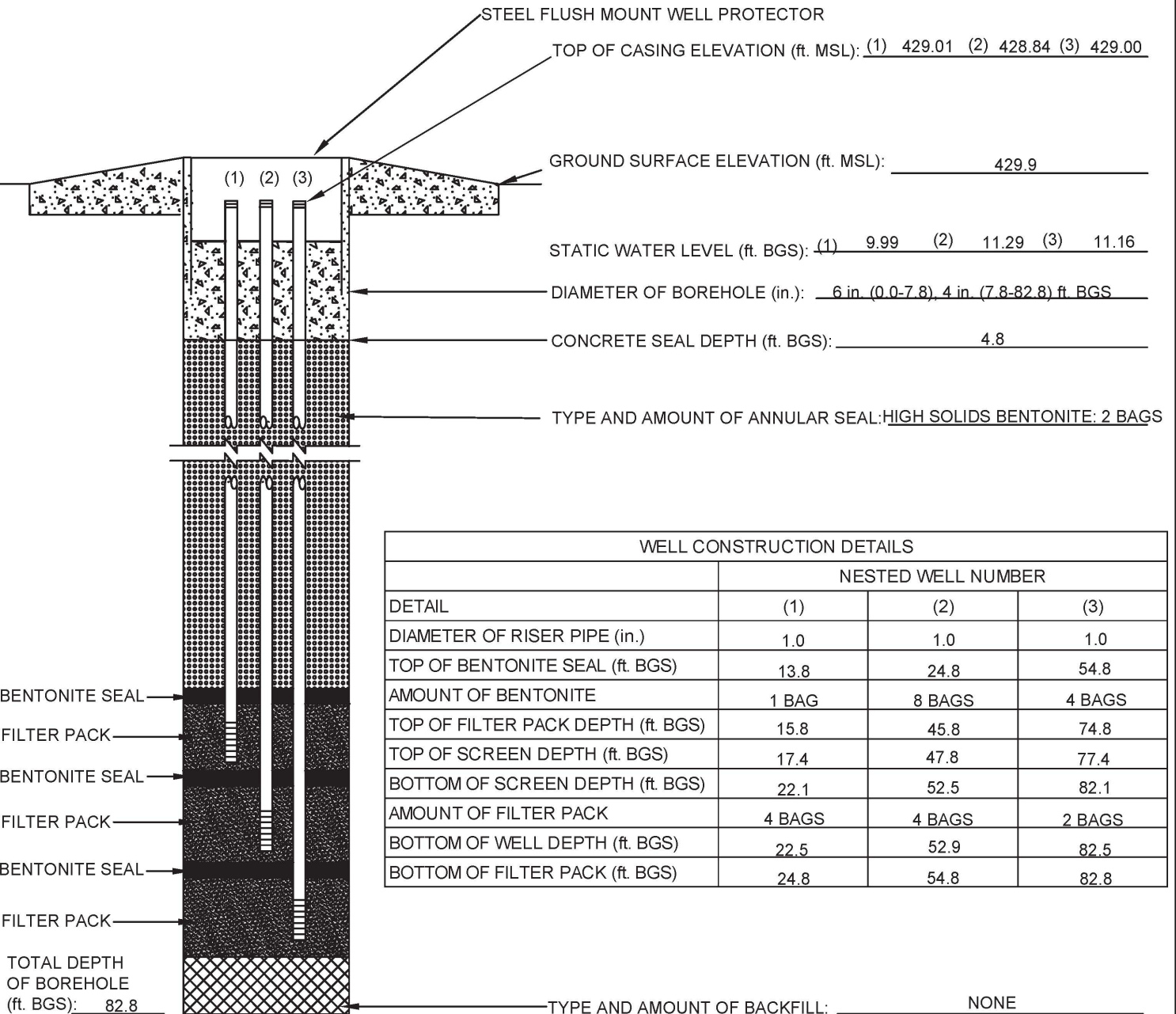


IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

APPENDIX A

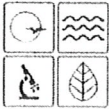
Well Modification Records

PROJECT NAME: AMEREN NATURE AND EXTENT		PROJECT NUMBER: 1531406.0003L
SITE NAME: SIOUX ENERGY CENTER		LOCATION: TP-5
CLIENT: AMEREN - MISSOURI		SURFACE ELEVATION: 429.9 ft. MSL
GEOLOGIST: R. FELDMANN	NORTHING: 1118812.3	EASTING: 879517.5
DRILLER: J. DRABEK	COMPLETION DATE: 07/06/2018	DRILLING COMPANY: CASCADE
DRILLING METHODS: SONIC		



ADDITIONAL NOTES: TYPE AND LENGTH OF SCREEN: 3 OF 1 in. X 4.7 ft. SCHEDULE 40 PVC, 0.010 in. SCREEN SLOT SIZE. FILTER PACK TYPE: #0 SAND. ft. MSL = FEET ABOVE MEAN SEA LEVEL. ft. BGS = FEET BELOW GROUND SURFACE. ft. BTOC = FEET BELOW TOP OF CASING. in. - INCHES. 450 GALLONS OF H2O USED DURING DRILLING. BAGS OF SAND AND BENTONITE (3/8 in.) CHIPS ARE 50LBS EACH. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FEET (2000) MISSOURI EAST ZONE. VERTICAL DATUM NAVD 88. WELL SURVEYED BY ZAHNER AND ASSOCIATES ON JULY 19, 2018. MONITORING WELL WAS MODIFIED TO FLUSHMOUNT ON 3/26/2021.

CHECKED BY: B. TALBERT PREPARED BY: E. SCHNEIDER
 DATE CHECKED: 1/20/2022



MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM
RECONSTRUCTION REGISTRATION REPORT

FOR OFFICE USE ONLY

REF. NO.	DATE RECEIVED
----------	---------------

ROUTE / /	APPROVED	DATE	ENTERED	STATE CERT. NO.	CHECK NO.	REVENUE NO.
--------------	----------	------	---------	-----------------	-----------	-------------

WELL OWNER INFORMATION

NAME AMEREN Missouri			TELEPHONE NUMBER WITH AREA CODE (314) 621-3222			
MAILING ADDRESS 1901 Chouteau Ave			CITY St Louis		STATE MO	ZIP CODE 63103
PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MAILING ADDRESS) 8501 MO 94			CITY West Alton		EMAIL ADDRESS	

GENERAL WELL INFORMATION

DATE WELL WAS RECONSTRUCTED 07/06/2018	WELL CERTIFICATION OR REFERENCE NUMBER (IF KNOWN) 00538173	WELL NUMBER S-TP-5	VARIANCE NUMBER (IF ISSUED) n/a	ORIGINAL DRILLER (If known) Jason Drabek / 004484	DATE ORIGINALLY DRILLED (IF KNOWN) 07/06/2018
TYPE OF REPAIR <input type="checkbox"/> Raised casing <input type="checkbox"/> Deepening of well <input type="checkbox"/> Well conversion		NAME OF SITE, BUSINESS, OR CLEANUP PROJECT Sioux Energy Center		REGULATORY SITE ID NUMBER OF DNR/EPA PROJECT (IF APPLICABLE) N/A	
<input type="checkbox"/> Lining of well <input checked="" type="checkbox"/> Monitoring well					

LOCATION INFORMATION

Lat. 38 54 21.36 "	COUNTY St Charles	Section	Township	N Range	<input type="checkbox"/> E <input type="checkbox"/> W	DRILL AREA (OFFICE USE ONLY)
Long. 90 17 29.25 "						

WATER WELL INFORMATION

TYPE OF WELL <input type="checkbox"/> Domestic <input type="checkbox"/> High yield bedrock <input type="checkbox"/> High yield unconsolidated <input type="checkbox"/> Multi-family <input type="checkbox"/> Public water supply <input type="checkbox"/> Open loop water <input type="checkbox"/> Oil/gas well conversion to water well						
CASING DIAMETER in.	CASING LENGTH (IF KNOWN) ft.	WELL CASING SEAL OR CONNECTION <input type="checkbox"/> Well seal <input type="checkbox"/> Pitless unit <input type="checkbox"/> Pitless adaptor	STATIC WATER LEVEL (IF KNOWN) ft.	WELL CHLORINATED AFTER RECONSTRUCTION <input type="checkbox"/> Yes <input type="checkbox"/> No	DRILLER NOTES S-TP-5S -0.70ft / S-TP-5M -0.55ft / S-TP-5D -0.60ft	

MONITORING WELL INFORMATION

TYPE OF REPAIR <input type="checkbox"/> Over-drill and reconstructed* <input type="checkbox"/> Install or replace surface completion <input checked="" type="checkbox"/> Raise or lower surface elevation *Attach diagram showing well reconstruction details		LENGTH OF RISER ADDED see notes ft.	RISER MATERIAL <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Stainless steel	ORIGINAL RISER MATERIAL <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Stainless steel	METHOD OF ATTACHMENT <input type="checkbox"/> Thread <input type="checkbox"/> Weld <input type="checkbox"/> Couple <input type="checkbox"/> Fuse <input type="checkbox"/> Glue <input checked="" type="checkbox"/> Other	TYPE OF SURFACE COMPLETION <input type="checkbox"/> Above ground <input checked="" type="checkbox"/> Flush mount
---	--	--	---	--	---	--

LINER INFORMATION

USE (Choose one) <input type="checkbox"/> Hold back formation <input type="checkbox"/> Prevent rust <input type="checkbox"/> Seal out undesirable conditions	LENGTH ft.	OUTSIDE DIAMETER in.	WEIGHT (LB.) OR SDR#, SCH#	MATERIAL <input type="checkbox"/> Plastic <input type="checkbox"/> Steel
DEPTH TO TOP OF LINER ft.	PACKER USED ON PVC LINER <input type="checkbox"/> Yes <input type="checkbox"/> No	DEPTH PACKERS SET / / ft.		
POSITION OF SEAL <input type="checkbox"/> Full length <input type="checkbox"/> Bottom	GROUT TYPE (CHOOSE ONE) CEMENT <input type="checkbox"/> Type I <input type="checkbox"/> Type III BENTONITE <input type="checkbox"/> Chips <input type="checkbox"/> Granular <input type="checkbox"/> Pellets <input type="checkbox"/> Slurry	NUMBER OF SACKS USED _____	METHOD OF GROUT INSTALLATION <input type="checkbox"/> Gravity <input type="checkbox"/> Pressure tremie <input type="checkbox"/> As liner is installed	

DEEPENING OF WELL INFORMATION

DEPTH TO FROM		FORMATION AND YIELD DESCRIPTION**

RAISED CASING INFORMATION

LENGTH ADDED ft.	CASING MATERIAL <input type="checkbox"/> Plastic <input type="checkbox"/> Steel	ORIGINAL CASING MATERIAL <input type="checkbox"/> Plastic <input type="checkbox"/> Steel	METHOD OF ATTACHMENT <input type="checkbox"/> Thread <input type="checkbox"/> Weld <input type="checkbox"/> Couple <input type="checkbox"/> Glue
---------------------	---	--	--

I hereby certify that the information herein described for this well is in accordance with the department of natural resources requirements. (All fields must be completed but only one signature is required.)

PRIMARY CONTRACTOR (if different than installation contractor) <i>Evan M. Swann</i>	PERMIT NUMBER 006557-M	DATE 04/28/2021
WELL OR PUMP INSTALLATION CONTRACTOR <i>J. Edits</i>	PERMIT NUMBER 006329-M	DATE 04/28/2021
WELL OR PUMP INSTALLATION APPRENTICE	PERMIT NUMBER	DATE

**BORING LOG/WELL DIAGRAM ATTACHED

MO 780-1414 (09-20) SEND FORM WITH FEE (FEE WAIVED FOR RAISING CASING ONLY) TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, PO BOX 250, ROLLA, MO 65402-0250

FOR REGISTRATION FEES, PLEASE SEE: <https://dnr.mo.gov/pubs/pub2494.htm>

PHONE: 573-368-2165 FAX: 573-368-2317 EMAIL: welldrillers@dnr.mo.gov

RECORD (AND FEE) MAY BE SUBMITTED ONLINE: <https://dnr.mo.gov/mowells/>

APPENDIX B

Laboratory Analytical Data

January 20, 2021

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

RE: Project: AMEREN SCPA - VS
Pace Project No.: 60358895

Dear Jeffrey Ingram:

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



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60358895001	S-UMW-1D	Water	01/11/21 14:05	01/13/21 04:00
60358895002	S-UMW-4D	Water	01/12/21 09:31	01/13/21 04:00
60358895003	S-SPCA-FB-1	Water	01/12/21 09:50	01/13/21 04:00
60358895004	S-SPCA-DUP-1	Water	01/12/21 00:00	01/13/21 04:00

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SAMPLE ANALYTE COUNT

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60358895001	S-UMW-1D	EPA 300.0	CRN2	1	PASI-K
60358895002	S-UMW-4D	EPA 300.0	CRN2	2	PASI-K
60358895003	S-SPCA-FB-1	EPA 300.0	CRN2	2	PASI-K
60358895004	S-SPCA-DUP-1	EPA 300.0	CRN2	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

Sample: S-UMW-1D **Lab ID: 60358895001** Collected: 01/11/21 14:05 Received: 01/13/21 04:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Sulfate	34.2	mg/L	10.0	2.8	10		01/15/21 12:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

Sample: S-UMW-4D **Lab ID: 60358895002** Collected: 01/12/21 09:31 Received: 01/13/21 04:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Fluoride	0.74	mg/L	0.20	0.085	1		01/14/21 16:19	16984-48-8	
Sulfate	635	mg/L	50.0	13.9	50		01/15/21 12:49	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

Sample: S-SPCA-FB-1 **Lab ID: 60358895003** Collected: 01/12/21 09:50 Received: 01/13/21 04:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Fluoride	<0.075	mg/L	0.20	0.075	1		01/15/21 14:02	16984-48-8	
Sulfate	<0.28	mg/L	1.0	0.28	1		01/15/21 14:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

Sample: S-SPCA-DUP-1 **Lab ID: 60358895004** Collected: 01/12/21 00:00 Received: 01/13/21 04:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	0.75	mg/L	0.20	0.085	1		01/14/21 18:43	16984-48-8	
Sulfate	816	mg/L	50.0	13.9	50		01/15/21 14:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

QC Batch: 699213

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60358895001, 60358895002, 60358895003, 60358895004

METHOD BLANK: 2820424

Matrix: Water

Associated Lab Samples: 60358895001, 60358895002, 60358895003, 60358895004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	01/14/21 09:14	
Sulfate	mg/L	<0.28	1.0	0.28	01/14/21 09:14	

METHOD BLANK: 2822622

Matrix: Water

Associated Lab Samples: 60358895001, 60358895002, 60358895003, 60358895004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	01/15/21 09:15	
Sulfate	mg/L	<0.28	1.0	0.28	01/15/21 09:15	

METHOD BLANK: 2823083

Matrix: Water

Associated Lab Samples: 60358895001, 60358895002, 60358895003, 60358895004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	01/18/21 09:32	
Sulfate	mg/L	<0.28	1.0	0.28	01/18/21 09:32	

LABORATORY CONTROL SAMPLE: 2820425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

LABORATORY CONTROL SAMPLE: 2822623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

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 SCPA - VS

Pace Project No.: 60358895

LABORATORY CONTROL SAMPLE: 2823084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	5	4.5	90	90-110	

MATRIX SPIKE SAMPLE: 2820426

Parameter	Units	60358506002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	ND	50	70.0	137	80-120	M1
Sulfate	mg/L	28.6	100	163	134	80-120	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2820427 2820428

Parameter	Units	60358895002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.74	2.5	2.5	3.2	3.2	97	98	80-120	1	15	
Sulfate	mg/L	635	250	250	1000	1030	147	160	80-120	3	15	E,M1

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

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.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPA - VS

Pace Project No.: 60358895

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60358895001	S-UMW-1D	EPA 300.0	699213		
60358895002	S-UMW-4D	EPA 300.0	699213		
60358895003	S-SPCA-FB-1	EPA 300.0	699213		
60358895004	S-SPCA-DUP-1	EPA 300.0	699213		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60358895



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 25LL

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

Cooler Temperature (°C): As-read 1.0 Corr. Factor -0.2 Corrected 0.8°C
Temperature should be above freezing to 6°C 2.1 1.9°C

Date and initials of person examining contents:
1-13-2010

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>603173/13-210</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 11:30 am, 1/13/21

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Dr., Ste 260 Bailwin, MO 63021	Copy To:	Ryan Feldmann/Eric Schneider	Company Name:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:		Address:	
Phone:	636-724-9191	Project Name:	Ameren - SCPA - VS	Pace Quote Reference:	
Requested Due Date/TAT:	Standard	Project Number:	153140602.0083A	Pace Project Manager:	Jamie Church
				Pace Profile #:	9285

Page: 1 of 1

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: MO
 STATE: MO

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WP AS CY TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
			COMPOSITE START	COMPOSITE END/GRAB										
1	S-UMW-1D				G	WT	1-11-21 1405	1	Unpreserved	N				
2	S-UMW-4D				G	WT	1-12-21 0931	1	Unpreserved	N				
3	S-SCPA-F0-1				G	WT	0950	1	Unpreserved	N				
4	S-SCPA-DUP-1				G	WT	0931	1	Unpreserved	N				
5	S-SCPA-MS-1				G	WT	0931	1	Unpreserved	N				
6	S-SCPA-MSD-1				G	WT	0931	1	Unpreserved	N				
7					G	WT				N				
8					G	WT				N				
9					G	WT				N				
10					G	WT				N				
11					G	WT				N				
12					G	WT				N				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Brendan Talbert / Golder	1-12-2021	1245	Angela Navarro	01/12/21	12:49	0.8 Y Y Y Y
	Angela Navarro	1/12/21	1249	Dan Simpson	1/13/21	0400	1.9 Y Y Y Y
						0.8	0.8 Y Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert
 SIGNATURE of SAMPLER: *B Talbert*

DATE Signed (MM/DD/YY): 01-12-21



GOLDER

MEMORANDUM

DATE January 28, 2021

Project No. 153140602

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth

EMAIL AMuehlfarth@golder.com

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPA – VERIFICATION SAMPLING - DATA PACKAGE 60358895

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

- When duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J), biased high (J+) or low (J-).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren- Sioux - SCPA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: 153140602
 Validation Date: 01/28/2021

Laboratory: Pace Analytical Services - Kansas City

SDG #: 60358895

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

Matrix: Air Soil/Sed. Water Waste

Sample Names S-UMW-1D, S-UMW-4D, S-SPCA-FB-1, S-SPCA-DUP-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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>01/11/2021 - 01/12/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>BTT</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, S.Cond., Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
b) Were analytes detected in the field blank(s)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	S-SCPA-FB-1 @ S-UMW-4D
c) Were analytes detected in the equipment blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
d) Were analytes detected in the trip blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
b) Were the proper analytes included in the LCS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
c) Was the LCS accuracy criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S-SPCA-DUP-1 @ S-UMW-4D
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
d) Were lab dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
b) Was the %D within control limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Recovery could not be calculated since sample contained high concentration of analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
b) Was MSD accuracy criteria met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Recovery could not be calculated since sample contained high concentration of analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
c) Were MS/MSD precision criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Comments/Notes:

Sulfate diluted in several samples, no qualification necessary.

S-SPCA-DUP-1: RPD exceeds limit (20%) for Sulfate (24.9%).

MS/MSD:

2820426: MS % recovery low for Fluoride and Sulfate. MS performed on unrelated sample, no qualification necessary.

2820427/2820428: MS/MSD % recovery high for Sulfate. Associated with sample -5002.

May 12, 2021

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

RE: Project: AMEREN SEC SCPA
Pace Project No.: 60366222

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between April 10, 2021 and April 15, 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
Brendan Talbert, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60366222001	S-UMW-2D	Water	04/09/21 14:51	04/10/21 03:15
60366222002	S-UMW-3D	Water	04/09/21 12:52	04/10/21 03:15
60366222003	S-UMW-4D	Water	04/09/21 10:04	04/10/21 03:15
60366222004	S-UMW-5D	Water	04/09/21 10:04	04/10/21 03:15
60366222005	S-UMW-6D	Water	04/09/21 13:26	04/10/21 03:15
60366222006	S-UMW-DUP-1	Water	04/09/21 08:00	04/10/21 03:15
60366222007	S-UMW-FB-1	Water	04/09/21 15:21	04/10/21 03:15
60366222008	S-UMW-MS-1	Water	04/09/21 11:43	04/10/21 03:15
60366222009	S-UMW-MSD-1	Water	04/09/21 11:43	04/10/21 03:15
60366222010	S-BMW-1D	Water	04/13/21 13:34	04/14/21 03:50
60366222011	S-BMW-3D	Water	04/13/21 12:25	04/14/21 03:50
60366824001	S-UMW-1D	Water	04/14/21 09:56	04/15/21 04:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
60366222001	S-UMW-2D	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	BLA	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		
		60366222002	S-UMW-3D	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	BLA			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		
60366222003	S-UMW-4D			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	BLA	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		
		60366222004	S-UMW-5D	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		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		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
60366222005	S-UMW-6D	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	BLA	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
60366222006	S-UMW-DUP-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	BLA	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
60366222007	S-UMW-FB-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	BLA	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

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
60366222008	S-UMW-MS-1	EPA 300.0	CRN2	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60366222009	S-UMW-MSD-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60366222010	S-BMW-1D	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	BLA	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
60366222011	S-BMW-3D	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	BLA	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
60366824001	S-UMW-1D	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	BLA	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

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	VRP	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-2D Lab ID: 60366222001 Collected: 04/09/21 14:51 Received: 04/10/21 03:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	72.7	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:37	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:37	7440-41-7	
Boron	19100	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:37	7440-42-8	
Calcium	200000	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:37	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:37	7440-48-4	
Iron	333	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:37	7439-89-6	
Lead	4.0J	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:37	7439-92-1	
Lithium	22.7	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:37	7439-93-2	
Magnesium	4710	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:37	7439-95-4	
Manganese	168	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:37	7439-96-5	
Molybdenum	1330	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:37	7439-98-7	
Potassium	24500	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:37	7440-09-7	
Sodium	53000	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:37	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/21/21 10:00	04/30/21 14:16	7440-36-0	
Arsenic	3.4	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:16	7440-38-2	
Cadmium	0.28J	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:16	7440-43-9	
Chromium	0.42J	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:16	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:16	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:16	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	05/05/21 14:20	05/06/21 11:10	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	172	mg/L	20.0	7.5	1		04/15/21 19:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	976	mg/L	10.0	10.0	1		04/15/21 13:22		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.24	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.088J	mg/L	0.20	0.048	1		04/20/21 10:39		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-2D **Lab ID: 6036622001** Collected: 04/09/21 14:51 Received: 04/10/21 03:15 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		04/15/21 11:58	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.5	mg/L	5.0	1.9	5		04/22/21 18:05	16887-00-6	B
Fluoride	0.59	mg/L	0.20	0.086	1		04/22/21 17:17	16984-48-8	
Sulfate	465	mg/L	50.0	21.0	50		04/22/21 18:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-3D Lab ID: 60366222002 Collected: 04/09/21 12:52 Received: 04/10/21 03:15 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	67.6	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:39	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:39	7440-41-7	
Boron	29800	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:39	7440-42-8	
Calcium	247000	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:39	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:39	7440-48-4	
Iron	1000	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:39	7439-89-6	
Lead	5.3J	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:39	7439-92-1	
Lithium	19.4	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:39	7439-93-2	
Magnesium	9780	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:39	7439-95-4	
Manganese	588	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:39	7439-96-5	
Molybdenum	3720	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:39	7439-98-7	
Potassium	17400	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:39	7440-09-7	
Sodium	84800	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:39	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	04/21/21 10:00	04/30/21 14:18	7440-36-0	
Arsenic	0.55J	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:18	7440-38-2	
Cadmium	0.76	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:18	7440-43-9	
Chromium	0.40J	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:18	7440-47-3	B
Selenium	0.22J	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:18	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:18	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	05/05/21 14:20	05/06/21 11:12	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	97.2	mg/L	20.0	7.5	1		04/15/21 19:24		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1440	mg/L	13.3	13.3	1		04/15/21 13:22		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.63	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.38	mg/L	0.20	0.048	1		04/20/21 10:38		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-3D **Lab ID: 6036622002** Collected: 04/09/21 12:52 Received: 04/10/21 03:15 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	0.076	mg/L	0.050	0.026	1		04/15/21 11:59	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	14.7	mg/L	1.0	0.39	1		04/22/21 18:36	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		04/22/21 18:36	16984-48-8	
Sulfate	989	mg/L	100	42.1	100		04/22/21 18:52	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-4D **Lab ID: 60366222003** Collected: 04/09/21 10:04 Received: 04/10/21 03:15 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	66.5	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:42	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:42	7440-41-7	
Boron	27400	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:42	7440-42-8	
Calcium	208000	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:42	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:42	7440-48-4	
Iron	7520	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:42	7439-89-6	
Lead	6.6J	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:42	7439-92-1	
Lithium	33.6	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:42	7439-93-2	
Magnesium	25900	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:42	7439-95-4	
Manganese	1470	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:42	7439-96-5	
Molybdenum	7940	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:42	7439-98-7	
Potassium	15700	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:42	7440-09-7	
Sodium	71800	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:42	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/21/21 10:00	04/30/21 14:20	7440-36-0	
Arsenic	0.36J	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:20	7440-38-2	
Cadmium	1.6	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:20	7440-43-9	
Chromium	0.35J	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:20	7440-47-3	B
Selenium	0.18J	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:20	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:20	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/05/21 14:20	05/06/21 11:15	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	155	mg/L	20.0	7.5	1		04/15/21 19:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1240	mg/L	13.3	13.3	1		04/15/21 13:23		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	6.6	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.94	mg/L	0.20	0.048	1		04/20/21 10:36		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-4D **Lab ID: 60366222003** Collected: 04/09/21 10:04 Received: 04/10/21 03:15 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	0.047J	mg/L	0.050	0.026	1		04/15/21 11:59	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	20.4	mg/L	2.0	0.78	2		04/23/21 23:59	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		04/22/21 19:08	16984-48-8	
Sulfate	590	mg/L	50.0	21.0	50		04/22/21 19:40	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-5D Lab ID: 6036622004 Collected: 04/09/21 10:04 Received: 04/10/21 03:15 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	288	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:44	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:44	7440-41-7	
Boron	15600	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:44	7440-42-8	
Calcium	93000	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:44	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:44	7440-48-4	
Iron	3700	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:44	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:44	7439-92-1	
Lithium	25.9	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:44	7439-93-2	
Magnesium	19100	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:44	7439-95-4	
Manganese	381	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:44	7439-96-5	
Molybdenum	1910	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:44	7439-98-7	
Potassium	10100	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:44	7440-09-7	
Sodium	33800	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:44	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/21/21 10:00	04/30/21 14:21	7440-36-0	
Arsenic	0.47J	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:21	7440-38-2	
Cadmium	0.38J	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:21	7440-43-9	
Chromium	0.41J	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:21	7440-47-3	B
Selenium	0.22J	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:21	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:21	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/05/21 14:20	05/06/21 11:17	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	249	mg/L	20.0	7.5	1		04/15/21 19:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	523	mg/L	10.0	10.0	1		04/16/21 16:05		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	2.8	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.86	mg/L	0.20	0.048	1		04/20/21 10:36		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-5D **Lab ID: 6036622004** Collected: 04/09/21 10:04 Received: 04/10/21 03:15 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	0.040J	mg/L	0.050	0.026	1		04/15/21 12:00	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	26.3	mg/L	5.0	1.9	5		04/22/21 21:47	16887-00-6	
Fluoride	0.72	mg/L	0.20	0.086	1		04/22/21 20:11	16984-48-8	
Sulfate	115	mg/L	10.0	4.2	10		04/24/21 00:31	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-6D Lab ID: 60366222005 Collected: 04/09/21 13:26 Received: 04/10/21 03:15 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	113	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:51	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:51	7440-41-7	
Boron	685	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:51	7440-42-8	
Calcium	82200	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:51	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:51	7440-48-4	
Iron	4460	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:51	7439-89-6	
Lead	5.1J	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:51	7439-92-1	
Lithium	9.0J	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:51	7439-93-2	
Magnesium	18900	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:51	7439-95-4	
Manganese	563	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:51	7439-96-5	
Molybdenum	66.1	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:51	7439-98-7	
Potassium	3980	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:51	7440-09-7	
Sodium	8890	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:51	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/21/21 10:00	04/30/21 14:27	7440-36-0	
Arsenic	0.55J	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:27	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:27	7440-43-9	
Chromium	0.35J	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:27	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:27	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:27	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/05/21 14:20	05/06/21 11:24	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	229	mg/L	20.0	7.5	1		04/15/21 19:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	369	mg/L	5.0	5.0	1		04/15/21 13:23		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	4.2	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.27	mg/L	0.20	0.048	1		04/20/21 10:39		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-6D **Lab ID: 6036622005** Collected: 04/09/21 13:26 Received: 04/10/21 03:15 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		04/15/21 12:02	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	11.5	mg/L	1.0	0.39	1		04/22/21 22:50	16887-00-6	
Fluoride	0.41	mg/L	0.20	0.086	1		04/22/21 22:50	16984-48-8	
Sulfate	62.8	mg/L	5.0	2.1	5		04/22/21 23:06	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-DUP-1 Lab ID: 60366222006 Collected: 04/09/21 08:00 Received: 04/10/21 03:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	115	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:54	7440-39-3	
Beryllium	1.3	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:54	7440-41-7	
Boron	681	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:54	7440-42-8	
Calcium	82700	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:54	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:54	7440-48-4	
Iron	4470	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:54	7439-89-6	
Lead	3.9J	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:54	7439-92-1	
Lithium	10.2	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:54	7439-93-2	
Magnesium	18900	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:54	7439-95-4	
Manganese	564	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:54	7439-96-5	
Molybdenum	65.0	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:54	7439-98-7	
Potassium	3980	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:54	7440-09-7	
Sodium	8920	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:54	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	04/21/21 10:00	04/30/21 14:29	7440-36-0	
Arsenic	0.51J	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:29	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:29	7440-43-9	
Chromium	1.4	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:29	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:29	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:29	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/05/21 14:20	05/06/21 11:26	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		04/15/21 19:49		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	378	mg/L	5.0	5.0	1		04/15/21 13:23		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	4.2	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.27	mg/L	0.20	0.048	1		04/20/21 10:36		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-DUP-1 **Lab ID: 6036622006** Collected: 04/09/21 08:00 Received: 04/10/21 03:15 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	0.035J	mg/L	0.050	0.026	1		04/15/21 12:03	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	11.5	mg/L	1.0	0.39	1		04/22/21 23:22	16887-00-6	
Fluoride	0.41	mg/L	0.20	0.086	1		04/22/21 23:22	16984-48-8	
Sulfate	63.3	mg/L	5.0	2.1	5		04/22/21 23:38	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-FB-1 Lab ID: 60366222007 Collected: 04/09/21 15:21 Received: 04/10/21 03:15 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	04/14/21 17:05	04/26/21 10:56	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:56	7440-41-7	
Boron	21.5J	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:56	7440-42-8	
Calcium	87.3J	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:56	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:56	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:56	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:56	7439-92-1	
Lithium	<7.7	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:56	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:56	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:56	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:56	7439-98-7	
Potassium	<146	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:56	7440-09-7	
Sodium	<254	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:56	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/21/21 10:00	04/30/21 14:34	7440-36-0	
Arsenic	<0.11	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:34	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:34	7440-43-9	
Chromium	0.40J	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:34	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:34	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:34	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	05/05/21 14:20	05/06/21 11:33	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		04/15/21 19:54		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	8.0	mg/L	5.0	5.0	1		04/15/21 13:23		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.00094J	mg/L	0.050		1		05/04/21 07:26	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 10:39		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-FB-1 **Lab ID: 6036622007** Collected: 04/09/21 15:21 Received: 04/10/21 03:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	0.041J	mg/L	0.050	0.026	1		04/15/21 12:03	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		04/23/21 00:41	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		04/23/21 00:41	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		04/23/21 00:41	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-BMW-1D Lab ID: 60366222010 Collected: 04/13/21 13:34 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	666	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 07:27	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 07:27	7440-41-7	
Boron	65.3J	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 07:27	7440-42-8	
Calcium	111000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 07:27	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 07:27	7440-48-4	
Iron	7250	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 07:27	7439-89-6	
Lead	6.0J	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 07:27	7439-92-1	
Lithium	19.2	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 07:27	7439-93-2	
Magnesium	25900	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 07:27	7439-95-4	
Manganese	540	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 07:27	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 07:27	7439-98-7	
Potassium	3600	ug/L	500	146	1	04/22/21 11:30	05/07/21 07:27	7440-09-7	
Sodium	5840	ug/L	500	254	1	04/22/21 11:30	05/07/21 07:27	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:54	7440-36-0	
Arsenic	0.14J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:54	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:54	7440-43-9	
Chromium	0.43J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:54	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:54	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:54	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/05/21 14:20	05/06/21 11:35	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	396	mg/L	20.0	7.5	1		04/22/21 19:54		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	498	mg/L	10.0	10.0	1		04/20/21 12:50		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	6.9	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.35	mg/L	0.20	0.048	1		04/20/21 10:44		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-BMW-1D **Lab ID: 6036622010** Collected: 04/13/21 13:34 Received: 04/14/21 03:50 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	0.037J	mg/L	0.050	0.026	1		04/19/21 10:04	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	7.4	mg/L	1.0	0.39	1		04/28/21 13:51	16887-00-6	
Fluoride	0.39	mg/L	0.20	0.086	1		04/28/21 13:51	16984-48-8	
Sulfate	58.4	mg/L	5.0	2.1	5		04/28/21 14:05	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-BMW-3D Lab ID: 60366222011 Collected: 04/13/21 12:25 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	365	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 07:34	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 07:34	7440-41-7	
Boron	238	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 07:34	7440-42-8	
Calcium	140000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 07:34	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 07:34	7440-48-4	
Iron	9210	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 07:34	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 07:34	7439-92-1	
Lithium	11.4	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 07:34	7439-93-2	
Magnesium	30500	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 07:34	7439-95-4	
Manganese	918	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 07:34	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 07:34	7439-98-7	
Potassium	3020	ug/L	500	146	1	04/22/21 11:30	05/07/21 07:34	7440-09-7	
Sodium	7390	ug/L	500	254	1	04/22/21 11:30	05/07/21 07:34	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:56	7440-36-0	
Arsenic	0.29J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:56	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:56	7440-43-9	
Chromium	0.44J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:56	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:56	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:56	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	05/05/21 14:20	05/06/21 11:38	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	349	mg/L	20.0	7.5	1		04/22/21 20:00		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	425	mg/L	10.0	10.0	1		04/20/21 12:50		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	8.7	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.47	mg/L	0.20	0.048	1		04/20/21 10:43		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-BMW-3D **Lab ID: 6036622011** Collected: 04/13/21 12:25 Received: 04/14/21 03:50 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		04/19/21 10:04	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	8.5	mg/L	1.0	0.39	1		04/28/21 14:19	16887-00-6	
Fluoride	0.44	mg/L	0.20	0.086	1		04/28/21 14:19	16984-48-8	
Sulfate	26.8	mg/L	2.0	0.84	2		04/28/21 14:34	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-1D Lab ID: 60366824001 Collected: 04/14/21 09:56 Received: 04/15/21 04:40 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	179	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 07:37	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 07:37	7440-41-7	
Boron	360	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 07:37	7440-42-8	
Calcium	65700	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 07:37	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 07:37	7440-48-4	
Iron	299	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 07:37	7439-89-6	
Lead	5.2J	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 07:37	7439-92-1	
Lithium	12.0	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 07:37	7439-93-2	
Magnesium	16700	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 07:37	7439-95-4	
Manganese	97.3	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 07:37	7439-96-5	
Molybdenum	35.7	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 07:37	7439-98-7	
Potassium	4940	ug/L	500	146	1	04/22/21 11:30	05/07/21 07:37	7440-09-7	
Sodium	16600	ug/L	500	254	1	04/22/21 11:30	05/07/21 07:37	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.31J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:58	7440-36-0	
Arsenic	2.7	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:58	7440-38-2	
Cadmium	0.25J	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:58	7440-43-9	
Chromium	0.94J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:58	7440-47-3	
Selenium	0.36J	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:58	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:58	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	05/07/21 19:24	05/10/21 15:58	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	183	mg/L	20.0	7.5	1		04/26/21 19:30		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	324	mg/L	5.0	5.0	1		04/21/21 14:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.30	mg/L	0.050		1		05/12/21 16:09	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		04/26/21 10:55		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-1D **Lab ID: 60366824001** Collected: 04/14/21 09:56 Received: 04/15/21 04:40 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		04/21/21 09:39	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.2	mg/L	2.0	0.78	2		04/29/21 13:28	16887-00-6	
Fluoride	0.33	mg/L	0.20	0.086	1		04/28/21 19:34	16984-48-8	
Sulfate	44.4	mg/L	10.0	4.2	10		04/28/21 19:50	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch:	718504	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007, 60366222010, 60366222011

METHOD BLANK: 2889786 Matrix: Water

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007, 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/06/21 11:06	

LABORATORY CONTROL SAMPLE: 2889787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2889788 2889789

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60366222004 Result	Spike Conc.	Spike Conc.	Result						
Mercury	ug/L	<0.096	5	5	5.0	4.8	98	95	75-125	3	20

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 718980

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366824001

METHOD BLANK: 2891573

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/10/21 15:16	

LABORATORY CONTROL SAMPLE: 2891574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2891577 2891578

Parameter	Units	60367012001 Result	MS Spike	MSD Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
Mercury	ug/L	ND	5	5	4.9	4.7	97	95	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2891579 2891580

Parameter	Units	60367013001 Result	MS Spike	MSD Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
Mercury	ug/L	ND	5	5	4.7	4.8	95	96	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2891581 2891582

Parameter	Units	60367013002 Result	MS Spike	MSD Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
Mercury	ug/L	ND	5	5	4.8	4.8	97	95	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2891583 2891584

Parameter	Units	60367013003 Result	MS Spike	MSD Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
Mercury	ug/L	ND	5	5	4.7	4.8	94	96	75-125	2	20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch:	714611	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

METHOD BLANK: 2875149 Matrix: Water
Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

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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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

MATRIX SPIKE SAMPLE: 2875151		60366138002	Spike	MS	MS	% Rec	Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Limits	
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	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
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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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 716201	Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7	Analysis Description: 200.7 Metals, Total
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222010, 60366222011, 60366824001

METHOD BLANK: 2881020 Matrix: Water

Associated Lab Samples: 60366222010, 60366222011, 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/30/21 23:10	
Beryllium	ug/L	<0.39	1.0	0.39	04/30/21 23:10	
Boron	ug/L	<8.6	100	8.6	04/30/21 23:10	
Calcium	ug/L	<75.4	200	75.4	04/30/21 23:10	
Cobalt	ug/L	<0.95	5.0	0.95	04/30/21 23:10	
Iron	ug/L	<21.4	50.0	21.4	04/30/21 23:10	
Lead	ug/L	<3.8	10.0	3.8	04/30/21 23:10	
Lithium	ug/L	<7.7	10.0	7.7	04/30/21 23:10	
Magnesium	ug/L	<31.4	50.0	31.4	04/30/21 23:10	
Manganese	ug/L	<0.74	5.0	0.74	04/30/21 23:10	
Molybdenum	ug/L	<2.2	20.0	2.2	04/30/21 23:10	
Potassium	ug/L	<146	500	146	04/30/21 23:10	
Sodium	ug/L	<254	500	254	05/07/21 07:17	

LABORATORY CONTROL SAMPLE: 2881021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	988	99	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1040	104	85-115	
Lithium	ug/L	1000	1000	100	85-115	
Magnesium	ug/L	10000	9920	99	85-115	
Manganese	ug/L	1000	984	98	85-115	
Molybdenum	ug/L	1000	1040	104	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10400	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881022 2881023

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60366138006	Result	Spike Conc.	Spike Conc.								
Barium	ug/L	130	1000	1000	1140	1120	101	99	70-130	2	20		
Beryllium	ug/L	<0.39	1000	1000	1030	1010	103	101	70-130	2	20		

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881022												2881023	
Parameter	Units	60366138006		MS	MSD	MS	MSD	% Rec	% Rec	% Rec	Max	Qual	
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	Result	Result	Limits	RPD		RPD
Boron	ug/L	10400	1000	1000	11200	11000	78	50	70-130	3	20	M1	
Calcium	ug/L	199000	10000	10000	215000	209000	166	105	70-130	3	20	M1	
Cobalt	ug/L	2.7J	1000	1000	987	964	98	96	70-130	2	20		
Iron	ug/L	45.0J	10000	10000	10000	9750	100	97	70-130	3	20		
Lead	ug/L	<3.8	1000	1000	1010	985	101	98	70-130	3	20		
Lithium	ug/L	35.1	1000	1000	1040	1010	101	97	70-130	3	20		
Magnesium	ug/L	29400	10000	10000	40400	39200	110	98	70-130	3	20		
Manganese	ug/L	407	1000	1000	1390	1360	98	95	70-130	2	20		
Molybdenum	ug/L	987	1000	1000	2050	2000	107	102	70-130	2	20		
Potassium	ug/L	9890	10000	10000	20700	20200	108	104	70-130	2	20		
Sodium	ug/L	70800	10000	10000	81200	78600	103	78	70-130	3	20		

MATRIX SPIKE SAMPLE: 2881024											
Parameter	Units	60366138014		Spike Conc.	MS	MS	% Rec	Qualifiers			
		Result	Conc.		Result	% Rec	Limits				
Barium	ug/L	184	1000	1000	1220	103	70-130				
Beryllium	ug/L	<0.39	1000	1000	1060	106	70-130				
Boron	ug/L	6000	1000	1000	7050	105	70-130				
Calcium	ug/L	144000	10000	10000	153000	81	70-130				
Cobalt	ug/L	<0.95	1000	1000	994	99	70-130				
Iron	ug/L	9430	10000	10000	18900	95	70-130				
Lead	ug/L	5.7J	1000	1000	1010	100	70-130				
Lithium	ug/L	30.3	1000	1000	1110	108	70-130				
Magnesium	ug/L	35300	10000	10000	45500	102	70-130				
Manganese	ug/L	1130	1000	1000	2140	102	70-130				
Molybdenum	ug/L	186	1000	1000	1200	102	70-130				
Potassium	ug/L	5020	10000	10000	15700	107	70-130				
Sodium	ug/L	22600	10000	10000	32700	101	70-130				

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch:	715907	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: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

METHOD BLANK: 2879885 Matrix: Water
Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	04/30/21 14:12	
Arsenic	ug/L	<0.11	1.0	0.11	04/30/21 14:12	
Cadmium	ug/L	<0.062	0.50	0.062	04/30/21 14:12	
Chromium	ug/L	0.52J	1.0	0.23	05/03/21 09:45	
Selenium	ug/L	<0.18	1.0	0.18	04/30/21 14:12	
Thallium	ug/L	<0.094	1.0	0.094	04/30/21 14:12	

LABORATORY CONTROL SAMPLE: 2879886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.6	102	85-115	
Arsenic	ug/L	40	41.7	104	85-115	
Cadmium	ug/L	40	42.2	106	85-115	
Chromium	ug/L	40	42.4	106	85-115	
Selenium	ug/L	40	41.7	104	85-115	
Thallium	ug/L	40	39.2	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879887 2879888

Parameter	Units	60366222004		MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result						
Antimony	ug/L	<0.10	40	40	40.7	39.8	102	99	70-130	2	20		
Arsenic	ug/L	0.47J	40	40	42.6	41.7	105	103	70-130	2	20		
Cadmium	ug/L	0.38J	40	40	41.1	40.1	102	99	70-130	2	20		
Chromium	ug/L	0.41J	40	40	42.1	40.6	104	100	70-130	4	20		
Selenium	ug/L	0.22J	40	40	38.2	37.8	95	94	70-130	1	20		
Thallium	ug/L	<0.094	40	40	40.7	39.6	102	99	70-130	3	20		

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA
Pace Project No.: 60366222

QC Batch: 716206 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: 60366222010, 60366222011, 60366824001

METHOD BLANK: 2881050 Matrix: Water

Associated Lab Samples: 60366222010, 60366222011, 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	05/03/21 13:17	
Arsenic	ug/L	<0.11	1.0	0.11	05/03/21 13:17	
Cadmium	ug/L	<0.062	0.50	0.062	05/03/21 13:17	
Chromium	ug/L	<0.23	1.0	0.23	05/03/21 13:17	
Selenium	ug/L	<0.18	1.0	0.18	05/03/21 13:17	
Thallium	ug/L	<0.094	1.0	0.094	05/03/21 13:17	

LABORATORY CONTROL SAMPLE: 2881051

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.0	103	85-115	
Arsenic	ug/L	40	42.4	106	85-115	
Cadmium	ug/L	40	42.3	106	85-115	
Chromium	ug/L	40	41.7	104	85-115	
Selenium	ug/L	40	41.6	104	85-115	
Thallium	ug/L	40	39.3	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881052 2881053

Parameter	Units	60366138006		2881053		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Antimony	ug/L	0.19J	40	40	42.2	40.9	105	102	70-130	3	20
Arsenic	ug/L	0.97J	40	40	44.9	43.9	110	107	70-130	2	20
Cadmium	ug/L	0.44J	40	40	41.4	40.2	102	99	70-130	3	20
Chromium	ug/L	0.71J	40	40	41.8	41.6	103	102	70-130	1	20
Selenium	ug/L	<0.18	40	40	40.5	39.7	101	99	70-130	2	20
Thallium	ug/L	<0.094	40	40	42.6	41.8	107	104	70-130	2	20

MATRIX SPIKE SAMPLE: 2881054

Parameter	Units	60366138013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	0.15J	40	41.6	104	70-130	
Arsenic	ug/L	0.49J	40	43.4	107	70-130	
Cadmium	ug/L	0.15J	40	41.0	102	70-130	
Chromium	ug/L	1.4	40	42.7	103	70-130	
Selenium	ug/L	1.5	40	42.1	101	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

MATRIX SPIKE SAMPLE:		2881054					
Parameter	Units	60366138013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Thallium	ug/L	<0.094	40	41.8	105	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch:	714700	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

METHOD BLANK: 2875429 Matrix: Water

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/15/21 18:01	

LABORATORY CONTROL SAMPLE: 2875430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	502	100	90-110	

SAMPLE DUPLICATE: 2875431

Parameter	Units	60366282001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	312	313	0	10	

SAMPLE DUPLICATE: 2875432

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	249	257	3	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 716345

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222010, 60366222011

METHOD BLANK: 2881690

Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<7.5	20.0	7.5	04/22/21 17:58	

LABORATORY CONTROL SAMPLE: 2881691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	511	102	90-110	

SAMPLE DUPLICATE: 2881692

Parameter	Units	60366511001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	133	129	3	10	

SAMPLE DUPLICATE: 2881693

Parameter	Units	60366586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	257	263	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 716860

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366824001

METHOD BLANK: 2883949

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<7.5	20.0	7.5	04/26/21 18:16	

LABORATORY CONTROL SAMPLE: 2883950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	507	101	90-110	

SAMPLE DUPLICATE: 2883951

Parameter	Units	60367196001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	1330	1310	2	10	

SAMPLE DUPLICATE: 2883952

Parameter	Units	60366138017 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	210	210	0	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch:	714769	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222005, 60366222006, 60366222007

METHOD BLANK: 2875773 Matrix: Water
Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222005, 60366222006, 60366222007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/15/21 13:21	

LABORATORY CONTROL SAMPLE: 2875774

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

SAMPLE DUPLICATE: 2875775

Parameter	Units	60366282001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5000	5180	3	10	

SAMPLE DUPLICATE: 2875776

Parameter	Units	60366283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4730	4830	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 715200	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222004

METHOD BLANK: 2877567 Matrix: Water

Associated Lab Samples: 60366222004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/16/21 16:05	

LABORATORY CONTROL SAMPLE: 2877568

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	500	492	98	80-120	

SAMPLE DUPLICATE: 2877569

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	523	511	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 715646

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222010, 60366222011

METHOD BLANK: 2879035

Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/20/21 12:46	

LABORATORY CONTROL SAMPLE: 2879036

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

SAMPLE DUPLICATE: 2879037

Parameter	Units	60366586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	373	376	1	10	

SAMPLE DUPLICATE: 2879038

Parameter	Units	60366588003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	445	437	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 715937

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366824001

METHOD BLANK: 2880011

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/21/21 14:01	

LABORATORY CONTROL SAMPLE: 2880012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	990	99	80-120	

SAMPLE DUPLICATE: 2880013

Parameter	Units	60366724005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1680	1540	8	10	

SAMPLE DUPLICATE: 2880014

Parameter	Units	60366138022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1010	1070	6	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

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: 60366222002, 60366222003, 60366222004, 60366222006

METHOD BLANK: 2878020 Matrix: Water
Associated Lab Samples: 60366222002, 60366222003, 60366222004, 60366222006

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 SEC SCPA

Pace Project No.: 60366222

QC Batch: 715287

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: 60366222001, 60366222005, 60366222007, 60366222010, 60366222011

METHOD BLANK: 2878041

Matrix: Water

Associated Lab Samples: 60366222001, 60366222005, 60366222007, 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/20/21 10:38	H6

LABORATORY CONTROL SAMPLE: 2878042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	1.9	96	90-110	H6

SAMPLE DUPLICATE: 2878043

Parameter	Units	60366138006 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.048	<0.048		20	H6

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 716370

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: 60366824001

METHOD BLANK: 2881774

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/26/21 10:53	H6

LABORATORY CONTROL SAMPLE: 2881775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	102	90-110	H6

SAMPLE DUPLICATE: 2881776

Parameter	Units	60367051001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.20J	0.23		20	H6

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 714708

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: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

METHOD BLANK: 2875445

Matrix: Water

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/15/21 11:48	

LABORATORY CONTROL SAMPLE: 2875446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.53	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875448 2875450

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result	% Rec	% Rec						
Sulfide, Total	mg/L	0.040J	0.5	0.5	0.46	0.47	83	86	75-125	3	20		

SAMPLE DUPLICATE: 2875447

Parameter	Units	60366222002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.076	0.073	4	20	

SAMPLE DUPLICATE: 2875449

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.040J	0.047J		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 715285

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: 60366222010, 60366222011

METHOD BLANK: 2878031

Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/19/21 08:51	

LABORATORY CONTROL SAMPLE: 2878032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878033 2878034

Parameter	Units	60366749001		60366749002		60366749003		60366749004		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Sulfide, Total	mg/L	0.22	0.5	0.22	0.5	0.68	0.68	0.68	0.68	92	93	75-125	0	20

SAMPLE DUPLICATE: 2878035

Parameter	Units	60366749002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.39	0.48	20	20	

SAMPLE DUPLICATE: 2878036

Parameter	Units	60366138011 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 715880

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: 60366824001

METHOD BLANK: 2879781

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/21/21 08:28	

LABORATORY CONTROL SAMPLE: 2879782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879783 2879784

Parameter	Units	60366763001		2879783		2879784		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Sulfide, Total	mg/L	4.7	5	5	7.2	7.2	50	48	75-125	1	20 M1

SAMPLE DUPLICATE: 2879785

Parameter	Units	60366766001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	49.7	43.2	14	20	

SAMPLE DUPLICATE: 2879786

Parameter	Units	60366824001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.032J	0.031J		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA
Pace Project No.: 60366222

QC Batch: 716231 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

METHOD BLANK: 2881194 Matrix: Water
Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

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: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

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: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007

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 SEC SCPA

Pace Project No.: 60366222

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 SEC SCPA

Pace Project No.: 60366222

QC Batch:	716874	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366222010, 60366222011

METHOD BLANK: 2883996 Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.49J	1.0	0.39	04/27/21 17:15	
Fluoride	mg/L	<0.086	0.20	0.086	04/27/21 17:15	
Sulfate	mg/L	<0.42	1.0	0.42	04/27/21 17:15	

METHOD BLANK: 2886138 Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/28/21 09:17	
Fluoride	mg/L	<0.086	0.20	0.086	04/28/21 09:17	
Sulfate	mg/L	<0.42	1.0	0.42	04/28/21 09:17	

METHOD BLANK: 2887077 Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/29/21 08:44	
Fluoride	mg/L	<0.086	0.20	0.086	04/29/21 08:44	
Sulfate	mg/L	<0.42	1.0	0.42	04/29/21 08:44	

LABORATORY CONTROL SAMPLE: 2883997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

LABORATORY CONTROL SAMPLE: 2886139

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	101	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

LABORATORY CONTROL SAMPLE: 2887078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	102	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

MATRIX SPIKE SAMPLE: 2883998

Parameter	Units	60367157006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	137	50	188	103	80-120	
Fluoride	mg/L	ND	25	25.5	98	80-120	
Sulfate	mg/L	89.4	50	138	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2883999 2884000

Parameter	Units	60367255001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.9	5	5	8.7	8.5	96	93	80-120	2	15	
Fluoride	mg/L	0.29	2.5	2.5	2.9	2.8	104	100	80-120	4	15	
Sulfate	mg/L	78.7	50	50	130	132	103	107	80-120	1	15	

SAMPLE DUPLICATE: 2884001

Parameter	Units	60367255001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.9	3.9	0	15	
Fluoride	mg/L	0.29	0.28	1	15	
Sulfate	mg/L	78.7	81.5	3	15	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 716975

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366824001

METHOD BLANK: 2884356

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/28/21 09:21	
Fluoride	mg/L	<0.086	0.20	0.086	04/28/21 09:21	
Sulfate	mg/L	<0.42	1.0	0.42	04/28/21 09:21	

METHOD BLANK: 2887050

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/29/21 09:28	
Fluoride	mg/L	<0.086	0.20	0.086	04/29/21 09:28	
Sulfate	mg/L	<0.42	1.0	0.42	04/29/21 09:28	

LABORATORY CONTROL SAMPLE: 2884357

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Fluoride	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 2887051

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	99	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2884359

2884360

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60367012001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	129	50	50	190	185	120	112	80-120	2	15		
Fluoride	mg/L	0.64	2.5	2.5	2.9	2.8	88	88	80-120	1	15		
Sulfate	mg/L	322	250	250	567	568	98	98	80-120	0	15		

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

MATRIX SPIKE SAMPLE: 2884361

Parameter	Units	60367217001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	82.8	250	313	92	80-120	
Fluoride	mg/L	0.34	2.5	2.6	92	80-120	
Sulfate	mg/L	521	250	772	100	80-120	

SAMPLE DUPLICATE: 2884358

Parameter	Units	60367012001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	129	129	0	15	
Fluoride	mg/L	0.64	0.52	22	15 D6	
Sulfate	mg/L	322	317	1	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-2D Lab ID: 6036622001 Collected: 04/09/21 14:51 Received: 04/10/21 03:15 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.108 ± 0.260 (0.503) C:NA T:91%	pCi/L	05/05/21 12:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.655 ± 0.540 (1.09) C:70% T:84%	pCi/L	05/05/21 16:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-3D Lab ID: 6036622002 Collected: 04/09/21 12:52 Received: 04/10/21 03:15 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.326 ± 0.339 (0.504) C:NA T:90%	pCi/L	05/05/21 12:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.15 ± 0.617 (1.15) C:74% T:85%	pCi/L	05/05/21 16:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-4D Lab ID: 60366222003 Collected: 04/09/21 10:04 Received: 04/10/21 03:15 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.151 ± 0.297 (0.543) C:NA T:92%	pCi/L	05/05/21 12:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.508 ± 0.446 (0.899) C:68% T:83%	pCi/L	05/05/21 16:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-5D Lab ID: 6036622004 Collected: 04/09/21 10:04 Received: 04/10/21 03:15 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0421 ± 0.297 (0.593) C:NA T:92%	pCi/L	05/05/21 12:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.27 ± 0.570 (0.938) C:69% T:75%	pCi/L	05/05/21 16:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-6D Lab ID: 6036622005 Collected: 04/09/21 13:26 Received: 04/10/21 03:15 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.293 ± 0.333 (0.526) C:NA T:98%	pCi/L	05/05/21 12:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.434 ± 0.547 (1.17) C:69% T:80%	pCi/L	05/05/21 16:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-DUP-1 **Lab ID: 60366222006** Collected: 04/09/21 08:00 Received: 04/10/21 03:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0557 ± 0.394 (0.785) C:NA T:93%	pCi/L	05/05/21 12:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.04 ± 0.477 (0.791) C:70% T:88%	pCi/L	05/05/21 16:32	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-FB-1 **Lab ID: 60366222007** Collected: 04/09/21 15:21 Received: 04/10/21 03:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.156 ± 0.307 (0.735) C:NA T:90%	pCi/L	05/05/21 12:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.254 ± 0.506 (1.20) C:70% T:84%	pCi/L	05/05/21 16:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-MS-1 Lab ID: 6036622008 Collected: 04/09/21 11:43 Received: 04/10/21 03:15 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	104.30 %REC ± NA (NA) C:NA T:NA	pCi/L	05/05/21 12:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	87.90 %REC ± NA (NA) C:NA T:NA	pCi/L	05/05/21 16:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Sample: S-UMW-MSD-1 **Lab ID: 60366222009** Collected: 04/09/21 11:43 Received: 04/10/21 03:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	90.47 %REC 14.20 RPD ± NA (NA) C:NA T:NA	pCi/L	05/05/21 12:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	88.27 %REC 0.42 RPD ± NA (NA) C:NA T:NA	pCi/L	05/05/21 16:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-BMW-1D Lab ID: 6036622010 Collected: 04/13/21 13:34 Received: 04/14/21 03:50 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.122 ± 0.339 (0.801) C:NA T:93%	pCi/L	05/06/21 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.955 ± 0.460 (0.760) C:69% T:76%	pCi/L	05/06/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-BMW-3D Lab ID: 6036622011 Collected: 04/13/21 12:25 Received: 04/14/21 03:50 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.490 (0.960) C:NA T:101%	pCi/L	05/06/21 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.03 ± 0.448 (0.713) C:67% T:91%	pCi/L	05/06/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-1D Lab ID: 60366824001 Collected: 04/14/21 09:56 Received: 04/15/21 04:40 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.235 ± 0.269 (0.159) C:NA T:86%	pCi/L	05/11/21 16:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.330 ± 0.446 (0.955) C:68% T:87%	pCi/L	05/10/21 14:30	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 443717

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: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007, 60366222008, 60366222009

METHOD BLANK: 2141792

Matrix: Water

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007, 60366222008, 60366222009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0416 ± 0.294 (0.586) C:NA T:86%	pCi/L	05/05/21 12:00	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 444358

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: 60366824001

METHOD BLANK: 2145060

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.238 ± 0.377 (0.817) C:70% T:77%	pCi/L	05/10/21 14:29	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 445302

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: 60366222010, 60366222011

METHOD BLANK: 2149654

Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.217 ± 0.283 (0.687) C:NA T:101%	pCi/L	05/06/21 12:53	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 445303

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: 60366222010, 60366222011

METHOD BLANK: 2149655

Matrix: Water

Associated Lab Samples: 60366222010, 60366222011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.105 ± 0.274 (0.682) C:66% T:84%	pCi/L	05/06/21 11:34	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 444357

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: 60366824001

METHOD BLANK: 2145059

Matrix: Water

Associated Lab Samples: 60366824001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0877 ± 0.298 (0.575) C:NA T:93%	pCi/L	05/11/21 15:46	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

QC Batch: 443718

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: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007, 60366222008, 60366222009

METHOD BLANK: 2141793

Matrix: Water

Associated Lab Samples: 60366222001, 60366222002, 60366222003, 60366222004, 60366222005, 60366222006, 60366222007, 60366222008, 60366222009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.424 ± 0.398 (0.815) C:71% T:83%	pCi/L	05/05/21 13:09	

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QUALIFIERS

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

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.

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366222001	S-UMW-2D	EPA 200.7	714611	EPA 200.7	714628
60366222002	S-UMW-3D	EPA 200.7	714611	EPA 200.7	714628
60366222003	S-UMW-4D	EPA 200.7	714611	EPA 200.7	714628
60366222004	S-UMW-5D	EPA 200.7	714611	EPA 200.7	714628
60366222005	S-UMW-6D	EPA 200.7	714611	EPA 200.7	714628
60366222006	S-UMW-DUP-1	EPA 200.7	714611	EPA 200.7	714628
60366222007	S-UMW-FB-1	EPA 200.7	714611	EPA 200.7	714628
60366222010	S-BMW-1D	EPA 200.7	716201	EPA 200.7	716306
60366222011	S-BMW-3D	EPA 200.7	716201	EPA 200.7	716306
60366824001	S-UMW-1D	EPA 200.7	716201	EPA 200.7	716306
60366222001	S-UMW-2D	EPA 200.8	715907	EPA 200.8	716019
60366222002	S-UMW-3D	EPA 200.8	715907	EPA 200.8	716019
60366222003	S-UMW-4D	EPA 200.8	715907	EPA 200.8	716019
60366222004	S-UMW-5D	EPA 200.8	715907	EPA 200.8	716019
60366222005	S-UMW-6D	EPA 200.8	715907	EPA 200.8	716019
60366222006	S-UMW-DUP-1	EPA 200.8	715907	EPA 200.8	716019
60366222007	S-UMW-FB-1	EPA 200.8	715907	EPA 200.8	716019
60366222010	S-BMW-1D	EPA 200.8	716206	EPA 200.8	716307
60366222011	S-BMW-3D	EPA 200.8	716206	EPA 200.8	716307
60366824001	S-UMW-1D	EPA 200.8	716206	EPA 200.8	716307
60366222001	S-UMW-2D	EPA 7470	718504	EPA 7470	718707
60366222002	S-UMW-3D	EPA 7470	718504	EPA 7470	718707
60366222003	S-UMW-4D	EPA 7470	718504	EPA 7470	718707
60366222004	S-UMW-5D	EPA 7470	718504	EPA 7470	718707
60366222005	S-UMW-6D	EPA 7470	718504	EPA 7470	718707
60366222006	S-UMW-DUP-1	EPA 7470	718504	EPA 7470	718707
60366222007	S-UMW-FB-1	EPA 7470	718504	EPA 7470	718707
60366222010	S-BMW-1D	EPA 7470	718504	EPA 7470	718707
60366222011	S-BMW-3D	EPA 7470	718504	EPA 7470	718707
60366824001	S-UMW-1D	EPA 7470	718980	EPA 7470	719364
60366222001	S-UMW-2D	EPA 903.1	443717		
60366222002	S-UMW-3D	EPA 903.1	443717		
60366222003	S-UMW-4D	EPA 903.1	443717		
60366222004	S-UMW-5D	EPA 903.1	443717		
60366222005	S-UMW-6D	EPA 903.1	443717		
60366222006	S-UMW-DUP-1	EPA 903.1	443717		
60366222007	S-UMW-FB-1	EPA 903.1	443717		
60366222008	S-UMW-MS-1	EPA 903.1	443717		
60366222009	S-UMW-MSD-1	EPA 903.1	443717		
60366222010	S-BMW-1D	EPA 903.1	445302		
60366222011	S-BMW-3D	EPA 903.1	445302		
60366824001	S-UMW-1D	EPA 903.1	444357		
60366222001	S-UMW-2D	EPA 904.0	443718		
60366222002	S-UMW-3D	EPA 904.0	443718		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366222003	S-UMW-4D	EPA 904.0	443718		
60366222004	S-UMW-5D	EPA 904.0	443718		
60366222005	S-UMW-6D	EPA 904.0	443718		
60366222006	S-UMW-DUP-1	EPA 904.0	443718		
60366222007	S-UMW-FB-1	EPA 904.0	443718		
60366222008	S-UMW-MS-1	EPA 904.0	443718		
60366222009	S-UMW-MSD-1	EPA 904.0	443718		
60366222010	S-BMW-1D	EPA 904.0	445303		
60366222011	S-BMW-3D	EPA 904.0	445303		
60366824001	S-UMW-1D	EPA 904.0	444358		
60366222001	S-UMW-2D	SM 2320B	714700		
60366222002	S-UMW-3D	SM 2320B	714700		
60366222003	S-UMW-4D	SM 2320B	714700		
60366222004	S-UMW-5D	SM 2320B	714700		
60366222005	S-UMW-6D	SM 2320B	714700		
60366222006	S-UMW-DUP-1	SM 2320B	714700		
60366222007	S-UMW-FB-1	SM 2320B	714700		
60366222010	S-BMW-1D	SM 2320B	716345		
60366222011	S-BMW-3D	SM 2320B	716345		
60366824001	S-UMW-1D	SM 2320B	716860		
60366222001	S-UMW-2D	SM 2540C	714769		
60366222002	S-UMW-3D	SM 2540C	714769		
60366222003	S-UMW-4D	SM 2540C	714769		
60366222004	S-UMW-5D	SM 2540C	715200		
60366222005	S-UMW-6D	SM 2540C	714769		
60366222006	S-UMW-DUP-1	SM 2540C	714769		
60366222007	S-UMW-FB-1	SM 2540C	714769		
60366222010	S-BMW-1D	SM 2540C	715646		
60366222011	S-BMW-3D	SM 2540C	715646		
60366824001	S-UMW-1D	SM 2540C	715937		
60366222001	S-UMW-2D	SM 3500-Fe B#4	718245		
60366222002	S-UMW-3D	SM 3500-Fe B#4	718245		
60366222003	S-UMW-4D	SM 3500-Fe B#4	718245		
60366222004	S-UMW-5D	SM 3500-Fe B#4	718245		
60366222005	S-UMW-6D	SM 3500-Fe B#4	718245		
60366222006	S-UMW-DUP-1	SM 3500-Fe B#4	718245		
60366222007	S-UMW-FB-1	SM 3500-Fe B#4	718245		
60366222010	S-BMW-1D	SM 3500-Fe B#4	720126		
60366222011	S-BMW-3D	SM 3500-Fe B#4	720126		
60366824001	S-UMW-1D	SM 3500-Fe B#4	720126		
60366222001	S-UMW-2D	SM 3500-Fe B#4	715287		
60366222002	S-UMW-3D	SM 3500-Fe B#4	715282		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA

Pace Project No.: 60366222

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366222003	S-UMW-4D	SM 3500-Fe B#4	715282		
60366222004	S-UMW-5D	SM 3500-Fe B#4	715282		
60366222005	S-UMW-6D	SM 3500-Fe B#4	715287		
60366222006	S-UMW-DUP-1	SM 3500-Fe B#4	715282		
60366222007	S-UMW-FB-1	SM 3500-Fe B#4	715287		
60366222010	S-BMW-1D	SM 3500-Fe B#4	715287		
60366222011	S-BMW-3D	SM 3500-Fe B#4	715287		
60366824001	S-UMW-1D	SM 3500-Fe B#4	716370		
60366222001	S-UMW-2D	SM 4500-S-2 D	714708		
60366222002	S-UMW-3D	SM 4500-S-2 D	714708		
60366222003	S-UMW-4D	SM 4500-S-2 D	714708		
60366222004	S-UMW-5D	SM 4500-S-2 D	714708		
60366222005	S-UMW-6D	SM 4500-S-2 D	714708		
60366222006	S-UMW-DUP-1	SM 4500-S-2 D	714708		
60366222007	S-UMW-FB-1	SM 4500-S-2 D	714708		
60366222010	S-BMW-1D	SM 4500-S-2 D	715285		
60366222011	S-BMW-3D	SM 4500-S-2 D	715285		
60366824001	S-UMW-1D	SM 4500-S-2 D	715880		
60366222001	S-UMW-2D	EPA 300.0	716231		
60366222002	S-UMW-3D	EPA 300.0	716231		
60366222003	S-UMW-4D	EPA 300.0	716231		
60366222004	S-UMW-5D	EPA 300.0	716231		
60366222005	S-UMW-6D	EPA 300.0	716231		
60366222006	S-UMW-DUP-1	EPA 300.0	716231		
60366222007	S-UMW-FB-1	EPA 300.0	716231		
60366222010	S-BMW-1D	EPA 300.0	716874		
60366222011	S-BMW-3D	EPA 300.0	716874		
60366824001	S-UMW-1D	EPA 300.0	716975		

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Sample Condition Upon Receipt

WO# : 60366222



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: _____ Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 0.4/0.3/2.5 Corr. Factor 0.0 Corrected 0.4/0.3/2.5

Date and initials of person examining contents:
pu 4/12/21

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>Fert</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>603173/603222</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 2:07 pm, 4/12/21

Project Manager Review: _____

Date: _____



Sample Condition Upon Receipt

WO#: 60366222



Client Name: Golden 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 Zp1c

Thermometer Used: T298 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 3.1 Corr. Factor 0.0 Corrected 3.1

Date and initials of person examining contents: 4/15/21

Temperature should be above freezing to 6°C 18.4 1 18.4

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>603173</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 7:50 am, 4/15/21

Project Manager Review: _____ Date: _____



Sample Condition Upon Receipt

WO#: 60366824



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 2 PLC

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

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

Date and initials of person examining contents:

4-16-21

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>fe t2</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>603173</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 4:26 pm, 4/16/21

Project Manager Review _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Dr., Ste 260 Ballwin, MO 63021	Copy To:	Eric Schmieder, Ryan Feldman	Company Name:	Golder Associates Inc
Email To:	jeffrey.ingram@golder.com	Purchase Order No.:	COC	Address:	
Phone:	636-724-9191	Project Name:	Ameren Sioux Energy Center	Pace Quote Reference:	
Requested Due Date/TAT:	Standard	Project Number:	153140602.0003A	Pace Project Manager:	Jamie Church
				Pace Profile #:	9285, line 1

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WP AR OT TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
		COMPOSITE START	COMPOSITE END/GRAB						
1	S-UMW-1D		4/14/21 0930	G	WT	6	Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Y	
2	S-UMW-2D			G	WT			N	
3	S-UMW-3D			G	WT			N	
4	S-UMW-4D			G	WT			N	
5	S-UMW-5D			G	WT			N	
6	S-UMW-6D			G	WT			N	
7	S-BMW-1D			G	WT			N	
8	S-BMW-3D			G	WT			N	
9	S-UMW-RUP-1			G	WT			N	
10	S-UMW-FB-1			G	WT			N	
11	S-UMW-MS-1			G	WT			N	
12	S-UMW-MSD-1			G	WT			N	

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 ** App IV Metals - EPA 200.7-Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Eric Schmieder/Golder	4/14/21	1800	Davidson Pace	4/15/21	0940	Temp in °C Received on Ice (Y/N) Custody Sealed (Y/N) Samples Intact (Y/N)
							12.6N y y y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Eric Schmieder
SIGNATURE of SAMPLER: [Signature]
DATE Signed (MM/DD/YYYY): 04/14/21

*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 19, 2021

Project No. 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth

EMAIL AMuehlfarth@golder.com

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPA – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60366222

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
 Project Name: Ameren -SEC - SCPA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: 153140603
 Validation Date: 05/19/2021

Laboratory: Pace Analytical Services, LLC

SDG #: 60366222

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 S-UMW-2D, S-UMW-3D, S-UMW-4D, S-UMW-5D, S-UMW-6D, S-UMW-DUP-1, S-UMW-FB-1, S-UMW-MS-1, S-UMW-MSD-1, S-BMW-1D, S-BMW-3D, S-UMW-1D

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>04/09/2021 - 04/14/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>EMS/BTT/SMK</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>_____</u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>_____</u>
Note Deficiencies: <u>_____</u>				
<u>_____</u>				
<u>_____</u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
b) Were analytes detected in the field blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were analytes detected in the equipment blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d) Were analytes detected in the trip blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Were the proper analytes included in the LCS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Was the LCS accuracy criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S-UMW-DUP-1 @ S-UMW-6D
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b) Was the %D within control limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

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.

MBs:

2879885: Chromium (0.52J). Associated with samples -001 through -007.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

(MBs continued)

2883715: Chloride (0.55J). Associated with samples -001 through -007. Sample results >PQL and 10x blank or ND, no qualification necessary.

2883996: Chloride (0.49J). Associated with samples -010, -011. Sample results > PQL and 10x blank, no qualification necessary.

S-UMW-FB-1 @ S-UMW-2D: Boron (21.5J), Calcium (87.3J), Chromium (0.40J), TDS (8.0), Ferric Iron (0.00094J), Sulfide (0.041J). Sample results >PQL and 10x blank were not qualified.

DUPs:

S-UMW-DUP-1 @ S-UMW-6D: Beryllium, Radium-228 detected in DUP, non-detect in sample; DUP RPD exceeds limit (20%) for Lead (26.7%), Chromium (120%), Radium-226 (136.1%).

Laboratory Duplicate 2884358: RPD exceeds limit (15%) for Fluoride (22%). Duplicate performed on unrelated sample, no qualification necessary.

MS/MSD:

2881022/2881023: MSD % recovery low for Boron; MS % recovery high for Calcium. MS/MSD performed on unrelated sample, no qualification necessary.

2879783/2879784: MS/MSD % recovery low for Sulfide. 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
S-UMW-2D	Chromium	1.0	U	Detected in blank <PQL, PQL>sample>MDL
S-UMW-3D	Chromium	1.0	U	"
S-UMW-4D	Chromium	1.0	U	"
S-UMW-5D	Chromium	1.0	U	"
S-UMW-FB-1	Chromium	1.0	U	"
S-UMW-DUP-1	Chromium	1.4	J	Detected in blank <PQL, 10x blank > sample > PQL; DUP RPD exceeds limit
S-UMW-DUP-1	Beryllium	1.3	J	Detected in DUP, ND in sample
S-UMW-DUP-1	Radium-228	1.04 ± 0.477	J	"
S-UMW-DUP-1	Lead	3.9	J	DUP RPD exceeds limit
S-UMW-DUP-1	Radium-226	0.0557 ± 0.394	J	"
S-UMW-6D	Chromium	1.0	U	Detected in blank <PQL>sample>MDL; DUP RPD exceeds limit
S-UMW-6D	Beryllium	0.39	UJ	Detected in DUP, ND in sample
S-UMW-6D	Radium-228	0.434 ± 0.547	UJ	"
S-UMW-6D	Lead	5.1	J	DUP RPD exceeds limit
S-UMW-6D	Radium-226	0.293 ± 0.333	J	"
S-UMW-2D	Ferrous Iron	0.088	J	Analyzed outside of hold time
S-UMW-3D	Ferrous Iron	0.38	J	"
S-UMW-4D	Ferrous Iron	0.94	J	"
S-UMW-5D	Ferrous Iron	0.86	J	"
S-UMW-6D	Ferrous Iron	0.27	J	"
S-UMW-DUP-1	Ferrous Iron	0.27	J	"
S-BMW-1D	Ferrous Iron	0.35	J	"
S-BMW-3D	Ferrous Iron	0.47	J	"
S-UMW-FB-1	Ferrous Iron	0.048	UJ	Analyzed outside of hold time, non-detect
S-UMW-1D	Ferrous Iron	0.048	UJ	"

Signature: _____ *Ann Mulhally* _____

Date: 05/19/2021

May 14, 2021

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

RE: Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between April 09, 2021 and April 15, 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
Brendan Talbert, Golder Associates



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60366138001	S-TP-6S	Water	04/08/21 12:47	04/09/21 04:08
60366138002	S-TP-6D	Water	04/08/21 12:53	04/09/21 04:08
60366138003	S-PZ-1S	Water	04/09/21 11:31	04/10/21 03:15
60366138004	S-AM-1S	Water	04/13/21 10:55	04/14/21 03:50
60366138005	S-AM-1D	Water	04/13/21 10:20	04/14/21 03:50
60366138006	S-LMW-2S	Water	04/12/21 09:40	04/14/21 03:50
60366138007	S-LMW-4S	Water	04/12/21 13:57	04/14/21 03:50
60366138008	S-CA-DUP-1	Water	04/12/21 00:00	04/14/21 03:50
60366138009	S-BMW-1S	Water	04/13/21 13:35	04/14/21 03:50
60366138010	S-BMW-3S	Water	04/13/21 12:17	04/14/21 03:50
60366138011	S-CA-FB-2	Water	04/13/21 15:40	04/14/21 03:50
60366138012	S-CA-FB-1	Water	04/13/21 13:45	04/14/21 03:50
60366138013	S-UG-3	Water	04/13/21 13:25	04/14/21 03:50
60366138014	S-TP-5D	Water	04/13/21 15:20	04/14/21 03:50
60366138015	S-CA-MS-1	Water	04/13/21 09:40	04/14/21 03:50
60366138016	S-CA-MSD-1	Water	04/13/21 09:40	04/14/21 03:50
60366138017	S-LMW-1S	Water	04/14/21 09:40	04/15/21 04:40
60366138018	S-TP-8D	Water	04/14/21 09:28	04/15/21 04:40
60366138019	S-TP-2D	Water	04/14/21 11:41	04/15/21 04:40
60366138020	S-TP-3D	Water	04/14/21 13:04	04/15/21 04:40
60366138021	S-TP-4D	Water	04/14/21 14:36	04/15/21 04:40
60366138022	S-PZ-9D	Water	04/14/21 14:45	04/15/21 04:40
60366138023	S-LMW-5S	Water	04/14/21 16:21	04/15/21 04:40
60366138024	S-LMW-6S	Water	04/14/21 16:16	04/15/21 04:40
60366138025	S-CA-DUP-2	Water	04/14/21 00:00	04/15/21 04:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
60366138001	S-TP-6S	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	BLA	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		
		60366138002	S-TP-6D	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	BLA			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		
60366138003	S-PZ-1S			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	BLA	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		
		60366138004	S-AM-1S	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		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		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	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138005	S-AM-1D	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	BLA	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
60366138006	S-LMW-2S	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	VRP	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
60366138007	S-LMW-4S	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	VRP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60366138008	S-CA-DUP-1	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
		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	VRP	1	PASI-K
60366138009	S-BMW-1S	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
		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
60366138010	S-BMW-3S	SM 2540C	BLA	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
		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
60366138011	S-CA-FB-2	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	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60366138012	S-CA-FB-1	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	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		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
60366138013	S-UG-3	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	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		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	BLA	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		60366138014	S-TP-5D	SM 3500-Fe B#4	MAW
SM 4500-S-2 D	MAW			1	PASI-K
EPA 300.0	CRN2			3	PASI-K
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

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		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	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138015	S-CA-MS-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60366138016	S-CA-MSD-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60366138017	S-LMW-1S	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	BLA	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
60366138018	S-TP-8D	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	BLA	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
60366138019	S-TP-2D	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

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60366138020	S-TP-3D	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	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		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	BLA	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		
60366138021	S-TP-4D	EPA 300.0	CRN2	3	PASI-K
		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	BLA	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
		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		
60366138022	S-PZ-9D	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	MAW	1	PASI-K
		SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		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	BLA	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60366138023	S-LMW-5S	SM 4500-S-2 D	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		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	BLA	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
60366138024	S-LMW-6S	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
		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	BLA	1	PASI-K
60366138025	S-CA-DUP-2	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
		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	BLA	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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-6S **Lab ID: 60366138001** Collected: 04/08/21 12:47 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	282	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:22	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:22	7440-41-7	
Boron	89.7J	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:22	7440-42-8	
Calcium	135000	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:22	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:22	7440-48-4	
Iron	61.4	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:22	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:22	7439-92-1	
Lithium	31.1	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:22	7439-93-2	
Magnesium	28600	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:22	7439-95-4	
Manganese	167	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:22	7439-96-5	
Molybdenum	2.3J	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:22	7439-98-7	
Potassium	2160	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:22	7440-09-7	
Sodium	5560	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:22	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.15J	ug/L	1.0	0.10	1	04/20/21 09:10	04/30/21 14:05	7440-36-0	
Arsenic	0.49J	ug/L	1.0	0.11	1	04/20/21 09:10	04/30/21 14:05	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/20/21 09:10	04/30/21 14:05	7440-43-9	
Chromium	0.49J	ug/L	1.0	0.23	1	04/20/21 09:10	04/30/21 14:05	7440-47-3	B
Selenium	0.96J	ug/L	1.0	0.18	1	04/20/21 09:10	04/30/21 14:05	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/20/21 09:10	04/30/21 14:05	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:04	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		04/15/21 18:18		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	505	mg/L	10.0	10.0	1		04/15/21 11:12		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.061	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 10:35		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-6S **Lab ID: 60366138001** Collected: 04/08/21 12:47 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		04/15/21 16:57	18496-25-8	
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		04/23/21 20:48	16887-00-6	
Fluoride	0.36	mg/L	0.20	0.086	1		04/23/21 20:48	16984-48-8	
Sulfate	37.5	mg/L	5.0	2.1	5		04/23/21 21:04	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-6D **Lab ID: 60366138002** Collected: 04/08/21 12:53 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	415	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 10:24	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 10:24	7440-41-7	
Boron	56.2J	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:24	7440-42-8	
Calcium	124000	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:24	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 10:24	7440-48-4	
Iron	7900	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:24	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 10:24	7439-92-1	
Lithium	22.2	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 10:24	7439-93-2	
Magnesium	31000	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:24	7439-95-4	
Manganese	496	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:24	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 10:24	7439-98-7	
Potassium	3640	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:24	7440-09-7	
Sodium	5180	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:24	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/20/21 09:10	04/30/21 14:06	7440-36-0	
Arsenic	0.13J	ug/L	1.0	0.11	1	04/20/21 09:10	04/30/21 14:06	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/20/21 09:10	04/30/21 14:06	7440-43-9	
Chromium	2.6	ug/L	1.0	0.23	1	04/20/21 09:10	04/30/21 14:06	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/20/21 09:10	04/30/21 14:06	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/20/21 09:10	04/30/21 14:06	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 12:06	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	347	mg/L	20.0	7.5	1		04/15/21 18:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	500	mg/L	10.0	10.0	1		04/15/21 11:12		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	7.5	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	0.44	mg/L	0.20	0.048	1		04/20/21 10:35		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-6D **Lab ID: 60366138002** Collected: 04/08/21 12:53 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		04/15/21 16:57	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	15.6	mg/L	1.0	0.39	1		04/23/21 21:20	16887-00-6	
Fluoride	0.33	mg/L	0.20	0.086	1		04/23/21 21:20	16984-48-8	
Sulfate	65.8	mg/L	5.0	2.1	5		04/23/21 21:52	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-PZ-1S **Lab ID: 60366138003** Collected: 04/09/21 11:31 Received: 04/10/21 03:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	168	ug/L	5.0	1.8	1	04/14/21 17:05	04/26/21 11:07	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/14/21 17:05	04/26/21 11:07	7440-41-7	
Boron	22100	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 11:07	7440-42-8	
Calcium	167000	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 11:07	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/14/21 17:05	04/26/21 11:07	7440-48-4	
Iron	6350	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 11:07	7439-89-6	
Lead	6.1J	ug/L	10.0	3.8	1	04/14/21 17:05	04/26/21 11:07	7439-92-1	
Lithium	14.7	ug/L	10.0	7.7	1	04/14/21 17:05	04/26/21 11:07	7439-93-2	
Magnesium	24400	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 11:07	7439-95-4	
Manganese	1420	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 11:07	7439-96-5	
Molybdenum	5660	ug/L	20.0	2.2	1	04/14/21 17:05	04/26/21 11:07	7439-98-7	
Potassium	6020	ug/L	500	146	1	04/14/21 17:05	04/26/21 11:07	7440-09-7	
Sodium	46400	ug/L	500	254	1	04/14/21 17:05	04/26/21 11:07	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	04/21/21 10:00	04/30/21 14:36	7440-36-0	
Arsenic	0.53J	ug/L	1.0	0.11	1	04/21/21 10:00	04/30/21 14:36	7440-38-2	
Cadmium	1.1	ug/L	0.50	0.062	1	04/21/21 10:00	04/30/21 14:36	7440-43-9	
Chromium	0.37J	ug/L	1.0	0.23	1	04/21/21 10:00	04/30/21 14:36	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/21 10:00	04/30/21 14:36	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/21/21 10:00	04/30/21 14:36	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 12:08	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	185	mg/L	20.0	7.5	1		04/15/21 19:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	933	mg/L	10.0	10.0	1		04/15/21 13:23		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.6	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	0.78	mg/L	0.20	0.048	1		04/20/21 10:38		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-PZ-1S **Lab ID: 60366138003** Collected: 04/09/21 11:31 Received: 04/10/21 03:15 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	0.054	mg/L	0.050	0.026	1		04/15/21 12:04	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.8	mg/L	5.0	1.9	5		04/23/21 22:08	16887-00-6	B
Fluoride	0.80	mg/L	0.20	0.086	1		04/23/21 00:43	16984-48-8	
Sulfate	421	mg/L	50.0	21.0	50		04/23/21 01:30	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-AM-1S Lab ID: 60366138004 Collected: 04/13/21 10:55 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	148	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:15	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:15	7440-41-7	
Boron	8360	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:15	7440-42-8	
Calcium	80900	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:15	7440-70-2	
Cobalt	1.9J	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:15	7440-48-4	
Iron	1650	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:15	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:15	7439-92-1	
Lithium	27.2	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:15	7439-93-2	
Magnesium	17100	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:15	7439-95-4	
Manganese	886	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:15	7439-96-5	
Molybdenum	282	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:15	7439-98-7	
Potassium	7560	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:15	7440-09-7	
Sodium	22600	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:15	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:21	7440-36-0	
Arsenic	1.4	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:21	7440-38-2	
Cadmium	0.083J	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:21	7440-43-9	
Chromium	0.83J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:21	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:21	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:21	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:10	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	243	mg/L	20.0	7.5	1		04/22/21 18:54		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	412	mg/L	10.0	10.0	1		04/20/21 12:46		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	1.3	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.32	mg/L	0.20	0.048	1		04/20/21 10:42		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-AM-1S **Lab ID: 60366138004** Collected: 04/13/21 10:55 Received: 04/14/21 03:50 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	0.026J	mg/L	0.050	0.026	1		04/16/21 11:07	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	26.2	mg/L	2.0	0.78	2		04/23/21 23:59	16887-00-6	
Fluoride	0.56	mg/L	0.20	0.086	1		04/23/21 23:43	16984-48-8	
Sulfate	65.7	mg/L	5.0	2.1	5		04/24/21 00:15	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-AM-1D **Lab ID: 60366138005** Collected: 04/13/21 10:20 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	228	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:17	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:17	7440-41-7	
Boron	7060	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:17	7440-42-8	
Calcium	77100	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:17	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:17	7440-48-4	
Iron	2870	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:17	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:17	7439-92-1	
Lithium	34.6	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:17	7439-93-2	
Magnesium	16000	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:17	7439-95-4	
Manganese	349	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:17	7439-96-5	
Molybdenum	560	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:17	7439-98-7	
Potassium	7120	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:17	7440-09-7	
Sodium	22000	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:17	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	04/22/21 11:30	05/03/21 13:23	7440-36-0	
Arsenic	0.21J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:23	7440-38-2	
Cadmium	0.11J	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:23	7440-43-9	
Chromium	1.4	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:23	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:23	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:23	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:13	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	208	mg/L	20.0	7.5	1		04/22/21 19:00		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	405	mg/L	5.0	5.0	1		04/20/21 12:47		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	2.2	mg/L	0.050		1		05/12/21 16:09	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 10:42		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-AM-1D **Lab ID: 60366138005** Collected: 04/13/21 10:20 Received: 04/14/21 03:50 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	0.038J	mg/L	0.050	0.026	1		04/16/21 11:07	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	28.1	mg/L	10.0	3.9	10		04/24/21 00:46	16887-00-6	
Fluoride	0.57	mg/L	0.20	0.086	1		04/24/21 00:30	16984-48-8	
Sulfate	61.6	mg/L	10.0	4.2	10		04/24/21 00:46	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-2S Lab ID: 60366138006 Collected: 04/12/21 09:40 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	130	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:28	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:28	7440-41-7	
Boron	10400	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:28	7440-42-8	M1
Calcium	199000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:28	7440-70-2	M1
Cobalt	2.7J	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:28	7440-48-4	
Iron	45.0J	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:28	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:28	7439-92-1	
Lithium	35.1	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:28	7439-93-2	
Magnesium	29400	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:28	7439-95-4	
Manganese	407	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:28	7439-96-5	
Molybdenum	987	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:28	7439-98-7	
Potassium	9890	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:28	7440-09-7	
Sodium	70800	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:28	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.19J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:25	7440-36-0	
Arsenic	0.97J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:25	7440-38-2	
Cadmium	0.44J	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:25	7440-43-9	
Chromium	0.71J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:25	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:25	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:25	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 12:15	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	338	mg/L	20.0	7.5	1		04/21/21 19:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	989	mg/L	10.0	10.0	1		04/19/21 17:49		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.045J	mg/L	0.050		1		05/12/21 16:09	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 10:40		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-2S **Lab ID: 60366138006** Collected: 04/12/21 09:40 Received: 04/14/21 03:50 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		04/16/21 09:46	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	120	mg/L	20.0	7.8	20		04/27/21 11:53	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		04/27/21 10:56	16984-48-8	
Sulfate	258	mg/L	20.0	8.4	20		04/27/21 11:53	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-4S **Lab ID: 60366138007** Collected: 04/12/21 13:57 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Barium	226	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:35	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:35	7440-41-7	
Boron	356	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:35	7440-42-8	
Calcium	189000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:35	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:35	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:35	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:35	7439-92-1	
Lithium	26.8	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:35	7439-93-2	
Magnesium	40400	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:35	7439-95-4	
Manganese	47.4	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:35	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:35	7439-98-7	
Potassium	4860	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:35	7440-09-7	
Sodium	11700	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:35	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Antimony	0.18J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:31	7440-36-0	
Arsenic	0.62J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:31	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:31	7440-43-9	
Chromium	0.41J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:31	7440-47-3	
Selenium	0.81J	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:31	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:31	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 12:26	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	591	mg/L	20.0	7.5	1		04/21/21 19:55		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	747	mg/L	10.0	10.0	1		04/19/21 17:50		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferric	0.014J	mg/L	0.050		1		05/12/21 16:09	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 10:42		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-4S **Lab ID: 60366138007** Collected: 04/12/21 13:57 Received: 04/14/21 03:50 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	0.026J	mg/L	0.050	0.026	1		04/16/21 09:48	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	5.4	mg/L	1.0	0.39	1		04/24/21 01:02	16887-00-6	
Fluoride	0.24	mg/L	0.20	0.086	1		04/24/21 01:02	16984-48-8	
Sulfate	50.5	mg/L	5.0	2.1	5		04/24/21 01:18	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-DUP-1 **Lab ID: 60366138008** Collected: 04/12/21 00:00 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium	226	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:38	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:38	7440-41-7	
Boron	350	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:38	7440-42-8	
Calcium	189000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:38	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:38	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:38	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:38	7439-92-1	
Lithium	26.0	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:38	7439-93-2	
Magnesium	40800	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:38	7439-95-4	
Manganese	22.6	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:38	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:38	7439-98-7	
Potassium	4830	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:38	7440-09-7	
Sodium	12000	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:38	7440-23-5	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony	0.18J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:33	7440-36-0	
Arsenic	0.67J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:33	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:33	7440-43-9	
Chromium	0.49J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:33	7440-47-3	
Selenium	0.81J	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:33	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:33	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City							
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:29	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	605	mg/L	20.0	7.5	1		04/21/21 20:02		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	742	mg/L	10.0	10.0	1		04/19/21 17:50		
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferric	0.0083J	mg/L	0.050		1		05/12/21 16:09	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 10:40		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-DUP-1 **Lab ID: 60366138008** Collected: 04/12/21 00:00 Received: 04/14/21 03:50 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	0.049J	mg/L	0.050	0.026	1		04/16/21 09:49	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	5.3	mg/L	1.0	0.39	1		04/24/21 01:34	16887-00-6	
Fluoride	0.25	mg/L	0.20	0.086	1		04/24/21 01:34	16984-48-8	
Sulfate	48.4	mg/L	10.0	4.2	10		04/25/21 16:30	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-BMW-1S **Lab ID: 60366138009** Collected: 04/13/21 13:35 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	147	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:41	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:41	7440-41-7	
Boron	70.8J	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:41	7440-42-8	
Calcium	149000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:41	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:41	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:41	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:41	7439-92-1	
Lithium	<7.7	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:41	7439-93-2	
Magnesium	28500	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:41	7439-95-4	
Manganese	393	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:41	7439-96-5	
Molybdenum	2.5J	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:41	7439-98-7	
Potassium	397J	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:41	7440-09-7	
Sodium	4750	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:41	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	04/22/21 11:30	05/03/21 13:35	7440-36-0	
Arsenic	1.1	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:35	7440-38-2	
Cadmium	0.11J	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:35	7440-43-9	
Chromium	0.41J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:35	7440-47-3	
Selenium	0.23J	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:35	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:35	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:31	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	450	mg/L	20.0	7.5	1		04/22/21 19:06		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	579	mg/L	10.0	10.0	1		04/20/21 12:47		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0J	mg/L	0.050		1		05/12/21 16:09	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 10:44		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-BMW-1S **Lab ID: 60366138009** Collected: 04/13/21 13:35 Received: 04/14/21 03:50 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	0.039J	mg/L	0.050	0.026	1		04/16/21 11:08	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.2	mg/L	1.0	0.39	1		04/24/21 02:37	16887-00-6	
Fluoride	0.36	mg/L	0.20	0.086	1		04/24/21 02:37	16984-48-8	
Sulfate	29.4	mg/L	5.0	2.1	5		04/24/21 02:53	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-BMW-3S **Lab ID: 60366138010** Collected: 04/13/21 12:17 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	118	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:43	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:43	7440-41-7	
Boron	74.2J	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:43	7440-42-8	
Calcium	134000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:43	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:43	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:43	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:43	7439-92-1	
Lithium	9.1J	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:43	7439-93-2	
Magnesium	23800	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:43	7439-95-4	
Manganese	161	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:43	7439-96-5	
Molybdenum	2.7J	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:43	7439-98-7	
Potassium	520	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:43	7440-09-7	
Sodium	5470	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:43	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	04/22/21 11:30	05/03/21 13:45	7440-36-0	
Arsenic	0.70J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:45	7440-38-2	
Cadmium	0.065J	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:45	7440-43-9	
Chromium	0.38J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:45	7440-47-3	
Selenium	0.47J	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:45	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:45	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:33	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	399	mg/L	20.0	7.5	1		04/22/21 19:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	509	mg/L	10.0	10.0	1		04/20/21 12:47		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.014J	mg/L	0.050		1		05/12/21 16:09	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 10:43		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-BMW-3S **Lab ID: 60366138010** Collected: 04/13/21 12:17 Received: 04/14/21 03:50 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		04/19/21 10:00	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	12.8	mg/L	1.0	0.39	1		04/24/21 03:09	16887-00-6	
Fluoride	0.39	mg/L	0.20	0.086	1		04/24/21 03:09	16984-48-8	
Sulfate	34.8	mg/L	2.0	0.84	2		04/24/21 03:25	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-FB-2 Lab ID: 60366138011 Collected: 04/13/21 15:40 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	<1.8	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:46	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:46	7440-41-7	
Boron	9.5J	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:46	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:46	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:46	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:46	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:46	7439-92-1	
Lithium	<7.7	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:46	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:46	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:46	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:46	7439-98-7	
Potassium	<146	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:46	7440-09-7	
Sodium	<254	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:46	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:47	7440-36-0	
Arsenic	<0.11	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:47	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:47	7440-43-9	
Chromium	0.43J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:47	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:47	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:47	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:36	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		04/22/21 19:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		04/20/21 12:47		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.000000 0010J	mg/L	0.050		1		05/12/21 16:09	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 10:46		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-FB-2 **Lab ID: 60366138011** Collected: 04/13/21 15:40 Received: 04/14/21 03:50 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		04/19/21 10:00	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.50J	mg/L	1.0	0.39	1		04/24/21 03:41	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		04/24/21 03:41	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		04/24/21 03:41	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-FB-1 **Lab ID: 60366138012** Collected: 04/13/21 13:45 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	<1.8	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 23:49	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 23:49	7440-41-7	
Boron	<8.6	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 23:49	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 23:49	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 23:49	7440-48-4	
Iron	40.3J	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:49	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 23:49	7439-92-1	
Lithium	<7.7	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 23:49	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 23:49	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 23:49	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 23:49	7439-98-7	
Potassium	<146	ug/L	500	146	1	04/22/21 11:30	04/30/21 23:49	7440-09-7	
Sodium	<254	ug/L	500	254	1	04/22/21 11:30	04/30/21 23:49	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:43	7440-36-0	
Arsenic	<0.11	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:43	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:43	7440-43-9	
Chromium	4.6	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:43	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:43	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:43	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 12:38	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		04/22/21 19:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		04/20/21 12:47		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.036J	mg/L	0.050		1		05/12/21 16:09	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 10:45		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-FB-1 **Lab ID: 60366138012** Collected: 04/13/21 13:45 Received: 04/14/21 03:50 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		04/19/21 10:01	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		04/23/21 19:28	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		04/23/21 19:28	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		04/23/21 19:28	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-UG-3 Lab ID: 60366138013 Collected: 04/13/21 13:25 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	234	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 07:19	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 07:19	7440-41-7	
Boron	225	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 07:19	7440-42-8	
Calcium	139000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 07:19	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 07:19	7440-48-4	
Iron	46.8J	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 07:19	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 07:19	7439-92-1	
Lithium	26.1	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 07:19	7439-93-2	
Magnesium	27700	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 07:19	7439-95-4	
Manganese	285	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 07:19	7439-96-5	
Molybdenum	2.5J	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 07:19	7439-98-7	
Potassium	5960	ug/L	500	146	1	04/22/21 11:30	05/07/21 07:19	7440-09-7	
Sodium	25600	ug/L	500	254	1	04/22/21 11:30	05/07/21 07:19	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.15J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:49	7440-36-0	
Arsenic	0.49J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:49	7440-38-2	
Cadmium	0.15J	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:49	7440-43-9	
Chromium	1.4	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:49	7440-47-3	
Selenium	1.5	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:49	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:49	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 12:40	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	356	mg/L	20.0	7.5	1		04/22/21 19:25		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	578	mg/L	10.0	10.0	1		04/20/21 12:47		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.047J	mg/L	0.050		1		05/12/21 16:09	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 10:44		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-UG-3 **Lab ID: 60366138013** Collected: 04/13/21 13:25 Received: 04/14/21 03:50 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	0.027J	mg/L	0.050	0.026	1		04/19/21 10:01	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	41.4	mg/L	5.0	1.9	5		04/23/21 20:00	16887-00-6	
Fluoride	0.38	mg/L	0.20	0.086	1		04/23/21 19:44	16984-48-8	
Sulfate	58.2	mg/L	5.0	2.1	5		04/23/21 20:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-5D **Lab ID: 60366138014** Collected: 04/13/21 15:20 Received: 04/14/21 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	184	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 07:22	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 07:22	7440-41-7	
Boron	6000	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 07:22	7440-42-8	
Calcium	144000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 07:22	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 07:22	7440-48-4	
Iron	9430	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 07:22	7439-89-6	
Lead	5.7J	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 07:22	7439-92-1	
Lithium	30.3	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 07:22	7439-93-2	
Magnesium	35300	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 07:22	7439-95-4	
Manganese	1130	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 07:22	7439-96-5	
Molybdenum	186	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 07:22	7439-98-7	
Potassium	5020	ug/L	500	146	1	04/22/21 11:30	05/07/21 07:22	7440-09-7	
Sodium	22600	ug/L	500	254	1	04/22/21 11:30	05/07/21 07:22	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 13:52	7440-36-0	
Arsenic	0.27J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 13:52	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 13:52	7440-43-9	
Chromium	0.61J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 13:52	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 13:52	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 13:52	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 12:42	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	257	mg/L	20.0	7.5	1		04/22/21 19:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	677	mg/L	10.0	10.0	1		04/20/21 12:47		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	8.8	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.67	mg/L	0.20	0.048	1		04/20/21 10:45		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-5D **Lab ID: 60366138014** Collected: 04/13/21 15:20 Received: 04/14/21 03:50 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	0.034J	mg/L	0.050	0.026	1		04/19/21 10:03	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	27.4	mg/L	2.0	0.78	2		04/25/21 11:15	16887-00-6	
Fluoride	0.42	mg/L	0.20	0.086	1		04/23/21 20:16	16984-48-8	
Sulfate	226	mg/L	20.0	8.4	20		04/23/21 20:32	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-1S **Lab ID: 60366138017** Collected: 04/14/21 09:40 Received: 04/15/21 04:40 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	121	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 07:39	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 07:39	7440-41-7	
Boron	532	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 07:39	7440-42-8	
Calcium	68900	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 07:39	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 07:39	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 07:39	7439-89-6	
Lead	4.0J	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 07:39	7439-92-1	
Lithium	13.2	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 07:39	7439-93-2	
Magnesium	16800	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 07:39	7439-95-4	
Manganese	39.2	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 10:52	7439-96-5	
Molybdenum	86.5	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 07:39	7439-98-7	
Potassium	6290	ug/L	500	146	1	04/22/21 11:30	05/07/21 07:39	7440-09-7	
Sodium	17200	ug/L	500	254	1	04/22/21 11:30	05/07/21 07:39	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.39J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 14:00	7440-36-0	
Arsenic	2.4	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:00	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:00	7440-43-9	
Chromium	0.62J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:00	7440-47-3	
Selenium	2.5	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:00	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:00	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 12:54	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	210	mg/L	20.0	7.5	1		04/26/21 19:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	316	mg/L	5.0	5.0	1		04/21/21 14:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0067J	mg/L	0.050		1		05/12/21 16:09	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		04/26/21 10:55		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-1S **Lab ID: 60366138017** Collected: 04/14/21 09:40 Received: 04/15/21 04:40 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	0.027J	mg/L	0.050	0.026	1		04/21/21 09:45	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	18.1	mg/L	1.0	0.39	1		04/23/21 20:48	16887-00-6	
Fluoride	0.54	mg/L	0.20	0.086	1		04/23/21 20:48	16984-48-8	
Sulfate	41.4	mg/L	5.0	2.1	5		04/25/21 11:29	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-8D Lab ID: 60366138018 Collected: 04/14/21 09:28 Received: 04/15/21 04:40 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	376	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 11:02	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 11:02	7440-41-7	
Boron	74.3J	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 11:02	7440-42-8	
Calcium	113000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 11:02	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 11:02	7440-48-4	
Iron	6070	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 11:02	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 11:02	7439-92-1	
Lithium	31.0	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 11:02	7439-93-2	
Magnesium	25300	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 11:02	7439-95-4	
Manganese	449	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 11:02	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 11:02	7439-98-7	
Potassium	3660	ug/L	500	146	1	04/22/21 11:30	05/07/21 11:02	7440-09-7	
Sodium	5890	ug/L	500	254	1	04/22/21 11:30	05/07/21 11:02	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	04/22/21 11:30	05/03/21 14:06	7440-36-0	
Arsenic	1.7	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:06	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:06	7440-43-9	
Chromium	9.4	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:06	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:06	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:06	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 13:01	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	324	mg/L	20.0	7.5	1		04/26/21 19:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	458	mg/L	10.0	10.0	1		04/21/21 14:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.7	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.37	mg/L	0.20	0.048	1		04/20/21 10:46		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-8D **Lab ID: 60366138018** Collected: 04/14/21 09:28 Received: 04/15/21 04:40 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	0.035J	mg/L	0.050	0.026	1		04/21/21 09:45	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		04/23/21 21:35	16887-00-6	
Fluoride	0.33	mg/L	0.20	0.086	1		04/23/21 21:35	16984-48-8	
Sulfate	52.1	mg/L	5.0	2.1	5		04/23/21 21:51	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-2D **Lab ID: 60366138019** Collected: 04/14/21 11:41 Received: 04/15/21 04:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	63.7	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 11:04	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 11:04	7440-41-7	
Boron	72.6J	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 11:04	7440-42-8	
Calcium	284000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 11:04	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 11:04	7440-48-4	
Iron	16000	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 11:04	7439-89-6	
Lead	7.7J	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 11:04	7439-92-1	
Lithium	46.6	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 11:04	7439-93-2	
Magnesium	74600	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 11:04	7439-95-4	
Manganese	1340	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 11:04	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 11:04	7439-98-7	
Potassium	6280	ug/L	500	146	1	04/22/21 11:30	05/07/21 11:04	7440-09-7	
Sodium	26800	ug/L	500	254	1	04/22/21 11:30	05/07/21 11:04	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	04/22/21 11:30	05/03/21 14:08	7440-36-0	
Arsenic	0.27J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:08	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:08	7440-43-9	
Chromium	1.5	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:08	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:08	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:08	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 13:03	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	476	mg/L	20.0	7.5	1		04/26/21 19:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1380	mg/L	13.3	13.3	1		04/21/21 14:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	15.6	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.47	mg/L	0.20	0.048	1		04/26/21 10:55		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-2D **Lab ID: 60366138019** Collected: 04/14/21 11:41 Received: 04/15/21 04:40 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	0.035J	mg/L	0.050	0.026	1		04/21/21 09:45	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	74.2	mg/L	10.0	3.9	10		04/23/21 22:55	16887-00-6	
Fluoride	0.25	mg/L	0.20	0.086	1		04/23/21 22:39	16984-48-8	
Sulfate	472	mg/L	50.0	21.0	50		04/23/21 23:11	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-3D Lab ID: 60366138020 Collected: 04/14/21 13:04 Received: 04/15/21 04:40 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	585	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 11:07	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 11:07	7440-41-7	
Boron	57.9J	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 11:07	7440-42-8	
Calcium	117000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 11:07	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 11:07	7440-48-4	
Iron	7540	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 11:07	7439-89-6	
Lead	5.9J	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 11:07	7439-92-1	
Lithium	30.6	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 11:07	7439-93-2	
Magnesium	29000	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 11:07	7439-95-4	
Manganese	653	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 11:07	7439-96-5	
Molybdenum	2.2J	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 11:07	7439-98-7	
Potassium	4080	ug/L	500	146	1	04/22/21 11:30	05/07/21 11:07	7440-09-7	
Sodium	6710	ug/L	500	254	1	04/22/21 11:30	05/07/21 11:07	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	04/22/21 11:30	05/03/21 14:10	7440-36-0	
Arsenic	0.21J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:10	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:10	7440-43-9	
Chromium	0.40J	ug/L	1.0	0.23	1	05/03/21 14:40	05/04/21 09:32	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:10	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:10	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 13:05	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	334	mg/L	20.0	7.5	1		04/26/21 19:57		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	501	mg/L	10.0	10.0	1		04/21/21 14:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	7.2	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.33	mg/L	0.20	0.048	1		04/26/21 10:56		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-3D **Lab ID: 60366138020** Collected: 04/14/21 13:04 Received: 04/15/21 04:40 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		04/21/21 09:51	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.9	mg/L	1.0	0.39	1		04/23/21 23:26	16887-00-6	
Fluoride	0.28	mg/L	0.20	0.086	1		04/23/21 23:26	16984-48-8	
Sulfate	89.8	mg/L	10.0	4.2	10		04/23/21 23:42	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-4D **Lab ID: 60366138021** Collected: 04/14/21 14:36 Received: 04/15/21 04:40 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	537	ug/L	5.0	1.8	1	04/22/21 11:30	05/07/21 11:09	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	05/07/21 11:09	7440-41-7	
Boron	54.2J	ug/L	100	8.6	1	04/22/21 11:30	05/07/21 11:09	7440-42-8	
Calcium	106000	ug/L	200	75.4	1	04/22/21 11:30	05/07/21 11:09	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	05/07/21 11:09	7440-48-4	
Iron	6030	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 11:09	7439-89-6	
Lead	4.6J	ug/L	10.0	3.8	1	04/22/21 11:30	05/07/21 11:09	7439-92-1	
Lithium	28.6	ug/L	10.0	7.7	1	04/22/21 11:30	05/07/21 11:09	7439-93-2	
Magnesium	25200	ug/L	50.0	31.4	1	04/22/21 11:30	05/07/21 11:09	7439-95-4	
Manganese	450	ug/L	5.0	0.74	1	04/22/21 11:30	05/07/21 11:09	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	05/07/21 11:09	7439-98-7	
Potassium	3410	ug/L	500	146	1	04/22/21 11:30	05/07/21 11:09	7440-09-7	
Sodium	6850	ug/L	500	254	1	04/22/21 11:30	05/07/21 11:09	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 14:12	7440-36-0	
Arsenic	1.7	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:12	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:12	7440-43-9	
Chromium	0.42J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:12	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:12	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:12	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:08	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	291	mg/L	20.0	7.5	1		04/26/21 20:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	472	mg/L	10.0	10.0	1		04/21/21 14:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.9	mg/L	0.050		1		05/12/21 16:09	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.14J	mg/L	0.20	0.048	1		04/26/21 10:56		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-4D **Lab ID: 60366138021** Collected: 04/14/21 14:36 Received: 04/15/21 04:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	0.051	mg/L	0.050	0.026	1		04/21/21 09:51	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	9.0	mg/L	1.0	0.39	1		04/23/21 23:58	16887-00-6	
Fluoride	0.31	mg/L	0.20	0.086	1		04/23/21 23:58	16984-48-8	
Sulfate	88.9	mg/L	10.0	4.2	10		04/24/21 00:14	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-PZ-9D **Lab ID: 60366138022** Collected: 04/14/21 14:45 Received: 04/15/21 04:40 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	122	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 19:08	7440-39-3	
Beryllium	0.61J	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 19:08	7440-41-7	
Boron	2750	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 19:08	7440-42-8	
Calcium	209000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 19:08	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 19:08	7440-48-4	
Iron	12700	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 19:08	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 19:08	7439-92-1	
Lithium	35.1	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 19:08	7439-93-2	
Magnesium	48800	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 19:08	7439-95-4	
Manganese	1340	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 19:08	7439-96-5	
Molybdenum	4.2J	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 19:08	7439-98-7	
Potassium	5250	ug/L	500	146	1	04/22/21 11:30	04/30/21 19:08	7440-09-7	
Sodium	17300	ug/L	500	254	1	04/22/21 11:30	04/30/21 19:08	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 14:30	7440-36-0	
Arsenic	0.70J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:30	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:30	7440-43-9	
Chromium	1.2	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:30	7440-47-3	
Selenium	0.21J	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:30	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:30	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:10	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	295	mg/L	20.0	7.5	1		04/26/21 20:08		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	1010	mg/L	10.0	10.0	1		04/21/21 14:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferric	12.1	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferrous	0.55	mg/L	0.20	0.048	1		04/26/21 10:57		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-PZ-9D **Lab ID: 60366138022** Collected: 04/14/21 14:45 Received: 04/15/21 04:40 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	0.062	mg/L	0.050	0.026	1		04/21/21 09:51	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	17.3	mg/L	1.0	0.39	1		04/24/21 00:30	16887-00-6	
Fluoride	0.35	mg/L	0.20	0.086	1		04/24/21 00:30	16984-48-8	
Sulfate	442	mg/L	50.0	21.0	50		04/24/21 01:02	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-5S **Lab ID: 60366138023** Collected: 04/14/21 16:21 Received: 04/15/21 04:40 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	57.3	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 19:10	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 19:10	7440-41-7	
Boron	15200	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 19:10	7440-42-8	
Calcium	254000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 19:10	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 19:10	7440-48-4	
Iron	122	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 19:10	7439-89-6	
Lead	3.9J	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 19:10	7439-92-1	
Lithium	46.2	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 19:10	7439-93-2	
Magnesium	46900	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 19:10	7439-95-4	
Manganese	1420	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 19:10	7439-96-5	
Molybdenum	2640	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 19:10	7439-98-7	
Potassium	5000	ug/L	500	146	1	04/22/21 11:30	04/30/21 19:10	7440-09-7	
Sodium	182000	ug/L	500	254	1	04/22/21 11:30	04/30/21 19:10	7440-23-5	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony	0.15J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 14:35	7440-36-0	
Arsenic	0.97J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:35	7440-38-2	
Cadmium	0.89	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:35	7440-43-9	
Chromium	0.60J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:35	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:35	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:35	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City							
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:17	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	349	mg/L	20.0	7.5	1		04/26/21 20:25		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	1670	mg/L	13.3	13.3	1		04/21/21 14:04		
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferric	0.12	mg/L	0.050		1		05/04/21 07:26	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		04/26/21 11:03		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-5S **Lab ID: 60366138023** Collected: 04/14/21 16:21 Received: 04/15/21 04:40 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		04/21/21 09:52	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.2	mg/L	1.0	0.39	1		04/24/21 02:05	16887-00-6	
Fluoride	0.57	mg/L	0.20	0.086	1		04/24/21 02:05	16984-48-8	
Sulfate	920	mg/L	100	42.1	100		04/24/21 02:37	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-6S Lab ID: 60366138024 Collected: 04/14/21 16:16 Received: 04/15/21 04:40 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	39.4	ug/L	5.0	1.8	1	04/22/21 11:30	04/30/21 19:20	7440-39-3	
Beryllium	1.2	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 19:20	7440-41-7	
Boron	16500	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 19:20	7440-42-8	
Calcium	249000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 19:20	7440-70-2	
Cobalt	6.9	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 19:20	7440-48-4	
Iron	112	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 19:20	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 19:20	7439-92-1	
Lithium	16.6	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 19:20	7439-93-2	
Magnesium	57700	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 19:20	7439-95-4	
Manganese	425	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 19:20	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 19:20	7439-98-7	
Potassium	4500	ug/L	500	146	1	04/22/21 11:30	04/30/21 19:20	7440-09-7	
Sodium	66800	ug/L	500	254	1	04/22/21 11:30	04/30/21 19:20	7440-23-5	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony	0.22J	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 14:37	7440-36-0	
Arsenic	0.76J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:37	7440-38-2	
Cadmium	0.91	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:37	7440-43-9	
Chromium	0.82J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:37	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:37	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:37	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 13:19	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	413	mg/L	20.0	7.5	1		04/26/21 20:30		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	1300	mg/L	13.3	13.3	1		04/21/21 14:04		
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferric	0.11	mg/L	0.050		1		05/04/21 07:26	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		04/26/21 11:03		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-6S **Lab ID: 60366138024** Collected: 04/14/21 16:16 Received: 04/15/21 04:40 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		04/21/21 09:54	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	2.6	mg/L	1.0	0.39	1		04/24/21 02:53	16887-00-6	B
Fluoride	0.38	mg/L	0.20	0.086	1		04/24/21 02:53	16984-48-8	
Sulfate	571	mg/L	100	42.1	100		04/24/21 03:24	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-DUP-2 **Lab ID: 60366138025** Collected: 04/14/21 00:00 Received: 04/15/21 04:40 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	04/22/21 11:30	04/30/21 19:23	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	04/22/21 11:30	04/30/21 19:23	7440-41-7	
Boron	80.8J	ug/L	100	8.6	1	04/22/21 11:30	04/30/21 19:23	7440-42-8	
Calcium	120000	ug/L	200	75.4	1	04/22/21 11:30	04/30/21 19:23	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	04/22/21 11:30	04/30/21 19:23	7440-48-4	
Iron	7760	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 19:23	7439-89-6	
Lead	<3.8	ug/L	10.0	3.8	1	04/22/21 11:30	04/30/21 19:23	7439-92-1	
Lithium	31.3	ug/L	10.0	7.7	1	04/22/21 11:30	04/30/21 19:23	7439-93-2	
Magnesium	28700	ug/L	50.0	31.4	1	04/22/21 11:30	04/30/21 19:23	7439-95-4	
Manganese	626	ug/L	5.0	0.74	1	04/22/21 11:30	04/30/21 19:23	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	04/22/21 11:30	04/30/21 19:23	7439-98-7	
Potassium	4000	ug/L	500	146	1	04/22/21 11:30	04/30/21 19:23	7440-09-7	
Sodium	6530	ug/L	500	254	1	04/22/21 11:30	04/30/21 19:23	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.10	ug/L	1.0	0.10	1	04/22/21 11:30	05/03/21 14:39	7440-36-0	
Arsenic	0.19J	ug/L	1.0	0.11	1	04/22/21 11:30	05/03/21 14:39	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	04/22/21 11:30	05/03/21 14:39	7440-43-9	
Chromium	0.61J	ug/L	1.0	0.23	1	04/22/21 11:30	05/03/21 14:39	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/22/21 11:30	05/03/21 14:39	7782-49-2	
Thallium	<0.094	ug/L	1.0	0.094	1	04/22/21 11:30	05/03/21 14:39	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.096	ug/L	0.20	0.096	1	05/02/21 16:40	05/04/21 13:21	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	327	mg/L	20.0	7.5	1		04/26/21 20:37		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	514	mg/L	10.0	10.0	1		04/21/21 14:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	7.3	mg/L	0.050		1		05/04/21 07:26	7439-89-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.46	mg/L	0.20	0.048	1		04/20/21 10:46		H6

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-DUP-2 **Lab ID: 60366138025** Collected: 04/14/21 00:00 Received: 04/15/21 04:40 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		04/21/21 09:54	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.9	mg/L	1.0	0.39	1		04/24/21 03:40	16887-00-6	
Fluoride	0.26	mg/L	0.20	0.086	1		04/24/21 03:40	16984-48-8	
Sulfate	91.2	mg/L	5.0	2.1	5		04/24/21 03:56	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	716557	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138001, 60366138002, 60366138003, 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

METHOD BLANK: 2882663 Matrix: Water

Associated Lab Samples: 60366138001, 60366138002, 60366138003, 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/04/21 11:59	

LABORATORY CONTROL SAMPLE: 2882664

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882665 2882666

Parameter	Units	60366138006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.4	5.6	107	112	75-125	5	20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	716559	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025		

METHOD BLANK:	2882671	Matrix:	Water
Associated Lab Samples:	60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/04/21 12:49	

LABORATORY CONTROL SAMPLE:	2882672					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2882673			2882674								
Parameter	Units	60366138017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.4	5.4	108	109	75-125	1	20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	714611	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138001, 60366138002, 60366138003

METHOD BLANK: 2875149 Matrix: Water

Associated Lab Samples: 60366138001, 60366138002, 60366138003

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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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

MATRIX SPIKE SAMPLE: 2875151		60366138002	Spike	MS	MS	% Rec	Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Limits	
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	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
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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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

QC Batch:	716201	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138017, 60366138018, 60366138019, 60366138020, 60366138021

METHOD BLANK: 2881020 Matrix: Water
Associated Lab Samples: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138017, 60366138018, 60366138019, 60366138020, 60366138021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/30/21 23:10	
Beryllium	ug/L	<0.39	1.0	0.39	04/30/21 23:10	
Boron	ug/L	<8.6	100	8.6	04/30/21 23:10	
Calcium	ug/L	<75.4	200	75.4	04/30/21 23:10	
Cobalt	ug/L	<0.95	5.0	0.95	04/30/21 23:10	
Iron	ug/L	<21.4	50.0	21.4	04/30/21 23:10	
Lead	ug/L	<3.8	10.0	3.8	04/30/21 23:10	
Lithium	ug/L	<7.7	10.0	7.7	04/30/21 23:10	
Magnesium	ug/L	<31.4	50.0	31.4	04/30/21 23:10	
Manganese	ug/L	<0.74	5.0	0.74	04/30/21 23:10	
Molybdenum	ug/L	<2.2	20.0	2.2	04/30/21 23:10	
Potassium	ug/L	<146	500	146	04/30/21 23:10	
Sodium	ug/L	<254	500	254	05/07/21 07:17	

LABORATORY CONTROL SAMPLE: 2881021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	988	99	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1040	104	85-115	
Lithium	ug/L	1000	1000	100	85-115	
Magnesium	ug/L	10000	9920	99	85-115	
Manganese	ug/L	1000	984	98	85-115	
Molybdenum	ug/L	1000	1040	104	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10400	104	85-115	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881022												2881023	
Parameter	Units	60366138006		MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD		
Barium	ug/L	130	1000	1000	1140	1120	101	99	70-130	2	20		
Beryllium	ug/L	<0.39	1000	1000	1030	1010	103	101	70-130	2	20		
Boron	ug/L	10400	1000	1000	11200	11000	78	50	70-130	3	20	M1	
Calcium	ug/L	199000	10000	10000	215000	209000	166	105	70-130	3	20	M1	
Cobalt	ug/L	2.7J	1000	1000	987	964	98	96	70-130	2	20		
Iron	ug/L	45.0J	10000	10000	10000	9750	100	97	70-130	3	20		
Lead	ug/L	<3.8	1000	1000	1010	985	101	98	70-130	3	20		
Lithium	ug/L	35.1	1000	1000	1040	1010	101	97	70-130	3	20		
Magnesium	ug/L	29400	10000	10000	40400	39200	110	98	70-130	3	20		
Manganese	ug/L	407	1000	1000	1390	1360	98	95	70-130	2	20		
Molybdenum	ug/L	987	1000	1000	2050	2000	107	102	70-130	2	20		
Potassium	ug/L	9890	10000	10000	20700	20200	108	104	70-130	2	20		
Sodium	ug/L	70800	10000	10000	81200	78600	103	78	70-130	3	20		

MATRIX SPIKE SAMPLE: 2881024							
Parameter	Units	60366138014	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits	
Barium	ug/L	184	1000	1220	103	70-130	
Beryllium	ug/L	<0.39	1000	1060	106	70-130	
Boron	ug/L	6000	1000	7050	105	70-130	
Calcium	ug/L	144000	10000	153000	81	70-130	
Cobalt	ug/L	<0.95	1000	994	99	70-130	
Iron	ug/L	9430	10000	18900	95	70-130	
Lead	ug/L	5.7J	1000	1010	100	70-130	
Lithium	ug/L	30.3	1000	1110	108	70-130	
Magnesium	ug/L	35300	10000	45500	102	70-130	
Manganese	ug/L	1130	1000	2140	102	70-130	
Molybdenum	ug/L	186	1000	1200	102	70-130	
Potassium	ug/L	5020	10000	15700	107	70-130	
Sodium	ug/L	22600	10000	32700	101	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	716203	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138022, 60366138023, 60366138024, 60366138025

METHOD BLANK: 2881028 Matrix: Water

Associated Lab Samples: 60366138022, 60366138023, 60366138024, 60366138025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/30/21 18:55	
Beryllium	ug/L	<0.39	1.0	0.39	04/30/21 18:55	
Boron	ug/L	<8.6	100	8.6	04/30/21 18:55	
Calcium	ug/L	<75.4	200	75.4	04/30/21 18:55	
Cobalt	ug/L	<0.95	5.0	0.95	04/30/21 18:55	
Iron	ug/L	<21.4	50.0	21.4	04/30/21 18:55	
Lead	ug/L	<3.8	10.0	3.8	04/30/21 18:55	
Lithium	ug/L	<7.7	10.0	7.7	04/30/21 18:55	
Magnesium	ug/L	<31.4	50.0	31.4	04/30/21 18:55	
Manganese	ug/L	<0.74	5.0	0.74	04/30/21 18:55	
Molybdenum	ug/L	<2.2	20.0	2.2	04/30/21 18:55	
Potassium	ug/L	<146	500	146	04/30/21 18:55	
Sodium	ug/L	<254	500	254	04/30/21 18:55	

LABORATORY CONTROL SAMPLE: 2881029

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	972	97	85-115	
Beryllium	ug/L	1000	985	98	85-115	
Boron	ug/L	1000	955	95	85-115	
Calcium	ug/L	10000	11000	110	85-115	
Cobalt	ug/L	1000	979	98	85-115	
Iron	ug/L	10000	9660	97	85-115	
Lead	ug/L	1000	1010	101	85-115	
Lithium	ug/L	1000	964	96	85-115	
Magnesium	ug/L	10000	9620	96	85-115	
Manganese	ug/L	1000	945	94	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10900	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881030 2881031

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60366969001 Result	Spike Conc.	Spike Conc.	MS Result						
Barium	ug/L	241	1000	1000	1190	1240	95	100	70-130	4	20
Beryllium	ug/L	<0.39	1000	1000	982	1030	98	103	70-130	4	20

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Parameter	Units	2881030		2881031		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60366969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Boron	ug/L	4420	1000	1000	5220	5370	80	95	70-130	3	20
Calcium	ug/L	120000	10000	10000	125000	130000	48	92	70-130	3	20 M1
Cobalt	ug/L	1.5J	1000	1000	932	979	93	98	70-130	5	20
Iron	ug/L	16600	10000	10000	25100	26300	85	96	70-130	4	20
Lead	ug/L	<3.8	1000	1000	967	1000	97	100	70-130	3	20
Lithium	ug/L	33.3	1000	1000	989	1030	96	99	70-130	4	20
Magnesium	ug/L	20800	10000	10000	29000	30200	82	94	70-130	4	20
Manganese	ug/L	1480	1000	1000	2340	2430	86	94	70-130	4	20
Molybdenum	ug/L	35.0	1000	1000	1030	1080	100	104	70-130	4	20
Potassium	ug/L	5840	10000	10000	15800	16000	99	102	70-130	2	20
Sodium	ug/L	31200	10000	10000	39600	40600	83	94	70-130	3	20

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 715615	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: 60366138001, 60366138002

METHOD BLANK: 2878923 Matrix: Water

Associated Lab Samples: 60366138001, 60366138002

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

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

QC Batch: 715907	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: 60366138003

METHOD BLANK: 2879885 Matrix: Water
Associated Lab Samples: 60366138003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	04/30/21 14:12	
Arsenic	ug/L	<0.11	1.0	0.11	04/30/21 14:12	
Cadmium	ug/L	<0.062	0.50	0.062	04/30/21 14:12	
Chromium	ug/L	0.52J	1.0	0.23	05/03/21 09:45	
Selenium	ug/L	<0.18	1.0	0.18	04/30/21 14:12	
Thallium	ug/L	<0.094	1.0	0.094	04/30/21 14:12	

LABORATORY CONTROL SAMPLE: 2879886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.6	102	85-115	
Arsenic	ug/L	40	41.7	104	85-115	
Cadmium	ug/L	40	42.2	106	85-115	
Chromium	ug/L	40	42.4	106	85-115	
Selenium	ug/L	40	41.7	104	85-115	
Thallium	ug/L	40	39.2	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879887 2879888

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60366222004 Result	Spike Conc.	Spike Conc.	Result						
Antimony	ug/L	<0.10	40	40	40.7	39.8	102	99	70-130	2	20
Arsenic	ug/L	0.47J	40	40	42.6	41.7	105	103	70-130	2	20
Cadmium	ug/L	0.38J	40	40	41.1	40.1	102	99	70-130	2	20
Chromium	ug/L	0.41J	40	40	42.1	40.6	104	100	70-130	4	20
Selenium	ug/L	0.22J	40	40	38.2	37.8	95	94	70-130	1	20
Thallium	ug/L	<0.094	40	40	40.7	39.6	102	99	70-130	3	20

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 716206 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: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138017, 60366138018, 60366138019, 60366138020, 60366138021

METHOD BLANK: 2881050 Matrix: Water
 Associated Lab Samples: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138017, 60366138018, 60366138019, 60366138020, 60366138021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	05/03/21 13:17	
Arsenic	ug/L	<0.11	1.0	0.11	05/03/21 13:17	
Cadmium	ug/L	<0.062	0.50	0.062	05/03/21 13:17	
Chromium	ug/L	<0.23	1.0	0.23	05/03/21 13:17	
Selenium	ug/L	<0.18	1.0	0.18	05/03/21 13:17	
Thallium	ug/L	<0.094	1.0	0.094	05/03/21 13:17	

LABORATORY CONTROL SAMPLE: 2881051

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.0	103	85-115	
Arsenic	ug/L	40	42.4	106	85-115	
Cadmium	ug/L	40	42.3	106	85-115	
Chromium	ug/L	40	41.7	104	85-115	
Selenium	ug/L	40	41.6	104	85-115	
Thallium	ug/L	40	39.3	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881052 2881053

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Antimony	ug/L	0.19J	40	40	42.2	40.9	105	102	70-130	3	20
Arsenic	ug/L	0.97J	40	40	44.9	43.9	110	107	70-130	2	20
Cadmium	ug/L	0.44J	40	40	41.4	40.2	102	99	70-130	3	20
Chromium	ug/L	0.71J	40	40	41.8	41.6	103	102	70-130	1	20
Selenium	ug/L	<0.18	40	40	40.5	39.7	101	99	70-130	2	20
Thallium	ug/L	<0.094	40	40	42.6	41.8	107	104	70-130	2	20

MATRIX SPIKE SAMPLE: 2881054

Parameter	Units	60366138013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	0.15J	40	41.6	104	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

MATRIX SPIKE SAMPLE:		2881054					
Parameter	Units	60366138013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	0.49J	40	43.4	107	70-130	
Cadmium	ug/L	0.15J	40	41.0	102	70-130	
Chromium	ug/L	1.4	40	42.7	103	70-130	
Selenium	ug/L	1.5	40	42.1	101	70-130	
Thallium	ug/L	<0.094	40	41.8	105	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	716207	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: 60366138022, 60366138023, 60366138024, 60366138025

METHOD BLANK: 2881062 Matrix: Water
Associated Lab Samples: 60366138022, 60366138023, 60366138024, 60366138025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.10	1.0	0.10	05/03/21 14:26	
Arsenic	ug/L	<0.11	1.0	0.11	05/03/21 14:26	
Cadmium	ug/L	<0.062	0.50	0.062	05/03/21 14:26	
Chromium	ug/L	<0.23	1.0	0.23	05/03/21 14:26	
Selenium	ug/L	<0.18	1.0	0.18	05/03/21 14:26	
Thallium	ug/L	<0.094	1.0	0.094	05/03/21 14:26	

LABORATORY CONTROL SAMPLE: 2881063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.1	105	85-115	
Arsenic	ug/L	40	43.7	109	85-115	
Cadmium	ug/L	40	43.3	108	85-115	
Chromium	ug/L	40	42.9	107	85-115	
Selenium	ug/L	40	43.9	110	85-115	
Thallium	ug/L	40	40.3	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881064 2881065

Parameter	Units	2881064		2881065		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Antimony	ug/L	<0.10	40	40	42.0	42.1	105	105	70-130	0	20
Arsenic	ug/L	0.70J	40	40	44.3	44.2	109	109	70-130	0	20
Cadmium	ug/L	<0.062	40	40	41.9	41.8	105	104	70-130	0	20
Chromium	ug/L	1.2	40	40	43.2	43.0	105	104	70-130	0	20
Selenium	ug/L	0.21J	40	40	41.3	41.7	103	104	70-130	1	20
Thallium	ug/L	<0.094	40	40	42.6	42.4	106	106	70-130	0	20

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 718134

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: 60366138020

METHOD BLANK: 2888438

Matrix: Water

Associated Lab Samples: 60366138020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.23	1.0	0.23	05/04/21 09:28	

LABORATORY CONTROL SAMPLE: 2888439

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2888440 2888441

Parameter	Units	60366138020		2888441		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chromium	ug/L	0.40J	40	40	40.9	42.5	101	105	70-130	4	20

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

QC Batch: 714700 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138001, 60366138002, 60366138003

METHOD BLANK: 2875429 Matrix: Water

Associated Lab Samples: 60366138001, 60366138002, 60366138003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<7.5	20.0	7.5	04/15/21 18:01	

LABORATORY CONTROL SAMPLE: 2875430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	502	100	90-110	

SAMPLE DUPLICATE: 2875431

Parameter	Units	60366282001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	312	313	0	10	

SAMPLE DUPLICATE: 2875432

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	249	257	3	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	716011	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138006, 60366138007, 60366138008

METHOD BLANK: 2880339 Matrix: Water
Associated Lab Samples: 60366138006, 60366138007, 60366138008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/21/21 18:12	

LABORATORY CONTROL SAMPLE: 2880340

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	503	101	90-110	

SAMPLE DUPLICATE: 2880341

Parameter	Units	60366666001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	1460	1330	10	10	

SAMPLE DUPLICATE: 2880342

Parameter	Units	60366138006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	338	333	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 716345

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138004, 60366138005, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

METHOD BLANK: 2881690

Matrix: Water

Associated Lab Samples: 60366138004, 60366138005, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/22/21 17:58	

LABORATORY CONTROL SAMPLE: 2881691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	511	102	90-110	

SAMPLE DUPLICATE: 2881692

Parameter	Units	60366511001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	133	129	3	10	

SAMPLE DUPLICATE: 2881693

Parameter	Units	60366586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	257	263	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 716860

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

METHOD BLANK: 2883949

Matrix: Water

Associated Lab Samples: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/26/21 18:16	

LABORATORY CONTROL SAMPLE: 2883950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	507	101	90-110	

SAMPLE DUPLICATE: 2883951

Parameter	Units	60367196001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	1330	1310	2	10	

SAMPLE DUPLICATE: 2883952

Parameter	Units	60366138017 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	210	210	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 714768

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138001, 60366138002

METHOD BLANK: 2875769

Matrix: Water

Associated Lab Samples: 60366138001, 60366138002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/15/21 11:09	

LABORATORY CONTROL SAMPLE: 2875770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	996	100	80-120	

SAMPLE DUPLICATE: 2875771

Parameter	Units	60366133001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10800	11600	8	10	

SAMPLE DUPLICATE: 2875772

Parameter	Units	60366133011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	718	738	3	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 714769

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138003

METHOD BLANK: 2875773

Matrix: Water

Associated Lab Samples: 60366138003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/15/21 13:21	

LABORATORY CONTROL SAMPLE: 2875774

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

SAMPLE DUPLICATE: 2875775

Parameter	Units	60366282001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5000	5180	3	10	

SAMPLE DUPLICATE: 2875776

Parameter	Units	60366283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4730	4830	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

QC Batch: 715580 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138006, 60366138007, 60366138008

METHOD BLANK: 2878845 Matrix: Water

Associated Lab Samples: 60366138006, 60366138007, 60366138008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/19/21 17:49	

LABORATORY CONTROL SAMPLE: 2878846

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

SAMPLE DUPLICATE: 2878847

Parameter	Units	60366138006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	989	974	2	10	

SAMPLE DUPLICATE: 2878848

Parameter	Units	60366782002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3330	3110	7	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	715646	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138004, 60366138005, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

METHOD BLANK: 2879035 Matrix: Water

Associated Lab Samples: 60366138004, 60366138005, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/20/21 12:46	

LABORATORY CONTROL SAMPLE: 2879036

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

SAMPLE DUPLICATE: 2879037

Parameter	Units	60366586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	373	376	1	10	

SAMPLE DUPLICATE: 2879038

Parameter	Units	60366588003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	445	437	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	715937	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

METHOD BLANK: 2880011 Matrix: Water

Associated Lab Samples: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/21/21 14:01	

LABORATORY CONTROL SAMPLE: 2880012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	990	99	80-120	

SAMPLE DUPLICATE: 2880013

Parameter	Units	60366724005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1680	1540	8	10	

SAMPLE DUPLICATE: 2880014

Parameter	Units	60366138022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1010	1070	6	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

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: 60366138001, 60366138002, 60366138003

METHOD BLANK: 2878020 Matrix: Water

Associated Lab Samples: 60366138001, 60366138002, 60366138003

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 SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 715287

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: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138018, 60366138025

METHOD BLANK: 2878041

Matrix: Water

Associated Lab Samples: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138018, 60366138025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/20/21 10:38	H6

LABORATORY CONTROL SAMPLE: 2878042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	1.9	96	90-110	H6

SAMPLE DUPLICATE: 2878043

Parameter	Units	60366138006 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.048	<0.048		20	H6

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 716370

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: 60366138017, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024

METHOD BLANK: 2881774

Matrix: Water

Associated Lab Samples: 60366138017, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.048	0.20	0.048	04/26/21 10:53	H6

LABORATORY CONTROL SAMPLE: 2881775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	102	90-110	H6

SAMPLE DUPLICATE: 2881776

Parameter	Units	60367051001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.20J	0.23		20	H6

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 714698

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: 60366138001, 60366138002

METHOD BLANK: 2875420

Matrix: Water

Associated Lab Samples: 60366138001, 60366138002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/15/21 15:57	

LABORATORY CONTROL SAMPLE: 2875421

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875423 2875422

Parameter	Units	60365375002		2875423		2875422		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MS Spike Conc.	MSD Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Sulfide, Total	mg/L	5.7	10	10	10	21.5	21.7	45	46	75-125	1 20	E,H1, M1

SAMPLE DUPLICATE: 2875424

Parameter	Units	60366428001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 714708	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: 60366138003

METHOD BLANK: 2875445 Matrix: Water

Associated Lab Samples: 60366138003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/15/21 11:48	

LABORATORY CONTROL SAMPLE: 2875446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.53	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875448 2875450

Parameter	Units	60366222004		2875448		2875450		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec				
Sulfide, Total	mg/L	0.040J	0.5	0.5	0.46	0.47	83	86	75-125	3	20

SAMPLE DUPLICATE: 2875447

Parameter	Units	60366222002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.076	0.073	4	20	

SAMPLE DUPLICATE: 2875449

Parameter	Units	60366222004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.040J	0.047J		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	714714	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: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009

METHOD BLANK: 2875471 Matrix: Water
Associated Lab Samples: 60366138004, 60366138005, 60366138006, 60366138007, 60366138008, 60366138009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/16/21 09:27	

LABORATORY CONTROL SAMPLE: 2875472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875473 2875475

Parameter	Units	60366138006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.031J	0.5	0.5	0.47	0.48	87	90	75-125	3	20	

SAMPLE DUPLICATE: 2875474

Parameter	Units	60366138006 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.031J	<0.026		20	

SAMPLE DUPLICATE: 2875476

Parameter	Units	60366138008 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.049J	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	715285	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: 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

METHOD BLANK: 2878031 Matrix: Water
Associated Lab Samples: 60366138010, 60366138011, 60366138012, 60366138013, 60366138014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/19/21 08:51	

LABORATORY CONTROL SAMPLE: 2878032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878033 2878034

Parameter	Units	60366749001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.22	0.5	0.5	0.68	0.68	92	93	75-125	0	20	

SAMPLE DUPLICATE: 2878035

Parameter	Units	60366749002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.39	0.48	20	20	

SAMPLE DUPLICATE: 2878036

Parameter	Units	60366138011 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

QC Batch: 715880 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: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

METHOD BLANK: 2879781 Matrix: Water
Associated Lab Samples: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/21/21 08:28	

LABORATORY CONTROL SAMPLE: 2879782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879783 2879784

Parameter	Units	60366763001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	4.7	5	5	7.2	7.2	50	48	75-125	1	20	M1

SAMPLE DUPLICATE: 2879785

Parameter	Units	60366766001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	49.7	43.2	14	20	

SAMPLE DUPLICATE: 2879786

Parameter	Units	60366824001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.032J	0.031J		20	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	716232	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138003

METHOD BLANK: 2881201 Matrix: Water

Associated Lab Samples: 60366138003

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: 60366138003

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: 60366138003

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 SEC SCPA-CA

Pace Project No.: 60366138

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		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 716443 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60366138001, 60366138002, 60366138004, 60366138005, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011

METHOD BLANK: 2882108 Matrix: Water
 Associated Lab Samples: 60366138001, 60366138002, 60366138004, 60366138005, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/23/21 16:46	
Fluoride	mg/L	<0.086	0.20	0.086	04/23/21 16:46	
Sulfate	mg/L	<0.42	1.0	0.42	04/23/21 16:46	

METHOD BLANK: 2883765 Matrix: Water
 Associated Lab Samples: 60366138001, 60366138002, 60366138004, 60366138005, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011

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: 2882109

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

LABORATORY CONTROL SAMPLE: 2883766

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: 2882112

Parameter	Units	60366138002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15.6	25	39.4	95	80-120	
Fluoride	mg/L	0.33	2.5	2.9	102	80-120	
Sulfate	mg/L	65.8	25	94.2	113	80-120	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882113												2882114	
Parameter	Units	60367128001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual		
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD			
Chloride	mg/L	ND	10000	10000	15200	11400	152	114	80-120	28	15	M1,R1	
Fluoride	mg/L	ND	5000	5000	7840	5920	157	118	80-120	28	15	M1,R1	
Sulfate	mg/L	69000	50000	50000	114000	114000	90	91	80-120	0	15		

SAMPLE DUPLICATE: 2882115

Parameter	Units	60367128001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	ND	<778		15	
Fluoride	mg/L	ND	<173		15	
Sulfate	mg/L	69000	65200	6	15	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

QC Batch: 716447 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138012, 60366138013, 60366138014, 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

METHOD BLANK: 2882121 Matrix: Water
Associated Lab Samples: 60366138012, 60366138013, 60366138014, 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.51J	1.0	0.39	04/23/21 16:19	
Fluoride	mg/L	<0.086	0.20	0.086	04/23/21 16:19	
Sulfate	mg/L	<0.42	1.0	0.42	04/23/21 16:19	

METHOD BLANK: 2883759 Matrix: Water
Associated Lab Samples: 60366138012, 60366138013, 60366138014, 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

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: 2882122

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	2.4	98	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2883760

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: 2882124 2882125

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Chloride	mg/L	1140	1000	1000	2360	122	108	80-120	6	15	M1
Fluoride	mg/L	5.9	2.5	2.5	8.2	90	98	80-120	2	15	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882124												2882125	
Parameter	Units	60367402001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfate	mg/L	1830	1000	1000	3270	2990	145	116	80-120	9	15	M1	

MATRIX SPIKE SAMPLE: 2882126		60366138022	Spike	MS	MS	% Rec	Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Limits	
Chloride	mg/L		17.3	250	260	97	80-120
Fluoride	mg/L		0.35	2.5	3.0	106	80-120
Sulfate	mg/L		442	250	686	98	80-120

SAMPLE DUPLICATE: 2882123							
Parameter	Units	60367402001	Dup	RPD	Max	Qualifiers	
		Result	Result		RPD		
Chloride	mg/L	1140	1190	4	15		
Fluoride	mg/L	5.9	6.0	1	15		
Sulfate	mg/L	1830	1950	7	15		

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 716877	Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366138006

METHOD BLANK: 2884030 Matrix: Water

Associated Lab Samples: 60366138006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/27/21 08:08	
Fluoride	mg/L	<0.086	0.20	0.086	04/27/21 08:08	
Sulfate	mg/L	<0.42	1.0	0.42	04/27/21 08:08	

METHOD BLANK: 2886241 Matrix: Water

Associated Lab Samples: 60366138006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/28/21 09:21	
Fluoride	mg/L	<0.086	0.20	0.086	04/28/21 09:21	
Sulfate	mg/L	<0.42	1.0	0.42	04/28/21 09:21	

LABORATORY CONTROL SAMPLE: 2884031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 2886242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2884033 2884034

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60366138006 Result	Spike Conc.	Spike Conc.	Result						
Chloride	mg/L	120	100	100	227	231	107	111	80-120	2	15
Fluoride	mg/L	<0.086	2.5	2.5	2.2	2.4	86	97	80-120	11	15
Sulfate	mg/L	258	100	100	367	368	109	110	80-120	0	15

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

MATRIX SPIKE SAMPLE: 2884035

Parameter	Units	60366962014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.9	5	7.6	113	80-120	
Fluoride	mg/L	0.32	2.5	2.9	104	80-120	
Sulfate	mg/L	53.7	50	94.7	82	80-120	

SAMPLE DUPLICATE: 2884032

Parameter	Units	60366138006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	120	119	0	15	
Fluoride	mg/L	<0.086	<0.086		15	
Sulfate	mg/L	258	258	0	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-6S **Lab ID: 60366138001** Collected: 04/08/21 12:47 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	0.000 ± 0.486 (0.996) C:NA T:94%	pCi/L	04/29/21 13:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.36 ± 0.677 (1.24) C:64% T:81%	pCi/L	05/03/21 12:35	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-TP-6D Lab ID: 60366138002 Collected: 04/08/21 12:53 Received: 04/09/21 04:08 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.446 ± 0.453 (0.686) C:NA T:90%	pCi/L	04/29/21 13:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.82 ± 0.697 (1.12) C:63% T:81%	pCi/L	05/03/21 12:35	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.306 ± 0.399 (0.659) C:NA T:97%	pCi/L	04/29/21 14:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.27 ± 0.638 (1.15) C:65% T:77%	pCi/L	05/03/21 12:35	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-AM-1S **Lab ID: 60366138004** Collected: 04/13/21 10:55 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.722 ± 0.672 (1.05) C:NA T:94%	pCi/L	05/06/21 15:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.237 ± 0.383 (0.832) C:67% T:85%	pCi/L	05/04/21 12:21	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-AM-1D Lab ID: 60366138005 Collected: 04/13/21 10:20 Received: 04/14/21 03:50 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.334 ± 0.435 (0.718) C:NA T:88%	pCi/L	05/07/21 14:30	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.522 ± 0.839 (1.82) C:69% T:83%	pCi/L	05/06/21 19:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-2S **Lab ID: 60366138006** Collected: 04/12/21 09:40 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.320 (0.656) C:NA T:89%	pCi/L	05/07/21 14:30	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.782 ± 0.847 (1.78) C:70% T:74%	pCi/L	05/06/21 19:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.419 ± 0.355 (0.440) C:NA T:91%	pCi/L	05/07/21 14:30	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.782 ± 0.805 (1.68) C:70% T:79%	pCi/L	05/06/21 19:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-DUP-1 **Lab ID: 60366138008** Collected: 04/12/21 00:00 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.284 ± 0.296 (0.418) C:NA T:92%	pCi/L	05/07/21 14:30	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	-0.205 ± 0.750 (1.76) C:71% T:81%	pCi/L	05/06/21 19:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-BMW-1S Lab ID: 60366138009 Collected: 04/13/21 13:35 Received: 04/14/21 03:50 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.394 (0.818) C:NA T:99%	pCi/L	05/07/21 14:30	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.782 ± 0.608 (1.20) C:70% T:85%	pCi/L	05/06/21 19:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-BMW-3S **Lab ID: 60366138010** Collected: 04/13/21 12:17 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.242 ± 0.445 (1.01) C:NA T:87%	pCi/L	05/07/21 14:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.526 ± 0.657 (1.39) C:63% T:78%	pCi/L	05/06/21 19:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-FB-2 **Lab ID: 60366138011** Collected: 04/13/21 15:40 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.435 ± 0.505 (0.815) C:NA T:92%	pCi/L	05/07/21 14:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.43 ± 0.689 (1.19) C:71% T:90%	pCi/L	05/06/21 19:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-FB-1 **Lab ID: 60366138012** Collected: 04/13/21 13:45 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.133 ± 0.413 (0.939) C:NA T:92%	pCi/L	05/07/21 14:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.802 ± 0.615 (1.21) C:71% T:85%	pCi/L	05/06/21 19:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-UG-3 **Lab ID: 60366138013** Collected: 04/13/21 13:25 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0536 ± 0.315 (0.643) C:NA T:96%	pCi/L	05/07/21 14:43	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.531 ± 0.509 (1.04) C:70% T:82%	pCi/L	05/06/21 18:13	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-5D **Lab ID: 60366138014** Collected: 04/13/21 15:20 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.452 (0.939) C:NA T:84%	pCi/L	05/07/21 14:43	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.646 ± 0.604 (1.23) C:65% T:75%	pCi/L	05/06/21 18:13	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-CA-MS-1 Lab ID: 60366138015 Collected: 04/13/21 09:40 Received: 04/14/21 03:50 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	86.82 %REC ± NA (NA) C:NA T:NA	pCi/L	05/07/21 14:43	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	78.59 %REC ± NA (NA) C:NA T:NA	pCi/L	05/06/21 18:13	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-MSD-1 **Lab ID: 60366138016** Collected: 04/13/21 09:40 Received: 04/14/21 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	78.98 %REC 9.46 RPD ± NA (NA) C:NA T:NA	pCi/L	05/07/21 14:43	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	109.12 %REC 32.54 RPD ± NA (NA) C:NA T:NA	pCi/L	05/06/21 18:14	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-1S **Lab ID: 60366138017** Collected: 04/14/21 09:40 Received: 04/15/21 04:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.156 ± 0.376 (0.726) C:NA T:98%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	-0.0914 ± 0.376 (0.890) C:72% T:90%	pCi/L	05/13/21 16:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-8D **Lab ID: 60366138018** Collected: 04/14/21 09:28 Received: 04/15/21 04:40 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	0.423 ± 0.389 (0.229) C:NA T:97%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.07 ± 0.525 (0.916) C:71% T:82%	pCi/L	05/13/21 16:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-2D **Lab ID: 60366138019** Collected: 04/14/21 11:41 Received: 04/15/21 04:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.324 ± 0.503 (0.871) C:NA T:94%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.954 ± 0.543 (0.997) C:67% T:80%	pCi/L	05/13/21 16:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-3D **Lab ID: 60366138020** Collected: 04/14/21 13:04 Received: 04/15/21 04:40 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	0.419 ± 0.547 (0.902) C:NA T:87%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.19 ± 0.594 (1.06) C:69% T:81%	pCi/L	05/13/21 16:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-TP-4D **Lab ID: 60366138021** Collected: 04/14/21 14:36 Received: 04/15/21 04:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.303 ± 0.366 (0.558) C:NA T:101%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.607 ± 0.562 (1.14) C:74% T:86%	pCi/L	05/13/21 18:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-PZ-9D **Lab ID: 60366138022** Collected: 04/14/21 14:45 Received: 04/15/21 04:40 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	0.326 ± 0.507 (0.878) C:NA T:95%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.898 ± 0.550 (1.02) C:75% T:83%	pCi/L	05/13/21 18:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-5S **Lab ID: 60366138023** Collected: 04/14/21 16:21 Received: 04/15/21 04:40 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	0.157 ± 0.358 (0.212) C:NA T:90%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	-0.107 ± 0.483 (1.15) C:75% T:81%	pCi/L	05/13/21 18:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-LMW-6S **Lab ID: 60366138024** Collected: 04/14/21 16:16 Received: 04/15/21 04:40 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	0.321 ± 0.589 (1.05) C:NA T:88%	pCi/L	05/14/21 17:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.327 ± 0.501 (1.08) C:74% T:82%	pCi/L	05/13/21 18:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Sample: S-CA-DUP-2 **Lab ID: 60366138025** Collected: 04/14/21 00:00 Received: 04/15/21 04:40 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	0.547 ± 0.464 (0.575) C:NA T:93%	pCi/L	05/14/21 17:23	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.93 ± 0.683 (0.931) C:73% T:86%	pCi/L	05/13/21 18:44	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 443888

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: 60366138004

METHOD BLANK: 2142867

Matrix: Water

Associated Lab Samples: 60366138004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0841 ± 0.192 (0.453) C:NA T:96%	pCi/L	05/05/21 15:44	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA
Pace Project No.: 60366138

QC Batch: 446073 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: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023,
60366138024, 60366138025

METHOD BLANK: 2153112 Matrix: Water
Associated Lab Samples: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023,
60366138024, 60366138025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.283 (0.456) C:NA T:93%	pCi/L	05/14/21 16:48	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

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: 60366138001, 60366138002, 60366138003

METHOD BLANK: 2141788

Matrix: Water

Associated Lab Samples: 60366138001, 60366138002, 60366138003

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 SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 446071

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: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

METHOD BLANK: 2153108

Matrix: Water

Associated Lab Samples: 60366138017, 60366138018, 60366138019, 60366138020, 60366138021, 60366138022, 60366138023, 60366138024, 60366138025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.559 ± 0.347 (0.639) C:73% T:82%	pCi/L	05/13/21 12:51	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 443889

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: 60366138004

METHOD BLANK: 2142870

Matrix: Water

Associated Lab Samples: 60366138004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.968 ± 0.457 (0.775) C:71% T:81%	pCi/L	05/04/21 12:20	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 443908

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: 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138015, 60366138016

METHOD BLANK: 2142894

Matrix: Water

Associated Lab Samples: 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138015, 60366138016

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.267 ± 0.351 (0.746) C:74% T:81%	pCi/L	05/06/21 16:03	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch:	443905	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: 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138015, 60366138016

METHOD BLANK:	2142891	Matrix:	Water
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Associated Lab Samples: 60366138005, 60366138006, 60366138007, 60366138008, 60366138009, 60366138010, 60366138011, 60366138012, 60366138013, 60366138014, 60366138015, 60366138016

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.209 ± 0.290 (0.736) C:NA T:86%	pCi/L	05/07/21 14:30	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

QC Batch: 443714

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: 60366138001, 60366138002, 60366138003

METHOD BLANK: 2141789

Matrix: Water

Associated Lab Samples: 60366138001, 60366138002, 60366138003

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	

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QUALIFIERS

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

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.

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.

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366138001	S-TP-6S	EPA 200.7	714611	EPA 200.7	714628
60366138002	S-TP-6D	EPA 200.7	714611	EPA 200.7	714628
60366138003	S-PZ-1S	EPA 200.7	714611	EPA 200.7	714628
60366138004	S-AM-1S	EPA 200.7	716201	EPA 200.7	716306
60366138005	S-AM-1D	EPA 200.7	716201	EPA 200.7	716306
60366138006	S-LMW-2S	EPA 200.7	716201	EPA 200.7	716306
60366138007	S-LMW-4S	EPA 200.7	716201	EPA 200.7	716306
60366138008	S-CA-DUP-1	EPA 200.7	716201	EPA 200.7	716306
60366138009	S-BMW-1S	EPA 200.7	716201	EPA 200.7	716306
60366138010	S-BMW-3S	EPA 200.7	716201	EPA 200.7	716306
60366138011	S-CA-FB-2	EPA 200.7	716201	EPA 200.7	716306
60366138012	S-CA-FB-1	EPA 200.7	716201	EPA 200.7	716306
60366138013	S-UG-3	EPA 200.7	716201	EPA 200.7	716306
60366138014	S-TP-5D	EPA 200.7	716201	EPA 200.7	716306
60366138017	S-LMW-1S	EPA 200.7	716201	EPA 200.7	716306
60366138018	S-TP-8D	EPA 200.7	716201	EPA 200.7	716306
60366138019	S-TP-2D	EPA 200.7	716201	EPA 200.7	716306
60366138020	S-TP-3D	EPA 200.7	716201	EPA 200.7	716306
60366138021	S-TP-4D	EPA 200.7	716201	EPA 200.7	716306
60366138022	S-PZ-9D	EPA 200.7	716203	EPA 200.7	716308
60366138023	S-LMW-5S	EPA 200.7	716203	EPA 200.7	716308
60366138024	S-LMW-6S	EPA 200.7	716203	EPA 200.7	716308
60366138025	S-CA-DUP-2	EPA 200.7	716203	EPA 200.7	716308
60366138001	S-TP-6S	EPA 200.8	715615	EPA 200.8	715757
60366138002	S-TP-6D	EPA 200.8	715615	EPA 200.8	715757
60366138003	S-PZ-1S	EPA 200.8	715907	EPA 200.8	716019
60366138004	S-AM-1S	EPA 200.8	716206	EPA 200.8	716307
60366138005	S-AM-1D	EPA 200.8	716206	EPA 200.8	716307
60366138006	S-LMW-2S	EPA 200.8	716206	EPA 200.8	716307
60366138007	S-LMW-4S	EPA 200.8	716206	EPA 200.8	716307
60366138008	S-CA-DUP-1	EPA 200.8	716206	EPA 200.8	716307
60366138009	S-BMW-1S	EPA 200.8	716206	EPA 200.8	716307
60366138010	S-BMW-3S	EPA 200.8	716206	EPA 200.8	716307
60366138011	S-CA-FB-2	EPA 200.8	716206	EPA 200.8	716307
60366138012	S-CA-FB-1	EPA 200.8	716206	EPA 200.8	716307
60366138013	S-UG-3	EPA 200.8	716206	EPA 200.8	716307
60366138014	S-TP-5D	EPA 200.8	716206	EPA 200.8	716307
60366138017	S-LMW-1S	EPA 200.8	716206	EPA 200.8	716307
60366138018	S-TP-8D	EPA 200.8	716206	EPA 200.8	716307
60366138019	S-TP-2D	EPA 200.8	716206	EPA 200.8	716307
60366138020	S-TP-3D	EPA 200.8	716206	EPA 200.8	716307
60366138020	S-TP-3D	EPA 200.8	718134	EPA 200.8	718153
60366138021	S-TP-4D	EPA 200.8	716206	EPA 200.8	716307
60366138022	S-PZ-9D	EPA 200.8	716207	EPA 200.8	716309
60366138023	S-LMW-5S	EPA 200.8	716207	EPA 200.8	716309

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366138024	S-LMW-6S	EPA 200.8	716207	EPA 200.8	716309
60366138025	S-CA-DUP-2	EPA 200.8	716207	EPA 200.8	716309
60366138001	S-TP-6S	EPA 7470	716557	EPA 7470	718177
60366138002	S-TP-6D	EPA 7470	716557	EPA 7470	718177
60366138003	S-PZ-1S	EPA 7470	716557	EPA 7470	718177
60366138004	S-AM-1S	EPA 7470	716557	EPA 7470	718177
60366138005	S-AM-1D	EPA 7470	716557	EPA 7470	718177
60366138006	S-LMW-2S	EPA 7470	716557	EPA 7470	718177
60366138007	S-LMW-4S	EPA 7470	716557	EPA 7470	718177
60366138008	S-CA-DUP-1	EPA 7470	716557	EPA 7470	718177
60366138009	S-BMW-1S	EPA 7470	716557	EPA 7470	718177
60366138010	S-BMW-3S	EPA 7470	716557	EPA 7470	718177
60366138011	S-CA-FB-2	EPA 7470	716557	EPA 7470	718177
60366138012	S-CA-FB-1	EPA 7470	716557	EPA 7470	718177
60366138013	S-UG-3	EPA 7470	716557	EPA 7470	718177
60366138014	S-TP-5D	EPA 7470	716557	EPA 7470	718177
60366138017	S-LMW-1S	EPA 7470	716559	EPA 7470	718179
60366138018	S-TP-8D	EPA 7470	716559	EPA 7470	718179
60366138019	S-TP-2D	EPA 7470	716559	EPA 7470	718179
60366138020	S-TP-3D	EPA 7470	716559	EPA 7470	718179
60366138021	S-TP-4D	EPA 7470	716559	EPA 7470	718179
60366138022	S-PZ-9D	EPA 7470	716559	EPA 7470	718179
60366138023	S-LMW-5S	EPA 7470	716559	EPA 7470	718179
60366138024	S-LMW-6S	EPA 7470	716559	EPA 7470	718179
60366138025	S-CA-DUP-2	EPA 7470	716559	EPA 7470	718179
60366138001	S-TP-6S	EPA 903.1	443713		
60366138002	S-TP-6D	EPA 903.1	443713		
60366138003	S-PZ-1S	EPA 903.1	443713		
60366138004	S-AM-1S	EPA 903.1	443888		
60366138005	S-AM-1D	EPA 903.1	443905		
60366138006	S-LMW-2S	EPA 903.1	443905		
60366138007	S-LMW-4S	EPA 903.1	443905		
60366138008	S-CA-DUP-1	EPA 903.1	443905		
60366138009	S-BMW-1S	EPA 903.1	443905		
60366138010	S-BMW-3S	EPA 903.1	443905		
60366138011	S-CA-FB-2	EPA 903.1	443905		
60366138012	S-CA-FB-1	EPA 903.1	443905		
60366138013	S-UG-3	EPA 903.1	443905		
60366138014	S-TP-5D	EPA 903.1	443905		
60366138015	S-CA-MS-1	EPA 903.1	443905		
60366138016	S-CA-MSD-1	EPA 903.1	443905		
60366138017	S-LMW-1S	EPA 903.1	446073		
60366138018	S-TP-8D	EPA 903.1	446073		
60366138019	S-TP-2D	EPA 903.1	446073		
60366138020	S-TP-3D	EPA 903.1	446073		
60366138021	S-TP-4D	EPA 903.1	446073		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366138022	S-PZ-9D	EPA 903.1	446073		
60366138023	S-LMW-5S	EPA 903.1	446073		
60366138024	S-LMW-6S	EPA 903.1	446073		
60366138025	S-CA-DUP-2	EPA 903.1	446073		
60366138001	S-TP-6S	EPA 904.0	443714		
60366138002	S-TP-6D	EPA 904.0	443714		
60366138003	S-PZ-1S	EPA 904.0	443714		
60366138004	S-AM-1S	EPA 904.0	443889		
60366138005	S-AM-1D	EPA 904.0	443908		
60366138006	S-LMW-2S	EPA 904.0	443908		
60366138007	S-LMW-4S	EPA 904.0	443908		
60366138008	S-CA-DUP-1	EPA 904.0	443908		
60366138009	S-BMW-1S	EPA 904.0	443908		
60366138010	S-BMW-3S	EPA 904.0	443908		
60366138011	S-CA-FB-2	EPA 904.0	443908		
60366138012	S-CA-FB-1	EPA 904.0	443908		
60366138013	S-UG-3	EPA 904.0	443908		
60366138014	S-TP-5D	EPA 904.0	443908		
60366138015	S-CA-MS-1	EPA 904.0	443908		
60366138016	S-CA-MSD-1	EPA 904.0	443908		
60366138017	S-LMW-1S	EPA 904.0	446071		
60366138018	S-TP-8D	EPA 904.0	446071		
60366138019	S-TP-2D	EPA 904.0	446071		
60366138020	S-TP-3D	EPA 904.0	446071		
60366138021	S-TP-4D	EPA 904.0	446071		
60366138022	S-PZ-9D	EPA 904.0	446071		
60366138023	S-LMW-5S	EPA 904.0	446071		
60366138024	S-LMW-6S	EPA 904.0	446071		
60366138025	S-CA-DUP-2	EPA 904.0	446071		
60366138001	S-TP-6S	SM 2320B	714700		
60366138002	S-TP-6D	SM 2320B	714700		
60366138003	S-PZ-1S	SM 2320B	714700		
60366138004	S-AM-1S	SM 2320B	716345		
60366138005	S-AM-1D	SM 2320B	716345		
60366138006	S-LMW-2S	SM 2320B	716011		
60366138007	S-LMW-4S	SM 2320B	716011		
60366138008	S-CA-DUP-1	SM 2320B	716011		
60366138009	S-BMW-1S	SM 2320B	716345		
60366138010	S-BMW-3S	SM 2320B	716345		
60366138011	S-CA-FB-2	SM 2320B	716345		
60366138012	S-CA-FB-1	SM 2320B	716345		
60366138013	S-UG-3	SM 2320B	716345		
60366138014	S-TP-5D	SM 2320B	716345		
60366138017	S-LMW-1S	SM 2320B	716860		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366138018	S-TP-8D	SM 2320B	716860		
60366138019	S-TP-2D	SM 2320B	716860		
60366138020	S-TP-3D	SM 2320B	716860		
60366138021	S-TP-4D	SM 2320B	716860		
60366138022	S-PZ-9D	SM 2320B	716860		
60366138023	S-LMW-5S	SM 2320B	716860		
60366138024	S-LMW-6S	SM 2320B	716860		
60366138025	S-CA-DUP-2	SM 2320B	716860		
60366138001	S-TP-6S	SM 2540C	714768		
60366138002	S-TP-6D	SM 2540C	714768		
60366138003	S-PZ-1S	SM 2540C	714769		
60366138004	S-AM-1S	SM 2540C	715646		
60366138005	S-AM-1D	SM 2540C	715646		
60366138006	S-LMW-2S	SM 2540C	715580		
60366138007	S-LMW-4S	SM 2540C	715580		
60366138008	S-CA-DUP-1	SM 2540C	715580		
60366138009	S-BMW-1S	SM 2540C	715646		
60366138010	S-BMW-3S	SM 2540C	715646		
60366138011	S-CA-FB-2	SM 2540C	715646		
60366138012	S-CA-FB-1	SM 2540C	715646		
60366138013	S-UG-3	SM 2540C	715646		
60366138014	S-TP-5D	SM 2540C	715646		
60366138017	S-LMW-1S	SM 2540C	715937		
60366138018	S-TP-8D	SM 2540C	715937		
60366138019	S-TP-2D	SM 2540C	715937		
60366138020	S-TP-3D	SM 2540C	715937		
60366138021	S-TP-4D	SM 2540C	715937		
60366138022	S-PZ-9D	SM 2540C	715937		
60366138023	S-LMW-5S	SM 2540C	715937		
60366138024	S-LMW-6S	SM 2540C	715937		
60366138025	S-CA-DUP-2	SM 2540C	715937		
60366138001	S-TP-6S	SM 3500-Fe B#4	718244		
60366138002	S-TP-6D	SM 3500-Fe B#4	718244		
60366138003	S-PZ-1S	SM 3500-Fe B#4	718244		
60366138004	S-AM-1S	SM 3500-Fe B#4	720126		
60366138005	S-AM-1D	SM 3500-Fe B#4	720126		
60366138006	S-LMW-2S	SM 3500-Fe B#4	720126		
60366138007	S-LMW-4S	SM 3500-Fe B#4	720126		
60366138008	S-CA-DUP-1	SM 3500-Fe B#4	720126		
60366138009	S-BMW-1S	SM 3500-Fe B#4	720126		
60366138010	S-BMW-3S	SM 3500-Fe B#4	720126		
60366138011	S-CA-FB-2	SM 3500-Fe B#4	720126		
60366138012	S-CA-FB-1	SM 3500-Fe B#4	720126		
60366138013	S-UG-3	SM 3500-Fe B#4	720126		
60366138014	S-TP-5D	SM 3500-Fe B#4	720126		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366138017	S-LMW-1S	SM 3500-Fe B#4	720126		
60366138018	S-TP-8D	SM 3500-Fe B#4	720126		
60366138019	S-TP-2D	SM 3500-Fe B#4	720126		
60366138020	S-TP-3D	SM 3500-Fe B#4	720126		
60366138021	S-TP-4D	SM 3500-Fe B#4	720126		
60366138022	S-PZ-9D	SM 3500-Fe B#4	718245		
60366138023	S-LMW-5S	SM 3500-Fe B#4	718245		
60366138024	S-LMW-6S	SM 3500-Fe B#4	718245		
60366138025	S-CA-DUP-2	SM 3500-Fe B#4	718245		
60366138001	S-TP-6S	SM 3500-Fe B#4	715282		
60366138002	S-TP-6D	SM 3500-Fe B#4	715282		
60366138003	S-PZ-1S	SM 3500-Fe B#4	715282		
60366138004	S-AM-1S	SM 3500-Fe B#4	715287		
60366138005	S-AM-1D	SM 3500-Fe B#4	715287		
60366138006	S-LMW-2S	SM 3500-Fe B#4	715287		
60366138007	S-LMW-4S	SM 3500-Fe B#4	715287		
60366138008	S-CA-DUP-1	SM 3500-Fe B#4	715287		
60366138009	S-BMW-1S	SM 3500-Fe B#4	715287		
60366138010	S-BMW-3S	SM 3500-Fe B#4	715287		
60366138011	S-CA-FB-2	SM 3500-Fe B#4	715287		
60366138012	S-CA-FB-1	SM 3500-Fe B#4	715287		
60366138013	S-UG-3	SM 3500-Fe B#4	715287		
60366138014	S-TP-5D	SM 3500-Fe B#4	715287		
60366138017	S-LMW-1S	SM 3500-Fe B#4	716370		
60366138018	S-TP-8D	SM 3500-Fe B#4	715287		
60366138019	S-TP-2D	SM 3500-Fe B#4	716370		
60366138020	S-TP-3D	SM 3500-Fe B#4	716370		
60366138021	S-TP-4D	SM 3500-Fe B#4	716370		
60366138022	S-PZ-9D	SM 3500-Fe B#4	716370		
60366138023	S-LMW-5S	SM 3500-Fe B#4	716370		
60366138024	S-LMW-6S	SM 3500-Fe B#4	716370		
60366138025	S-CA-DUP-2	SM 3500-Fe B#4	715287		
60366138001	S-TP-6S	SM 4500-S-2 D	714698		
60366138002	S-TP-6D	SM 4500-S-2 D	714698		
60366138003	S-PZ-1S	SM 4500-S-2 D	714708		
60366138004	S-AM-1S	SM 4500-S-2 D	714714		
60366138005	S-AM-1D	SM 4500-S-2 D	714714		
60366138006	S-LMW-2S	SM 4500-S-2 D	714714		
60366138007	S-LMW-4S	SM 4500-S-2 D	714714		
60366138008	S-CA-DUP-1	SM 4500-S-2 D	714714		
60366138009	S-BMW-1S	SM 4500-S-2 D	714714		
60366138010	S-BMW-3S	SM 4500-S-2 D	715285		
60366138011	S-CA-FB-2	SM 4500-S-2 D	715285		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPA-CA

Pace Project No.: 60366138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366138012	S-CA-FB-1	SM 4500-S-2 D	715285		
60366138013	S-UG-3	SM 4500-S-2 D	715285		
60366138014	S-TP-5D	SM 4500-S-2 D	715285		
60366138017	S-LMW-1S	SM 4500-S-2 D	715880		
60366138018	S-TP-8D	SM 4500-S-2 D	715880		
60366138019	S-TP-2D	SM 4500-S-2 D	715880		
60366138020	S-TP-3D	SM 4500-S-2 D	715880		
60366138021	S-TP-4D	SM 4500-S-2 D	715880		
60366138022	S-PZ-9D	SM 4500-S-2 D	715880		
60366138023	S-LMW-5S	SM 4500-S-2 D	715880		
60366138024	S-LMW-6S	SM 4500-S-2 D	715880		
60366138025	S-CA-DUP-2	SM 4500-S-2 D	715880		
60366138001	S-TP-6S	EPA 300.0	716443		
60366138002	S-TP-6D	EPA 300.0	716443		
60366138003	S-PZ-1S	EPA 300.0	716232		
60366138004	S-AM-1S	EPA 300.0	716443		
60366138005	S-AM-1D	EPA 300.0	716443		
60366138006	S-LMW-2S	EPA 300.0	716877		
60366138007	S-LMW-4S	EPA 300.0	716443		
60366138008	S-CA-DUP-1	EPA 300.0	716443		
60366138009	S-BMW-1S	EPA 300.0	716443		
60366138010	S-BMW-3S	EPA 300.0	716443		
60366138011	S-CA-FB-2	EPA 300.0	716443		
60366138012	S-CA-FB-1	EPA 300.0	716447		
60366138013	S-UG-3	EPA 300.0	716447		
60366138014	S-TP-5D	EPA 300.0	716447		
60366138017	S-LMW-1S	EPA 300.0	716447		
60366138018	S-TP-8D	EPA 300.0	716447		
60366138019	S-TP-2D	EPA 300.0	716447		
60366138020	S-TP-3D	EPA 300.0	716447		
60366138021	S-TP-4D	EPA 300.0	716447		
60366138022	S-PZ-9D	EPA 300.0	716447		
60366138023	S-LMW-5S	EPA 300.0	716447		
60366138024	S-LMW-6S	EPA 300.0	716447		
60366138025	S-CA-DUP-2	EPA 300.0	716447		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60366138



60366138

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 15.1 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 0.5 Corr. Factor 0.0 Corrected 0.5

Date and initials of person examining contents:
4-9-21/10

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>603173, 603222</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 8:09 am, 4/12/21

Project Manager Review _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: Golder Associates		Report To: Jeffrey Ingram		Attention:	
Address: 13515 Barrett Parkway Dr., Ste 260 Ballwin, MO 63021		Copy To: Eric Schnieder, Ryan Feldman		Company Name: Golder Associates Inc.	
Email To: jeffrey_ingram@golder.com		Purchase Order No.: COC #8		Address:	
Phone: 636-724-9191 Fax: 636-724-9323		Project Name: Ameren Sioux Energy Center SCPA-CA		Pace Quote Reference:	
Requested Due Date/TAT: Standard		Project Number: 153140602.0003A		Pace Project Manager: Jamie Church	
				Pace Profile #: 9285, line 1	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: _____ MO _____
 STATE: _____

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME					
1	S-AM-1S		WT G								
2	S-AM-1D		WT G								
3	S-PZ-1S		WT G								
4	S-PZ-9D		WT G								
5	S-TP-2D		WT G								
6	S-TP-3D		WT G								
7	S-TP-4D		WT G								
8	S-TP-5D		WT G								
9	S-TP-6S		WT G	4/18/21	1747			0 2 3			
10	S-TP-6D		WT G	↓	1753			↓ ↓ ↓			
11	S-TP-8D		WT G								
12	S-CA-DUP-1		WT G								

ADDITIONAL COMMENTS

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

RELINQUISHED BY / AFFILIATION: *Carly Gault* DATE: 4/16/21 TIME: 1715
 ACCEPTED BY / AFFILIATION: *Dwain Pace* DATE: 4/19/21 TIME: 0908

DATE Signed (MM/DD/YYYY): 04/08/21

SAMPLER NAME AND SIGNATURE: *[Signature]*
 PRINT Name of SAMPLER: _____
 SIGNATURE of SAMPLER: *[Signature]*

Temp In °C: _____ Received on Ice (Y/N): _____ Custody Sealed (Y/N): _____ Samples Intact (Y/N): _____

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days. F-ALL-Q-020rev.08, 12-Oct-2007



Sample Condition Upon Receipt

WO#: 60366138



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: Yes Blue None

Cooler Temperature (°C): As-read 0.3/20.5 Corr. Factor 0.0 Corrected 0.3/20.5

Date and initials of person examining contents:

4/12/21

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>Fert</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 1:57 pm, 4/12/21

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY - Analytical Request Document

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

Section A Required Client Information: Company: 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 #8 Project Name: Ameren Sioux Energy Center SCPA-CA Project Number: 153140603 0003A		Section C Invoice Information: Attention: Company Name: Golder Associates Inc Address: Pace Quote Reference: Pace Project Manager: Jamie Church Pace Profile #: 19285, line 1	
REGULATORY AGENCY <input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		Site Location: MO STATE:		Page: 1 of 1	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOLIDS SL OIL OL WP AR OT TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives HCl HNO ₃ H ₂ SO ₄ Unpreserved	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)	Requested Analysis Filtered (Y/N)		Temp in °C	Received on	Custody Sealed	Cooler (Y/N)	Samples Intact (Y/N)	
			COMPOSITE START	COMPOSITE END/GRAB						DATE	TIME						DATE
1	S-AM-1S				G	WT											
2	S-AM-1D				G	WT											
3	S-PZ-1S			4-9-21 1131	G	WT	6231						4/10/21 0315	0.3	Y	Y	Y
4	S-PZ-9D				G	WT											
5	S-TP-2D				G	WT											
6	S-TP-3D				G	WT											
7	S-TP-4D				G	WT											
8	S-TP-5D				G	WT											
9	S-TP-6S				G	WT											
10	S-TP-6D				G	WT											
11	S-TP-8D				G	WT											
12	S-CA-DUP-1				G	WT											

ADDITIONAL COMMENTS: **Brendan Talbert/Golder 4-9-21 1740**
 RELINQUISHED BY / AFFILIATION: **MPMP**
 ACCEPTED BY / AFFILIATION: **MPMP**
 DATE: **4/10/21 0315**
 TIME: **0.3**
 SAMPLE CONDITIONS: **80-100-100-1**
 Temp in °C: **20.5**
 Received on: **Y**
 Custody Sealed: **Y**
 Cooler (Y/N): **Y**
 Samples Intact (Y/N): **Y**

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Brendan Talbert**
 SIGNATURE of SAMPLER: **B. Talbert**
 DATE Signed (MM/DD/YY): **04-09-21**



Sample Condition Upon Receipt

WO#: 60366138



Client Name: Colder 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 Zpic

Thermometer Used: T298 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 0.1 Corr. Factor 0.0 Corrected 0.1

Date and initials of person examining contents: 4/15/21 SP

Temperature should be above freezing to 6°C	<u>0.6</u>	<u>↓</u>	<u>0.6</u>
Chain of Custody present:	<u>3.1</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>3.1</u>
Chain of Custody relinquished:	<u>3.8</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>3.8</u>
Samples arrived within holding time:	<u>17.8</u> <u>18.4</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>17.8</u> <u>18.4</u>
Short Hold Time analyses (<72hr):		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>wt</u>		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 7:40 am, 4/15/21

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 12

Section A
 Required Client Information:
 Company: **Golder Associates**
 Address: **13515 Barrett Parkway Dr., Ste 260 Ballwin, MO 63021**
 Phone: **636-724-9191** Fax: **636-724-9323** Email To: jeffrey.ingram@golder.com
 Requested Due Date/TAT: **Standard**

Section B
 Required Project Information:
 Report To: **Jeffrey Ingram**
 Copy To: **Eric Schneider, Ryan Feldmann**
 Purchase Order No.: **COC #8**
 Project Name: **Ameren Sioux Energy Center SCPA-CA**
 Project Number: **153140603.0003A**

Section C
 Invoice Information:
 Attention: **Jeffrey Ingram**
 Company Name: **Golder Associates Inc.**
 Address: **Ballwin, MO 63021**
 Pace Quote Reference: **COC #8**
 Pace Project Manager: **Jamie Church**
 Pace Profile #: **9285**

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

ITEM #	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WW WASTE WATER L LIQUID S SOLID OIL MWP AR OT TS	COLLECTED	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE		TIME	PRESERVATIVES	Requested Analysis Filtered (Y/N)											Pace Project No./ Lab I.D.		
					COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	Y	N	Y	N	Y	N	Y	N	Y		N	Y
1	S-AM-1S		WT G	G	4/13/21	1055		H2SO4 Unpreserved	Analysis Test	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals**	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	60366138	
2	S-AM-1D		WT G	G	4/13/21	1020		HCl														
3	S-PZ-1S-LMW-2S		WT G	G	4/13/21	0940		NaOH														
4	S-PZ-1S-CA-M1S-1		WT G	G	4/13/21	0940		NaOH														
5	S-PZ-1S-CA-M50-1		WT G	G	4/13/21	0940		NaOH														
6	S-PZ-1S-LMW-24S		WT G	G	4/13/21	1357		HCl														
7	S-PZ-1S-CA-DUP-1		WT G	G	4/13/21	1233		H2SO4														
8	S-PZ-1S-8MW-15		WT G	G	4/13/21	1217		H2SO4														
9	S-PZ-1S-8MW-35		WT G	G	4/13/21	1217		H2SO4														
10	S-PZ-1S-CA-FB-2		WT G	G	4/13/21	1345		H2SO4														
11	S-PZ-1S-CA-FB-1		WT G	G	4/13/21	1345		H2SO4														
12	S-UG-3		WT G	G	4/13/21	1325		H2SO4														

ADDITIONAL COMMENTS
 App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
 **App IV Metals - EPA 200.7: Ba, Be, Co, Pb, Li, Mo
 EPA 200.8: Sb, As, Cd, Cr, Se, Tl

RELINQUISHED BY / AFFILIATION
 Jeffrey Ingram / Golder Associates
 Date: 4/13/21 Time: 1700
 Signature: *Jeffrey Ingram*

ACCEPTED BY / AFFILIATION
 Angelica Miller / Pace
 Date: 4/13/21 Time: 0350
 Signature: *Angelica Miller*

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: *Eric Schum*
 SIGNATURE of SAMPLER: *Eric Schum*
 DATE Signed (MM/DD/YYYY): *04/13/21*

SAMPLE CONDITIONS
 Receiving Lab (Y/N):
 Custody Sealed (Y/N):
 Cooler (Y/N):
 Samples Intact (Y/N):

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



Sample Condition Upon Receipt

WO#: 60366138



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 2 PLC

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

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

Date and initials of person examining contents:
4-16-21 KD

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>Feta</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 4:15 pm, 4/16/21

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
Required Client Information:

Company: **Golder Associates** Report To: **Jeffrey Ingram**

Address: **13515 Barrett Parkway Dr., Ste 260** Copy To: **Eric Schneider, Ryan Feldmann**

Ballwin, MO 63021

Email To: **jeffrey_ingram@golder.com** Purchase Order No.: **COC #8**

Phone: **636-724-9191** Fax: **636-724-9323** Project Name: **Ameren Sioux Energy Center SCPA-CA**

Requested Due Date/TAT: **Standard** Project Number: **153140603.0003A**

Section B
Required Project Information:

Report To: **Jeffrey Ingram** Company Name: **Golder Associates Inc.**

Address: **Ballwin, MO 63021**

Pace Quote Reference: **Jamie Church**

Pace Project Manager: **Jamie Church**

Pace Profile #: **9285**

Section C
Invoice Information:

Attention: **Jamie Church**

Company Name: **Golder Associates Inc.**

Address: **Ballwin, MO 63021**

Pace Quote Reference: **Jamie Church**

Pace Project Manager: **Jamie Church**

Pace Profile #: **9285**

Section D
Required Client Information

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

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WW WASTE WATER WWT PRODUCT P SOLIDS SL OIL OIL VLP VLP AR AR OT OT TS TS	MATRIX CODE (see valid codes to left)	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	# OF CONTAINERS	PRESERVATIVES	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.				
			COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	Y	N	↑	Analysis Test	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS			Appendix IV Metals **	Mercury	Radium 226	Radium 228
1		WT G	4/14/21	0940	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	60036 60138
2		WT G	4/14/21	0928	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3		WT G	4/14/21	1141	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4		WT G	4/14/21	1304	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5		WT G	4/14/21	1436	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6		WT G	4/14/21	1443	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7		WT G	4/14/21	1621	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8		WT G	4/14/21	1616	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9		WT G	4/14/21	---	G	6	HNO ₃	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10		WT G			G																		
11		WT G			G																		
12		WT G			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	Gamm/Beale		4/14/21	1800	Dawson Pace		4/15/21	0440	Temp in °C												
		**App IV Metals - EPA 200.7; Ba, Be, Co, Pb, Li, Mo									Cooler (Y/N)												
		EPA 200.8; Sb, As, Cd, Cr, Se, Tl									Ice (Y/N)												
											Samples Intact												

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.
F-ALL-Q-020rev.08, 12-Oct-2007



GOLDER
MEMBER OF WSP

MEMORANDUM

DATE May 21, 2021

Project No. 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth

EMAIL AMuehlfarth@golder.com

DATA VALIDATION SUMMARY, SIOUX – SCPA-CA – CORRECTIVE ACTION SAMPLING APRIL 2021 - DATA PACKAGE 60366138

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
 Project Name: Ameren -SEC - SCPA-CA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: 153140603
 Validation Date: 05/21/2021

Laboratory: Pace Analytical Services, LLC

SDG #: 60366138

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 S-TP-6S, S-TP-6D, S-PZ-1S, S-AM-1S, S-AM-1D, S-LMW-2S, S-LMW-4S, S-CA-DUP-1, S-BMW-1S, S-BMW-3S, S-CA-FB-2, S-CA-FB-1, S-UG-3, S-TP-5D, S-CA-MS-1, S-CA-MSD-1, S-LMW-1S, S-TP-8D, S-TP-2D, S-TP-3D, S-TP-4D, S-PZ-9D, S-LMW-5S, S-LMW-6S, S-CA-DUP-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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>04/08/2021 - 04/14/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>EMS/SMK/BTT</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turbidity</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
b) Were analytes detected in the field blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were analytes detected in the equipment blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d) Were analytes detected in the trip blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Were the proper analytes included in the LCS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Was the LCS accuracy criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S-CA-DUP-1 @ S-LMW-4S
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S-CA-DUP-2 @ S-TP-3D
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD: 20% (does not exceed limit [20%])

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b) Was the %D within control limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Comments/Notes:

Ferrous Iron analyzed outside of hold time in all samples. All results were qualified as estimated.

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

Method Blanks:

2878923: Chromium (0.27J). Associated with samples -001 and -002. Sample results <PQL reported at PQL and qualified as non-detect, sample results >PQL and <10x blank qualified as estimated.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

2879885: Chromium (0.52J). Associated with sample -003. Sample result <PQL, reported at PQL and qualified as non-detect.

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

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

2882121: Chloride (0.51J). Associated with samples -012 through -014, -017, -018 through -025. Sample results >PQL and <10x the blank result were qualified as estimated.

2142870: Radium-228 (0.968 ± 0.457). Associated with sample -004. Sample result non-detect, no qualification necessary.

Field Blanks:

S-CA-FB-1 @ S-UG-3: Iron (40.3J), Chromium (4.6), Ferric Iron (0.036J).

S-CA-FB-2 @ S-TP-5D: Boron (9.5J), Chromium (0.43J), Ferric Iron (0.0000000010J), Chloride (0.50J), Radium-228 (1.43 ± 0.689). Chromium result <PQL, reported at PQL and qualified as non-detect.

Duplicates:

S-CA-DUP-1 @ S-LMW-4S: DUP RPD exceeds limit (20%) for Manganese (70.9%), Ferric Iron (51.1%), Sulfide (61.3%).

S-CA-DUP-2 @ S-TP-3D: DUP RPD exceeds limit (20%) for Boron (33.0%), Chromium (41.6%), Ferrous Iron (32.9%) Radium-228 (47.4%); Lead, Molybdenum non-detect in DUP, detected in sample.

MS/MSD:

2881022/2881023: MSD % recovery low for Boron; MS % recovery high for Calcium. Associated with sample 60366138006. Only 1 QC indicator is outside control limits, no qualification necessary.

2881030/2881031: MS % recovery low for Calcium. MS performed on unrelated sample, no qualification necessary.

2875423/2875422: MS/MSD % recovery low for Sulfide. MS/MSD performed on unrelated sample, no qualification necessary.

2879783/2879784: MS/MSD % recovery low for Sulfide. MS/MSD performed on unrelated sample, no qualification necessary.

2882113/2882114: MS % recovery high, RPD exceeds limit for Chloride and Fluoride. MS/MSD performed on unrelated sample, no qualification necessary.

2882124/2882125: MS % recovery high for Chloride and Sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
S-TP-6D	Ferrous Iron	0.44	J	Analyzed outside of hold time
S-PZ-1S	"	0.78	J	"
S-AM-1S	"	0.32	J	"
S-AM-1D	"	0.63	J	"
S-TP-5D	"	0.67	J	"
S-TP-8D	"	0.37	J	"
S-TP-2D	"	0.47	J	"
S-TP-4D	"	0.14	J	"
S-PZ-9D	"	0.55	J	"
S-TP-6S	"	0.048	UJ	Analyzed outside of hold time, non-detect
S-LMW-2S	"	0.048	UJ	"
S-LMW-4S	"	0.048	UJ	"
S-CA-DUP-1	"	0.048	UJ	"
S-BMW-1S	"	0.048	UJ	"
S-BMW-3S	"	0.048	UJ	"
S-CA-FB-2	"	0.048	UJ	"
S-CA-FB-1	"	0.048	UJ	"
S-UG-3	"	0.048	UJ	"
S-LMW-1S	"	0.048	UJ	"
S-LMW-5S	"	0.048	UJ	"
S-LMW-6S	"	0.048	UJ	"
S-TP-6S	Chromium	1.0	U	Detected in blank, PQL>sample>MDL
S-TP-6D	"	2.6	J	Detected in blank, 10x blank result>sample>PQL
S-PZ-1S	"	1.0	U	Detected in blank, PQL>sample>MDL
S-LMW-6S	Chloride	2.6	J	Detected in blank, 10x blank result>sample>PQL
S-UG-3	Iron	50.0	U	Detected in blank, PQL>sample>MDL
"	Chromium	4.6	U	Detected in blank >PQL, 10x blank>sample>PQL
"	Ferric Iron	0.050	U	Detected in blank, PQL>sample>MDL
S-TP-5D	Chromium	1.0	U	"
S-LMW-4S	Manganese	47.4	J	DUP RPD exceeds limit
"	Ferric Iron	0.014	J	"
"	Sulfide	0.026	J	"
S-CA-DUP-1	Manganese	22.6	J	"
"	Ferric Iron	0.0083	J	"

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
S-CA-DUP-1	Sulfide	0.049	J	DUP RPD exceeds limit
S-TP-3D	Boron	57.9	J	"
"	Chromium	0.40	J	"
"	Radium-228	1.19 ± 0.594	J	"
"	Ferrous Iron	0.33	J	DUP RPD exceeds limit, Analyzed outside of hold time
"	Lead	5.9	J	Detected in sample, non-detect in DUP
"	Molybdenum	2.2	J	"
S-CA-DUP-2	Boron	80.8	J	DUP RPD exceeds limit
"	Chromium	0.61	J	"
"	Radium-228	1.93 ± 0.683	J	"
"	Ferrous Iron	0.46	J	DUP RPD exceeds limit, Analyzed outside of hold time
"	Lead	3.8	UJ	Detected in sample, non-detect in DUP
"	Molybdenum	2.2	UJ	"

Signature: 

Date: 05/21/2021

June 18, 2021

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

RE: Project: AMEREN-VS-SCPA
Pace Project No.: 60371252

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 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
Brendan Talbert, Golder Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60371252001	S-UMW-1D	Water	06/02/21 14:47	06/04/21 04:25
60371252002	S-UMW-2D	Water	06/02/21 14:55	06/04/21 04:25
60371252003	S-SCPA-FB-1	Water	06/02/21 15:00	06/04/21 04:25
60371252004	S-SCPA-DUP-1	Water	06/02/21 08:00	06/04/21 04:25

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SAMPLE ANALYTE COUNT

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60371252001	S-UMW-1D	EPA 200.7	JLH	1	PASI-K
60371252002	S-UMW-2D	EPA 200.7	JLH	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60371252003	S-SCPA-FB-1	EPA 200.7	JLH	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60371252004	S-SCPA-DUP-1	EPA 200.7	JLH	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

Sample: S-UMW-1D **Lab ID: 60371252001** Collected: 06/02/21 14:47 Received: 06/04/21 04:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Boron	197	ug/L	100	8.6	1	06/11/21 16:09	06/14/21 14:31	7440-42-8	

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ANALYTICAL RESULTS

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

Sample: S-UMW-2D **Lab ID: 60371252002** Collected: 06/02/21 14:55 Received: 06/04/21 04:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	21200	ug/L	100	8.6	1	06/11/21 16:09	06/14/21 14:34	7440-42-8	M1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<0.086	mg/L	0.20	0.086	1		06/16/21 12:44	16984-48-8	

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ANALYTICAL RESULTS

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

Sample: S-SCPA-FB-1 **Lab ID: 60371252003** Collected: 06/02/21 15:00 Received: 06/04/21 04:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	73.7J	ug/L	100	8.6	1	06/11/21 16:09	06/14/21 14:41	7440-42-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<0.086	mg/L	0.20	0.086	1		06/16/21 13:32	16984-48-8	

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ANALYTICAL RESULTS

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

Sample: S-SCPA-DUP-1 **Lab ID: 60371252004** Collected: 06/02/21 08:00 Received: 06/04/21 04:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	226	ug/L	100	8.6	1	06/11/21 16:09	06/14/21 14:43	7440-42-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	0.27	mg/L	0.20	0.086	1		06/16/21 13:44	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-VS-SCPA
Pace Project No.: 60371252

QC Batch: 725898 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371252001, 60371252002, 60371252003, 60371252004

METHOD BLANK: 2916937 Matrix: Water
Associated Lab Samples: 60371252001, 60371252002, 60371252003, 60371252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<8.6	100	8.6	06/14/21 14:26	

LABORATORY CONTROL SAMPLE: 2916938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	904	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916939 2916940

Parameter	Units	60371252002		2916940		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Boron	ug/L	21200	1000	1000	22000	23000	81	177	70-130	4	20 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916941 2916942

Parameter	Units	60371255002		2916942		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Boron	ug/L	14600	1000	1000	14900	15300	33	68	70-130	2	20 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916943 2916944

Parameter	Units	60371258002		2916944		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Boron	ug/L	98.1J	1000	1000	999	982	90	88	70-130	2	20

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QUALITY CONTROL DATA

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

QC Batch: 726410 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60371252002, 60371252003, 60371252004

METHOD BLANK: 2918610 Matrix: Water
 Associated Lab Samples: 60371252002, 60371252003, 60371252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	06/16/21 12:20	

METHOD BLANK: 2921617 Matrix: Water
 Associated Lab Samples: 60371252002, 60371252003, 60371252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	06/17/21 08:37	

LABORATORY CONTROL SAMPLE: 2918611

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	98	90-110	

LABORATORY CONTROL SAMPLE: 2921618

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918613 2918614

Parameter	Units	60371252002		2918614		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Fluoride	mg/L	<0.086	2.5	2.5	2.5	2.6	101	102	80-120	2	15

MATRIX SPIKE SAMPLE: 2918615

Parameter	Units	60371258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	0.39	2.5	2.9	100	80-120	

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QUALITY CONTROL DATA

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

SAMPLE DUPLICATE: 2918612

Parameter	Units	60371252002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	<0.086	<0.086		15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

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.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN-VS-SCPA

Pace Project No.: 60371252

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60371252001	S-UMW-1D	EPA 200.7	725898	EPA 200.7	725984
60371252002	S-UMW-2D	EPA 200.7	725898	EPA 200.7	725984
60371252003	S-SCPA-FB-1	EPA 200.7	725898	EPA 200.7	725984
60371252004	S-SCPA-DUP-1	EPA 200.7	725898	EPA 200.7	725984
60371252002	S-UMW-2D	EPA 300.0	726410		
60371252003	S-SCPA-FB-1	EPA 300.0	726410		
60371252004	S-SCPA-DUP-1	EPA 300.0	726410		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60371252



Client Name: Goldner 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: T298 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.4 Corr. Factor 0.0 Corrected 1.4
Temperature should be above freezing to 6°C 2.0 0.0 2.0

Date and initials of person examining contents: 6/4/21 SR

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>wt</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>60373</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 4:34 pm, 6/4/21

Project Manager Review: _____ Date: _____



GOLDER
MEMBER OF WSP

MEMORANDUM

DATE July 20, 2021

Project No. 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Katie Bartels

EMAIL Kbartels@golder.com

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPA – VERIFICATION SAMPLING - DATA PACKAGE 60371252

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).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
 Project Name: Ameren- Sioux - SCPA
 Reviewer: K. Bartels

Project Manager: J. Ingram
 Project Number: 153140603
 Validation Date: 07/20/2021

Laboratory: Pace Analytical Services - Kansas City SDG #: 60371252

Analytical Method (type and no.): EPA 300.0 (Anions), EPA 200.7 (Metals, Total)

Matrix: Air Soil/Sed. Water Waste _____

Sample Names S-UMW-1D, S-UMW-2D, S-SCPA-FB-1, S-SCPA-DUP-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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>6/2/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>BTT/SSS</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp. Cond., Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Note Deficiencies: _____

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
b) Was the COC signed by both field and laboratory personnel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
c) Were samples received in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
b) Were analytes detected in the field blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S-SCPA-FB-1 @ S-UMW-1D, See Notes
c) Were analytes detected in the equipment blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
d) Were analytes detected in the trip blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
b) Were the proper analytes included in the LCS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
c) Was the LCS accuracy criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
				S-SCPA-DUP-1 @ S-UMW-1D
b) Were field dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
				Max RPD: 13.7% [<20%]
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
				Max RPD: 0% [<15%]

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
b) Was the %D within control limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
Recovery could not be calculated since sample contained high concentration of analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
b) Was MSD accuracy criteria met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
Recovery could not be calculated since sample contained high concentration of analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
c) Were MS/MSD precision criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Comments/Notes:

MS/MSD:

2916939/2916940: MSD % recovery high for Boron. Associated with sample -002. MS % and RPD within criteria, no qualification necessary.

2916941/2916942: MS % recovery low for Boron. MS/MSD performed on unrelated sample, no qualification necessary.

S-SCPA-FB-1: Boron detected in the Field Blank (73.7J). Sample result >RL but <10x bank detection, qualified as an estimate.

December 20, 2021

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

RE: Project: AMEREN SCPA
Pace Project No.: 60385853

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between November 10, 2021 and November 12, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN SCPA

Pace Project No.: 60385853

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

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SAMPLE SUMMARY

Project: AMEREN SCPA

Pace Project No.: 60385853

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60385853001	S-BMW-1D	Water	11/08/21 15:48	11/10/21 05:17
60385853002	S-BMW-3D	Water	11/08/21 14:15	11/10/21 05:17
60385853003	S-UMW-1D	Water	11/11/21 10:10	11/12/21 04:32
60385853004	S-UMW-2D	Water	11/11/21 11:54	11/12/21 04:32
60385853005	S-UMW-3D	Water	11/11/21 14:04	11/12/21 04:32
60385853006	S-UMW-4D	Water	11/11/21 14:58	11/12/21 04:32
60385853007	S-UMW-5D	Water	11/11/21 12:14	11/12/21 04:32
60385853008	S-UMW-6D	Water	11/10/21 14:34	11/12/21 04:32
60385853009	S-UMW-DUP-1	Water	11/10/21 00:00	11/12/21 04:32
60385853010	S-UMW-FB-1	Water	11/11/21 10:40	11/12/21 04:32
60385853011	S-UMW-MS-1	Water	11/11/21 11:54	11/12/21 04:32
60385853012	S-UMW-MSD-1	Water	11/11/21 11:54	11/12/21 04:32

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SCPA

Pace Project No.: 60385853

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385853001	S-BMW-1D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385853002	S-BMW-3D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385853003	S-UMW-1D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385853004	S-UMW-2D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385853005	S-UMW-3D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385853006	S-UMW-4D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SCPA

Pace Project No.: 60385853

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385853007	S-UMW-5D	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385853008	S-UMW-6D	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
60385853009	S-UMW-DUP-1	EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
60385853010	S-UMW-FB-1	SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385853011	S-UMW-MS-1	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
60385853012	S-UMW-MSD-1	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SCPA

Pace Project No.: 60385853

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
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PASI-I = Pace Analytical Services - Indianapolis
 PASI-K = Pace Analytical Services - Kansas City
 PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-BMW-1D **Lab ID: 60385853001** Collected: 11/08/21 15:48 Received: 11/10/21 05:17 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	348	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:08	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:08	7440-41-7	
Boron	123	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:08	7440-42-8	
Calcium	139000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:29	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:08	7440-48-4	
Iron	9140	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:08	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:29	7439-93-2	
Magnesium	28900	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:08	7439-95-4	
Manganese	874	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:08	7439-96-5	
Molybdenum	3.0J	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:08	7439-98-7	B
Potassium	2740	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:08	7440-09-7	
Sodium	6090	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:08	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.25J	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:38	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:38	7440-43-9	
Chromium	0.28J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:38	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:38	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	389	mg/L	2.0	2.0	1		11/16/21 11:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	489	mg/L	10.0	10.0	1		11/15/21 09:44		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	4.9	mg/L	1.0	0.39	1		11/22/21 09:04	16887-00-6	B
Fluoride	0.37	mg/L	0.20	0.086	1		11/22/21 09:04	16984-48-8	
Sulfate	38.6	mg/L	5.0	2.1	5		11/22/21 09:15	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-BMW-3D **Lab ID: 60385853002** Collected: 11/08/21 14:15 Received: 11/10/21 05:17 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	658	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:10	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:10	7440-41-7	
Boron	51.7J	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:10	7440-42-8	
Calcium	113000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:31	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:10	7440-48-4	
Iron	7570	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:10	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:31	7439-93-2	
Magnesium	25400	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:10	7439-95-4	
Manganese	513	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:10	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:10	7439-98-7	
Potassium	3530	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:10	7440-09-7	
Sodium	5720	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:10	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 14:40	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:40	7440-43-9	
Chromium	0.32J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:40	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:40	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	333	mg/L	2.0	2.0	1		11/16/21 11:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	415	mg/L	5.0	5.0	1		11/15/21 09:44		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.6	mg/L	1.0	0.39	1		11/22/21 09:51	16887-00-6	
Fluoride	0.39	mg/L	0.20	0.086	1		11/22/21 09:51	16984-48-8	
Sulfate	25.5	mg/L	2.0	0.84	2		11/22/21 10:03	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-1D **Lab ID: 60385853003** Collected: 11/11/21 10:10 Received: 11/12/21 04:32 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	136	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:22	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:22	7440-41-7	
Boron	195	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:22	7440-42-8	
Calcium	64300	ug/L	200	75.4	1	12/06/21 10:43	12/07/21 19:22	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:22	7440-48-4	
Iron	339	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:22	7439-89-6	
Lithium	12.7	ug/L	10.0	7.7	1	12/06/21 10:43	12/07/21 19:22	7439-93-2	
Magnesium	17200	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:22	7439-95-4	
Manganese	117	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:22	7439-96-5	
Molybdenum	37.6	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:22	7439-98-7	
Potassium	4190	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:22	7440-09-7	
Sodium	13600	ug/L	500	254	1	12/06/21 10:43	12/07/21 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	1.7	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:42	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:42	7440-43-9	
Chromium	0.64J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:42	7440-47-3	
Selenium	0.22J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:42	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	184	mg/L	2.0	2.0	1		11/17/21 10:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	304	mg/L	5.0	5.0	1		11/18/21 09:51		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	18.7	mg/L	1.0	0.39	1		11/24/21 00:37	16887-00-6	
Fluoride	0.25	mg/L	0.20	0.086	1		11/24/21 00:37	16984-48-8	
Sulfate	42.4	mg/L	10.0	4.2	10		11/24/21 00:48	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-2D **Lab ID: 60385853004** Collected: 11/11/21 11:54 Received: 11/12/21 04:32 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	69.4	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:25	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:25	7440-41-7	
Boron	21300	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:25	7440-42-8	M1
Calcium	199000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:26	7440-70-2	M1
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:25	7440-48-4	
Iron	285	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:25	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:26	7439-93-2	
Magnesium	5200	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:25	7439-95-4	
Manganese	177	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:25	7439-96-5	
Molybdenum	1420	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:25	7439-98-7	
Potassium	25100	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:25	7440-09-7	
Sodium	58100	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:25	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.9	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:23	7440-38-2	
Cadmium	0.43J	ug/L	0.50	0.062	1	12/06/21 15:08	12/07/21 17:23	7440-43-9	
Chromium	0.29J	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:23	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:23	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	141	mg/L	2.0	2.0	1		11/17/21 10:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	938	mg/L	10.0	10.0	1		11/18/21 09:51		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.1	mg/L	5.0	1.9	5		11/24/21 00:10	16887-00-6	B
Fluoride	0.68	mg/L	0.20	0.086	1		11/24/21 01:00	16984-48-8	
Sulfate	480	mg/L	50.0	21.0	50		11/24/21 00:49	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-3D **Lab ID: 60385853005** Collected: 11/11/21 14:04 Received: 11/12/21 04:32 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	71.0	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:31	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:31	7440-41-7	
Boron	32200	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:31	7440-42-8	
Calcium	260000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:32	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:31	7440-48-4	
Iron	1010	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:31	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:32	7439-93-2	
Magnesium	11900	ug/L	500	314	10	12/06/21 10:43	12/08/21 13:32	7439-95-4	
Manganese	604	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:31	7439-96-5	
Molybdenum	3610	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:31	7439-98-7	
Potassium	18400	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:31	7440-09-7	
Sodium	83700	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:31	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.63J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:44	7440-38-2	
Cadmium	1.1	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:44	7440-43-9	
Chromium	0.32J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:44	7440-47-3	
Selenium	0.26J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:44	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	117	mg/L	2.0	2.0	1		11/17/21 10:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1310	mg/L	13.3	13.3	1		11/18/21 09:51		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	16.6	mg/L	1.0	0.39	1		12/03/21 11:18	16887-00-6	
Fluoride	0.58	mg/L	0.20	0.086	1		12/03/21 11:18	16984-48-8	
Sulfate	712	mg/L	100	42.1	100		12/02/21 15:51	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-4D **Lab ID: 60385853006** Collected: 11/11/21 14:58 Received: 11/12/21 04:32 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	65.9	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:33	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:33	7440-41-7	
Boron	30000	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:33	7440-42-8	
Calcium	218000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:34	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:33	7440-48-4	
Iron	7750	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:33	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:34	7439-93-2	
Magnesium	27000	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:33	7439-95-4	
Manganese	1590	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:33	7439-96-5	
Molybdenum	8100	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:33	7439-98-7	
Potassium	16800	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:33	7440-09-7	
Sodium	75400	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:33	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.35J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:46	7440-38-2	
Cadmium	2.4	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:46	7440-43-9	
Chromium	0.28J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:46	7440-47-3	
Selenium	0.20J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:46	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	170	mg/L	2.0	2.0	1		11/17/21 10:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1170	mg/L	13.3	13.3	1		11/18/21 09:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.1	mg/L	2.0	0.78	2		11/22/21 18:22	16887-00-6	
Fluoride	0.26	mg/L	0.20	0.086	1		11/22/21 18:08	16984-48-8	
Sulfate	628	mg/L	50.0	21.0	50		11/22/21 18:35	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-5D **Lab ID: 60385853007** Collected: 11/11/21 12:14 Received: 11/12/21 04:32 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	304	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:35	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:35	7440-41-7	
Boron	19500	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:35	7440-42-8	
Calcium	99200	ug/L	200	75.4	1	12/06/21 10:43	12/07/21 19:35	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:35	7440-48-4	
Iron	3790	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:35	7439-89-6	
Lithium	29.5	ug/L	10.0	7.7	1	12/06/21 10:43	12/07/21 19:35	7439-93-2	
Magnesium	21100	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:35	7439-95-4	
Manganese	418	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:35	7439-96-5	
Molybdenum	1860	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:35	7439-98-7	
Potassium	10900	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:35	7440-09-7	
Sodium	33600	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:35	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.46J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:48	7440-38-2	
Cadmium	0.58	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:48	7440-43-9	
Chromium	0.35J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:48	7440-47-3	
Selenium	0.24J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:48	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	244	mg/L	2.0	2.0	1		11/17/21 10:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	570	mg/L	10.0	10.0	1		11/18/21 09:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	26.5	mg/L	5.0	1.9	5		11/22/21 19:02	16887-00-6	B
Fluoride	0.66	mg/L	0.20	0.086	1		11/22/21 18:49	16984-48-8	
Sulfate	120	mg/L	20.0	8.4	20		11/24/21 02:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-6D **Lab ID: 60385853008** Collected: 11/10/21 14:34 Received: 11/12/21 04:32 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	115	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:41	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:41	7440-41-7	
Boron	702	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:41	7440-42-8	
Calcium	80800	ug/L	200	75.4	1	12/06/21 10:43	12/07/21 19:41	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:41	7440-48-4	
Iron	4720	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:41	7439-89-6	
Lithium	10.5	ug/L	10.0	7.7	1	12/06/21 10:43	12/07/21 19:41	7439-93-2	
Magnesium	19400	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:41	7439-95-4	
Manganese	563	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:41	7439-96-5	
Molybdenum	61.9	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:41	7439-98-7	
Potassium	4430	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:41	7440-09-7	
Sodium	8360	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:41	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.37J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:57	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:57	7440-43-9	
Chromium	0.27J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:57	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:57	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	223	mg/L	2.0	2.0	1		11/17/21 10:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	344	mg/L	5.0	5.0	1		11/17/21 10:02		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	7.0	mg/L	1.0	0.39	1		11/22/21 19:15	16887-00-6	B
Fluoride	0.41	mg/L	0.20	0.086	1		11/22/21 19:15	16984-48-8	
Sulfate	52.9	mg/L	10.0	4.2	10		11/22/21 19:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-DUP-1 **Lab ID: 60385853009** Collected: 11/10/21 00:00 Received: 11/12/21 04:32 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	117	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:43	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:43	7440-41-7	
Boron	736	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:43	7440-42-8	
Calcium	81000	ug/L	200	75.4	1	12/06/21 10:43	12/07/21 19:43	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:43	7440-48-4	
Iron	4650	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:43	7439-89-6	
Lithium	10.7	ug/L	10.0	7.7	1	12/06/21 10:43	12/07/21 19:43	7439-93-2	
Magnesium	19200	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:43	7439-95-4	
Manganese	546	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:43	7439-96-5	
Molybdenum	69.2	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:43	7439-98-7	
Potassium	4310	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:43	7440-09-7	
Sodium	8530	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:43	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.37J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:59	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:59	7440-43-9	
Chromium	<0.23	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:59	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:59	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	226	mg/L	2.0	2.0	1		11/17/21 10:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	344	mg/L	5.0	5.0	1		11/17/21 10:02		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	7.4	mg/L	1.0	0.39	1		11/22/21 19:42	16887-00-6	
Fluoride	0.41	mg/L	0.20	0.086	1		11/22/21 19:42	16984-48-8	
Sulfate	53.9	mg/L	10.0	4.2	10		11/24/21 02:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-FB-1 **Lab ID: 60385853010** Collected: 11/11/21 10:40 Received: 11/12/21 04:32 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	12/06/21 10:43	12/07/21 19:45	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:45	7440-41-7	
Boron	<8.6	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:45	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	12/06/21 10:43	12/07/21 19:45	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:45	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:45	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	12/06/21 10:43	12/07/21 19:45	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:45	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:45	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:45	7439-98-7	
Potassium	<146	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:45	7440-09-7	
Sodium	<254	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:45	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	12/03/21 10:02	12/07/21 16:55	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:55	7440-43-9	
Chromium	0.45J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:55	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:55	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		11/17/21 12:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		11/18/21 09:52		
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		11/22/21 20:09	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/22/21 20:09	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/22/21 20:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPA
Pace Project No.: 60385853

QC Batch: 759536 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385853001, 60385853002

METHOD BLANK: 3038952 Matrix: Water

Associated Lab Samples: 60385853001, 60385853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/07/21 18:04	
Beryllium	ug/L	<0.39	1.0	0.39	12/07/21 18:04	
Boron	ug/L	<8.6	100	8.6	12/07/21 18:04	
Calcium	ug/L	<75.4	200	75.4	12/07/21 18:04	
Cobalt	ug/L	<0.95	5.0	0.95	12/07/21 18:04	
Iron	ug/L	<21.4	50.0	21.4	12/07/21 18:04	
Lithium	ug/L	<7.7	10.0	7.7	12/07/21 18:04	
Magnesium	ug/L	<31.4	50.0	31.4	12/07/21 18:04	
Manganese	ug/L	<0.74	5.0	0.74	12/07/21 18:04	
Molybdenum	ug/L	2.4J	20.0	2.2	12/07/21 18:04	
Potassium	ug/L	<146	500	146	12/07/21 18:04	
Sodium	ug/L	<254	500	254	12/07/21 18:04	

LABORATORY CONTROL SAMPLE: 3038953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	979	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Boron	ug/L	1000	1000	100	85-115	
Calcium	ug/L	10000	9980	100	85-115	
Cobalt	ug/L	1000	987	99	85-115	
Iron	ug/L	10000	10000	100	85-115	
Lithium	ug/L	1000	927	93	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038956 3038957

Parameter	Units	3038956		3038957		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Barium	ug/L	46.0	1000	1070	1080	103	103	70-130	0	20	
Beryllium	ug/L	<0.39	1000	1050	1050	105	105	70-130	1	20	
Boron	ug/L	22500	1000	25100	24300	259	181	70-130	3	20 M1	
Calcium	ug/L	291000	10000	304000	303000	131	123	70-130	0	20 M1	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038956 3038957														
Parameter	Units	60385860004		MS	MSD	3038957		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	MS Result	MSD Result							
Cobalt	ug/L	7.4	1000	1000	1000	1010	1020	100	101	70-130	0	20		
Iron	ug/L	43.0J	10000	10000	10000	10500	10300	105	103	70-130	2	20		
Lithium	ug/L	<76.7	1000	1000	1000	931	922	91	90	70-130	1	20		
Magnesium	ug/L	71300	10000	10000	10000	84000	82600	127	113	70-130	2	20		
Manganese	ug/L	509	1000	1000	1000	1590	1550	108	104	70-130	3	20		
Molybdenum	ug/L	<2.2	1000	1000	1000	1080	1080	108	108	70-130	0	20		
Potassium	ug/L	4790	10000	10000	10000	15800	15300	110	105	70-130	3	20		
Sodium	ug/L	97500	10000	10000	10000	115000	111000	170	130	70-130	4	20 M1		

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch:	759881	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

METHOD BLANK: 3040508 Matrix: Water

Associated Lab Samples: 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/07/21 19:00	
Beryllium	ug/L	<0.39	1.0	0.39	12/07/21 19:00	
Boron	ug/L	<8.6	100	8.6	12/07/21 19:00	
Calcium	ug/L	<75.4	200	75.4	12/07/21 19:00	
Cobalt	ug/L	<0.95	5.0	0.95	12/07/21 19:00	
Iron	ug/L	<21.4	50.0	21.4	12/07/21 19:00	
Lithium	ug/L	<7.7	10.0	7.7	12/07/21 19:00	
Magnesium	ug/L	<31.4	50.0	31.4	12/07/21 19:00	
Manganese	ug/L	<0.74	5.0	0.74	12/07/21 19:00	
Molybdenum	ug/L	<2.2	20.0	2.2	12/07/21 19:00	
Potassium	ug/L	<146	500	146	12/07/21 19:00	
Sodium	ug/L	<254	500	254	12/07/21 19:00	

LABORATORY CONTROL SAMPLE: 3040509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	933	93	85-115	
Beryllium	ug/L	1000	957	96	85-115	
Boron	ug/L	1000	927	93	85-115	
Calcium	ug/L	10000	9390	94	85-115	
Cobalt	ug/L	1000	929	93	85-115	
Iron	ug/L	10000	9420	94	85-115	
Lithium	ug/L	1000	884	88	85-115	
Magnesium	ug/L	10000	9460	95	85-115	
Manganese	ug/L	1000	940	94	85-115	
Molybdenum	ug/L	1000	958	96	85-115	
Potassium	ug/L	10000	9300	93	85-115	
Sodium	ug/L	10000	9460	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040510 3040511

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Spike Conc.	Result	Result						
Barium	ug/L	56.5	1000	1000	997	1020	94	96	70-130	2	20
Beryllium	ug/L	<0.39	1000	1000	965	988	96	99	70-130	2	20
Boron	ug/L	12900	1000	1000	14000	14500	113	157	70-130	3	20 M1

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040510												3040511	
Parameter	Units	60385860003 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Calcium	ug/L	253000	10000	10000	268000	275000	144	216	70-130	3	20	M1	
Cobalt	ug/L	<0.95	1000	1000	929	938	93	94	70-130	1	20		
Iron	ug/L	59.1	10000	10000	9550	9870	95	98	70-130	3	20		
Lithium	ug/L	<76.7	1000	1000	880	906	84	87	70-130	3	20		
Magnesium	ug/L	47100	10000	10000	62700	64600	156	174	70-130	3	20	M1	
Manganese	ug/L	1410	1000	1000	2370	2440	96	103	70-130	3	20		
Molybdenum	ug/L	1580	1000	1000	2590	2620	101	104	70-130	1	20		
Potassium	ug/L	5450	10000	10000	14900	15600	94	101	70-130	4	20		
Sodium	ug/L	157000	10000	10000	168000	175000	116	180	70-130	4	20	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040512												3040513	
Parameter	Units	60385853004 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Barium	ug/L	69.4	1000	1000	898	1050	83	98	70-130	16	20		
Beryllium	ug/L	<0.39	1000	1000	858	1000	86	100	70-130	16	20		
Boron	ug/L	21300	1000	1000	22400	23000	111	170	70-130	3	20	M1	
Calcium	ug/L	199000	10000	10000	214000	215000	145	154	70-130	0	20	M1	
Cobalt	ug/L	<0.95	1000	1000	817	966	82	97	70-130	17	20		
Iron	ug/L	285	10000	10000	8590	10200	83	99	70-130	17	20		
Lithium	ug/L	<76.7	1000	1000	755	868	73	85	70-130	14	20		
Magnesium	ug/L	5200	10000	10000	13400	15000	82	98	70-130	11	20		
Manganese	ug/L	177	1000	1000	1010	1170	83	99	70-130	15	20		
Molybdenum	ug/L	1420	1000	1000	2300	2480	89	106	70-130	7	20		
Potassium	ug/L	25100	10000	10000	33500	35800	84	107	70-130	7	20		
Sodium	ug/L	58100	10000	10000	67000	69200	89	111	70-130	3	20		

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch:	758170	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: 60385853001, 60385853002

METHOD BLANK: 3034261 Matrix: Water

Associated Lab Samples: 60385853001, 60385853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 14:11	
Cadmium	ug/L	<0.062	0.50	0.062	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	
Cadmium	ug/L	40	40.3	101	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		60386031003		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Arsenic	ug/L	4.3	40	40	43.2	42.6	97	96	70-130	2	20	
Cadmium	ug/L	<0.062	40	40	36.7	36.3	92	91	70-130	1	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
Cadmium	ug/L	<0.062	40	38.2	95	70-130	
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 SCPA

Pace Project No.: 60385853

QC Batch:	759537	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: 60385853003, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

METHOD BLANK: 3038958 Matrix: Water
Associated Lab Samples: 60385853003, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	12/07/21 15:54	
Cadmium	ug/L	<0.062	0.50	0.062	12/07/21 15:54	
Chromium	ug/L	<0.23	1.0	0.23	12/07/21 15:54	
Selenium	ug/L	<0.18	1.0	0.18	12/07/21 15:54	

LABORATORY CONTROL SAMPLE: 3038959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1000	1090	109	85-115	
Cadmium	ug/L	1000	1060	106	85-115	
Chromium	ug/L	1000	961	96	85-115	
Selenium	ug/L	1000	1060	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038960 3038961

Parameter	Units	60385860003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Cadmium	ug/L	0.98	1000	1000	975	967	97	97	70-130	1	20
Chromium	ug/L	0.30J	1000	1000	946	951	95	95	70-130	0	20
Selenium	ug/L	0.37J	1000	1000	983	980	98	98	70-130	0	20

MATRIX SPIKE SAMPLE: 3038962

Parameter	Units	60385860022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	<0.11	1000	1090	109	70-130	
Cadmium	ug/L	<0.062	1000	1030	103	70-130	
Chromium	ug/L	0.31J	1000	977	98	70-130	
Selenium	ug/L	<0.18	1000	1010	101	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 759891

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: 60385853004

METHOD BLANK: 3040552

Matrix: Water

Associated Lab Samples: 60385853004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	12/07/21 17:06	
Cadmium	ug/L	<0.062	0.50	0.062	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	
Cadmium	ug/L	40	39.6	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.	3040554		3040555		% Rec Limits	RPD	Max RPD	Qual
					MS Result	MSD Result	MS % Rec	MSD % Rec				
Arsenic	ug/L	0.67J	40	40	40.9	40.5	101	100	70-130	1	20	
Cadmium	ug/L	0.75	40	40	37.3	37.0	91	91	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.	3040556		3040557		% Rec Limits	RPD	Max RPD	Qual
					MS Result	MSD Result	MS % Rec	MSD % Rec				
Arsenic	ug/L	8.3	40	40	49.1	49.0	102	102	70-130	0	20	
Cadmium	ug/L	<0.062	40	40	37.0	36.8	92	92	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	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3041447												3041448		
Parameter	Units	60385853004 Result	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
			Spike Conc.	Spike Conc.	MS Result	MSD Result								
Arsenic	ug/L	2.9	40	40	43.9	43.2	102	101	70-130	1	20			
Cadmium	ug/L	0.43J	40	40	37.5	37.0	93	91	70-130	1	20			
Chromium	ug/L	0.29J	40	40	39.3	38.8	98	96	70-130	1	20			
Selenium	ug/L	<0.18	40	40	37.7	37.7	94	94	70-130	0	20			

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 650629	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 60385853001, 60385853002

METHOD BLANK: 2998630 Matrix: Water

Associated Lab Samples: 60385853001, 60385853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<2.0	2.0	2.0	11/16/21 11:50	

LABORATORY CONTROL SAMPLE: 2998631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	49.1	98	90-110	

SAMPLE DUPLICATE: 2998644

Parameter	Units	50302739001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	215000 ug/L	212	1	20	

SAMPLE DUPLICATE: 2998645

Parameter	Units	50302739002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	206000 ug/L	198	4	20	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 650882

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009

METHOD BLANK: 2999813

Matrix: Water

Associated Lab Samples: 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/17/21 10:43	

LABORATORY CONTROL SAMPLE: 2999814

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: 2999815

Parameter	Units	60385866002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	347	364	5	20	

SAMPLE DUPLICATE: 2999816

Parameter	Units	60385853004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	141	143	1	20	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 650884

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 60385853010

METHOD BLANK: 2999817

Matrix: Water

Associated Lab Samples: 60385853010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<2.0	2.0	2.0	11/17/21 12:02	

LABORATORY CONTROL SAMPLE: 2999818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	49.2	98	90-110	

SAMPLE DUPLICATE: 2999819

Parameter	Units	50302535001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	329	372	12	20	

SAMPLE DUPLICATE: 2999820

Parameter	Units	50302637005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	215	219	2	20	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 756220

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385853001, 60385853002

METHOD BLANK: 3026260

Matrix: Water

Associated Lab Samples: 60385853001, 60385853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/15/21 09:44	

LABORATORY CONTROL SAMPLE: 3026261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	981	98	80-120	

SAMPLE DUPLICATE: 3026262

Parameter	Units	60385853001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	489	484	1	10	

SAMPLE DUPLICATE: 3026263

Parameter	Units	60385573006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	371	349	6	10	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 756844

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385853008, 60385853009

METHOD BLANK: 3028772

Matrix: Water

Associated Lab Samples: 60385853008, 60385853009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/17/21 10:01	

LABORATORY CONTROL SAMPLE: 3028773

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	978	98	80-120	

SAMPLE DUPLICATE: 3028774

Parameter	Units	60385860016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	967	1010	4	10	

SAMPLE DUPLICATE: 3028775

Parameter	Units	60385870004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	841	871	4	10	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch:	757164	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853010

METHOD BLANK: 3029977 Matrix: Water
Associated Lab Samples: 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/18/21 09:51	

LABORATORY CONTROL SAMPLE: 3029978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	986	99	80-120	

SAMPLE DUPLICATE: 3029979

Parameter	Units	60385853004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	938	945	1	10	

SAMPLE DUPLICATE: 3029980

Parameter	Units	60386062004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	834	848	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 757720	Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385853001, 60385853002

METHOD BLANK: 3032270 Matrix: Water

Associated Lab Samples: 60385853001, 60385853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/22/21 07:09	
Fluoride	mg/L	<0.086	0.20	0.086	11/22/21 07:09	
Sulfate	mg/L	<0.42	1.0	0.42	11/22/21 07:09	

METHOD BLANK: 3035149 Matrix: Water

Associated Lab Samples: 60385853001, 60385853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.69J	1.0	0.39	11/23/21 16:29	
Fluoride	mg/L	<0.086	0.20	0.086	11/23/21 16:29	
Sulfate	mg/L	<0.42	1.0	0.42	11/23/21 16:29	

METHOD BLANK: 3035264 Matrix: Water

Associated Lab Samples: 60385853001, 60385853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/24/21 08:56	
Fluoride	mg/L	<0.086	0.20	0.086	11/24/21 08:56	
Sulfate	mg/L	<0.42	1.0	0.42	11/24/21 08:56	

LABORATORY CONTROL SAMPLE: 3032271

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	2.7	109	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 3035150

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

LABORATORY CONTROL SAMPLE: 3035265

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	109	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032272 3032273

Parameter	Units	60385860003		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	21.8	25	25	45.8	46.3	96	98	80-120	1	15		
Fluoride	mg/L	0.55	2.5	2.5	3.0	3.0	97	99	80-120	1	15		
Sulfate	mg/L	835	500	500	1440	1410	121	116	80-120	2	15	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032274 3032275

Parameter	Units	60385860004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	3.3	5	5	8.6	7.5	107	86	80-120	13	15		
Fluoride	mg/L	<0.086	2.5	2.5	2.9	2.9	116	115	80-120	1	15		
Sulfate	mg/L	809	500	500	1330	1350	104	108	80-120	2	15		

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 757722 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60385853003, 60385853004, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

METHOD BLANK: 3032281 Matrix: Water
 Associated Lab Samples: 60385853003, 60385853004, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/22/21 07:13	
Fluoride	mg/L	<0.086	0.20	0.086	11/22/21 07:13	
Sulfate	mg/L	<0.42	1.0	0.42	11/22/21 07:13	

METHOD BLANK: 3035156 Matrix: Water
 Associated Lab Samples: 60385853003, 60385853004, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.65J	1.0	0.39	11/23/21 22:43	
Fluoride	mg/L	<0.086	0.20	0.086	11/23/21 22:43	
Sulfate	mg/L	<0.42	1.0	0.42	11/23/21 22:43	

METHOD BLANK: 3036336 Matrix: Water
 Associated Lab Samples: 60385853003, 60385853004, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

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: 3036538 Matrix: Water
 Associated Lab Samples: 60385853003, 60385853004, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010

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	

LABORATORY CONTROL SAMPLE: 3032282

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	2.4	97	90-110	

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

LABORATORY CONTROL SAMPLE: 3032282

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3035157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

LABORATORY CONTROL SAMPLE: 3036337

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: 3036539

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	

MATRIX SPIKE SAMPLE: 3032283

Parameter	Units	60385860024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	16.3	25	42.2	104	80-120	
Fluoride	mg/L	0.29	2.5	3.2	117	80-120	
Sulfate	mg/L	70.7	25	99.6	116	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032284 3032285

Parameter	Units	60385853004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.1	25	25	45.9	46.1	99	100	80-120	0	15	
Fluoride	mg/L	0.68	2.5	2.5	3.2	3.2	99	101	80-120	1	15	
Sulfate	mg/L	480	250	250	748	744	107	106	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 759333

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385853005

METHOD BLANK: 3038112

Matrix: Water

Associated Lab Samples: 60385853005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	12/02/21 07:21	
Fluoride	mg/L	<0.086	0.20	0.086	12/02/21 07:21	
Sulfate	mg/L	<0.42	1.0	0.42	12/02/21 07:21	

METHOD BLANK: 3039838

Matrix: Water

Associated Lab Samples: 60385853005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.67J	1.0	0.39	12/03/21 10:10	
Fluoride	mg/L	<0.086	0.20	0.086	12/03/21 10:10	
Sulfate	mg/L	<0.42	1.0	0.42	12/03/21 10:10	

LABORATORY CONTROL SAMPLE: 3038113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 3039839

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	2.4	98	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038114 3038115

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60387159001 Result	Spike Conc.	Spike Conc.	MSD Result								
Chloride	mg/L	600	500	500	1100	1190	100	119	80-120	8	15		
Fluoride	mg/L	ND	250	250	329	355	130	140	80-120	7	15 M1		
Sulfate	mg/L	ND	500	500	565	608	93	102	80-120	7	15		

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QUALITY CONTROL DATA

Project: AMEREN SCPA

Pace Project No.: 60385853

MATRIX SPIKE SAMPLE:		3038116					
Parameter	Units	60387159010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	77.4	50	127	98	80-120	
Fluoride	mg/L	ND	25	24.7	99	80-120	
Sulfate	mg/L	73.1	50	122	98	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-BMW-1D **Lab ID: 60385853001** Collected: 11/08/21 15:48 Received: 11/10/21 05:17 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	0.206 ± 0.556 (1.03) C:NA T:95%	pCi/L	12/15/21 12:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.959 ± 0.609 (1.18) C:74% T:95%	pCi/L	12/16/21 14:21	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-BMW-3D Lab ID: 60385853002 Collected: 11/08/21 14:15 Received: 11/10/21 05:17 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.489 ± 0.534 (0.840) C:NA T:96%	pCi/L	12/15/21 12:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.945 ± 0.510 (0.952) C:75% T:94%	pCi/L	12/16/21 14:21	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-1D Lab ID: 60385853003 Collected: 11/11/21 10:10 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.233 ± 0.403 (1.02) C:NA T:91%	pCi/L	12/15/21 12:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.490 ± 0.475 (0.978) C:59% T:89%	pCi/L	12/16/21 14:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-2D Lab ID: 60385853004 Collected: 11/11/21 11:54 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.176 ± 0.475 (0.881) C:NA T:93%	pCi/L	12/15/21 12:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0675 ± 0.362 (0.824) C:68% T:93%	pCi/L	12/16/21 14:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-3D Lab ID: 60385853005 Collected: 11/11/21 14:04 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0692 ± 0.316 (0.745) C:NA T:93%	pCi/L	12/15/21 12:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.04 ± 0.415 (0.633) C:73% T:95%	pCi/L	12/16/21 14:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-4D Lab ID: 60385853006 Collected: 11/11/21 14:58 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.344 (0.771) C:NA T:95%	pCi/L	12/15/21 12:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.58 ± 0.753 (1.27) C:66% T:94%	pCi/L	12/16/21 18:42	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-5D Lab ID: 60385853007 Collected: 11/11/21 12:14 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.484 ± 0.503 (0.749) C:NA T:86%	pCi/L	12/15/21 12:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.10 ± 0.666 (1.24) C:66% T:96%	pCi/L	12/16/21 18:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-6D **Lab ID: 60385853008** Collected: 11/10/21 14:34 Received: 11/12/21 04:32 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	0.0712 ± 0.325 (0.661) C:NA T:90%	pCi/L	12/15/21 12:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.953 ± 0.709 (1.41) C:70% T:93%	pCi/L	12/16/21 18:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Sample: S-UMW-DUP-1 **Lab ID: 60385853009** Collected: 11/10/21 00:00 Received: 11/12/21 04:32 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	-0.0756 ± 0.345 (0.814) C:NA T:96%	pCi/L	12/15/21 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.843 ± 0.601 (1.16) C:66% T:95%	pCi/L	12/16/21 18:46	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.360 (0.806) C:NA T:89%	pCi/L	12/15/21 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.326 ± 0.480 (1.03) C:71% T:96%	pCi/L	12/16/21 18:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-UMW-MS-1 Lab ID: 60385853011 Collected: 11/11/21 11:54 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	78.19 %REC ± NA (NA) C:NA T:NA	pCi/L	12/15/21 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	78.68 %REC ± NA (NA) C:NA T:NA	pCi/L	12/16/21 18:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	104.55 %REC 28.85 RPD ± NA (NA) C:NA T:NA	pCi/L	12/15/21 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	102.72 %REC 26.51 RPD ± NA (NA) C:NA T:NA	pCi/L	12/16/21 18:32	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 475141 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: 60385853001, 60385853002, 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010, 60385853011, 60385853012

METHOD BLANK: 2295296 Matrix: Water

Associated Lab Samples: 60385853001, 60385853002, 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010, 60385853011, 60385853012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.452 ± 0.296 (0.550) C:75% T:90%	pCi/L	12/16/21 11:22	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SCPA

Pace Project No.: 60385853

QC Batch: 475140

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: 60385853001, 60385853002, 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010, 60385853011, 60385853012

METHOD BLANK: 2295295

Matrix: Water

Associated Lab Samples: 60385853001, 60385853002, 60385853003, 60385853004, 60385853005, 60385853006, 60385853007, 60385853008, 60385853009, 60385853010, 60385853011, 60385853012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.186 ± 0.283 (0.743) C:NA T:87%	pCi/L	12/15/21 12:25	

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QUALIFIERS

Project: AMEREN SCPA

Pace Project No.: 60385853

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 SCPA

Pace Project No.: 60385853

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385853001	S-BMW-1D	EPA 200.7	759536	EPA 200.7	759739
60385853002	S-BMW-3D	EPA 200.7	759536	EPA 200.7	759739
60385853003	S-UMW-1D	EPA 200.7	759881	EPA 200.7	760025
60385853004	S-UMW-2D	EPA 200.7	759881	EPA 200.7	760025
60385853005	S-UMW-3D	EPA 200.7	759881	EPA 200.7	760025
60385853006	S-UMW-4D	EPA 200.7	759881	EPA 200.7	760025
60385853007	S-UMW-5D	EPA 200.7	759881	EPA 200.7	760025
60385853008	S-UMW-6D	EPA 200.7	759881	EPA 200.7	760025
60385853009	S-UMW-DUP-1	EPA 200.7	759881	EPA 200.7	760025
60385853010	S-UMW-FB-1	EPA 200.7	759881	EPA 200.7	760025
60385853001	S-BMW-1D	EPA 200.8	758170	EPA 200.8	758548
60385853002	S-BMW-3D	EPA 200.8	758170	EPA 200.8	758548
60385853003	S-UMW-1D	EPA 200.8	759537	EPA 200.8	759736
60385853004	S-UMW-2D	EPA 200.8	759891	EPA 200.8	760108
60385853005	S-UMW-3D	EPA 200.8	759537	EPA 200.8	759736
60385853006	S-UMW-4D	EPA 200.8	759537	EPA 200.8	759736
60385853007	S-UMW-5D	EPA 200.8	759537	EPA 200.8	759736
60385853008	S-UMW-6D	EPA 200.8	759537	EPA 200.8	759736
60385853009	S-UMW-DUP-1	EPA 200.8	759537	EPA 200.8	759736
60385853010	S-UMW-FB-1	EPA 200.8	759537	EPA 200.8	759736
60385853001	S-BMW-1D	EPA 903.1	475140		
60385853002	S-BMW-3D	EPA 903.1	475140		
60385853003	S-UMW-1D	EPA 903.1	475140		
60385853004	S-UMW-2D	EPA 903.1	475140		
60385853005	S-UMW-3D	EPA 903.1	475140		
60385853006	S-UMW-4D	EPA 903.1	475140		
60385853007	S-UMW-5D	EPA 903.1	475140		
60385853008	S-UMW-6D	EPA 903.1	475140		
60385853009	S-UMW-DUP-1	EPA 903.1	475140		
60385853010	S-UMW-FB-1	EPA 903.1	475140		
60385853011	S-UMW-MS-1	EPA 903.1	475140		
60385853012	S-UMW-MSD-1	EPA 903.1	475140		
60385853001	S-BMW-1D	EPA 904.0	475141		
60385853002	S-BMW-3D	EPA 904.0	475141		
60385853003	S-UMW-1D	EPA 904.0	475141		
60385853004	S-UMW-2D	EPA 904.0	475141		
60385853005	S-UMW-3D	EPA 904.0	475141		
60385853006	S-UMW-4D	EPA 904.0	475141		
60385853007	S-UMW-5D	EPA 904.0	475141		
60385853008	S-UMW-6D	EPA 904.0	475141		
60385853009	S-UMW-DUP-1	EPA 904.0	475141		
60385853010	S-UMW-FB-1	EPA 904.0	475141		
60385853011	S-UMW-MS-1	EPA 904.0	475141		
60385853012	S-UMW-MSD-1	EPA 904.0	475141		
60385853001	S-BMW-1D	SM 2320B	650629		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPA

Pace Project No.: 60385853

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385853002	S-BMW-3D	SM 2320B	650629		
60385853003	S-UMW-1D	SM 2320B	650882		
60385853004	S-UMW-2D	SM 2320B	650882		
60385853005	S-UMW-3D	SM 2320B	650882		
60385853006	S-UMW-4D	SM 2320B	650882		
60385853007	S-UMW-5D	SM 2320B	650882		
60385853008	S-UMW-6D	SM 2320B	650882		
60385853009	S-UMW-DUP-1	SM 2320B	650882		
60385853010	S-UMW-FB-1	SM 2320B	650884		
60385853001	S-BMW-1D	SM 2540C	756220		
60385853002	S-BMW-3D	SM 2540C	756220		
60385853003	S-UMW-1D	SM 2540C	757164		
60385853004	S-UMW-2D	SM 2540C	757164		
60385853005	S-UMW-3D	SM 2540C	757164		
60385853006	S-UMW-4D	SM 2540C	757164		
60385853007	S-UMW-5D	SM 2540C	757164		
60385853008	S-UMW-6D	SM 2540C	756844		
60385853009	S-UMW-DUP-1	SM 2540C	756844		
60385853010	S-UMW-FB-1	SM 2540C	757164		
60385853001	S-BMW-1D	EPA 300.0	757720		
60385853002	S-BMW-3D	EPA 300.0	757720		
60385853003	S-UMW-1D	EPA 300.0	757722		
60385853004	S-UMW-2D	EPA 300.0	757722		
60385853005	S-UMW-3D	EPA 300.0	759333		
60385853006	S-UMW-4D	EPA 300.0	757722		
60385853007	S-UMW-5D	EPA 300.0	757722		
60385853008	S-UMW-6D	EPA 300.0	757722		
60385853009	S-UMW-DUP-1	EPA 300.0	757722		
60385853010	S-UMW-FB-1	EPA 300.0	757722		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60385853

60385853

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 EPLC

Thermometer Used: T2901 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 2.1, 13.3, 2.2 Corr. Factor -0.2 Corrected 1.9, 13.1, 2.0
 Temperature should be above freezing to 6°C 14.5, 1.8 14.3, 1.6

Date and initials of person examining contents: 11/12

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>IDS 11/15</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>all coolers out of temp have only Radim</u>
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>Wt</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>603173</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 12:31 pm, 11/12/21

Project Manager Review: _____ Date: _____



Sample Condition Upon Receipt

WO#: 60385853



Client Name: Golden 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: T249 1.6, 13.8, 0.9 Type of Ice: Wet Blue None 2.4, 13.3, 0.7, 12.3

Cooler Temperature (°C): As-read 1.6, 20 Corr. Factor -0.2 Corrected 1.4, 1.8, 12.1

Date and initials of person examining contents: 11-13-21 EL

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>TDS 11/17</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>All coolers out of temp had only Radium</u>
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix <u>Wt</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 1:16 pm, 11/13/21

Project Manager Review: _____

Date: _____



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, SIOUX ENERGY CENTER – SCPA – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60385853

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
 Project Name: Ameren- Sioux - SCPA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: 153140603
 Validation Date: 1/3/2022

Laboratory: Pace Analytical Services - Kansas City

SDG #: 60385853

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 S-BMW-1D, S-BMW-3D, S-UMW-1D, S-UMW-2D, S-UMW-3D, S-UMW-4D, S-UMW-5D, S-UMW-6D, S-UMW-DUP-1, S-UMW-FB-1, S-UMW-MS-1, S-UMW-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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>11/8/2021 - 11/11/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SSS/BTT/ETF</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>

Note Deficiencies:

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
b) Was the COC signed by both field and laboratory personnel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
c) Were samples received in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
b) Were analytes detected in the field blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were analytes detected in the equipment blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d) Were analytes detected in the trip blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Were the proper analytes included in the LCS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Was the LCS accuracy criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S-UMW-DUP-1 @ S-UMW-6D
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD: 12% [< 20%]

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b) Was the %D within control limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Comments/Notes:

Sample Receipt checklists provided by the lab indicate that the coolers received out of temperature only contained radium samples. No qualification necessary.

Calcium, lithium, magnesium, chloride, and sulfate were diluted in several samples, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Blanks:

3038952: Molybdenum (2.4J), associated with samples -001, -002. Associated results <RL were qualified as non-detect.

3035149: Chloride (0.69J), associated with samples -001, -002. Associated results <10x blank qualified as estimates.

3035156: Chloride (0.65J), associated with samples -003, -004, -006 through -010. Associated results >10x blank, >RL, or ND, no qualification necessary.

3036538: Chloride (0.71J), associated with samples -003, -004, -006 through -010. Associated results >10x blank, >RL, or ND, no qualification necessary.

3039838: Chloride (0.67J), associated with samples -005. Associated result >RL and 10x blank, no qualification necessary.

S-UMW-FB-1 @ S-UMW-1D: Chromium (0.45J), alkalinity (2.2). Results <RL were qualified.

Duplicates:

S-UMW-DUP-1 @ S-UMW-6D: Chromium detected in sample, ND in duplicate.

Laboratory ran multiple sample duplicates for alkalinity, TDS.

MS/MSD:

3038956/3038957: MS/MSD % recovery high for boron, calcium, sodium. MS/MSD performed on unrelated sample, no qualification necessary. 60385860004

3040510/3040511: MSD % recovery high for boron, sodium; MS/MSD % recovery high for calcium, magnesium. MS/MSD performed on unrelated sample, no qualification necessary. 60385853

3040512/3040513: MSD % recovery high for boron; MS/MSD % recovery high for calcium. Associated with sample -004. Only 1 QC indicator out for boron, no qualification necessary.

3034265: MS % recovery low for arsenic. MS performed on unrelated sample, no qualification necessary.

3032272/3032273: MS % recovery high for sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

3038114/3038115: MS/MSD % recovery high for fluoride. MS/MSD performed on unrelated sample, no qualification necessary.

December 27, 2021

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

RE: Project: AMEREN SPCA-CA
Pace Project No.: 60385860

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between November 10, 2021 and 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

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

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SAMPLE SUMMARY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60385860001	S-BMW-1S	Water	11/08/21 14:41	11/10/21 05:17
60385860002	S-BMW-3S	Water	11/08/21 15:15	11/10/21 05:17
60385860003	S-LMW-5S	Water	11/09/21 10:47	11/10/21 05:17
60385860004	S-LMW-6S	Water	11/09/21 12:27	11/10/21 05:17
60385860005	S-AM-1S	Water	11/08/21 11:15	11/10/21 05:17
60385860006	S-AM-1D	Water	11/08/21 12:20	11/10/21 05:17
60385860007	S-TP-4D	Water	11/08/21 11:38	11/10/21 05:17
60385860008	S-TP-5D	Water	11/09/21 13:25	11/10/21 05:17
60385860009	S-UG-3	Water	11/09/21 10:20	11/10/21 05:17
60385860010	S-CA-DUP-1	Water	11/08/21 00:00	11/10/21 05:17
60385860011	S-CA-FB-1	Water	11/08/21 12:50	11/10/21 05:17
60385860012	S-CA-FB-2	Water	11/09/21 14:00	11/10/21 05:17
60385860013	S-MS-1	Water	11/09/21 10:47	11/10/21 05:17
60385860014	S-MSD-1	Water	11/09/21 10:47	11/10/21 05:17
60385860015	S-LMW-1S	Water	11/11/21 10:07	11/12/21 04:32
60385860016	S-LMW-2S	Water	11/10/21 15:46	11/12/21 04:32
60385860017	S-LMW-4S	Water	11/10/21 15:11	11/12/21 04:32
60385860018	S-PZ-1S	Water	11/11/21 14:50	11/12/21 04:32
60385860019	S-PZ-9D	Water	11/10/21 11:35	11/12/21 04:32
60385860020	S-TP-3D	Water	11/10/21 12:32	11/12/21 04:32
60385860021	S-TP-6S	Water	11/10/21 10:03	11/12/21 04:32
60385860022	S-TP-6D	Water	11/10/21 11:00	11/12/21 04:32
60385860023	S-TP-8D	Water	11/10/21 13:50	11/12/21 04:32
60385860024	S-CA-DUP-2	Water	11/10/21 00:00	11/12/21 04:32
60385860025	S-TP-2D	Water	11/12/21 11:31	11/13/21 03:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385860001	S-BMW-1S	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	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
60385860002	S-BMW-3S	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	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
60385860003	S-LMW-5S	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	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
60385860004	S-LMW-6S	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	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
60385860005	S-AM-1S	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	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
60385860006	S-AM-1D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385860007	S-TP-4D	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
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385860008	S-TP-5D	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	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
		EPA 200.7	MA1	12	PASI-K
60385860009	S-UG-3	EPA 200.8	MRV	4	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
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60385860010	S-CA-DUP-1	SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	MRV	4	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
60385860011	S-CA-FB-1	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385860012	S-CA-FB-2	SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385860013	S-MS-1	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60385860014	S-MSD-1	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60385860015	S-LMW-1S	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	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
		EPA 200.7	MA1	12	PASI-K
60385860016	S-LMW-2S	EPA 200.8	JGP	4	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
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
60385860017	S-LMW-4S	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
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
60385860018	S-PZ-1S	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
60385860018	S-PZ-1S	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385860019	S-PZ-9D	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
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385860020	S-TP-3D	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	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
		EPA 200.7	MA1	12	PASI-K
60385860021	S-TP-6S	EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
60385860022	S-TP-6D	SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385860023	S-TP-8D	EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385860024	S-CA-DUP-2	SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385860025	S-TP-2D	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	12	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K

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 SPCA-CA

Pace Project No.: 60385860

Sample: S-BMW-1S **Lab ID: 60385860001** Collected: 11/08/21 14:41 Received: 11/10/21 05:17 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	155	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:12	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:12	7440-41-7	
Boron	66.9J	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:12	7440-42-8	
Calcium	160000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:34	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:12	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:12	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:34	7439-93-2	
Magnesium	29800	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:12	7439-95-4	
Manganese	895	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:12	7439-96-5	
Molybdenum	3.2J	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:12	7439-98-7	B
Potassium	470J	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:12	7440-09-7	
Sodium	4840	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:12	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.0	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:41	7440-38-2	
Cadmium	0.13J	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:41	7440-43-9	
Chromium	0.42J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:41	7440-47-3	
Selenium	0.39J	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:41	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	426	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	534	mg/L	10.0	10.0	1		11/15/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	7.4	mg/L	1.0	0.39	1		11/22/21 10:15	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/22/21 10:15	16984-48-8	
Sulfate	31.8	mg/L	5.0	2.1	5		11/22/21 10:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-BMW-3S **Lab ID: 60385860002** Collected: 11/08/21 15:15 Received: 11/10/21 05:17 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	12/03/21 10:02	12/07/21 18:14	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:14	7440-41-7	
Boron	67.8J	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:14	7440-42-8	
Calcium	137000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:36	7440-70-2	
Cobalt	1.4J	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:14	7440-48-4	
Iron	56.3	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:14	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:36	7439-93-2	
Magnesium	23500	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:14	7439-95-4	
Manganese	364	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:14	7439-96-5	
Molybdenum	2.3J	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:14	7439-98-7	B
Potassium	533	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:14	7440-09-7	
Sodium	5710	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:14	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.53J	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:48	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:48	7440-43-9	
Chromium	<0.23	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:48	7440-47-3	
Selenium	0.23J	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:48	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	356	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	461	mg/L	10.0	10.0	1		11/15/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	12.0	mg/L	1.0	0.39	1		11/22/21 10:38	16887-00-6	
Fluoride	0.46	mg/L	0.20	0.086	1		11/22/21 10:38	16984-48-8	
Sulfate	31.2	mg/L	5.0	2.1	5		11/22/21 10:50	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-5S **Lab ID: 60385860003** Collected: 11/09/21 10:47 Received: 11/10/21 05:17 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	56.5	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:04	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:04	7440-41-7	
Boron	12900	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:04	7440-42-8	M1
Calcium	253000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:07	7440-70-2	M1
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:04	7440-48-4	
Iron	59.1	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:04	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:07	7439-93-2	
Magnesium	47100	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:04	7439-95-4	M1
Manganese	1410	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:04	7439-96-5	
Molybdenum	1580	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:04	7439-98-7	
Potassium	5450	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:04	7440-09-7	
Sodium	157000	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:04	7440-23-5	M1
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.76J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 15:59	7440-38-2	
Cadmium	0.98	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 15:59	7440-43-9	
Chromium	0.30J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 15:59	7440-47-3	
Selenium	0.37J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 15:59	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	310	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1620	mg/L	13.3	13.3	1		11/16/21 09:54		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.8	mg/L	5.0	1.9	5		11/22/21 11:38	16887-00-6	B
Fluoride	0.55	mg/L	0.20	0.086	1		11/22/21 11:02	16984-48-8	
Sulfate	835	mg/L	100	42.1	100		11/22/21 12:37	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-6S **Lab ID: 60385860004** Collected: 11/09/21 12:27 Received: 11/10/21 05:17 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	46.0	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:16	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:16	7440-41-7	
Boron	22500	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:16	7440-42-8	M1
Calcium	291000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:38	7440-70-2	M1
Cobalt	7.4	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:16	7440-48-4	
Iron	43.0J	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:16	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:38	7439-93-2	
Magnesium	71300	ug/L	500	314	10	12/03/21 10:02	12/08/21 12:38	7439-95-4	
Manganese	509	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:16	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:16	7439-98-7	
Potassium	4790	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:16	7440-09-7	
Sodium	97500	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:16	7440-23-5	M1
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.67J	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:12	7440-38-2	
Cadmium	0.75	ug/L	0.50	0.062	1	12/06/21 15:08	12/07/21 17:12	7440-43-9	
Chromium	0.36J	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:12	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:12	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	342	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1570	mg/L	13.3	13.3	1		11/16/21 09:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	3.3	mg/L	1.0	0.39	1		11/22/21 13:12	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/22/21 13:12	16984-48-8	CH
Sulfate	809	mg/L	100	42.1	100		11/22/21 13:48	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-AM-1S **Lab ID: 60385860005** Collected: 11/08/21 11:15 Received: 11/10/21 05:17 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	154	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:27	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:27	7440-41-7	
Boron	9630	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:27	7440-42-8	
Calcium	84200	ug/L	200	75.4	1	12/03/21 10:02	12/07/21 18:27	7440-70-2	
Cobalt	1.9J	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:27	7440-48-4	
Iron	1840	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:27	7439-89-6	
Lithium	29.7	ug/L	10.0	7.7	1	12/03/21 10:02	12/07/21 18:27	7439-93-2	
Magnesium	18000	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:27	7439-95-4	
Manganese	747	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:27	7439-96-5	
Molybdenum	289	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:27	7439-98-7	
Potassium	8220	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:27	7440-09-7	
Sodium	24300	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:27	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.5	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:50	7440-38-2	
Cadmium	0.12J	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:50	7440-43-9	
Chromium	0.29J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:50	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:50	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	241	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	422	mg/L	5.0	5.0	1		11/15/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	26.6	mg/L	5.0	1.9	5		11/22/21 14:59	16887-00-6	B
Fluoride	0.59	mg/L	0.20	0.086	1		11/23/21 17:14	16984-48-8	
Sulfate	60.6	mg/L	5.0	2.1	5		11/22/21 14:59	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-AM-1D **Lab ID: 60385860006** Collected: 11/08/21 12:20 Received: 11/10/21 05:17 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	243	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:29	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:29	7440-41-7	
Boron	7640	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:29	7440-42-8	
Calcium	79100	ug/L	200	75.4	1	12/03/21 10:02	12/07/21 18:29	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:29	7440-48-4	
Iron	3020	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:29	7439-89-6	
Lithium	34.0	ug/L	10.0	7.7	1	12/03/21 10:02	12/07/21 18:29	7439-93-2	
Magnesium	17000	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:29	7439-95-4	
Manganese	368	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:29	7439-96-5	
Molybdenum	575	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:29	7439-98-7	
Potassium	7270	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:29	7440-09-7	
Sodium	23400	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:29	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.19J	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:51	7440-38-2	
Cadmium	0.19J	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:51	7440-43-9	
Chromium	0.37J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:51	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:51	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	204	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	396	mg/L	5.0	5.0	1		11/15/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	28.9	mg/L	5.0	1.9	5		11/22/21 15:23	16887-00-6	B
Fluoride	0.60	mg/L	0.20	0.086	1		11/23/21 17:26	16984-48-8	
Sulfate	69.5	mg/L	5.0	2.1	5		11/22/21 15:23	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-4D **Lab ID: 60385860007** Collected: 11/08/21 11:38 Received: 11/10/21 05:17 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	536	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:31	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:31	7440-41-7	
Boron	64.5J	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:31	7440-42-8	
Calcium	114000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:44	7440-70-2	
Cobalt	1.4J	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:31	7440-48-4	
Iron	6260	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:31	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:44	7439-93-2	
Magnesium	25800	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:31	7439-95-4	
Manganese	427	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:31	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:31	7439-98-7	
Potassium	3350	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:31	7440-09-7	
Sodium	7250	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:31	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.6	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:53	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:53	7440-43-9	
Chromium	<0.23	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:53	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:53	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	267	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	474	mg/L	10.0	10.0	1		11/15/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	10	mg/L	1.0	0.39	1		11/23/21 17:37	16887-00-6	
Fluoride	0.27	mg/L	0.20	0.086	1		11/23/21 17:37	16984-48-8	
Sulfate	94.0	mg/L	10.0	4.2	10		11/22/21 15:47	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-5D **Lab ID: 60385860008** Collected: 11/09/21 13:25 Received: 11/10/21 05:17 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	154	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:33	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:33	7440-41-7	
Boron	6160	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:33	7440-42-8	
Calcium	132000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:46	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:33	7440-48-4	
Iron	8750	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:33	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:46	7439-93-2	
Magnesium	31000	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:33	7439-95-4	
Manganese	984	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:33	7439-96-5	
Molybdenum	234	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:33	7439-98-7	
Potassium	4480	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:33	7440-09-7	
Sodium	23700	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:33	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.22J	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:55	7440-38-2	
Cadmium	0.075J	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:55	7440-43-9	
Chromium	0.36J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:55	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:55	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	198	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	627	mg/L	10.0	10.0	1		11/16/21 09:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	27.3	mg/L	5.0	1.9	5		11/22/21 16:10	16887-00-6	B
Fluoride	0.20J	mg/L	0.20	0.086	1		11/22/21 15:58	16984-48-8	CH
Sulfate	228	mg/L	20.0	8.4	20		11/22/21 16:22	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-UG-3 **Lab ID: 60385860009** Collected: 11/09/21 10:20 Received: 11/10/21 05:17 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	213	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:35	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:35	7440-41-7	
Boron	210	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:35	7440-42-8	
Calcium	126000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:48	7440-70-2	
Cobalt	2.6J	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:35	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:35	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:48	7439-93-2	
Magnesium	24000	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:35	7439-95-4	
Manganese	614	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:35	7439-96-5	
Molybdenum	5.2J	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:35	7439-98-7	B
Potassium	5570	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:35	7440-09-7	
Sodium	24500	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:35	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.39J	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:57	7440-38-2	
Cadmium	0.21J	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:57	7440-43-9	
Chromium	<0.23	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:57	7440-47-3	
Selenium	1.8	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:57	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	328	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	519	mg/L	10.0	10.0	1		11/16/21 09:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	24.5	mg/L	2.0	0.78	2		11/23/21 18:00	16887-00-6	
Fluoride	0.38	mg/L	0.20	0.086	1		11/23/21 17:48	16984-48-8	
Sulfate	66.0	mg/L	10.0	4.2	10		11/22/21 17:09	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-CA-DUP-1 **Lab ID: 60385860010** Collected: 11/08/21 00:00 Received: 11/10/21 05:17 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	546	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:37	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:37	7440-41-7	
Boron	60.6J	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:37	7440-42-8	
Calcium	112000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:55	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:37	7440-48-4	
Iron	6310	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:37	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:55	7439-93-2	
Magnesium	26100	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:37	7439-95-4	
Manganese	431	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:37	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:37	7439-98-7	
Potassium	3320	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:37	7440-09-7	
Sodium	7320	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:37	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.6	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:58	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	11/27/21 16:56	11/30/21 14:58	7440-43-9	
Chromium	<0.23	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:58	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:58	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	269	mg/L	2.0	2.0	1		11/16/21 11:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	476	mg/L	10.0	10.0	1		11/15/21 09:48		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	9.9	mg/L	1.0	0.39	1		11/23/21 18:11	16887-00-6	
Fluoride	0.27	mg/L	0.20	0.086	1		11/23/21 18:11	16984-48-8	
Sulfate	98.8	mg/L	20.0	8.4	20		11/23/21 18:45	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-CA-FB-1 **Lab ID: 60385860011** Collected: 11/08/21 12:50 Received: 11/10/21 05:17 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	12/03/21 10:02	12/07/21 18:39	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:39	7440-41-7	
Boron	<8.6	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:39	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	12/03/21 10:02	12/07/21 18:39	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:39	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:39	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	12/03/21 10:02	12/07/21 18:39	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:39	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:39	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:39	7439-98-7	
Potassium	<146	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:39	7440-09-7	
Sodium	<254	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:39	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	12/03/21 10:02	12/07/21 16:11	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:11	7440-43-9	
Chromium	0.32J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:11	7440-47-3	
Selenium	0.19J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:11	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	<2.0	mg/L	2.0	2.0	1		11/16/21 11:33		
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		11/15/21 09:48		
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		11/22/21 17:45	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/22/21 17:45	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/22/21 17:45	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-CA-FB-2 **Lab ID: 60385860012** Collected: 11/09/21 14:00 Received: 11/10/21 05:17 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	12/03/21 10:02	12/07/21 18:41	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:41	7440-41-7	
Boron	<8.6	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:41	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	12/03/21 10:02	12/07/21 18:41	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:41	7440-48-4	
Iron	<21.4	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:41	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	12/03/21 10:02	12/07/21 18:41	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:41	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:41	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:41	7439-98-7	
Potassium	<146	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:41	7440-09-7	
Sodium	<254	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:41	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	12/03/21 10:02	12/07/21 16:12	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:12	7440-43-9	
Chromium	0.31J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:12	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:12	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	<2.0	mg/L	2.0	2.0	1		11/16/21 11:33		
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		11/16/21 09:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.58J	mg/L	1.0	0.39	1		11/23/21 06:51	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/23/21 06:51	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/23/21 06:51	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-1S **Lab ID: 60385860015** Collected: 11/11/21 10:07 Received: 11/12/21 04:32 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	128	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:43	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:43	7440-41-7	
Boron	307	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:43	7440-42-8	
Calcium	70500	ug/L	200	75.4	1	12/03/21 10:02	12/07/21 18:43	7440-70-2	
Cobalt	3.0J	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:43	7440-48-4	
Iron	72.9	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:43	7439-89-6	
Lithium	15.8	ug/L	10.0	7.7	1	12/03/21 10:02	12/07/21 18:43	7439-93-2	
Magnesium	17400	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:43	7439-95-4	
Manganese	276	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:43	7439-96-5	
Molybdenum	78.0	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:43	7439-98-7	
Potassium	6080	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:43	7440-09-7	
Sodium	17600	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:43	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.1	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:14	7440-38-2	
Cadmium	0.11J	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:14	7440-43-9	
Chromium	0.40J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:14	7440-47-3	
Selenium	2.5	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:14	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	198	mg/L	2.0	2.0	1		11/19/21 13:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	320	mg/L	5.0	5.0	1		11/17/21 10:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	18.9	mg/L	2.0	0.78	2		11/22/21 08:07	16887-00-6	
Fluoride	0.42	mg/L	0.20	0.086	1		11/22/21 07:53	16984-48-8	
Sulfate	46.0	mg/L	10.0	4.2	10		11/22/21 08:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-2S **Lab ID: 60385860016** Collected: 11/10/21 15:46 Received: 11/12/21 04:32 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	140	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:45	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:45	7440-41-7	
Boron	8000	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:45	7440-42-8	
Calcium	236000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:57	7440-70-2	
Cobalt	2.5J	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:45	7440-48-4	
Iron	78.3	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:45	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:57	7439-93-2	
Magnesium	39500	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:45	7439-95-4	
Manganese	486	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:45	7439-96-5	
Molybdenum	764	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:45	7439-98-7	
Potassium	8360	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:45	7440-09-7	
Sodium	60900	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:45	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.91J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:16	7440-38-2	
Cadmium	0.55	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:16	7440-43-9	
Chromium	0.28J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:16	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:16	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	427	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	967	mg/L	13.3	13.3	1		11/17/21 10:01		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	155	mg/L	20.0	7.8	20		11/22/21 08:47	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/22/21 08:33	16984-48-8	
Sulfate	186	mg/L	20.0	8.4	20		11/22/21 08:47	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-4S **Lab ID: 60385860017** Collected: 11/10/21 15:11 Received: 11/12/21 04:32 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	223	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:51	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:51	7440-41-7	
Boron	254	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:51	7440-42-8	
Calcium	185000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 12:59	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:51	7440-48-4	
Iron	25.0J	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:51	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 12:59	7439-93-2	
Magnesium	40500	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:51	7439-95-4	
Manganese	269	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:51	7439-96-5	
Molybdenum	2.5J	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:51	7439-98-7	B
Potassium	5150	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:51	7440-09-7	
Sodium	11900	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:51	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.62J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:18	7440-38-2	
Cadmium	0.17J	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:18	7440-43-9	
Chromium	<0.23	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:18	7440-47-3	
Selenium	0.53J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:18	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	557	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	624	mg/L	10.0	10.0	1		11/17/21 10:01		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	2.5	mg/L	1.0	0.39	1		11/22/21 09:00	16887-00-6	B
Fluoride	0.22	mg/L	0.20	0.086	1		11/22/21 09:00	16984-48-8	
Sulfate	31.4	mg/L	5.0	2.1	5		11/22/21 09:14	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-PZ-1S **Lab ID: 60385860018** Collected: 11/11/21 14:50 Received: 11/12/21 04:32 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	107	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:53	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:53	7440-41-7	
Boron	6390	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:53	7440-42-8	
Calcium	108000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 13:01	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:53	7440-48-4	
Iron	5060	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:53	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 13:01	7439-93-2	
Magnesium	18600	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:53	7439-95-4	
Manganese	1070	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:53	7439-96-5	
Molybdenum	1440	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:53	7439-98-7	
Potassium	4150	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:53	7440-09-7	
Sodium	25000	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:53	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.43J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:20	7440-38-2	
Cadmium	0.46J	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:20	7440-43-9	
Chromium	0.35J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:20	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:20	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	249	mg/L	2.0	2.0	1		11/19/21 13:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	478	mg/L	5.0	5.0	1		11/18/21 09:51		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.3	mg/L	1.0	0.39	1		11/22/21 09:27	16887-00-6	
Fluoride	0.58	mg/L	0.20	0.086	1		11/22/21 09:27	16984-48-8	
Sulfate	105	mg/L	50.0	21.0	50		11/22/21 10:07	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-PZ-9D **Lab ID: 60385860019** Collected: 11/10/21 11:35 Received: 11/12/21 04:32 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	121	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:56	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:56	7440-41-7	
Boron	3840	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:56	7440-42-8	
Calcium	218000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 13:03	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:56	7440-48-4	
Iron	13300	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:56	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 13:03	7439-93-2	
Magnesium	49600	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:56	7439-95-4	
Manganese	1410	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:56	7439-96-5	
Molybdenum	8.3J	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:56	7439-98-7	B
Potassium	5320	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:56	7440-09-7	
Sodium	19800	ug/L	500	254	1	12/03/21 10:02	12/07/21 18:56	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.71J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:22	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:22	7440-43-9	
Chromium	1.0	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:22	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:22	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	237	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	987	mg/L	10.0	10.0	1		11/17/21 10:01		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	16.7	mg/L	1.0	0.39	1		11/22/21 10:20	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/22/21 10:20	16984-48-8	
Sulfate	431	mg/L	50.0	21.0	50		11/22/21 10:34	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-3D **Lab ID: 60385860020** Collected: 11/10/21 12:32 Received: 11/12/21 04:32 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	564	ug/L	5.0	1.8	1	12/03/21 10:02	12/07/21 18:58	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/03/21 10:02	12/07/21 18:58	7440-41-7	
Boron	60.3J	ug/L	100	8.6	1	12/03/21 10:02	12/07/21 18:58	7440-42-8	
Calcium	122000	ug/L	2000	754	10	12/03/21 10:02	12/08/21 13:05	7440-70-2	
Cobalt	1.2J	ug/L	5.0	0.95	1	12/03/21 10:02	12/07/21 18:58	7440-48-4	
Iron	7700	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:58	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/03/21 10:02	12/08/21 13:05	7439-93-2	
Magnesium	28900	ug/L	50.0	31.4	1	12/03/21 10:02	12/07/21 18:58	7439-95-4	
Manganese	642	ug/L	5.0	0.74	1	12/03/21 10:02	12/07/21 18:58	7439-96-5	
Molybdenum	2.6J	ug/L	20.0	2.2	1	12/03/21 10:02	12/07/21 18:58	7439-98-7	B
Potassium	3860	ug/L	500	146	1	12/03/21 10:02	12/07/21 18:58	7440-09-7	
Sodium	6600	ug/L	500	254	1	12/03/21 10:02	12/07/21 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	0.13J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:24	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:24	7440-43-9	
Chromium	0.34J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:24	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:24	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	307	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	482	mg/L	10.0	10.0	1		11/17/21 10:02		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	9.3	mg/L	1.0	0.39	1		11/22/21 10:47	16887-00-6	
Fluoride	0.24	mg/L	0.20	0.086	1		11/22/21 10:47	16984-48-8	
Sulfate	89.1	mg/L	10.0	4.2	10		11/22/21 11:01	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-6S **Lab ID: 60385860021** Collected: 11/10/21 10:03 Received: 11/12/21 04:32 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	284	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:10	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:10	7440-41-7	
Boron	118	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:10	7440-42-8	
Calcium	138000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:13	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:10	7440-48-4	
Iron	135	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:10	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:13	7439-93-2	
Magnesium	28500	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:10	7439-95-4	
Manganese	244	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:10	7439-96-5	
Molybdenum	6.9J	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:10	7439-98-7	
Potassium	2590	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:10	7440-09-7	
Sodium	5640	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:10	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.52J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:25	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:25	7440-43-9	
Chromium	0.27J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:25	7440-47-3	
Selenium	0.58J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:25	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	385	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	500	mg/L	10.0	10.0	1		11/17/21 10:02		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	11.2	mg/L	1.0	0.39	1		11/22/21 11:14	16887-00-6	
Fluoride	0.34	mg/L	0.20	0.086	1		11/22/21 11:14	16984-48-8	
Sulfate	39.7	mg/L	5.0	2.1	5		11/22/21 11:27	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-6D **Lab ID: 60385860022** Collected: 11/10/21 11:00 Received: 11/12/21 04:32 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	419	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:16	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:16	7440-41-7	
Boron	62.3J	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:16	7440-42-8	
Calcium	125000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:20	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:16	7440-48-4	
Iron	7860	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:16	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:20	7439-93-2	
Magnesium	30900	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:16	7439-95-4	
Manganese	508	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:16	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:16	7439-98-7	
Potassium	3880	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:16	7440-09-7	
Sodium	5520	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:16	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	12/03/21 10:02	12/07/21 16:33	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:33	7440-43-9	
Chromium	0.31J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:33	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:33	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	343	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	488	mg/L	10.0	10.0	1		11/17/21 10:02		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	15.8	mg/L	1.0	0.39	1		11/22/21 11:41	16887-00-6	
Fluoride	0.29	mg/L	0.20	0.086	1		11/22/21 11:41	16984-48-8	
Sulfate	63.9	mg/L	10.0	4.2	10		11/22/21 11:54	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-8D **Lab ID: 60385860023** Collected: 11/10/21 13:50 Received: 11/12/21 04:32 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	357	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:18	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:18	7440-41-7	
Boron	72.0J	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:18	7440-42-8	
Calcium	112000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:22	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:18	7440-48-4	
Iron	6110	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:18	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:22	7439-93-2	
Magnesium	24500	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:18	7439-95-4	
Manganese	425	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:18	7439-96-5	
Molybdenum	2.9J	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:18	7439-98-7	
Potassium	3400	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:18	7440-09-7	
Sodium	5890	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:18	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.4	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:38	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:38	7440-43-9	
Chromium	0.40J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:38	7440-47-3	
Selenium	0.33J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:38	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	300	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	431	mg/L	10.0	10.0	1		11/17/21 10:02		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	15.0	mg/L	1.0	0.39	1		11/22/21 12:07	16887-00-6	
Fluoride	0.28	mg/L	0.20	0.086	1		11/22/21 12:07	16984-48-8	
Sulfate	47.3	mg/L	5.0	2.1	5		11/23/21 23:40	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-CA-DUP-2 **Lab ID: 60385860024** Collected: 11/10/21 00:00 Received: 11/12/21 04:32 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	407	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:20	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:20	7440-41-7	
Boron	60.0J	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:20	7440-42-8	
Calcium	128000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:24	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:20	7440-48-4	
Iron	7890	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:20	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:24	7439-93-2	
Magnesium	31100	ug/L	50.0	31.4	1	12/06/21 10:43	12/07/21 19:20	7439-95-4	
Manganese	512	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:20	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:20	7439-98-7	
Potassium	3880	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:20	7440-09-7	
Sodium	5520	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:20	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.14J	ug/L	1.0	0.11	1	12/03/21 10:02	12/07/21 16:40	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/03/21 10:02	12/07/21 16:40	7440-43-9	
Chromium	0.30J	ug/L	1.0	0.23	1	12/03/21 10:02	12/07/21 16:40	7440-47-3	
Selenium	0.21J	ug/L	1.0	0.18	1	12/03/21 10:02	12/07/21 16:40	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	337	mg/L	2.0	2.0	1		11/19/21 10:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	503	mg/L	10.0	10.0	1		11/17/21 10:02		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	16.3	mg/L	1.0	0.39	1		11/23/21 23:51	16887-00-6	
Fluoride	0.29	mg/L	0.20	0.086	1		11/23/21 23:51	16984-48-8	
Sulfate	70.7	mg/L	5.0	2.1	5		11/24/21 00:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-2D **Lab ID: 60385860025** Collected: 11/12/21 11:31 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	60.2	ug/L	5.0	1.8	1	12/06/21 10:43	12/07/21 19:47	7440-39-3	
Beryllium	<0.39	ug/L	1.0	0.39	1	12/06/21 10:43	12/07/21 19:47	7440-41-7	
Boron	72.2J	ug/L	100	8.6	1	12/06/21 10:43	12/07/21 19:47	7440-42-8	
Calcium	284000	ug/L	2000	754	10	12/06/21 10:43	12/08/21 13:36	7440-70-2	
Cobalt	<0.95	ug/L	5.0	0.95	1	12/06/21 10:43	12/07/21 19:47	7440-48-4	
Iron	16200	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:47	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	12/06/21 10:43	12/08/21 13:36	7439-93-2	
Magnesium	79000	ug/L	500	314	10	12/06/21 10:43	12/08/21 13:36	7439-95-4	
Manganese	1290	ug/L	5.0	0.74	1	12/06/21 10:43	12/07/21 19:47	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	12/06/21 10:43	12/07/21 19:47	7439-98-7	
Potassium	5870	ug/L	500	146	1	12/06/21 10:43	12/07/21 19:47	7440-09-7	
Sodium	26900	ug/L	500	254	1	12/06/21 10:43	12/07/21 19:47	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.18J	ug/L	1.0	0.11	1	12/06/21 15:08	12/07/21 17:34	7440-38-2	
Cadmium	<0.062	ug/L	0.50	0.062	1	12/06/21 15:08	12/07/21 17:34	7440-43-9	
Chromium	0.24J	ug/L	1.0	0.23	1	12/06/21 15:08	12/07/21 17:34	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	12/06/21 15:08	12/07/21 17:34	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	449	mg/L	2.0	2.0	1		11/19/21 13:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1300	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	74.4	mg/L	10.0	3.9	10		11/18/21 17:10	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/18/21 16:56	16984-48-8	
Sulfate	480	mg/L	50.0	21.0	50		11/18/21 17:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch:	759536	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60385860001, 60385860002, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020		

METHOD BLANK:	3038952	Matrix:	Water
Associated Lab Samples:	60385860001, 60385860002, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/07/21 18:04	
Beryllium	ug/L	<0.39	1.0	0.39	12/07/21 18:04	
Boron	ug/L	<8.6	100	8.6	12/07/21 18:04	
Calcium	ug/L	<75.4	200	75.4	12/07/21 18:04	
Cobalt	ug/L	<0.95	5.0	0.95	12/07/21 18:04	
Iron	ug/L	<21.4	50.0	21.4	12/07/21 18:04	
Lithium	ug/L	<7.7	10.0	7.7	12/07/21 18:04	
Magnesium	ug/L	<31.4	50.0	31.4	12/07/21 18:04	
Manganese	ug/L	<0.74	5.0	0.74	12/07/21 18:04	
Molybdenum	ug/L	2.4J	20.0	2.2	12/07/21 18:04	
Potassium	ug/L	<146	500	146	12/07/21 18:04	
Sodium	ug/L	<254	500	254	12/07/21 18:04	

LABORATORY CONTROL SAMPLE: 3038953						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	979	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Boron	ug/L	1000	1000	100	85-115	
Calcium	ug/L	10000	9980	100	85-115	
Cobalt	ug/L	1000	987	99	85-115	
Iron	ug/L	10000	10000	100	85-115	
Lithium	ug/L	1000	927	93	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038956											3038957	
Parameter	Units	60385860004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	46.0	1000	1000	1070	1080	103	103	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameter	Units	3038956		3038957		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60385860004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Beryllium	ug/L	<0.39	1000	1000	1050	1050	105	105	70-130	1	20		
Boron	ug/L	22500	1000	1000	25100	24300	259	181	70-130	3	20	M1	
Calcium	ug/L	291000	10000	10000	304000	303000	131	123	70-130	0	20	M1	
Cobalt	ug/L	7.4	1000	1000	1010	1020	100	101	70-130	0	20		
Iron	ug/L	43.0J	10000	10000	10500	10300	105	103	70-130	2	20		
Lithium	ug/L	<76.7	1000	1000	931	922	91	90	70-130	1	20		
Magnesium	ug/L	71300	10000	10000	84000	82600	127	113	70-130	2	20		
Manganese	ug/L	509	1000	1000	1590	1550	108	104	70-130	3	20		
Molybdenum	ug/L	<2.2	1000	1000	1080	1080	108	108	70-130	0	20		
Potassium	ug/L	4790	10000	10000	15800	15300	110	105	70-130	3	20		
Sodium	ug/L	97500	10000	10000	115000	111000	170	130	70-130	4	20	M1	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA
Pace Project No.: 60385860

QC Batch: 759881 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860003, 60385860021, 60385860022, 60385860023, 60385860024, 60385860025

METHOD BLANK: 3040508 Matrix: Water
Associated Lab Samples: 60385860003, 60385860021, 60385860022, 60385860023, 60385860024, 60385860025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/07/21 19:00	
Beryllium	ug/L	<0.39	1.0	0.39	12/07/21 19:00	
Boron	ug/L	<8.6	100	8.6	12/07/21 19:00	
Calcium	ug/L	<75.4	200	75.4	12/07/21 19:00	
Cobalt	ug/L	<0.95	5.0	0.95	12/07/21 19:00	
Iron	ug/L	<21.4	50.0	21.4	12/07/21 19:00	
Lithium	ug/L	<7.7	10.0	7.7	12/07/21 19:00	
Magnesium	ug/L	<31.4	50.0	31.4	12/07/21 19:00	
Manganese	ug/L	<0.74	5.0	0.74	12/07/21 19:00	
Molybdenum	ug/L	<2.2	20.0	2.2	12/07/21 19:00	
Potassium	ug/L	<146	500	146	12/07/21 19:00	
Sodium	ug/L	<254	500	254	12/07/21 19:00	

LABORATORY CONTROL SAMPLE: 3040509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	933	93	85-115	
Beryllium	ug/L	1000	957	96	85-115	
Boron	ug/L	1000	927	93	85-115	
Calcium	ug/L	10000	9390	94	85-115	
Cobalt	ug/L	1000	929	93	85-115	
Iron	ug/L	10000	9420	94	85-115	
Lithium	ug/L	1000	884	88	85-115	
Magnesium	ug/L	10000	9460	95	85-115	
Manganese	ug/L	1000	940	94	85-115	
Molybdenum	ug/L	1000	958	96	85-115	
Potassium	ug/L	10000	9300	93	85-115	
Sodium	ug/L	10000	9460	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040510 3040511

Parameter	Units	3040510		3040511		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Barium	ug/L	56.5	1000	997	1020	94	96	70-130	2	20	
Beryllium	ug/L	<0.39	1000	965	988	96	99	70-130	2	20	
Boron	ug/L	12900	1000	14000	14500	113	157	70-130	3	20 M1	
Calcium	ug/L	253000	10000	268000	275000	144	216	70-130	3	20 M1	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040510												3040511	
Parameter	Units	60385860003 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Cobalt	ug/L	<0.95	1000	1000	929	938	93	94	70-130	1	20		
Iron	ug/L	59.1	10000	10000	9550	9870	95	98	70-130	3	20		
Lithium	ug/L	<76.7	1000	1000	880	906	84	87	70-130	3	20		
Magnesium	ug/L	47100	10000	10000	62700	64600	156	174	70-130	3	20	M1	
Manganese	ug/L	1410	1000	1000	2370	2440	96	103	70-130	3	20		
Molybdenum	ug/L	1580	1000	1000	2590	2620	101	104	70-130	1	20		
Potassium	ug/L	5450	10000	10000	14900	15600	94	101	70-130	4	20		
Sodium	ug/L	157000	10000	10000	168000	175000	116	180	70-130	4	20	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040512												3040513	
Parameter	Units	60385853004 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Barium	ug/L	69.4	1000	1000	898	1050	83	98	70-130	16	20		
Beryllium	ug/L	<0.39	1000	1000	858	1000	86	100	70-130	16	20		
Boron	ug/L	21300	1000	1000	22400	23000	111	170	70-130	3	20	M1	
Calcium	ug/L	199000	10000	10000	214000	215000	145	154	70-130	0	20	M1	
Cobalt	ug/L	<0.95	1000	1000	817	966	82	97	70-130	17	20		
Iron	ug/L	285	10000	10000	8590	10200	83	99	70-130	17	20		
Lithium	ug/L	<76.7	1000	1000	755	868	73	85	70-130	14	20		
Magnesium	ug/L	5200	10000	10000	13400	15000	82	98	70-130	11	20		
Manganese	ug/L	177	1000	1000	1010	1170	83	99	70-130	15	20		
Molybdenum	ug/L	1420	1000	1000	2300	2480	89	106	70-130	7	20		
Potassium	ug/L	25100	10000	10000	33500	35800	84	107	70-130	7	20		
Sodium	ug/L	58100	10000	10000	67000	69200	89	111	70-130	3	20		

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch:	758170	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: 60385860001, 60385860002, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010

METHOD BLANK:	3034261	Matrix:	Water
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Associated Lab Samples: 60385860001, 60385860002, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 14:11	
Cadmium	ug/L	<0.062	0.50	0.062	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	
Cadmium	ug/L	40	40.3	101	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		
Cadmium	ug/L	<0.062	40	40	36.7	36.3	92	91	70-130	1	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				
Cadmium	ug/L	<0.062	40	38.2	95	70-130					
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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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch:	759537	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:	60385860003, 60385860011, 60385860012, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024		

METHOD BLANK:	3038958	Matrix:	Water
Associated Lab Samples:	60385860003, 60385860011, 60385860012, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	12/07/21 15:54	
Cadmium	ug/L	<0.062	0.50	0.062	12/07/21 15:54	
Chromium	ug/L	<0.23	1.0	0.23	12/07/21 15:54	
Selenium	ug/L	<0.18	1.0	0.18	12/07/21 15:54	

LABORATORY CONTROL SAMPLE: 3038959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1000	1090	109	85-115	
Cadmium	ug/L	1000	1060	106	85-115	
Chromium	ug/L	1000	961	96	85-115	
Selenium	ug/L	1000	1060	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038960 3038961

Parameter	Units	60385860003 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result						
Arsenic	ug/L	0.76J	1000	1000	1050	1070	105	107	70-130	2	20	
Cadmium	ug/L	0.98	1000	1000	975	967	97	97	70-130	1	20	
Chromium	ug/L	0.30J	1000	1000	946	951	95	95	70-130	0	20	
Selenium	ug/L	0.37J	1000	1000	983	980	98	98	70-130	0	20	

MATRIX SPIKE SAMPLE: 3038962

Parameter	Units	60385860022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	<0.11	1000	1090	109	70-130	
Cadmium	ug/L	<0.062	1000	1030	103	70-130	
Chromium	ug/L	0.31J	1000	977	98	70-130	
Selenium	ug/L	<0.18	1000	1010	101	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch:	759891	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: 60385860004, 60385860025

METHOD BLANK: 3040552 Matrix: Water

Associated Lab Samples: 60385860004, 60385860025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	12/07/21 17:06	
Cadmium	ug/L	<0.062	0.50	0.062	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	
Cadmium	ug/L	40	39.6	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	Max		Qual
										RPD	RPD	
Arsenic	ug/L	0.67J	40	40	40.9	40.5	101	100	70-130	1	20	
Cadmium	ug/L	0.75	40	40	37.3	37.0	91	91	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	Max		Qual
										RPD	RPD	
Arsenic	ug/L	8.3	40	40	49.1	49.0	102	102	70-130	0	20	
Cadmium	ug/L	<0.062	40	40	37.0	36.8	92	92	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	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3041447												3041448	
Parameter	Units	60385853004		MS	MSD	MS	MSD	MS	MSD	% Rec	Max	RPD	Qual
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD		
Arsenic	ug/L	2.9	40	40	43.9	43.2	102	101	70-130	1	20		
Cadmium	ug/L	0.43J	40	40	37.5	37.0	93	91	70-130	1	20		
Chromium	ug/L	0.29J	40	40	39.3	38.8	98	96	70-130	1	20		
Selenium	ug/L	<0.18	40	40	37.7	37.7	94	94	70-130	0	20		

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch:	650630	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012		

METHOD BLANK:	2998639	Matrix:	Water
Associated Lab Samples:	60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/16/21 11:33	

LABORATORY CONTROL SAMPLE: 2998640						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.8	98	90-110	

SAMPLE DUPLICATE: 2998641						
Parameter	Units	60385860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	310	316	2	20	

SAMPLE DUPLICATE: 2998642						
Parameter	Units	60385860004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	342	357	4	20	

SAMPLE DUPLICATE: 2998643						
Parameter	Units	60385861001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	286	298	4	20	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 651335

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 60385860016, 60385860017, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

METHOD BLANK: 3001987

Matrix: Water

Associated Lab Samples: 60385860016, 60385860017, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/19/21 10:07	

LABORATORY CONTROL SAMPLE: 3001988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.6	99	90-110	

SAMPLE DUPLICATE: 3001989

Parameter	Units	50302819004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	296	303	2	20	

SAMPLE DUPLICATE: 3001990

Parameter	Units	50302828014 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	536	560	4	20	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 651462

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 60385860015, 60385860018, 60385860025

METHOD BLANK: 3002719

Matrix: Water

Associated Lab Samples: 60385860015, 60385860018, 60385860025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<2.0	2.0	2.0	11/19/21 13:19	

LABORATORY CONTROL SAMPLE: 3002720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	48.7	97	90-110	

SAMPLE DUPLICATE: 3002721

Parameter	Units	50302779001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	463	461	0	20	

SAMPLE DUPLICATE: 3002722

Parameter	Units	50302828001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	590	591	0	20	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 756220

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860001, 60385860002, 60385860005, 60385860006, 60385860007

METHOD BLANK: 3026260

Matrix: Water

Associated Lab Samples: 60385860001, 60385860002, 60385860005, 60385860006, 60385860007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/15/21 09:44	

LABORATORY CONTROL SAMPLE: 3026261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	981	98	80-120	

SAMPLE DUPLICATE: 3026262

Parameter	Units	60385853001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	489	484	1	10	

SAMPLE DUPLICATE: 3026263

Parameter	Units	60385573006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	371	349	6	10	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 756223

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860010, 60385860011

METHOD BLANK: 3026270

Matrix: Water

Associated Lab Samples: 60385860010, 60385860011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/15/21 09:48	

LABORATORY CONTROL SAMPLE: 3026271

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	984	98	80-120	

SAMPLE DUPLICATE: 3026272

Parameter	Units	60385860010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	476	474	0	10	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch:	756566	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860003, 60385860004, 60385860008, 60385860009, 60385860012

METHOD BLANK: 3027452 Matrix: Water
Associated Lab Samples: 60385860003, 60385860004, 60385860008, 60385860009, 60385860012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/16/21 09:52	

LABORATORY CONTROL SAMPLE: 3027453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	981	98	80-120	

SAMPLE DUPLICATE: 3027454

Parameter	Units	60385860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1620	1630	0	10	

SAMPLE DUPLICATE: 3027455

Parameter	Units	60385860004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1570	1600	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA
Pace Project No.: 60385860

QC Batch: 756844 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385860016, 60385860017, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

METHOD BLANK: 3028772 Matrix: Water
Associated Lab Samples: 60385860016, 60385860017, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/17/21 10:01	

LABORATORY CONTROL SAMPLE: 3028773

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	978	98	80-120	

SAMPLE DUPLICATE: 3028774

Parameter	Units	60385860016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	967	1010	4	10	

SAMPLE DUPLICATE: 3028775

Parameter	Units	60385870004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	841	871	4	10	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA
Pace Project No.: 60385860

QC Batch: 756845	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860015

METHOD BLANK: 3028779 Matrix: Water

Associated Lab Samples: 60385860015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/17/21 10:04	

LABORATORY CONTROL SAMPLE: 3028780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	978	98	80-120	

SAMPLE DUPLICATE: 3028781

Parameter	Units	60385632002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	408	414	1	10	

SAMPLE DUPLICATE: 3028782

Parameter	Units	60385803004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3520	3480	1	10	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA
Pace Project No.: 60385860

QC Batch: 757164	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860018

METHOD BLANK: 3029977 Matrix: Water

Associated Lab Samples: 60385860018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/18/21 09:51	

LABORATORY CONTROL SAMPLE: 3029978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	986	99	80-120	

SAMPLE DUPLICATE: 3029979

Parameter	Units	60385853004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	938	945	1	10	

SAMPLE DUPLICATE: 3029980

Parameter	Units	60386062004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	834	848	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

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: 60385860025

METHOD BLANK: 3030795

Matrix: Water

Associated Lab Samples: 60385860025

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 SPCA-CA

Pace Project No.: 60385860

QC Batch: 757095

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860025

METHOD BLANK: 3029711

Matrix: Water

Associated Lab Samples: 60385860025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/18/21 06:44	
Fluoride	mg/L	<0.086	0.20	0.086	11/18/21 06:44	
Sulfate	mg/L	<0.42	1.0	0.42	11/18/21 06:44	

METHOD BLANK: 3030649

Matrix: Water

Associated Lab Samples: 60385860025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/18/21 09:37	
Fluoride	mg/L	<0.086	0.20	0.086	11/18/21 09:37	
Sulfate	mg/L	<0.42	1.0	0.42	11/18/21 09:37	

METHOD BLANK: 3032082

Matrix: Water

Associated Lab Samples: 60385860025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/19/21 06:45	
Fluoride	mg/L	<0.086	0.20	0.086	11/19/21 06:45	
Sulfate	mg/L	<0.42	1.0	0.42	11/19/21 06:45	

METHOD BLANK: 3032286

Matrix: Water

Associated Lab Samples: 60385860025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.79J	1.0	0.39	11/20/21 13:49	
Fluoride	mg/L	<0.086	0.20	0.086	11/20/21 13:49	
Sulfate	mg/L	<0.42	1.0	0.42	11/20/21 13:49	

LABORATORY CONTROL SAMPLE: 3029712

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	100	90-110	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

LABORATORY CONTROL SAMPLE: 3029712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.4	108	90-110	

LABORATORY CONTROL SAMPLE: 3030650

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

LABORATORY CONTROL SAMPLE: 3032083

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	2.6	104	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

LABORATORY CONTROL SAMPLE: 3032287

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	107	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	5	5.4	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029713 3029714

Parameter	Units	60385386016		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	% Rec					
Chloride	mg/L	6.2	5	5	11.1	11.2	96	99	80-120	1	15		
Fluoride	mg/L	0.24	2.5	2.5	2.8	2.9	103	106	80-120	3	15		
Sulfate	mg/L	29.3	25	25	53.9	53.8	98	98	80-120	0	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029715 3029716

Parameter	Units	60385386023		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	% Rec					
Chloride	mg/L	18.9	10	10	29.5	30.0	105	110	80-120	2	15		
Fluoride	mg/L	0.36	5	5	5.5	5.8	103	108	80-120	4	15		
Sulfate	mg/L	246	100	100	354	344	107	98	80-120	3	15		

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch:	757720	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012		

METHOD BLANK:	3032270	Matrix:	Water
Associated Lab Samples:	60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/22/21 07:09	
Fluoride	mg/L	<0.086	0.20	0.086	11/22/21 07:09	
Sulfate	mg/L	<0.42	1.0	0.42	11/22/21 07:09	

METHOD BLANK:	3035149	Matrix:	Water
Associated Lab Samples:	60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.69J	1.0	0.39	11/23/21 16:29	
Fluoride	mg/L	<0.086	0.20	0.086	11/23/21 16:29	
Sulfate	mg/L	<0.42	1.0	0.42	11/23/21 16:29	

METHOD BLANK:	3035264	Matrix:	Water
Associated Lab Samples:	60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/24/21 08:56	
Fluoride	mg/L	<0.086	0.20	0.086	11/24/21 08:56	
Sulfate	mg/L	<0.42	1.0	0.42	11/24/21 08:56	

LABORATORY CONTROL SAMPLE:	3032271					
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	2.7	109	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE:	3035150					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

LABORATORY CONTROL SAMPLE: 3035150

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

LABORATORY CONTROL SAMPLE: 3035265

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	109	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032272 3032273

Parameter	Units	60385860003		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	% Rec					
Chloride	mg/L	21.8	25	25	45.8	46.3	96	98	80-120	1	15		
Fluoride	mg/L	0.55	2.5	2.5	3.0	3.0	97	99	80-120	1	15		
Sulfate	mg/L	835	500	500	1440	1410	121	116	80-120	2	15 M1		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032274 3032275

Parameter	Units	60385860004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	% Rec					
Chloride	mg/L	3.3	5	5	8.6	7.5	107	86	80-120	13	15		
Fluoride	mg/L	<0.086	2.5	2.5	2.9	2.9	116	115	80-120	1	15		
Sulfate	mg/L	809	500	500	1330	1350	104	108	80-120	2	15		

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 757722

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

METHOD BLANK: 3032281

Matrix: Water

Associated Lab Samples: 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/22/21 07:13	
Fluoride	mg/L	<0.086	0.20	0.086	11/22/21 07:13	
Sulfate	mg/L	<0.42	1.0	0.42	11/22/21 07:13	

METHOD BLANK: 3035156

Matrix: Water

Associated Lab Samples: 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.65J	1.0	0.39	11/23/21 22:43	
Fluoride	mg/L	<0.086	0.20	0.086	11/23/21 22:43	
Sulfate	mg/L	<0.42	1.0	0.42	11/23/21 22:43	

METHOD BLANK: 3036336

Matrix: Water

Associated Lab Samples: 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

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: 3036538

Matrix: Water

Associated Lab Samples: 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020, 60385860021, 60385860022, 60385860023, 60385860024

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	

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QUALITY CONTROL DATA

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

LABORATORY CONTROL SAMPLE: 3032282

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	2.4	97	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3035157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

LABORATORY CONTROL SAMPLE: 3036337

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: 3036539

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	

MATRIX SPIKE SAMPLE: 3032283

Parameter	Units	60385860024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	16.3	25	42.2	104	80-120	
Fluoride	mg/L	0.29	2.5	3.2	117	80-120	
Sulfate	mg/L	70.7	25	99.6	116	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3032284 3032285

Parameter	Units	60385853004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.1	25	25	45.9	46.1	99	100	80-120	0	15	
Fluoride	mg/L	0.68	2.5	2.5	3.2	3.2	99	101	80-120	1	15	
Sulfate	mg/L	480	250	250	748	744	107	106	80-120	1	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-BMW-1S Lab ID: 60385860001 Collected: 11/08/21 14:41 Received: 11/10/21 05:17 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.151 ± 0.436 (0.839) C:NA T:89%	pCi/L	12/14/21 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.639 ± 0.389 (0.703) C:80% T:81%	pCi/L	12/16/21 14:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-BMW-3S **Lab ID: 60385860002** Collected: 11/08/21 15:15 Received: 11/10/21 05:17 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 ± 0.459 (0.912) C:NA T:88%	pCi/L	12/14/21 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.580 ± 0.407 (0.781) C:80% T:77%	pCi/L	12/16/21 14:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-LMW-5S Lab ID: 60385860003 Collected: 11/09/21 10:47 Received: 11/10/21 05:17 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.1000 ± 0.291 (0.503) C:NA T:95%	pCi/L	12/14/21 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.569 ± 0.355 (0.653) C:79% T:86%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-6S **Lab ID: 60385860004** Collected: 11/09/21 12:27 Received: 11/10/21 05:17 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 ± 0.424 (0.884) C:NA T:92%	pCi/L	12/14/21 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.531 ± 0.372 (0.714) C:78% T:92%	pCi/L	12/16/21 14:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-AM-1S **Lab ID: 60385860005** Collected: 11/08/21 11:15 Received: 11/10/21 05:17 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	0.161 ± 0.605 (1.01) C:NA T:88%	pCi/L	12/14/21 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.320 ± 0.408 (0.866) C:75% T:80%	pCi/L	12/16/21 14:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-AM-1D Lab ID: 60385860006 Collected: 11/08/21 12:20 Received: 11/10/21 05:17 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.285 ± 0.469 (0.977) C:NA T:81%	pCi/L	12/14/21 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.312 ± 0.384 (0.813) C:79% T:80%	pCi/L	12/16/21 14:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	1.50 ± 0.828 (0.998) C:NA T:85%	pCi/L	12/14/21 16:34	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.682 ± 0.409 (0.753) C:78% T:83%	pCi/L	12/16/21 14:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-5D **Lab ID: 60385860008** Collected: 11/09/21 13:25 Received: 11/10/21 05:17 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 ± 0.615 (1.08) C:NA T:89%	pCi/L	12/14/21 16:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.358 ± 0.317 (0.638) C:80% T:91%	pCi/L	12/16/21 14:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-UG-3 **Lab ID: 60385860009** Collected: 11/09/21 10:20 Received: 11/10/21 05:17 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	0.0299 ± 0.606 (1.06) C:NA T:79%	pCi/L	12/14/21 16:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.189 ± 0.376 (0.828) C:77% T:81%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-CA-DUP-1 Lab ID: 60385860010 Collected: 11/08/21 00:00 Received: 11/10/21 05:17 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.220 ± 0.674 (1.12) C:NA T:84%	pCi/L	12/14/21 16:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.64 ± 0.642 (1.03) C:70% T:85%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-CA-FB-1 Lab ID: 60385860011 Collected: 11/08/21 12:50 Received: 11/10/21 05:17 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.208 ± 0.637 (1.06) C:NA T:92%	pCi/L	12/14/21 16:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.450 ± 0.395 (0.801) C:74% T:89%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-CA-FB-2 **Lab ID: 60385860012** Collected: 11/09/21 14:00 Received: 11/10/21 05:17 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	-0.0777 ± 0.576 (1.03) C:NA T:97%	pCi/L	12/14/21 16:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.00794 ± 0.380 (0.878) C:73% T:92%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-MS-1 **Lab ID: 60385860013** Collected: 11/09/21 10:47 Received: 11/10/21 05:17 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	101.01 %REC ± NA (NA) C:NA T:NA%	pCi/L	12/14/21 16:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	73.02 %REC ± NA (NA) C:NA T:NA	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-MSD-1 **Lab ID: 60385860014** Collected: 11/09/21 10:47 Received: 11/10/21 05:17 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	98.15 %REC 2.88 RPD ± NA (NA) C:NA T:NA%	pCi/L	12/14/21 16:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	96.95 %REC 28.16 RPD ± NA (NA) C:NA T:NA	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-LMW-1S Lab ID: 60385860015 Collected: 11/11/21 10:07 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0982 ± 0.436 (0.818) C:NA T:92%	pCi/L	12/14/21 16:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.891 ± 0.461 (0.803) C:74% T:80%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-2S **Lab ID: 60385860016** Collected: 11/10/21 15:46 Received: 11/12/21 04:32 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 ± 0.460 (0.660) C:NA T:88%	pCi/L	12/14/21 17:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.342 ± 0.411 (0.868) C:74% T:85%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-LMW-4S **Lab ID: 60385860017** Collected: 11/10/21 15:11 Received: 11/12/21 04:32 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 ± 0.613 (1.07) C:NA T:86%	pCi/L	12/14/21 17:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.650 ± 0.406 (0.753) C:72% T:84%	pCi/L	12/16/21 14:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-PZ-1S **Lab ID: 60385860018** Collected: 11/11/21 14:50 Received: 11/12/21 04:32 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	-0.296 ± 0.487 (0.988) C:NA T:87%	pCi/L	12/14/21 17:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.420 ± 0.466 (0.976) C:75% T:77%	pCi/L	12/16/21 14:33	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.287 ± 0.506 (0.807) C:NA T:93%	pCi/L	12/14/21 17:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.653 ± 0.401 (0.742) C:70% T:90%	pCi/L	12/16/21 14:33	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-3D **Lab ID: 60385860020** Collected: 11/10/21 12:32 Received: 11/12/21 04:32 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	0.855 ± 0.539 (0.613) C:NA T:88%	pCi/L	12/14/21 17:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.17 ± 0.548 (0.936) C:73% T:80%	pCi/L	12/16/21 14:33	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-6S **Lab ID: 60385860021** Collected: 11/10/21 10:03 Received: 11/12/21 04:32 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	0.0732 ± 0.380 (0.788) C:NA T:92%	pCi/L	12/15/21 12:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.889 ± 0.393 (0.633) C:69% T:95%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-6D **Lab ID: 60385860022** Collected: 11/10/21 11:00 Received: 11/12/21 04:32 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	0.531 ± 0.455 (0.617) C:NA T:96%	pCi/L	12/15/21 12:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.71 ± 0.728 (1.29) C:72% T:86%	pCi/L	12/16/21 11:12	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-8D **Lab ID: 60385860023** Collected: 11/10/21 13:50 Received: 11/12/21 04:32 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.203 ± 0.480 (0.888) C:NA T:94%	pCi/L	12/15/21 12:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.763 ± 0.484 (0.937) C:69% T:91%	pCi/L	12/16/21 11:12	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: S-CA-DUP-2 Lab ID: 60385860024 Collected: 11/10/21 00:00 Received: 11/12/21 04:32 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.736 ± 0.739 (1.15) C:NA T:85%	pCi/L	12/15/21 12:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.41 ± 0.564 (0.940) C:68% T:96%	pCi/L	12/16/21 11:12	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Sample: S-TP-2D **Lab ID: 60385860025** Collected: 11/12/21 11:31 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	0.215 ± 0.421 (0.770) C:NA T:94%	pCi/L	12/15/21 12:25	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.65 ± 0.860 (1.63) C:75% T:93%	pCi/L	12/16/21 14:21	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 475137

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: 60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012, 60385860013, 60385860014, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020

METHOD BLANK: 2295290

Matrix: Water

Associated Lab Samples: 60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012, 60385860013, 60385860014, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.229 ± 0.298 (0.643) C:NA T:88%	pCi/L	12/14/21 16:34	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 475138

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: 60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012, 60385860013, 60385860014, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020

METHOD BLANK: 2295291

Matrix: Water

Associated Lab Samples: 60385860001, 60385860002, 60385860003, 60385860004, 60385860005, 60385860006, 60385860007, 60385860008, 60385860009, 60385860010, 60385860011, 60385860012, 60385860013, 60385860014, 60385860015, 60385860016, 60385860017, 60385860018, 60385860019, 60385860020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.210 ± 0.300 (0.644) C:77% T:92%	pCi/L	12/16/21 14:30	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

QC Batch: 475140

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: 60385860021, 60385860022, 60385860023, 60385860024, 60385860025

METHOD BLANK: 2295295

Matrix: Water

Associated Lab Samples: 60385860021, 60385860022, 60385860023, 60385860024, 60385860025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.186 ± 0.283 (0.743) C:NA T:87%	pCi/L	12/15/21 12:25	

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

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QUALIFIERS

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

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.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385860001	S-BMW-1S	EPA 200.7	759536	EPA 200.7	759739
60385860002	S-BMW-3S	EPA 200.7	759536	EPA 200.7	759739
60385860003	S-LMW-5S	EPA 200.7	759881	EPA 200.7	760025
60385860004	S-LMW-6S	EPA 200.7	759536	EPA 200.7	759739
60385860005	S-AM-1S	EPA 200.7	759536	EPA 200.7	759739
60385860006	S-AM-1D	EPA 200.7	759536	EPA 200.7	759739
60385860007	S-TP-4D	EPA 200.7	759536	EPA 200.7	759739
60385860008	S-TP-5D	EPA 200.7	759536	EPA 200.7	759739
60385860009	S-UG-3	EPA 200.7	759536	EPA 200.7	759739
60385860010	S-CA-DUP-1	EPA 200.7	759536	EPA 200.7	759739
60385860011	S-CA-FB-1	EPA 200.7	759536	EPA 200.7	759739
60385860012	S-CA-FB-2	EPA 200.7	759536	EPA 200.7	759739
60385860015	S-LMW-1S	EPA 200.7	759536	EPA 200.7	759739
60385860016	S-LMW-2S	EPA 200.7	759536	EPA 200.7	759739
60385860017	S-LMW-4S	EPA 200.7	759536	EPA 200.7	759739
60385860018	S-PZ-1S	EPA 200.7	759536	EPA 200.7	759739
60385860019	S-PZ-9D	EPA 200.7	759536	EPA 200.7	759739
60385860020	S-TP-3D	EPA 200.7	759536	EPA 200.7	759739
60385860021	S-TP-6S	EPA 200.7	759881	EPA 200.7	760025
60385860022	S-TP-6D	EPA 200.7	759881	EPA 200.7	760025
60385860023	S-TP-8D	EPA 200.7	759881	EPA 200.7	760025
60385860024	S-CA-DUP-2	EPA 200.7	759881	EPA 200.7	760025
60385860025	S-TP-2D	EPA 200.7	759881	EPA 200.7	760025
60385860001	S-BMW-1S	EPA 200.8	758170	EPA 200.8	758548
60385860002	S-BMW-3S	EPA 200.8	758170	EPA 200.8	758548
60385860003	S-LMW-5S	EPA 200.8	759537	EPA 200.8	759736
60385860004	S-LMW-6S	EPA 200.8	759891	EPA 200.8	760108
60385860005	S-AM-1S	EPA 200.8	758170	EPA 200.8	758548
60385860006	S-AM-1D	EPA 200.8	758170	EPA 200.8	758548
60385860007	S-TP-4D	EPA 200.8	758170	EPA 200.8	758548
60385860008	S-TP-5D	EPA 200.8	758170	EPA 200.8	758548
60385860009	S-UG-3	EPA 200.8	758170	EPA 200.8	758548
60385860010	S-CA-DUP-1	EPA 200.8	758170	EPA 200.8	758548
60385860011	S-CA-FB-1	EPA 200.8	759537	EPA 200.8	759736
60385860012	S-CA-FB-2	EPA 200.8	759537	EPA 200.8	759736
60385860015	S-LMW-1S	EPA 200.8	759537	EPA 200.8	759736
60385860016	S-LMW-2S	EPA 200.8	759537	EPA 200.8	759736
60385860017	S-LMW-4S	EPA 200.8	759537	EPA 200.8	759736
60385860018	S-PZ-1S	EPA 200.8	759537	EPA 200.8	759736
60385860019	S-PZ-9D	EPA 200.8	759537	EPA 200.8	759736
60385860020	S-TP-3D	EPA 200.8	759537	EPA 200.8	759736
60385860021	S-TP-6S	EPA 200.8	759537	EPA 200.8	759736
60385860022	S-TP-6D	EPA 200.8	759537	EPA 200.8	759736
60385860023	S-TP-8D	EPA 200.8	759537	EPA 200.8	759736
60385860024	S-CA-DUP-2	EPA 200.8	759537	EPA 200.8	759736

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SPCA-CA
Pace Project No.: 60385860

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385860025	S-TP-2D	EPA 200.8	759891	EPA 200.8	760108
60385860001	S-BMW-1S	EPA 903.1	475137		
60385860002	S-BMW-3S	EPA 903.1	475137		
60385860003	S-LMW-5S	EPA 903.1	475137		
60385860004	S-LMW-6S	EPA 903.1	475137		
60385860005	S-AM-1S	EPA 903.1	475137		
60385860006	S-AM-1D	EPA 903.1	475137		
60385860007	S-TP-4D	EPA 903.1	475137		
60385860008	S-TP-5D	EPA 903.1	475137		
60385860009	S-UG-3	EPA 903.1	475137		
60385860010	S-CA-DUP-1	EPA 903.1	475137		
60385860011	S-CA-FB-1	EPA 903.1	475137		
60385860012	S-CA-FB-2	EPA 903.1	475137		
60385860013	S-MS-1	EPA 903.1	475137		
60385860014	S-MSD-1	EPA 903.1	475137		
60385860015	S-LMW-1S	EPA 903.1	475137		
60385860016	S-LMW-2S	EPA 903.1	475137		
60385860017	S-LMW-4S	EPA 903.1	475137		
60385860018	S-PZ-1S	EPA 903.1	475137		
60385860019	S-PZ-9D	EPA 903.1	475137		
60385860020	S-TP-3D	EPA 903.1	475137		
60385860021	S-TP-6S	EPA 903.1	475140		
60385860022	S-TP-6D	EPA 903.1	475140		
60385860023	S-TP-8D	EPA 903.1	475140		
60385860024	S-CA-DUP-2	EPA 903.1	475140		
60385860025	S-TP-2D	EPA 903.1	475140		
60385860001	S-BMW-1S	EPA 904.0	475138		
60385860002	S-BMW-3S	EPA 904.0	475138		
60385860003	S-LMW-5S	EPA 904.0	475138		
60385860004	S-LMW-6S	EPA 904.0	475138		
60385860005	S-AM-1S	EPA 904.0	475138		
60385860006	S-AM-1D	EPA 904.0	475138		
60385860007	S-TP-4D	EPA 904.0	475138		
60385860008	S-TP-5D	EPA 904.0	475138		
60385860009	S-UG-3	EPA 904.0	475138		
60385860010	S-CA-DUP-1	EPA 904.0	475138		
60385860011	S-CA-FB-1	EPA 904.0	475138		
60385860012	S-CA-FB-2	EPA 904.0	475138		
60385860013	S-MS-1	EPA 904.0	475138		
60385860014	S-MSD-1	EPA 904.0	475138		
60385860015	S-LMW-1S	EPA 904.0	475138		
60385860016	S-LMW-2S	EPA 904.0	475138		
60385860017	S-LMW-4S	EPA 904.0	475138		
60385860018	S-PZ-1S	EPA 904.0	475138		
60385860019	S-PZ-9D	EPA 904.0	475138		
60385860020	S-TP-3D	EPA 904.0	475138		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385860021	S-TP-6S	EPA 904.0	475141		
60385860022	S-TP-6D	EPA 904.0	475141		
60385860023	S-TP-8D	EPA 904.0	475141		
60385860024	S-CA-DUP-2	EPA 904.0	475141		
60385860025	S-TP-2D	EPA 904.0	475141		
60385860001	S-BMW-1S	SM 2320B	650630		
60385860002	S-BMW-3S	SM 2320B	650630		
60385860003	S-LMW-5S	SM 2320B	650630		
60385860004	S-LMW-6S	SM 2320B	650630		
60385860005	S-AM-1S	SM 2320B	650630		
60385860006	S-AM-1D	SM 2320B	650630		
60385860007	S-TP-4D	SM 2320B	650630		
60385860008	S-TP-5D	SM 2320B	650630		
60385860009	S-UG-3	SM 2320B	650630		
60385860010	S-CA-DUP-1	SM 2320B	650630		
60385860011	S-CA-FB-1	SM 2320B	650630		
60385860012	S-CA-FB-2	SM 2320B	650630		
60385860015	S-LMW-1S	SM 2320B	651462		
60385860016	S-LMW-2S	SM 2320B	651335		
60385860017	S-LMW-4S	SM 2320B	651335		
60385860018	S-PZ-1S	SM 2320B	651462		
60385860019	S-PZ-9D	SM 2320B	651335		
60385860020	S-TP-3D	SM 2320B	651335		
60385860021	S-TP-6S	SM 2320B	651335		
60385860022	S-TP-6D	SM 2320B	651335		
60385860023	S-TP-8D	SM 2320B	651335		
60385860024	S-CA-DUP-2	SM 2320B	651335		
60385860025	S-TP-2D	SM 2320B	651462		
60385860001	S-BMW-1S	SM 2540C	756220		
60385860002	S-BMW-3S	SM 2540C	756220		
60385860003	S-LMW-5S	SM 2540C	756566		
60385860004	S-LMW-6S	SM 2540C	756566		
60385860005	S-AM-1S	SM 2540C	756220		
60385860006	S-AM-1D	SM 2540C	756220		
60385860007	S-TP-4D	SM 2540C	756220		
60385860008	S-TP-5D	SM 2540C	756566		
60385860009	S-UG-3	SM 2540C	756566		
60385860010	S-CA-DUP-1	SM 2540C	756223		
60385860011	S-CA-FB-1	SM 2540C	756223		
60385860012	S-CA-FB-2	SM 2540C	756566		
60385860015	S-LMW-1S	SM 2540C	756845		
60385860016	S-LMW-2S	SM 2540C	756844		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SPCA-CA

Pace Project No.: 60385860

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385860017	S-LMW-4S	SM 2540C	756844		
60385860018	S-PZ-1S	SM 2540C	757164		
60385860019	S-PZ-9D	SM 2540C	756844		
60385860020	S-TP-3D	SM 2540C	756844		
60385860021	S-TP-6S	SM 2540C	756844		
60385860022	S-TP-6D	SM 2540C	756844		
60385860023	S-TP-8D	SM 2540C	756844		
60385860024	S-CA-DUP-2	SM 2540C	756844		
60385860025	S-TP-2D	SM 2540C	757386		
60385860001	S-BMW-1S	EPA 300.0	757720		
60385860002	S-BMW-3S	EPA 300.0	757720		
60385860003	S-LMW-5S	EPA 300.0	757720		
60385860004	S-LMW-6S	EPA 300.0	757720		
60385860005	S-AM-1S	EPA 300.0	757720		
60385860006	S-AM-1D	EPA 300.0	757720		
60385860007	S-TP-4D	EPA 300.0	757720		
60385860008	S-TP-5D	EPA 300.0	757720		
60385860009	S-UG-3	EPA 300.0	757720		
60385860010	S-CA-DUP-1	EPA 300.0	757720		
60385860011	S-CA-FB-1	EPA 300.0	757720		
60385860012	S-CA-FB-2	EPA 300.0	757720		
60385860015	S-LMW-1S	EPA 300.0	757722		
60385860016	S-LMW-2S	EPA 300.0	757722		
60385860017	S-LMW-4S	EPA 300.0	757722		
60385860018	S-PZ-1S	EPA 300.0	757722		
60385860019	S-PZ-9D	EPA 300.0	757722		
60385860020	S-TP-3D	EPA 300.0	757722		
60385860021	S-TP-6S	EPA 300.0	757722		
60385860022	S-TP-6D	EPA 300.0	757722		
60385860023	S-TP-8D	EPA 300.0	757722		
60385860024	S-CA-DUP-2	EPA 300.0	757722		
60385860025	S-TP-2D	EPA 300.0	757095		

REPORT OF LABORATORY ANALYSIS

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

REVIEWED

Project Manager Rev: By Jchurch at 12:33 pm, 11/12/21

Date: _____

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Face containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Samples contain multiple phases?	Matrix: <u>LT</u> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Cyanide water sample checks:	Lead acetate strip turns dark? (Record only) <input type="checkbox"/> Yes <input type="checkbox"/> No Potassium iodide test strip turns blue/purple? (Preserve) <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Client Notification/Resolution: _____
 Person Contacted: _____
 Date/Time: _____
 Copy COC to Client? Y N
 Field Data Required? Y N

Temperature should be above freezing to 6°C

Cooler Temperature (°C): As-read _____
 Corr. Factor 0.2 Corrected 1.4, 1.3, 1.6

Thermometer Used: 120A
 Type of Ice: Wet

Packing Material: Bubble Wrap Bubble Bags Foam None Other 2PL

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

Tracking #: _____
 Face Shipping Label Used? Yes No

Courier: Fedex UPS VIA Clay PEX ECI Pace Xroads Client Other

Client Name: Golden Assoc.

Date and initials of person examining contents: 11/12

MO#: 60385860

60385860

Sample Condition Upon Receipt





Sample Condition Upon Receipt

WO#: 60385860



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 EW

Thermometer Used: T299 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.4, 13.3, 12.3 Corr. Factor -0.2 Corrected 1.4, 1.8, 12.1

Date and initials of person examining contents: ELM/15

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>TDS 11/17</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>all coolers out of</u>
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>temp had only Raw. in</u>
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>Wx</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (I INO ₃ , II ₂ SO ₄ , I ICI<2; NaOI >9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		<u>SCA-Dup 2 BP3N</u>
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>initial 20 final 1.0 added 1mL HNO3</u>
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>11/13/21 10:00a 603019</u>
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: By jchurch at 1:36 pm, 11/13/21 Date: _____





Sample Condition Upon Receipt

WO#: 60385860



Client Name: Colder 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 Ziploc

Thermometer Used: T2019 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 2.3 Corr. Factor -0.2 Corrected 2.1

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

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>TDS 11/18</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>Wx</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: By jchurch at 2:53 pm, 11/15/21 Date: _____

REVIEWED



GOLDER
MEMBER OF WSP

MEMORANDUM

DATE January 6, 2022

Project No. 153140603

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth

EMAIL AMuehlfarth@golder.com

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPA-CA – CORRECTIVE ACTION SAMPLING NOVEMBER 2021 - DATA PACKAGE 60385860

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

- When a compound was detected in a sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).
- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- 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
 Project Name: Ameren- Sioux - SCPA - CA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: 153140603
 Validation Date: 1/6/2022

Laboratory: Pace Analytical Services - Kansas City

SDG #: 60385860

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 S-BMW-1S, S-BMW-3S, S-LMW-5S, S-LMW-6S, S-AM-1S, S-AM-1D, S-TP-4D, S-TP-5D, S-UG-3, S-CA-DUP-1, S-CA-FB-1, S-CA-FB-2, S-MS-1, S-MSD-1, S-LMW-1S, S-LMW-2S, S-LMW-4S, S-PZ-1S, S-PZ-9D, S-TP-3D, S-TP-6S, S-TP-6D, S-TP-8D, S-CA-DUP-2, S-TP-2D

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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>11/8/2021 - 11/12/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SSS/ETF/BTT</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
b) Was the COC signed by both field and laboratory personnel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
c) Were samples received in good condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
b) Were analytes detected in the field blank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were analytes detected in the equipment blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d) Were analytes detected in the trip blank(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Were the proper analytes included in the LCS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Was the LCS accuracy criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD: 6% [<10%]

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b) Was the %D within control limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Comments/Notes:

Sample Condition Upon Receipt forms indicate that the coolers received outside of temperature range only contained radium samples.

Sample Condition Upon Receipt forms indicate that the metals bottle for S-CA-DUP-2 was received with a pH >2, which was corrected by the lab upon arrival. No qualification necessary.

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

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
S-BMW-1S	Molybdenum	20.0	U	Detected in MB, RL > result > MDL
S-BMW-3S	"	20.0	U	"
S-UG-3	"	20.0	U	"
S-LMW-4S	"	20.0	U	"
S-PZ-9D	"	20.0	U	"
S-TP-3D	"	20.0	U	"
S-CA-FB-2	Chloride	1.0	U	"
S-LMW-6S	"	3.3	J	Detected in MB, 10x blank > result > RL
S-LMW-4S	"	2.5	J	"
S-AM-1S	Chromium	1.0	U	Detected in MB, RL > result > MDL
S-TP-5D	"	1.0	U	"
S-TP-4D	Cobalt	1.4	J	Detected in sample, ND in duplicate
"	Radium-226	1.50 ± 0.828	J	"
"	Radium-228	0.682 ± 0.409	UJ	ND in sample, detected in duplicate
S-CA-DUP-1	Cobalt	0.95	UJ	Detected in sample, ND in duplicate
"	Radium-226	0.220 ± 0.674	UJ	"
"	Radium-228	1.64 ± 0.642	J	ND in sample, detected in duplicate
S-TP-6D	Arsenic	0.11	UJ	ND in sample, detected in duplicate
"	Selenium	0.18	UJ	"
S-CA-DUP-2	Arsenic	0.14	J	"
"	Selenium	0.21	J	"
S-LMW-6S	Boron	22500	J+	MS/MSD % recovery high
S-LMW-5S	Calcium	253000	J+	"
"	Magnesium	47100	J+	"

Signature: _____ *Ann Mulholland* _____

Date: 1/6/2022

APPENDIX C

**November 2020 Assessment
Monitoring Statistical Evaluation**

TECHNICAL MEMORANDUM

DATE March 17, 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 FOR THE SCPA SURFACE IMPOUNDMENT, SIOUX ENERGY CENTER, ST. CHARLES COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the November 2020 sampling event at the SCPA Surface Impoundment of the Sioux Energy Center located in St. Charles 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). No outliers were removed prior to the calculation of confidence limits. In fact, some previously identified outliers were added back to the data set, as described below.

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:

- Fluoride
 - UMW-3D at 0.81 micrograms per liter (µg/L) on 3/16/16 was originally removed as an outlier for the November 2019 event statistical analysis because the value was statistically lower than the other results at the same well. Additional sampling results have displayed a larger temporal variability in this well and it is no longer a statistical outlier.
 - UMW-4D at 0.42 and 0.49 µg/L on 4/6/2018 and 11/13/18 were originally removed as outliers for the November 2019 event statistical analysis because the values were statistically lower than the other results at the same well. Additional sampling results have displayed a larger temporal variability in this well and they are no longer statistical outliers.

No new SSLs were identified in the November 2020 sampling event. The SSLs reported for the November 2020 monitoring event are as follows:

- Molybdenum at UMW-2D, UMW-3D, UMW-4D and UMW-5D

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 – SCPA Groundwater Protection Standards

Appendix A – Sanitas Confidence Interval Statistical Output

Appendix B – Sanitas Trending Confidence Bands Statistical Output

**Table 1 - SCPA Groundwater Protection Standards
SCPA Surface Impoundment
Sioux Energy Center**

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring ⁷
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	10	1.054
Barium	µg/L	2000	2000	699
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	DQR
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.372
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	40	28.48
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	2.537
Selenium	µg/L	50	50	DQR
Thallium	µg/L	2	2	DQR

Notes:

1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter

4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Spring 2012.

<http://water.epa.gov/drink/contaminants/index.cfm>.

5. Health Based Groundwater Protection Standards (GWPS) were adopted for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at <https://www.epa.gov/coalash/coal-ash-rule>.

6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.

7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.

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-1D and BMW-3D.

Prepared by: JSI

Checked by: LMS

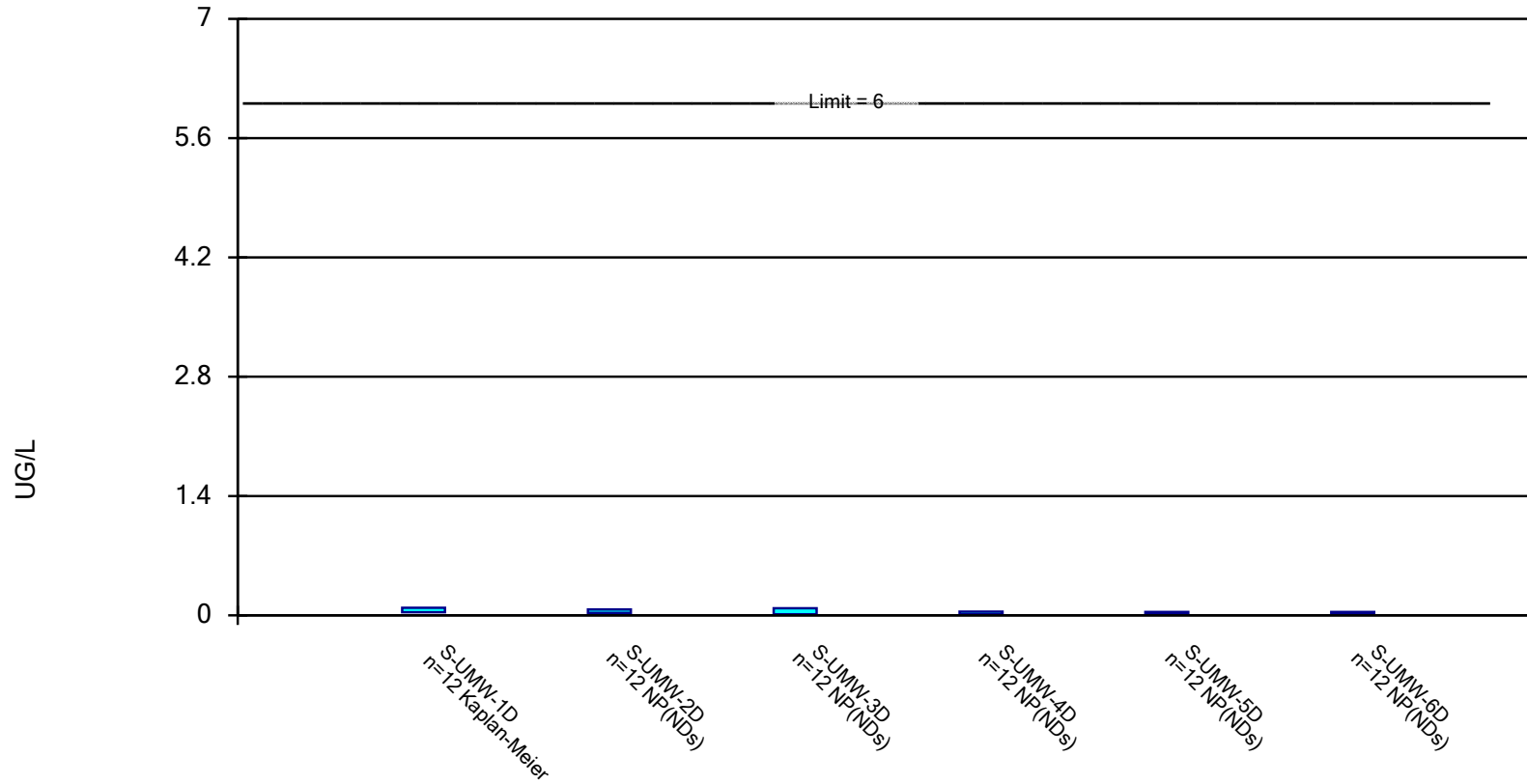
Reviewed by: SCP

APPENDIX A

**Sanitas Confidence Interval
Statistical Output**

Parametric and Non-Parametric (NP) Confidence Interval

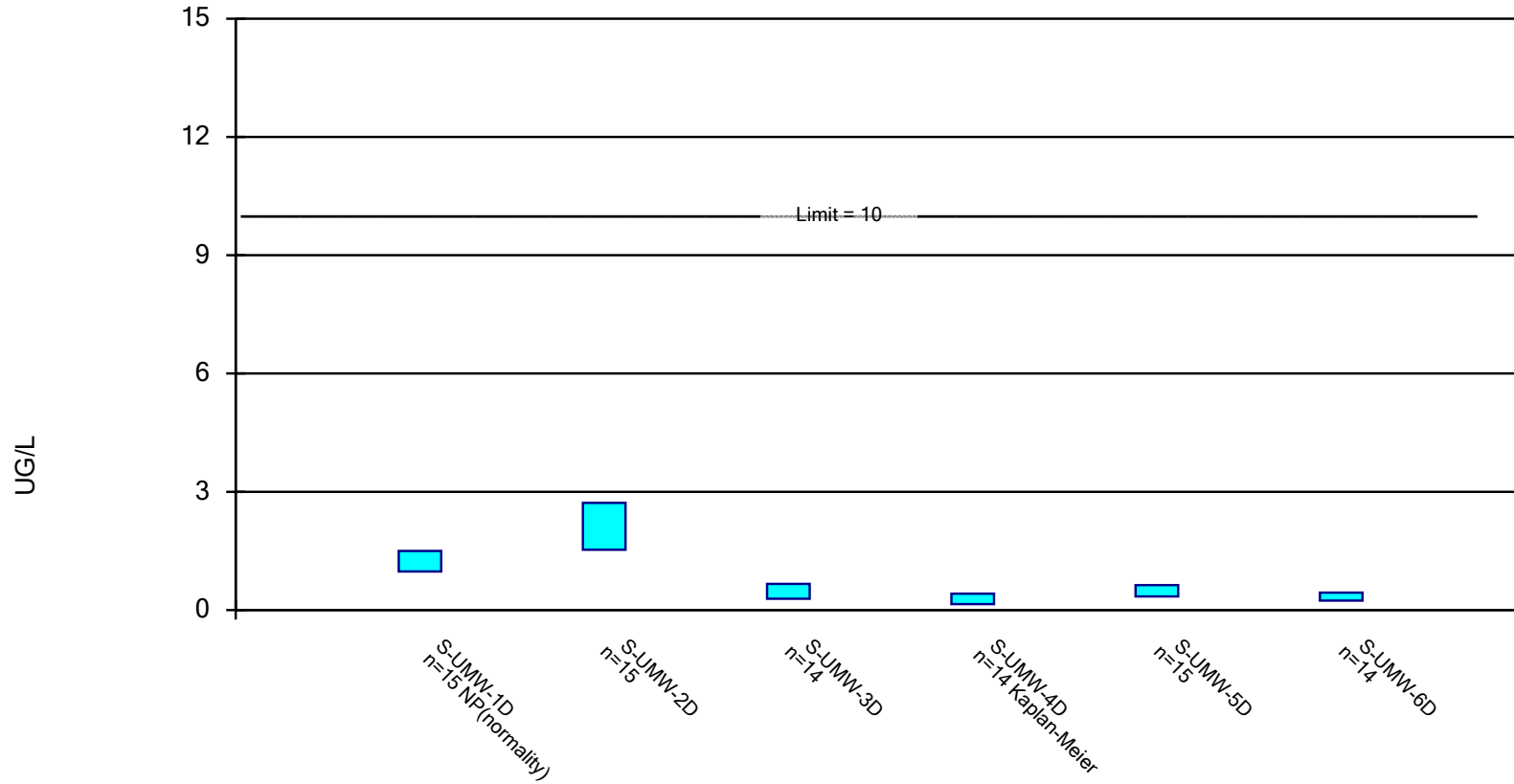
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ANTIMONY, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

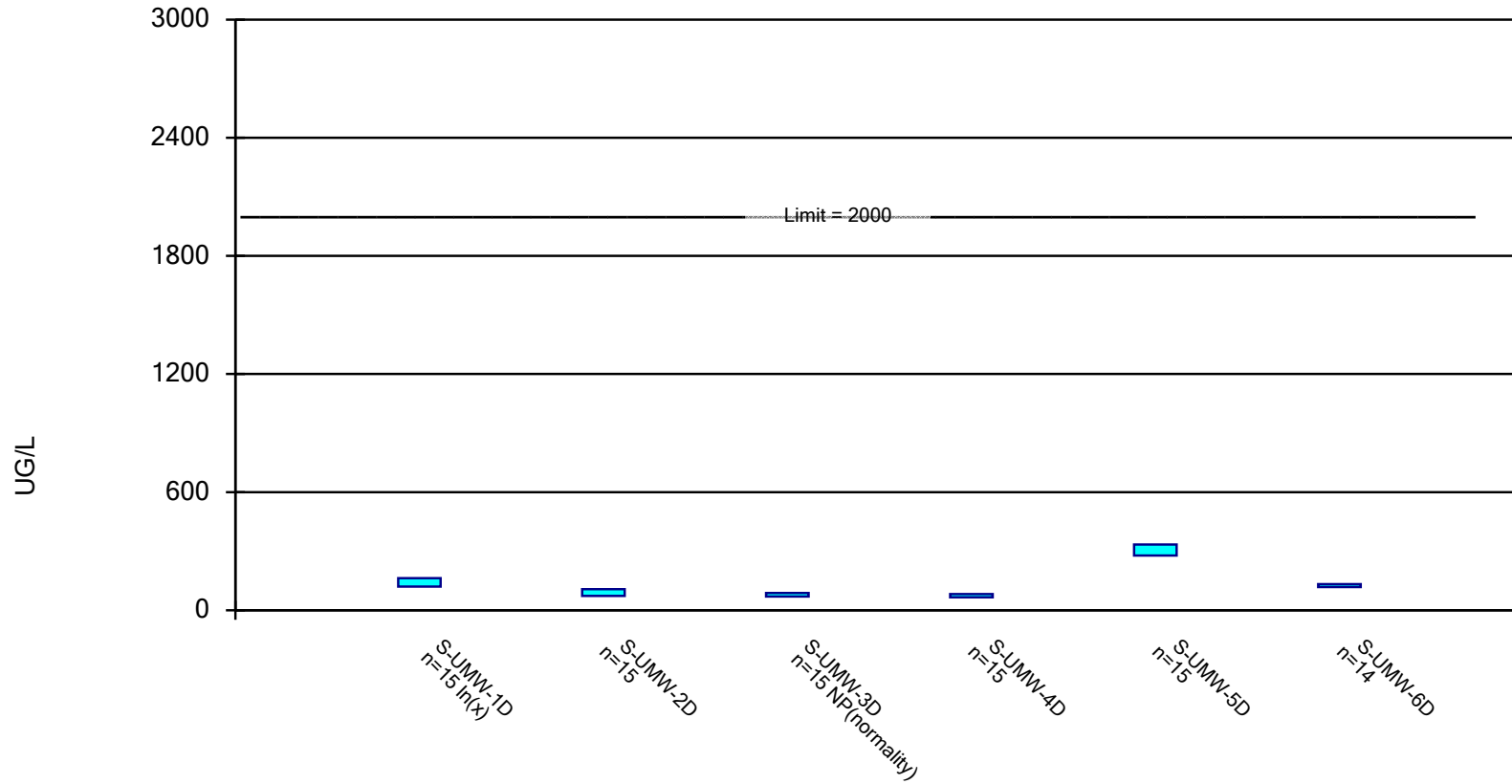
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ARSENIC, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

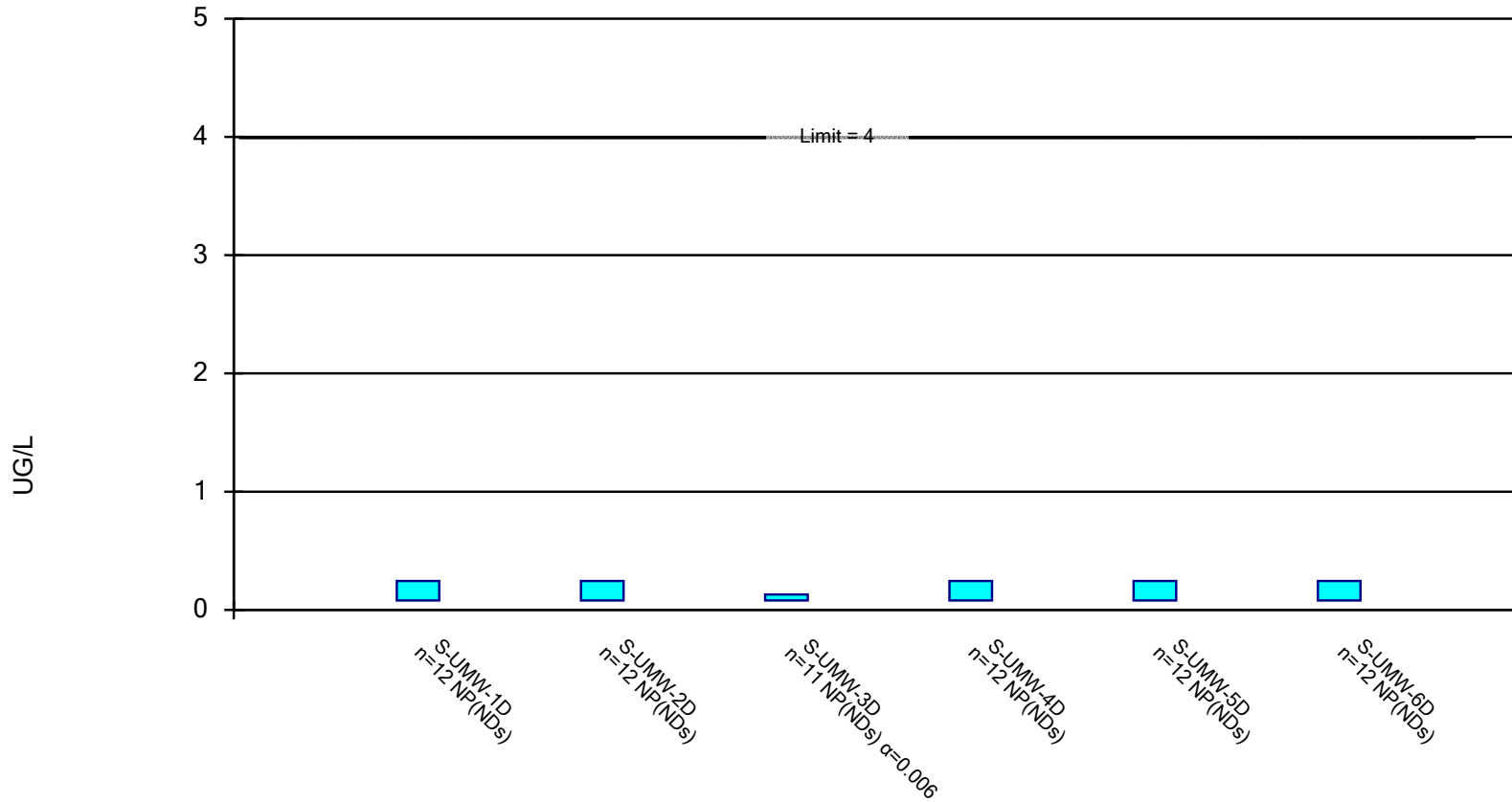
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: BARIUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

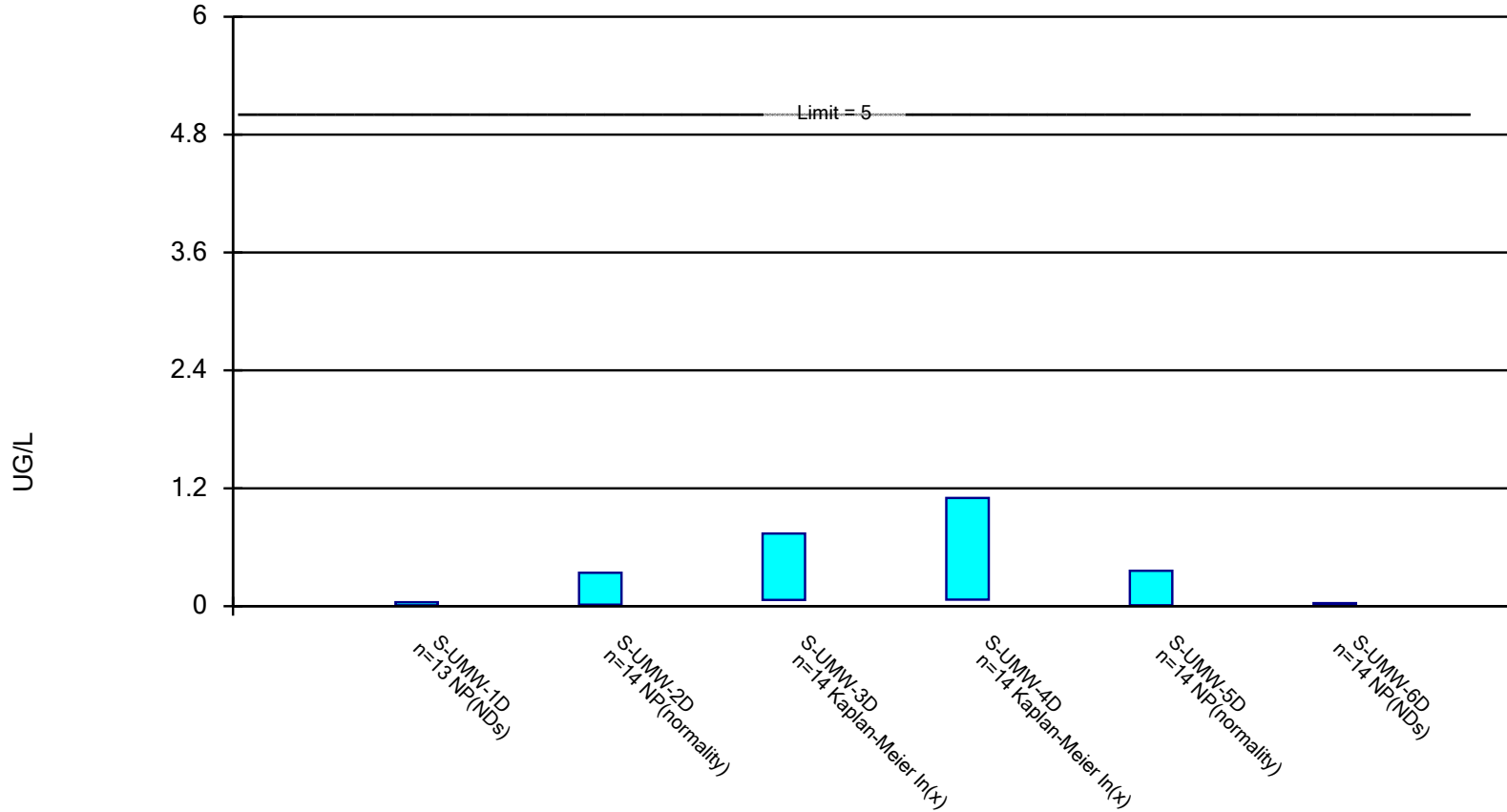
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: BERYLLIUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

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

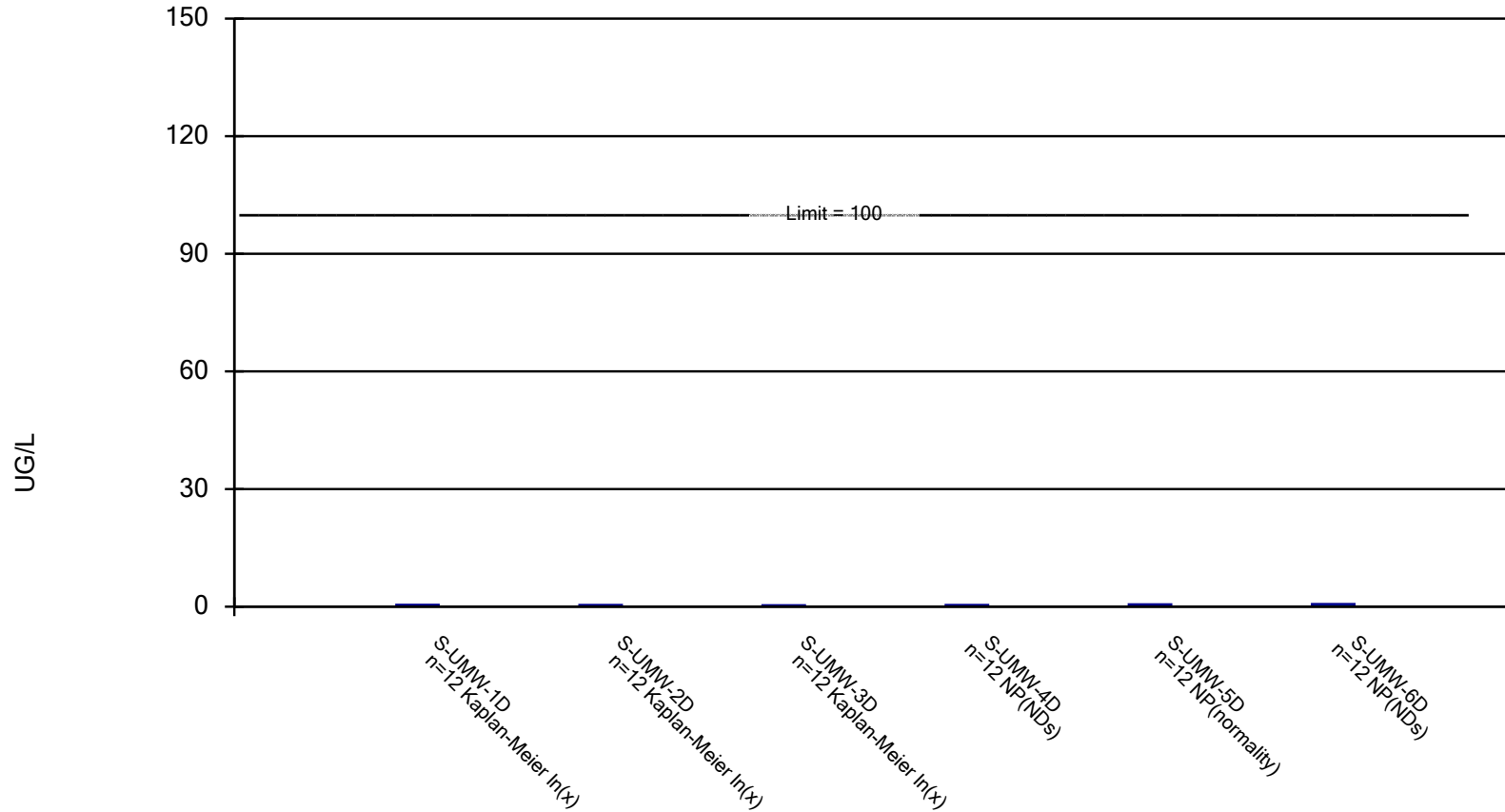


Constituent: CADMIUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC 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.

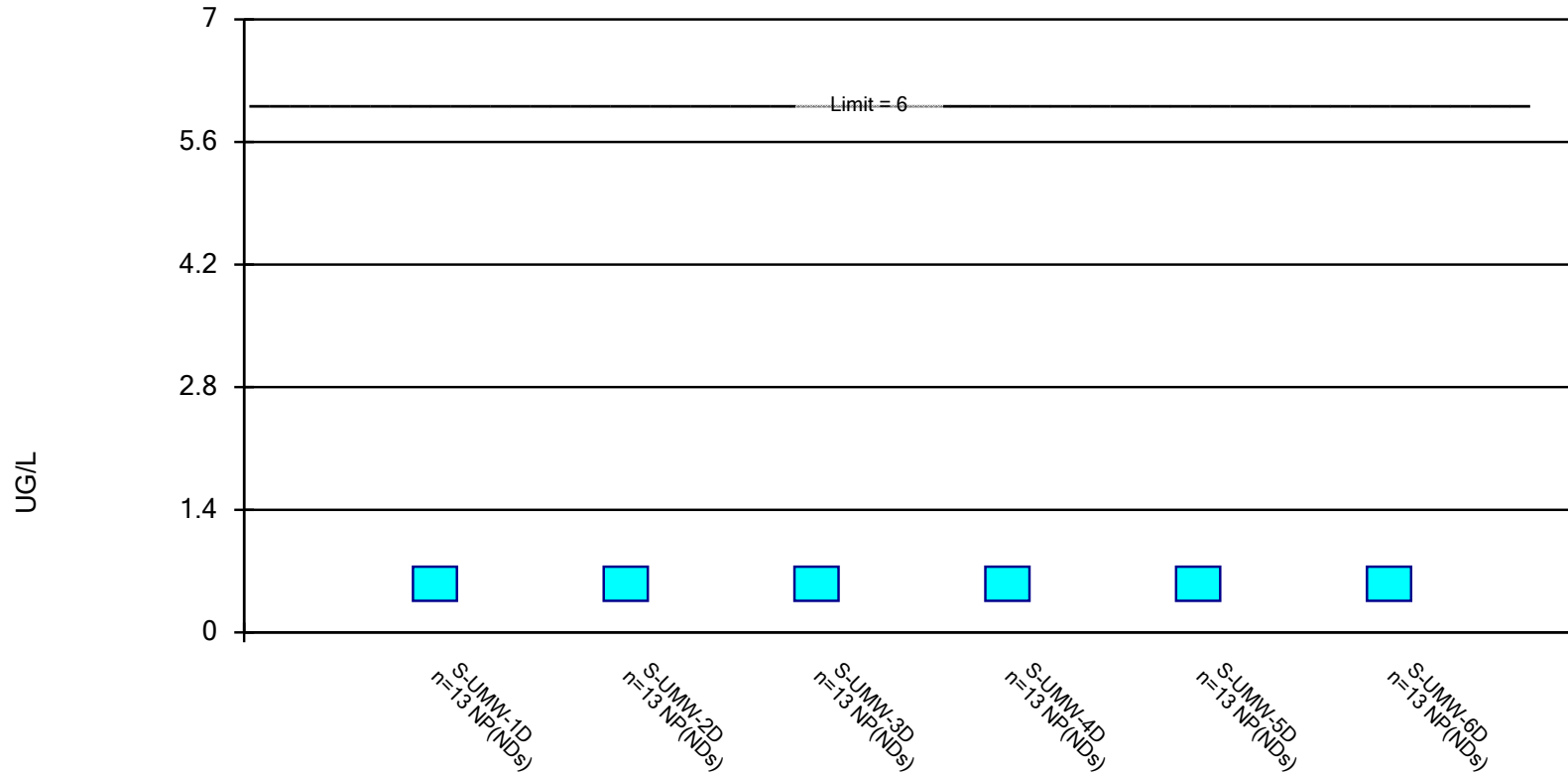


Constituent: CHROMIUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

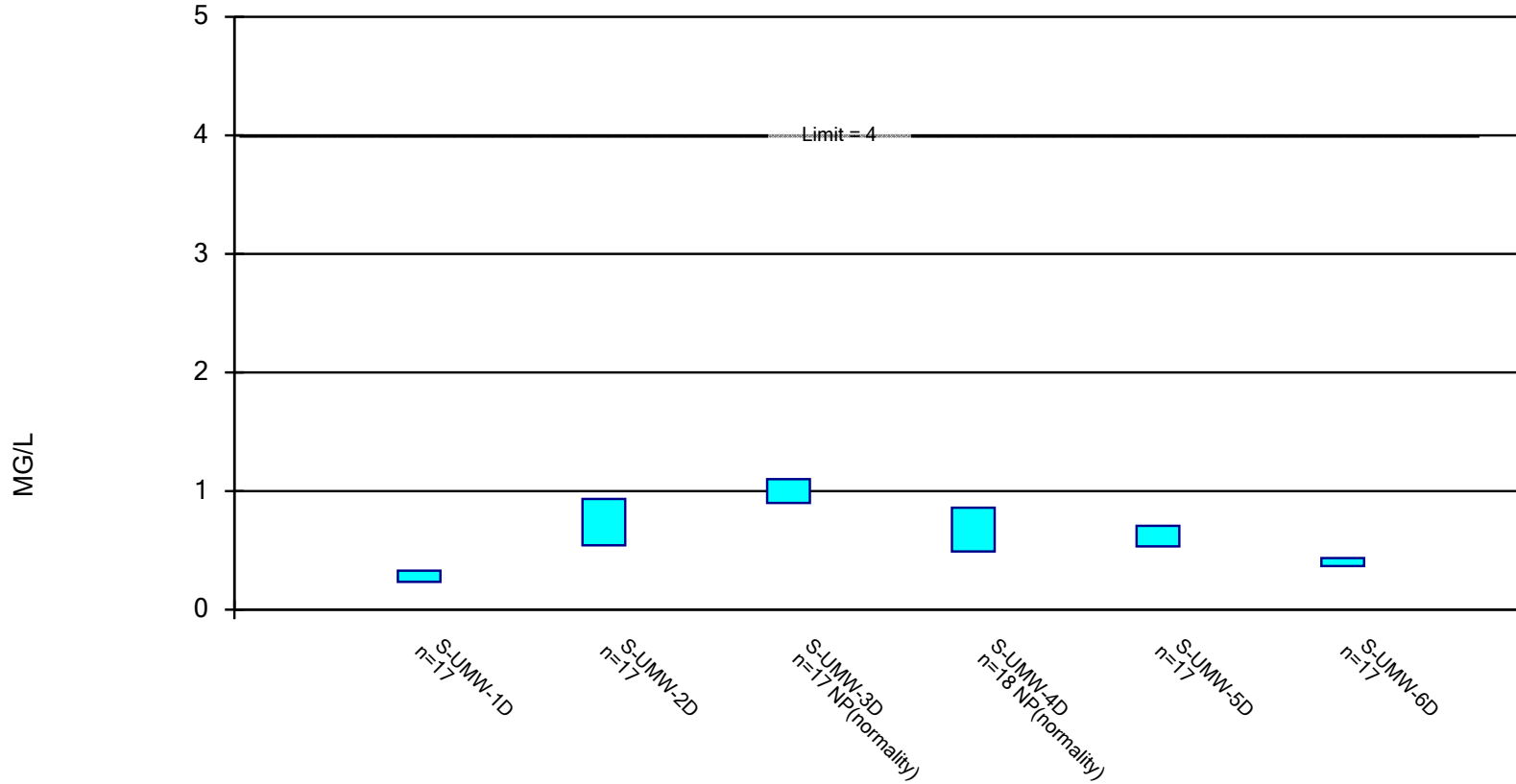
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: COBALT, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

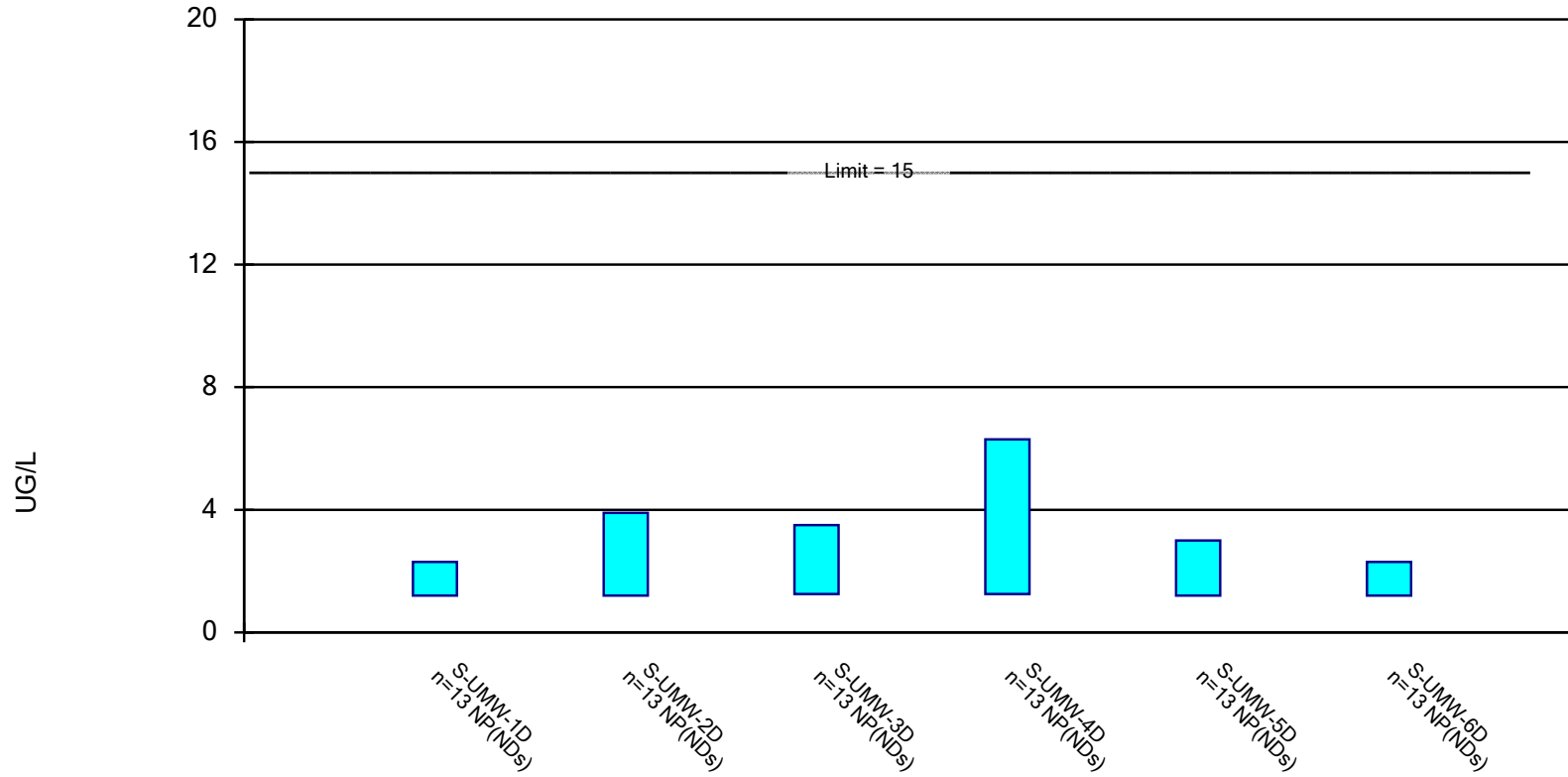
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: FLUORIDE, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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

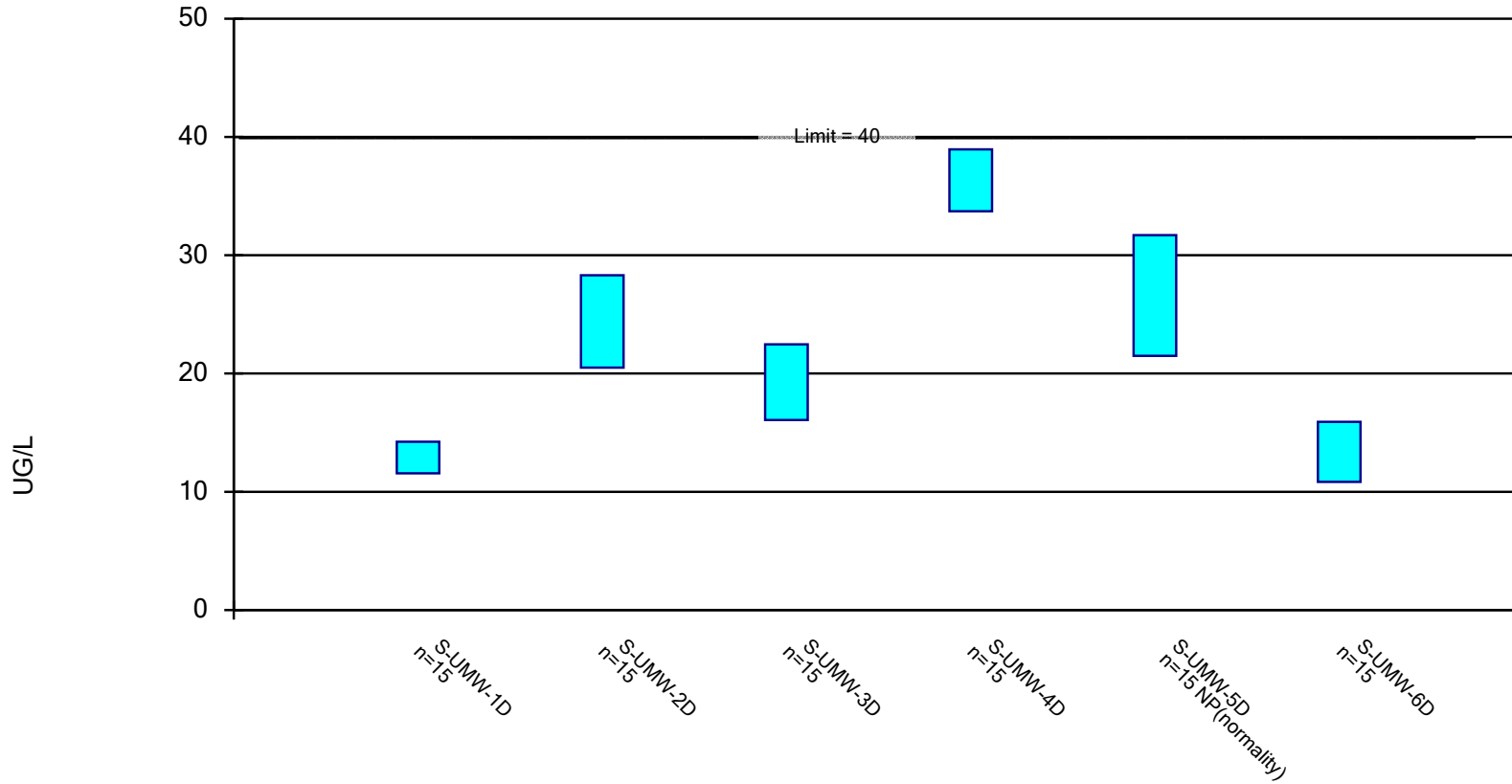


Constituent: LEAD, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

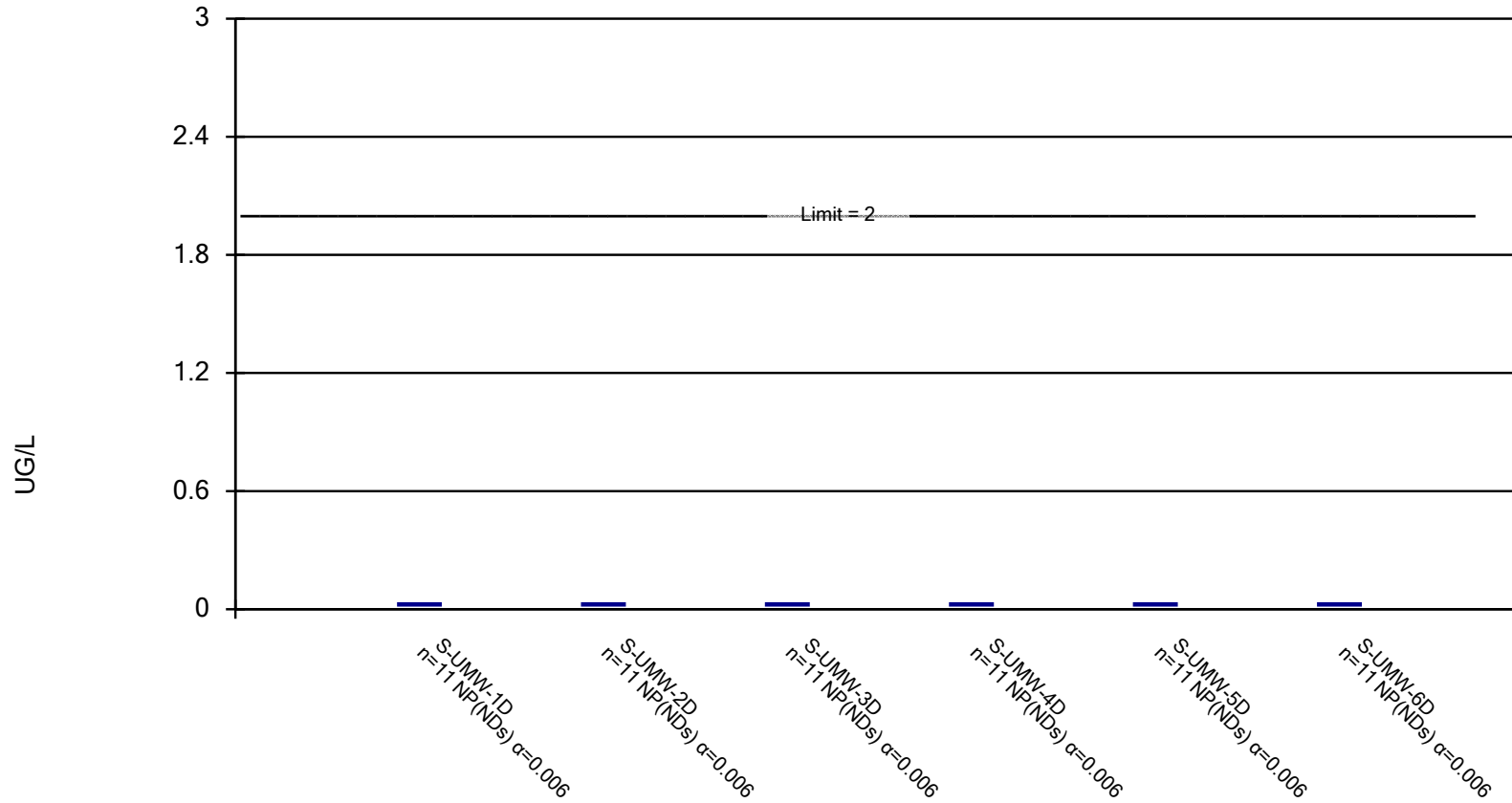
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: LITHIUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

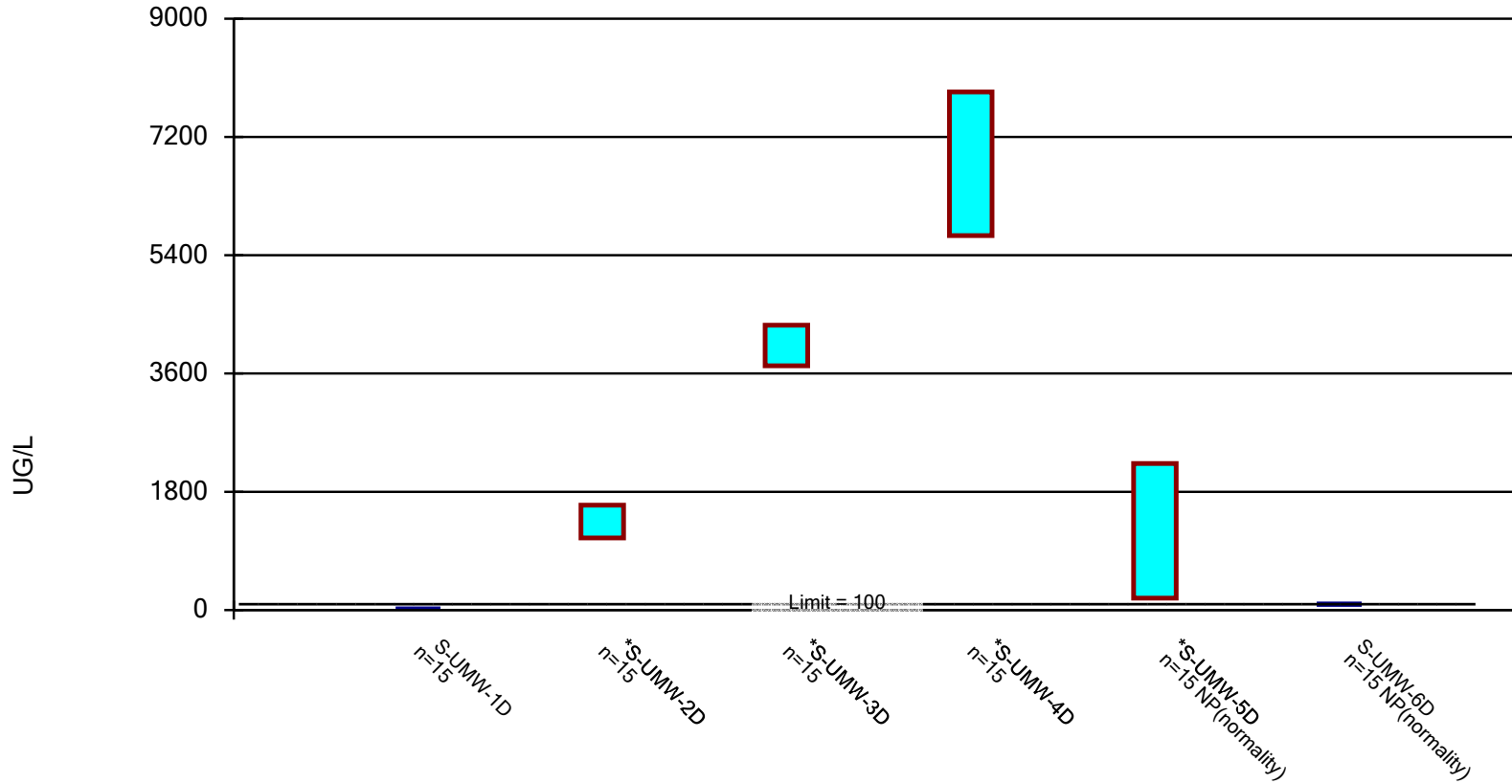
Compliance Limit is not exceeded.



Constituent: MERCURY, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

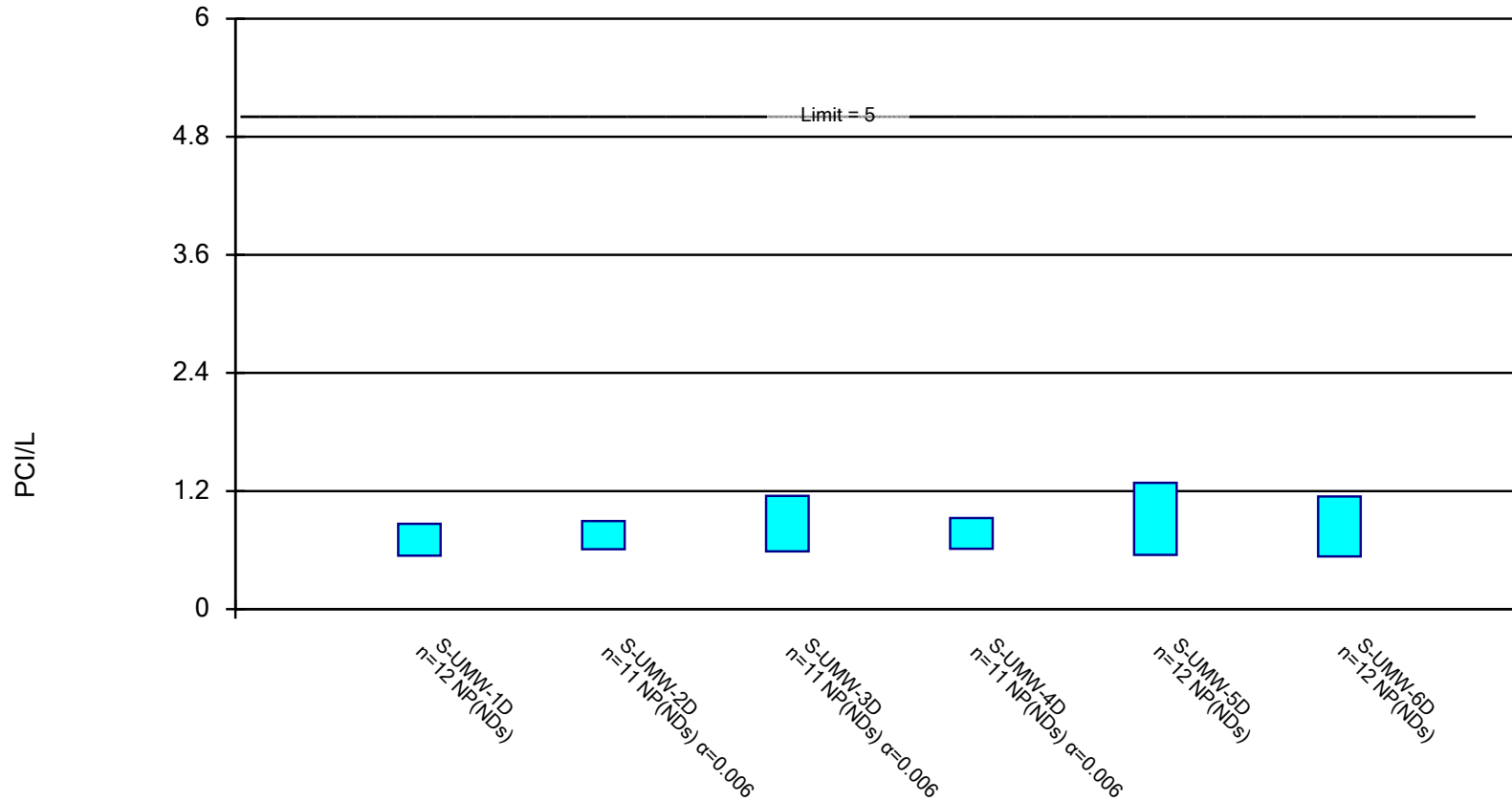
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: MOLYBDENUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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

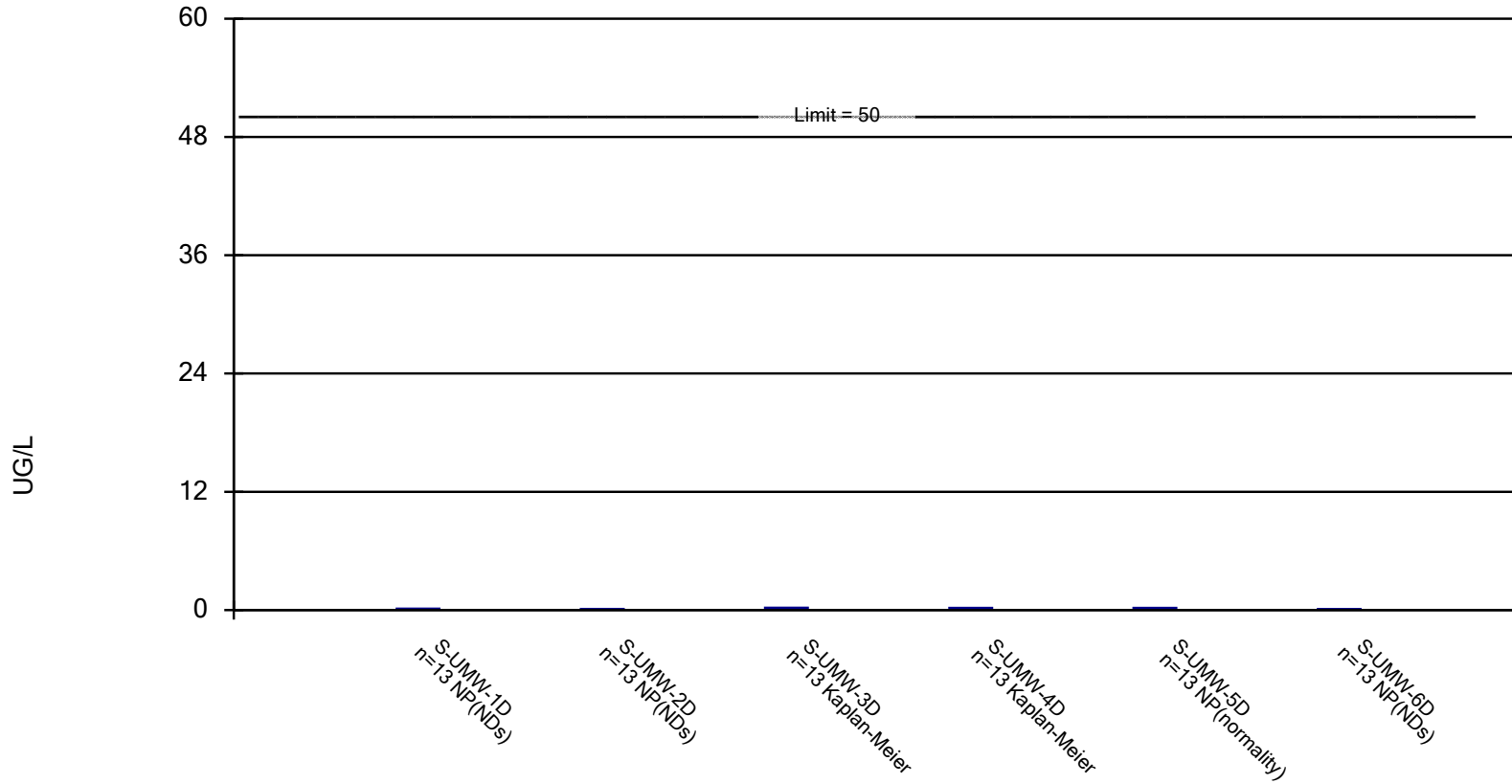


Constituent: RADIUM [226 + 228] Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

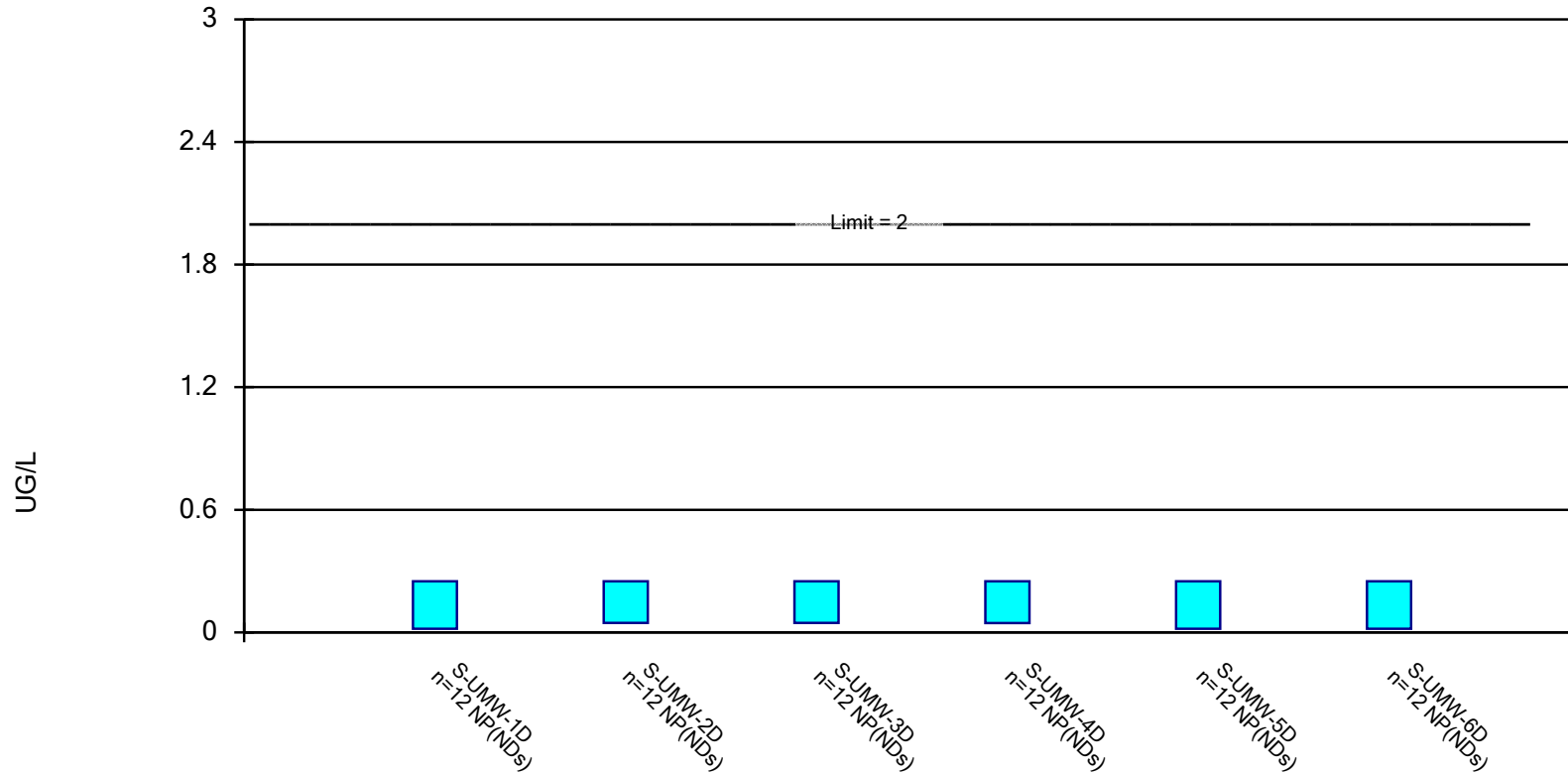
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: SELENIUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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



Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 9:49 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Confidence Interval

Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 2/10/2021, 9:50 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	S-UMW-1D	0.08877	0.03573	6	No	12	41.67	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	S-UMW-2D	0.068	0.029	6	No	12	58.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-3D	0.083	0.013	6	No	12	75	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-4D	0.043	0.013	6	No	12	91.67	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-5D	0.039	0.013	6	No	12	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-6D	0.039	0.013	6	No	12	100	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	S-UMW-1D	1.5	0.98	10	No	15	0	No	0.01	NP (normality)
ARSENIC, TOTAL (UG/L)	S-UMW-2D	2.718	1.531	10	No	15	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-3D	0.6617	0.2863	10	No	14	7.143	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-4D	0.4132	0.152	10	No	14	21.43	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-5D	0.6333	0.3435	10	No	15	6.667	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-6D	0.4404	0.2381	10	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-1D	162.8	120.6	2000	No	15	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-2D	107.1	72.74	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-3D	88	70.1	2000	No	15	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	S-UMW-4D	81.97	66.09	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-5D	333.7	278.3	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-6D	132.5	117.6	2000	No	14	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	S-UMW-1D	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-2D	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-3D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-4D	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-5D	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-6D	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	S-UMW-1D	0.04	0.009	5	No	13	84.62	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	S-UMW-2D	0.34	0.0145	5	No	14	42.86	No	0.01	NP (normality)
CADMIUM, TOTAL (UG/L)	S-UMW-3D	0.7389	0.0636	5	No	14	28.57	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	S-UMW-4D	1.101	0.06646	5	No	14	28.57	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	S-UMW-5D	0.36	0.009	5	No	14	50	No	0.01	NP (normality)
CADMIUM, TOTAL (UG/L)	S-UMW-6D	0.031	0.009	5	No	14	71.43	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	S-UMW-1D	0.462	0.08499	100	No	12	41.67	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	S-UMW-2D	0.4021	0.0786	100	No	12	41.67	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	S-UMW-3D	0.3399	0.07175	100	No	12	50	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	S-UMW-4D	0.4	0.027	100	No	12	58.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	S-UMW-5D	0.56	0.027	100	No	12	50	No	0.01	NP (normality)
CHROMIUM, TOTAL (UG/L)	S-UMW-6D	0.67	0.027	100	No	12	58.33	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-1D	0.75	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-2D	0.75	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-3D	0.75	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-4D	0.75	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-5D	0.75	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-6D	0.75	0.36	6	No	13	100	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	S-UMW-1D	0.3285	0.2339	4	No	17	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	S-UMW-2D	0.9328	0.5425	4	No	17	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	S-UMW-3D	1.1	0.9	4	No	17	0	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	S-UMW-4D	0.86	0.49	4	No	18	0	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	S-UMW-5D	0.7066	0.5334	4	No	17	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	S-UMW-6D	0.4354	0.3669	4	No	17	0	No	0.01	Param.
LEAD, TOTAL (UG/L)	S-UMW-1D	2.3	1.2	15	No	13	92.31	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	S-UMW-2D	3.9	1.2	15	No	13	76.92	No	0.01	NP (NDs)

Confidence Interval

Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 2/10/2021, 9:50 AM

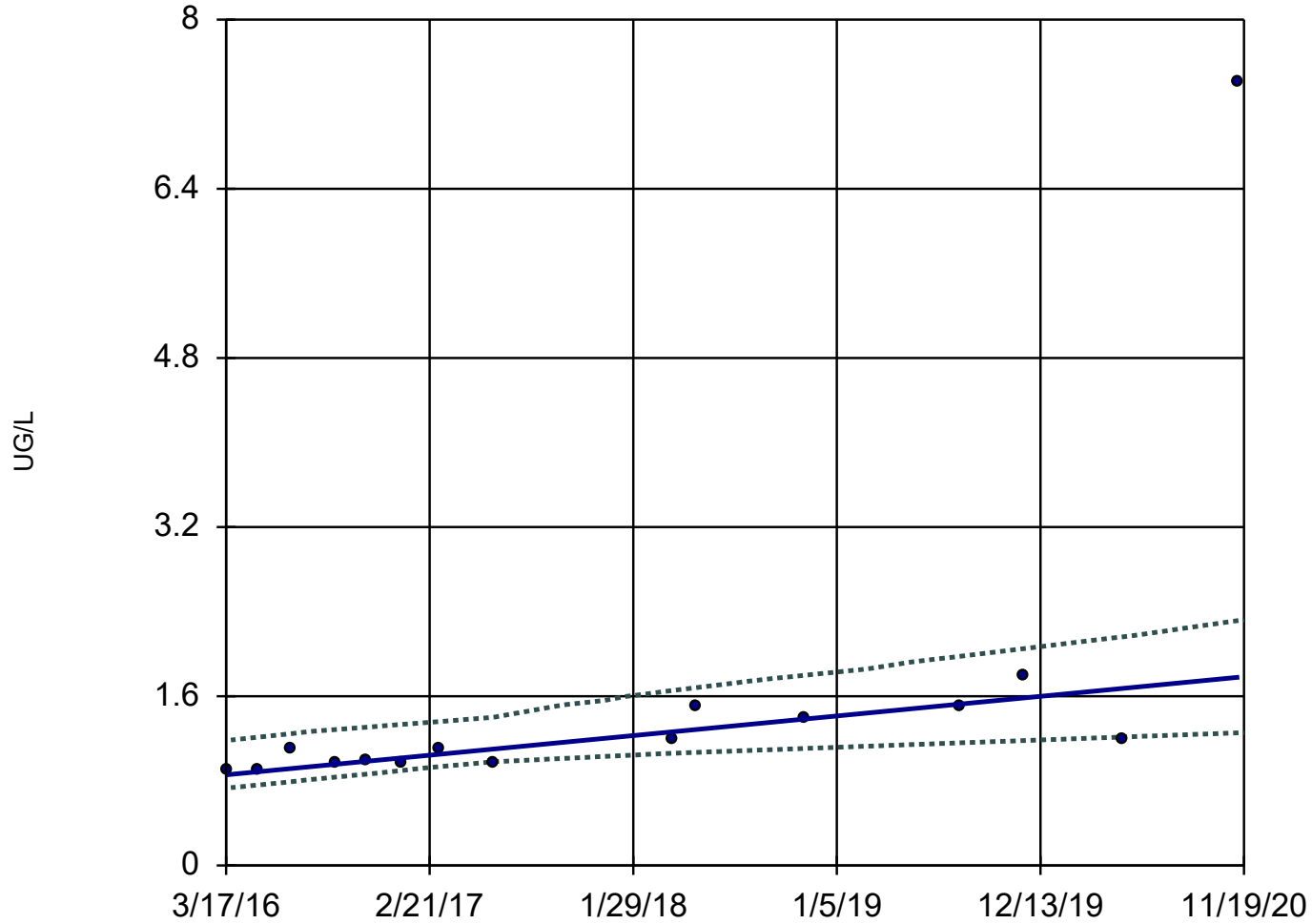
<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
LEAD, TOTAL (UG/L)	S-UMW-3D	3.5	1.25	15	No	13	61.54	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	S-UMW-4D	6.3	1.25	15	No	13	53.85	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	S-UMW-5D	3	1.2	15	No	13	76.92	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	S-UMW-6D	2.3	1.2	15	No	13	92.31	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	S-UMW-1D	14.23	11.56	40	No	15	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-2D	28.3	20.5	40	No	15	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-3D	22.47	16.07	40	No	15	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-4D	38.96	33.72	40	No	15	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-5D	31.7	21.5	40	No	15	0	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	S-UMW-6D	15.92	10.84	40	No	15	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	S-UMW-1D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-2D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-3D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-4D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-5D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-6D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	S-UMW-1D	37.68	26.17	100	No	15	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-2D	1595	1097	100	Yes	15	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-3D	4336	3718	100	Yes	15	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-4D	7885	5699	100	Yes	15	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-5D	2230	181	100	Yes	15	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	S-UMW-6D	112	67.8	100	No	15	0	No	0.01	NP (normality)
RADIUM [226 + 228] (PCI/L)	S-UMW-1D	0.8665	0.543	5	No	12	100	No	0.01	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-2D	0.8955	0.609	5	No	11	100	No	0.006	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-3D	1.151	0.5865	5	No	11	81.82	No	0.006	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-4D	0.9255	0.613	5	No	11	100	No	0.006	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-5D	1.283	0.552	5	No	12	75	No	0.01	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-6D	1.145	0.535	5	No	12	91.67	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	S-UMW-1D	0.13	0.043	50	No	13	84.62	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	S-UMW-2D	0.11	0.043	50	No	13	69.23	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	S-UMW-3D	0.2362	0.1592	50	No	13	15.38	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	S-UMW-4D	0.2076	0.1339	50	No	13	30.77	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	S-UMW-5D	0.22	0.09	50	No	13	30.77	No	0.01	NP (normality)
SELENIUM, TOTAL (UG/L)	S-UMW-6D	0.09	0.0425	50	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-1D	0.25	0.018	2	No	12	91.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-2D	0.25	0.0465	2	No	12	83.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-3D	0.25	0.0465	2	No	12	83.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-4D	0.25	0.046	2	No	12	83.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-5D	0.25	0.018	2	No	12	91.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-6D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)

APPENDIX B

Sanitas Trending Confidence Band
Statistical Output

Sen's Slope and 95% Confidence Band

S-UMW-1D



n = 15

Slope = 0.1984
units per year.

Mann-Kendall
statistic = 74
critical = 48

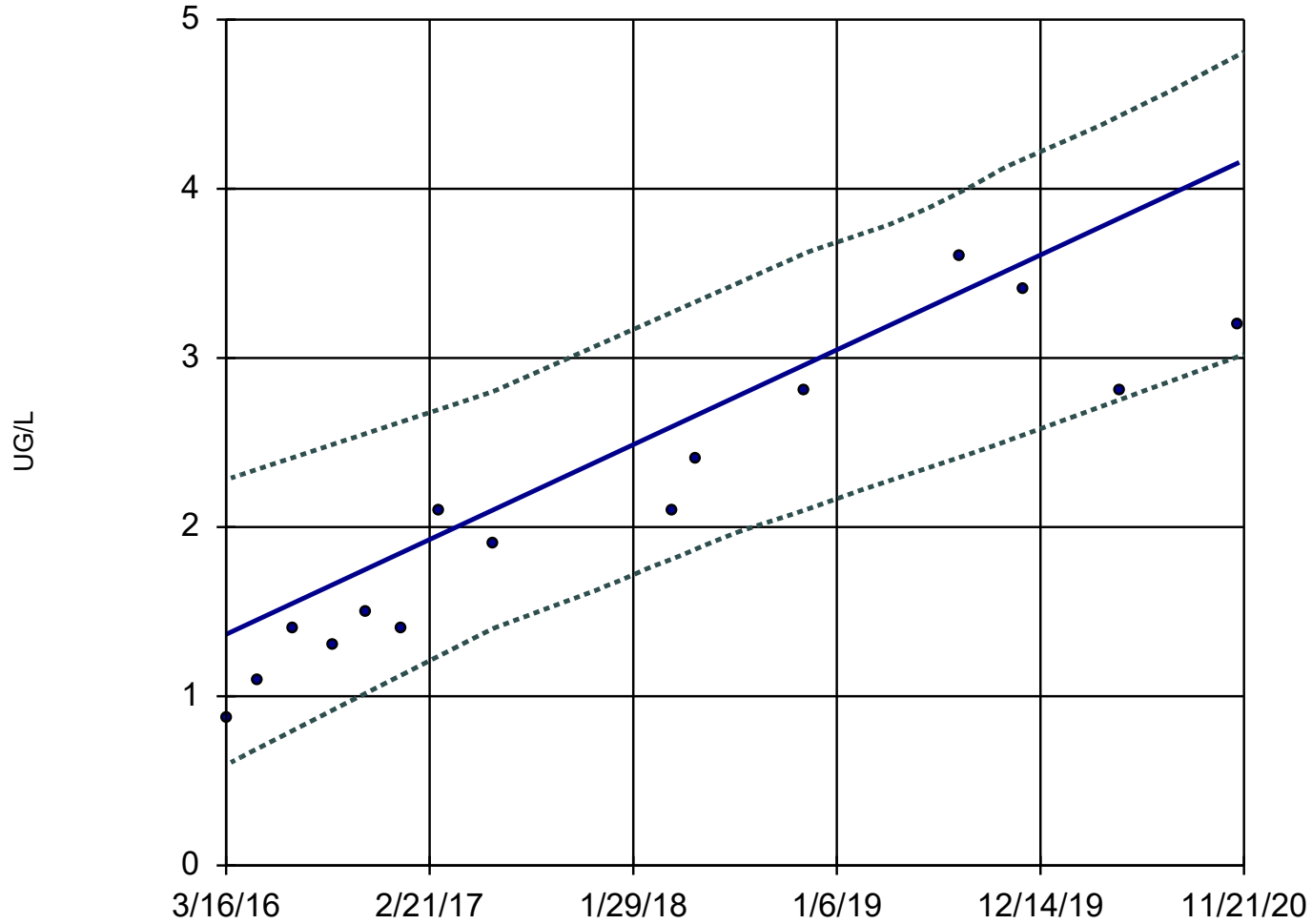
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

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

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 15

Slope = 0.5978
units per year.

Mann-Kendall
statistic = 86
critical = 48

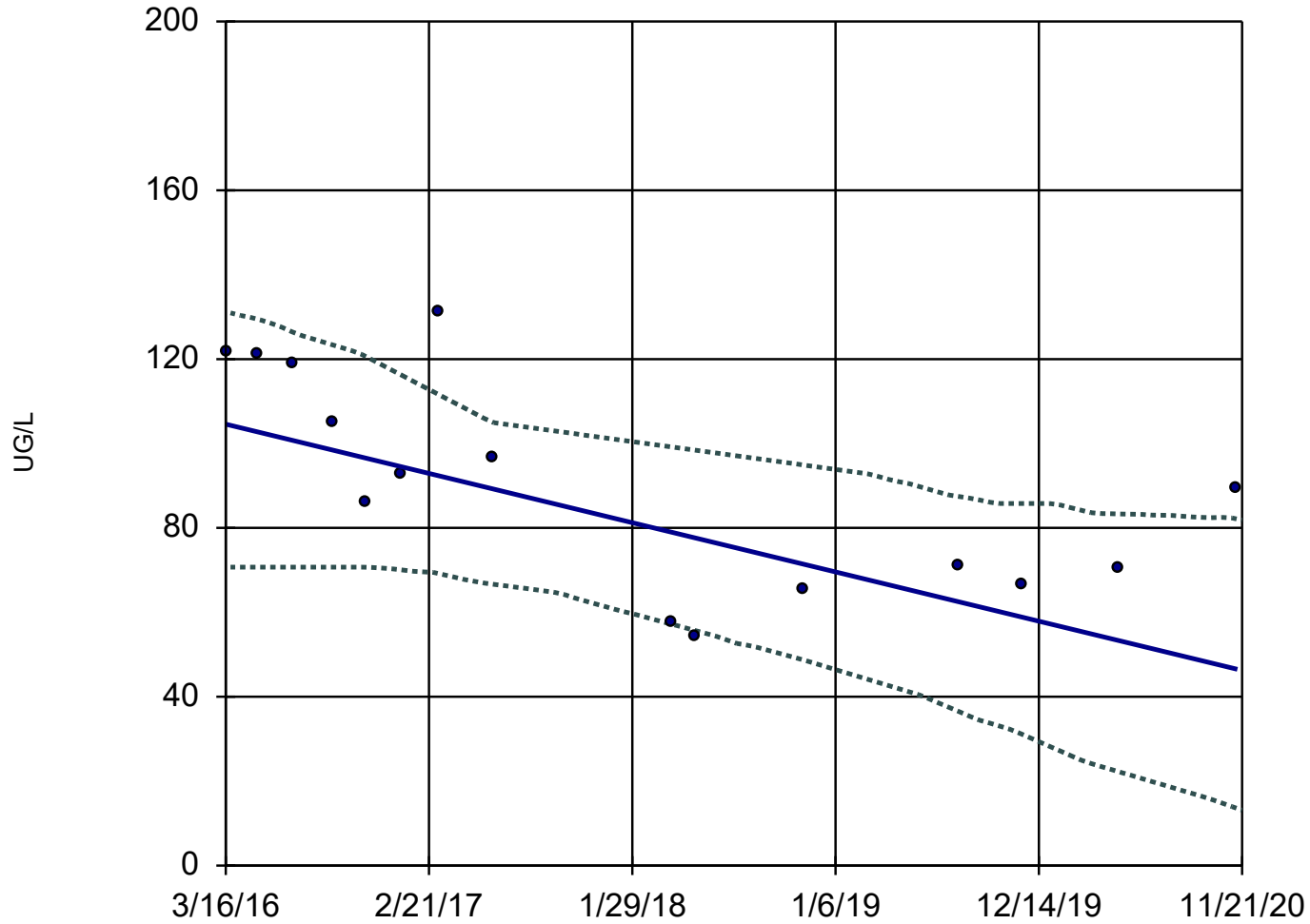
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

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

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 15

Slope = -12.45
units per year.

Mann-Kendall
statistic = -49
critical = -48

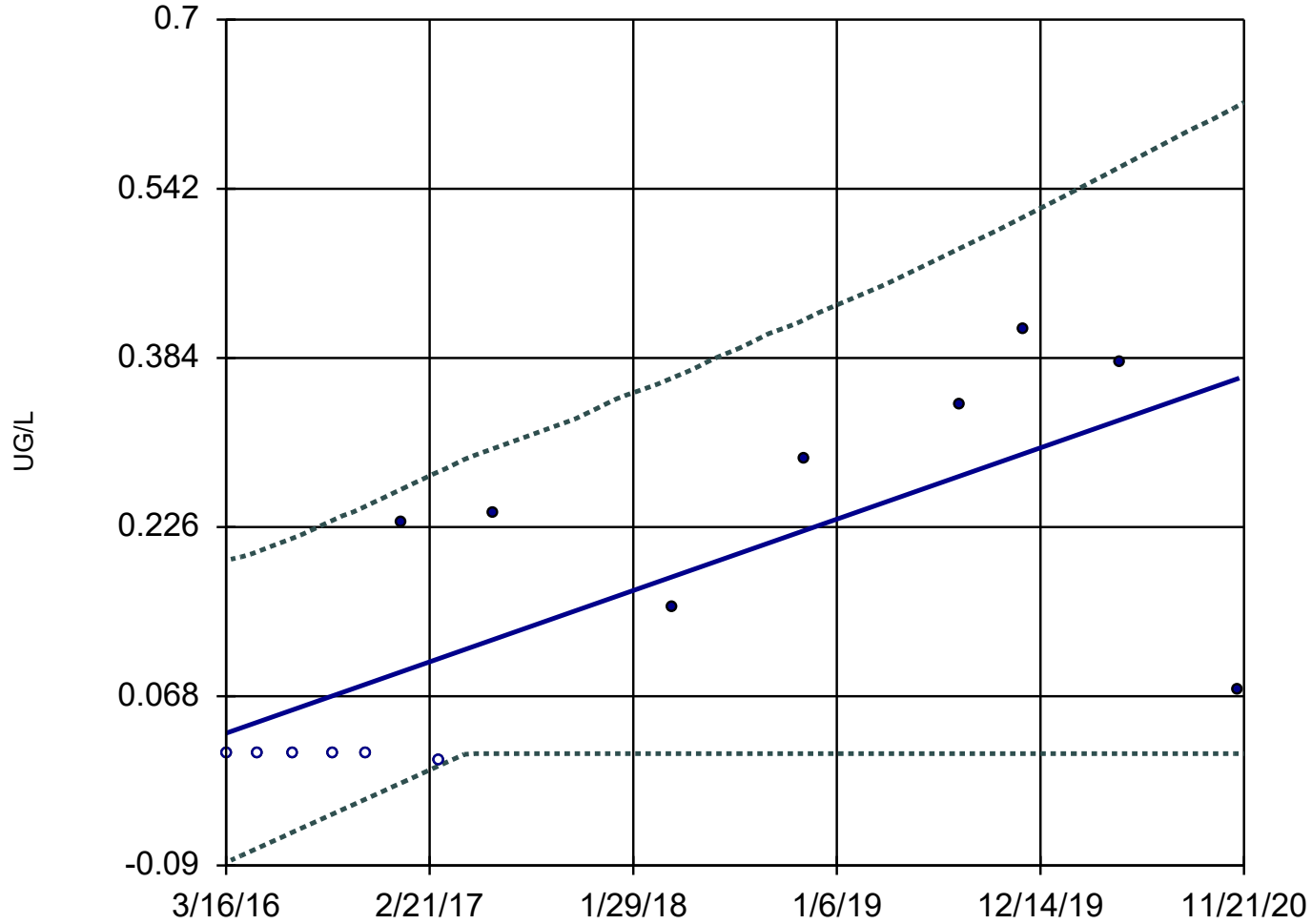
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

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

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 14

Slope = 0.07106
units per year.

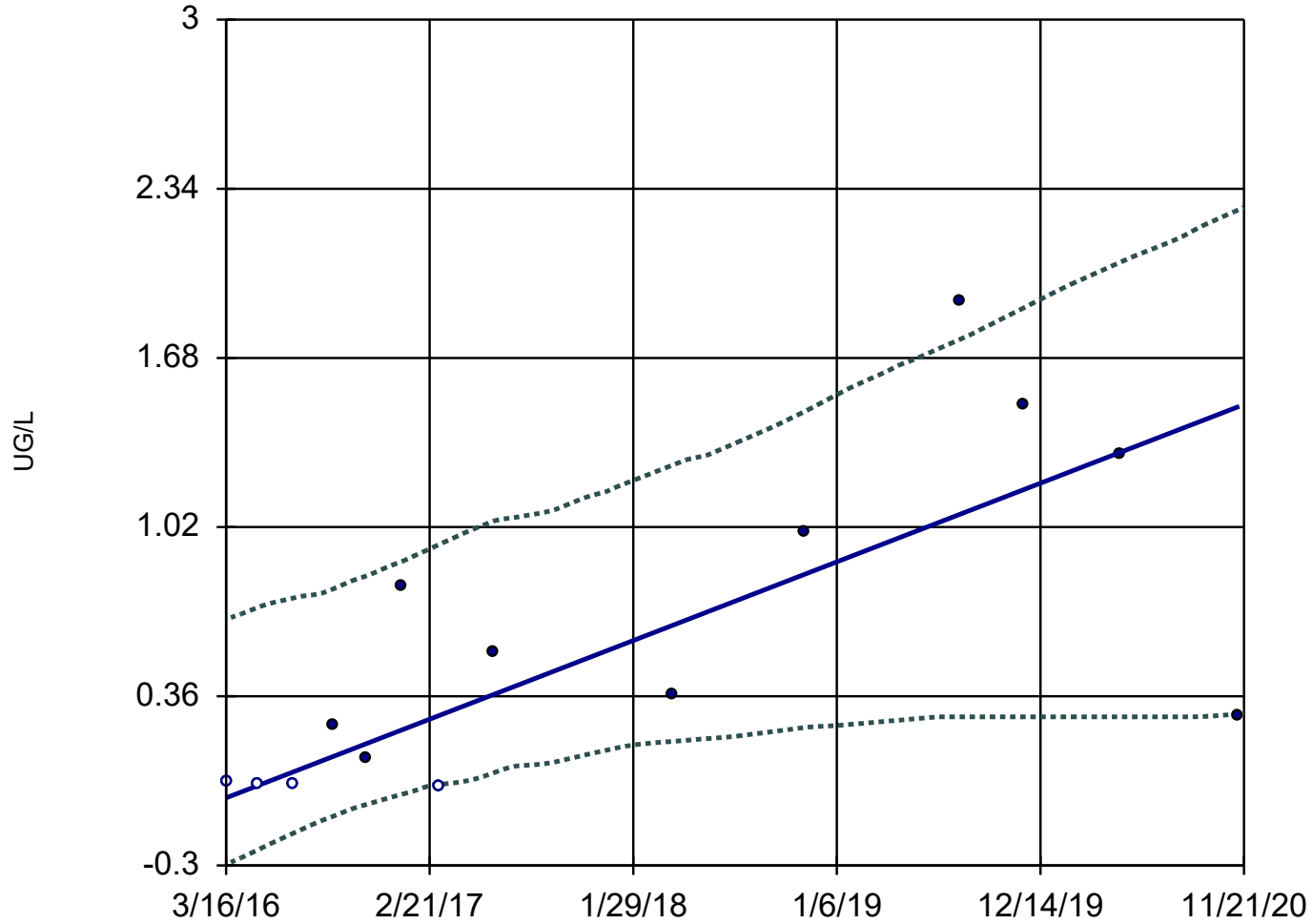
Mann-Kendall
statistic = 49
critical = 44

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

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

Sioux E.C. Client: Ameren Data: SEC DATA_

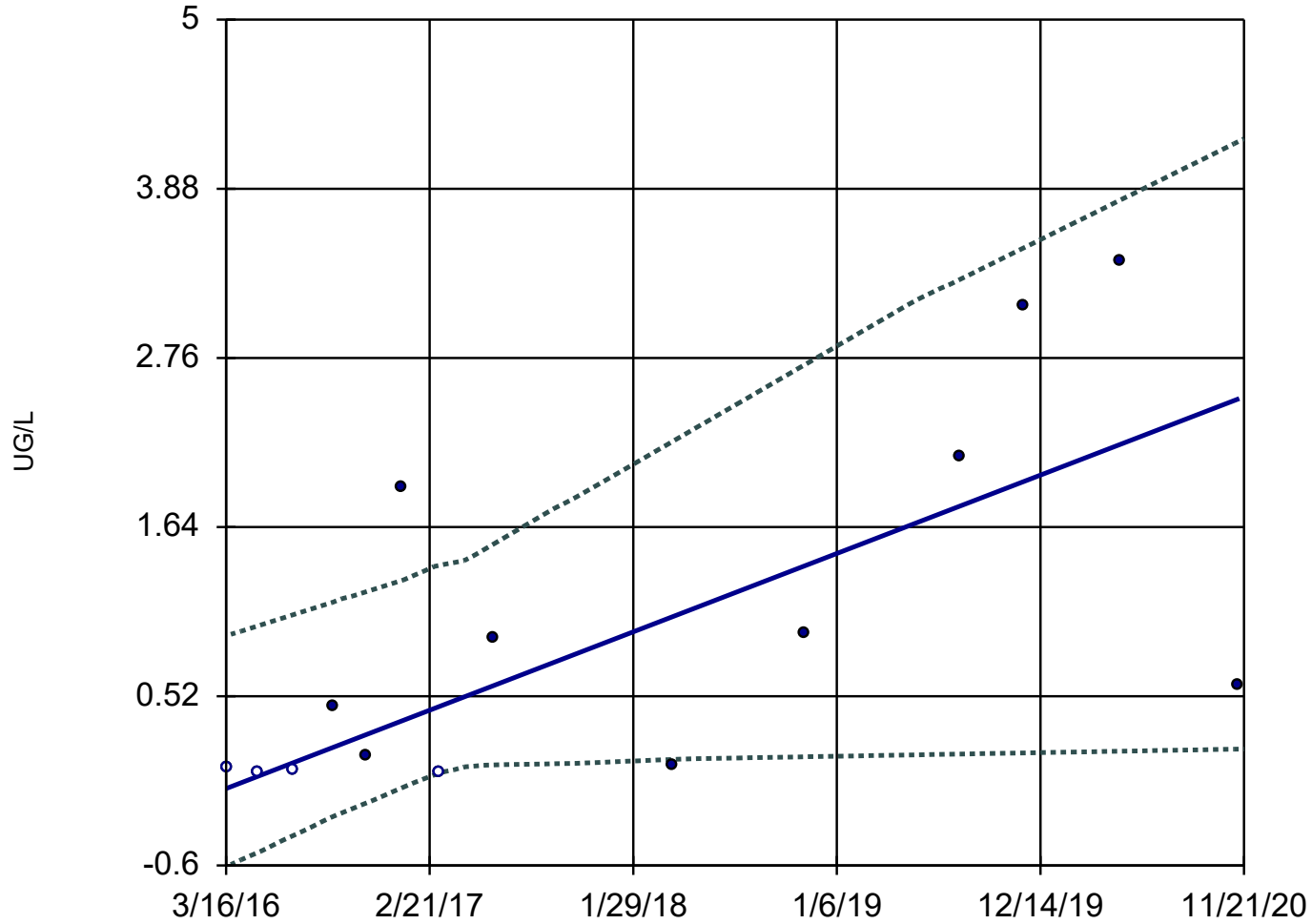
Sen's Slope and 95% Confidence Band S-UMW-3D



n = 14
Slope = 0.3274
units per year.
Mann-Kendall
statistic = 46
critical = 44
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

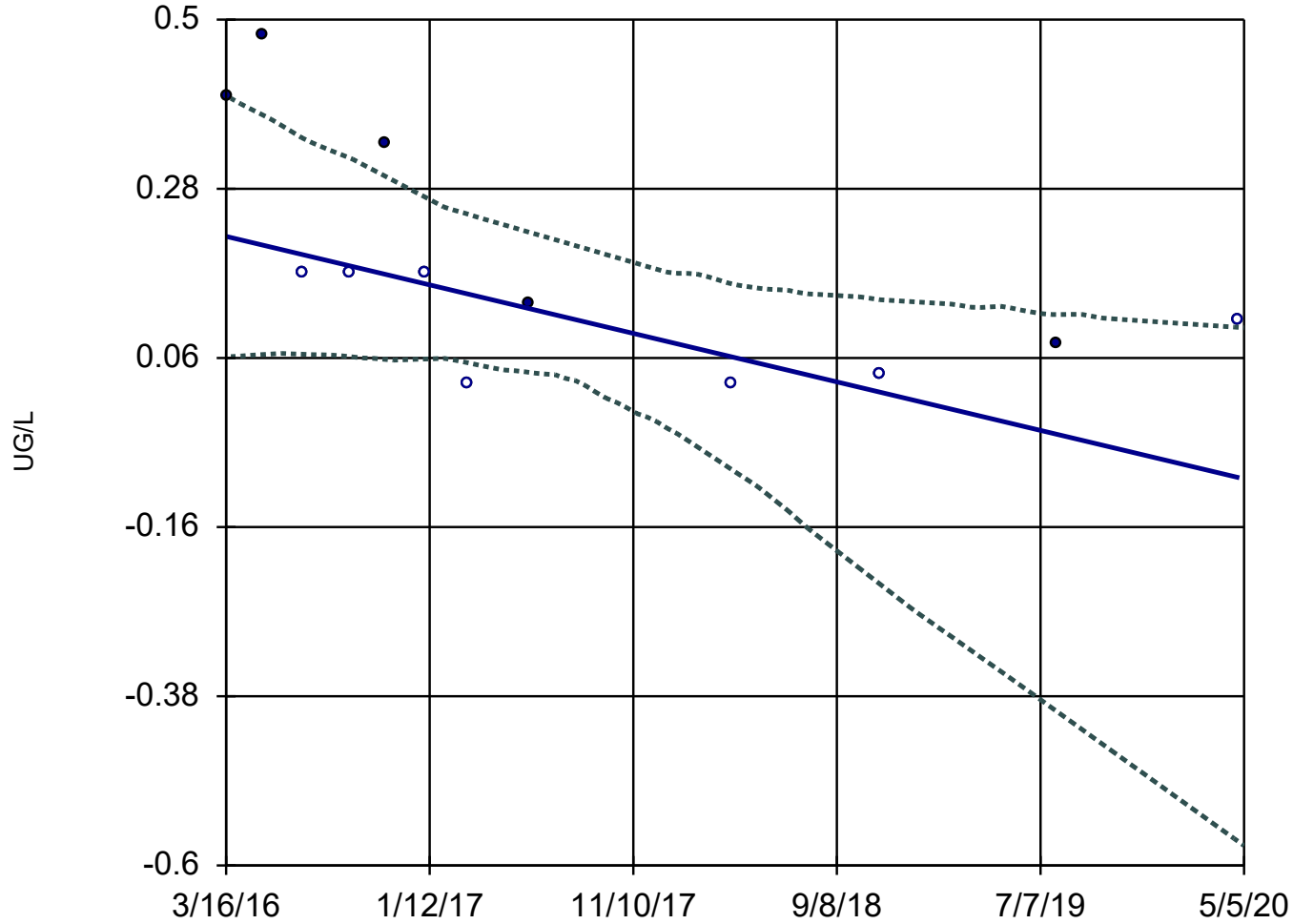
Sen's Slope and 95% Confidence Band

S-UMW-4D



Sen's Slope and 95% Confidence Band

S-UMW-4D



n = 12

Slope = -0.07616
units per year.

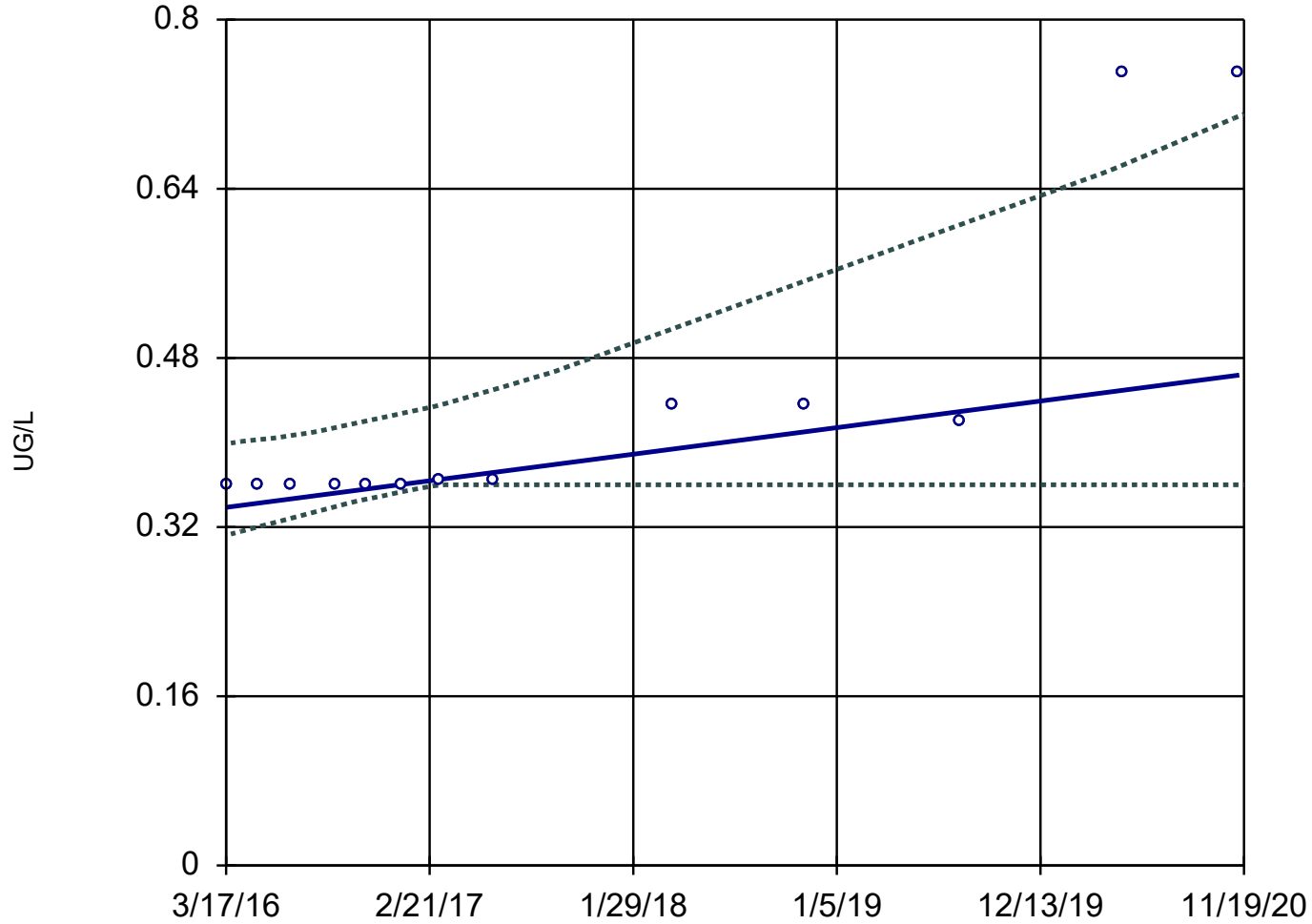
Mann-Kendall
statistic = -36
critical = -35

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: CHROMIUM, TOTAL Analysis Run 2/10/2021 10:07 AM View: Assessment Monitoring
Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-1D



n = 13

Slope = 0.02685
units per year.

Mann-Kendall
statistic = 56
critical = 39

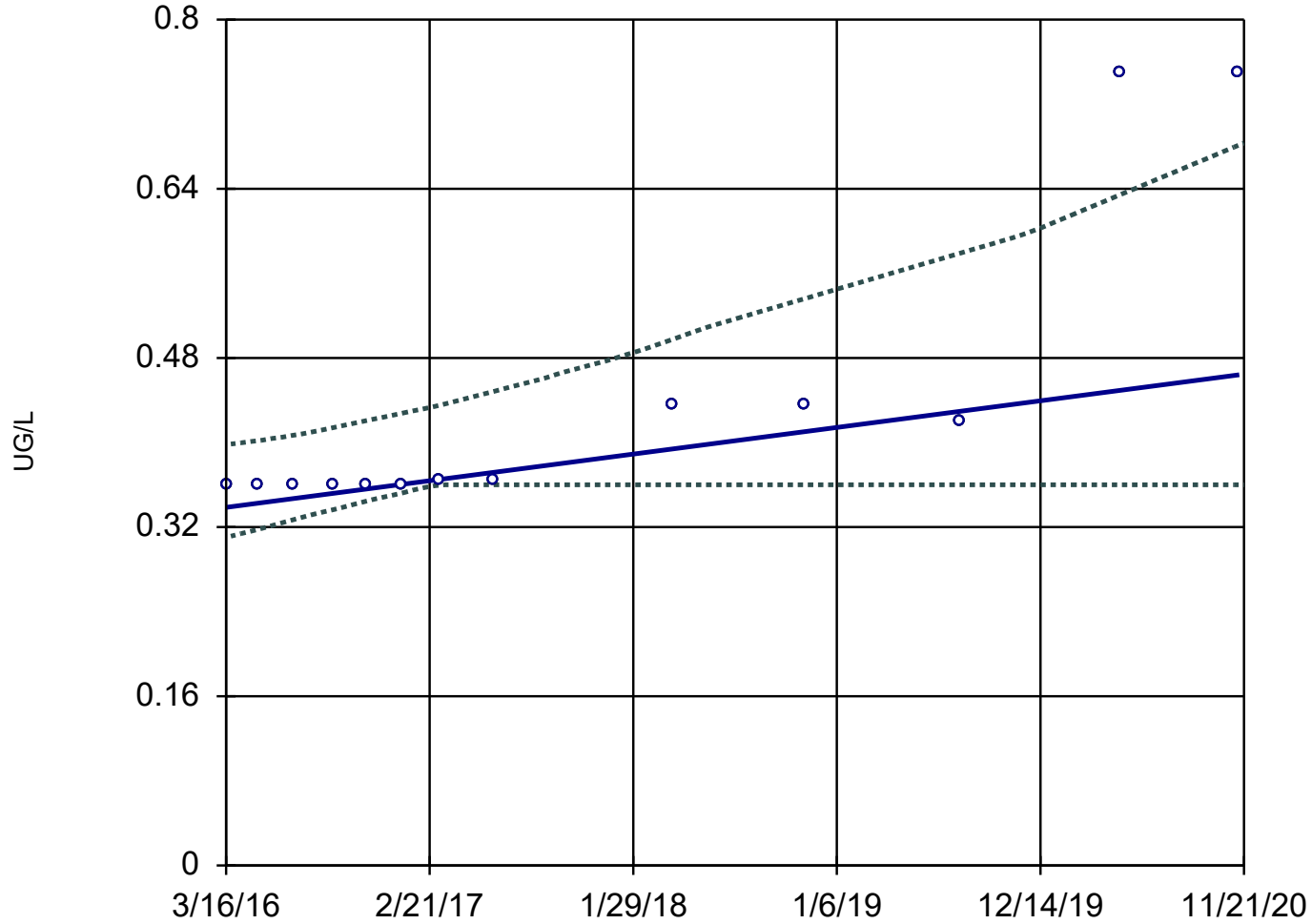
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 2/10/2021 10:07 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 13

Slope = 0.02687
units per year.

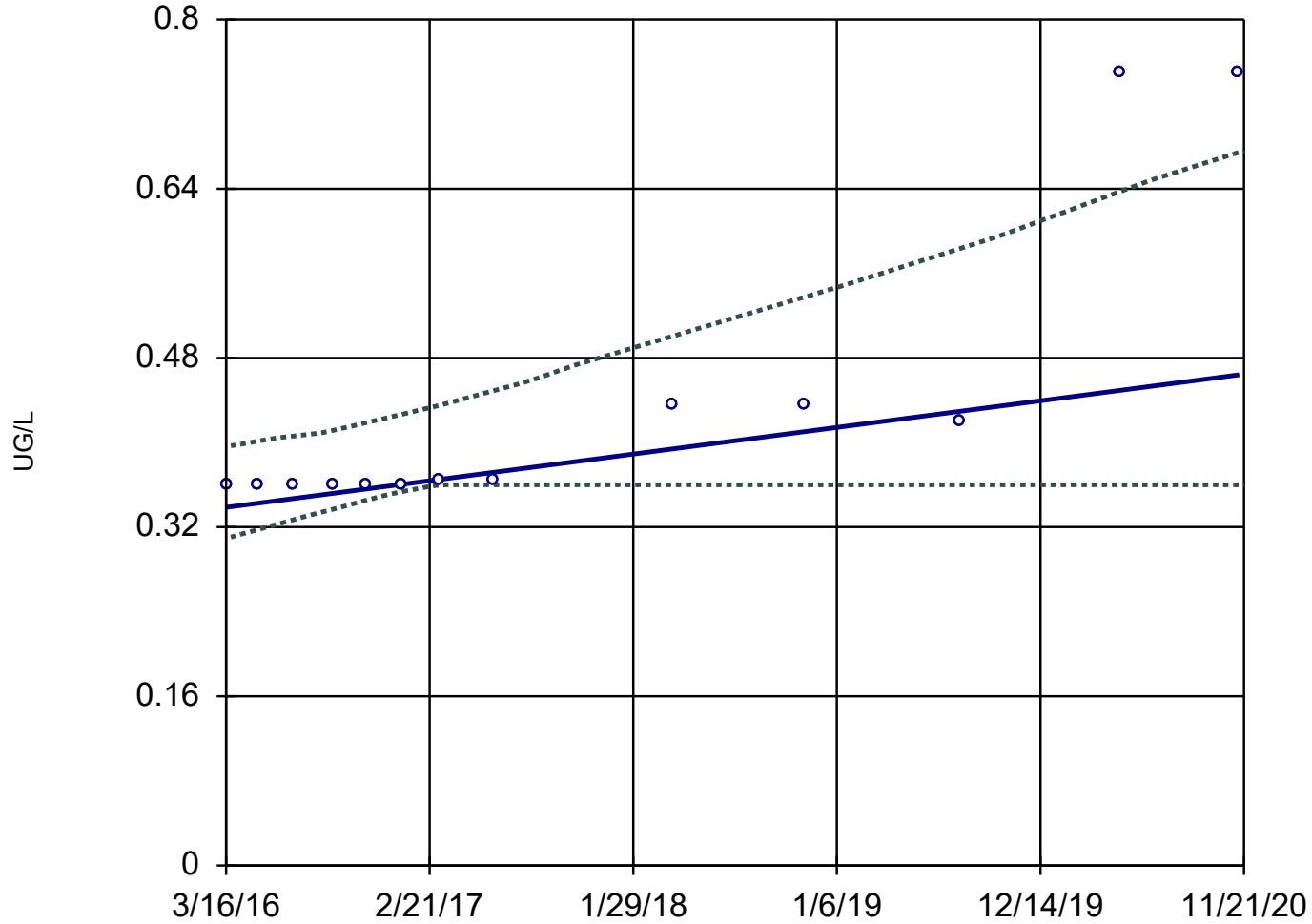
Mann-Kendall
statistic = 56
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 2/10/2021 10:07 AM View: Assessment Monitoring

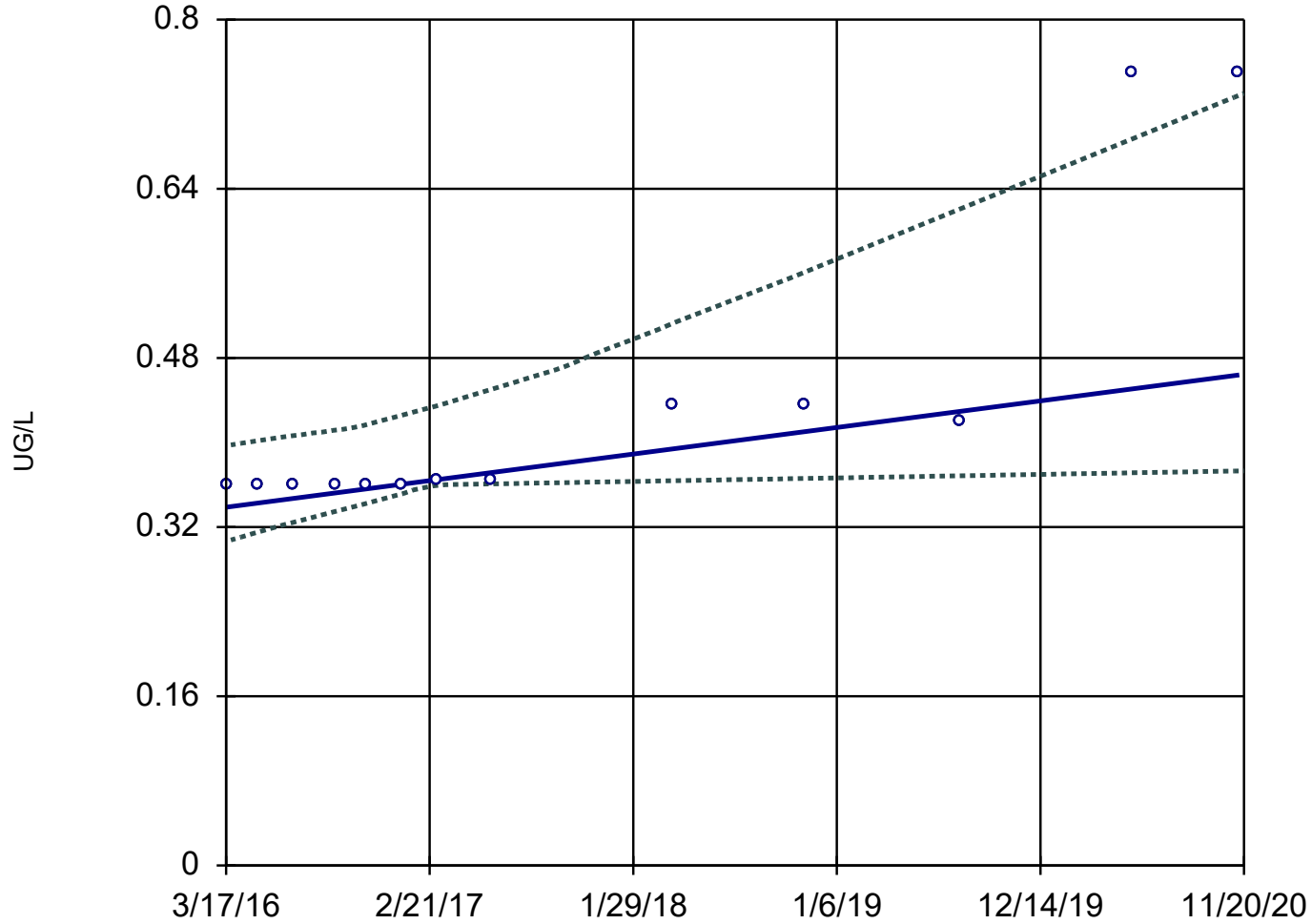
Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band S-UMW-4D



Sen's Slope and 95% Confidence Band

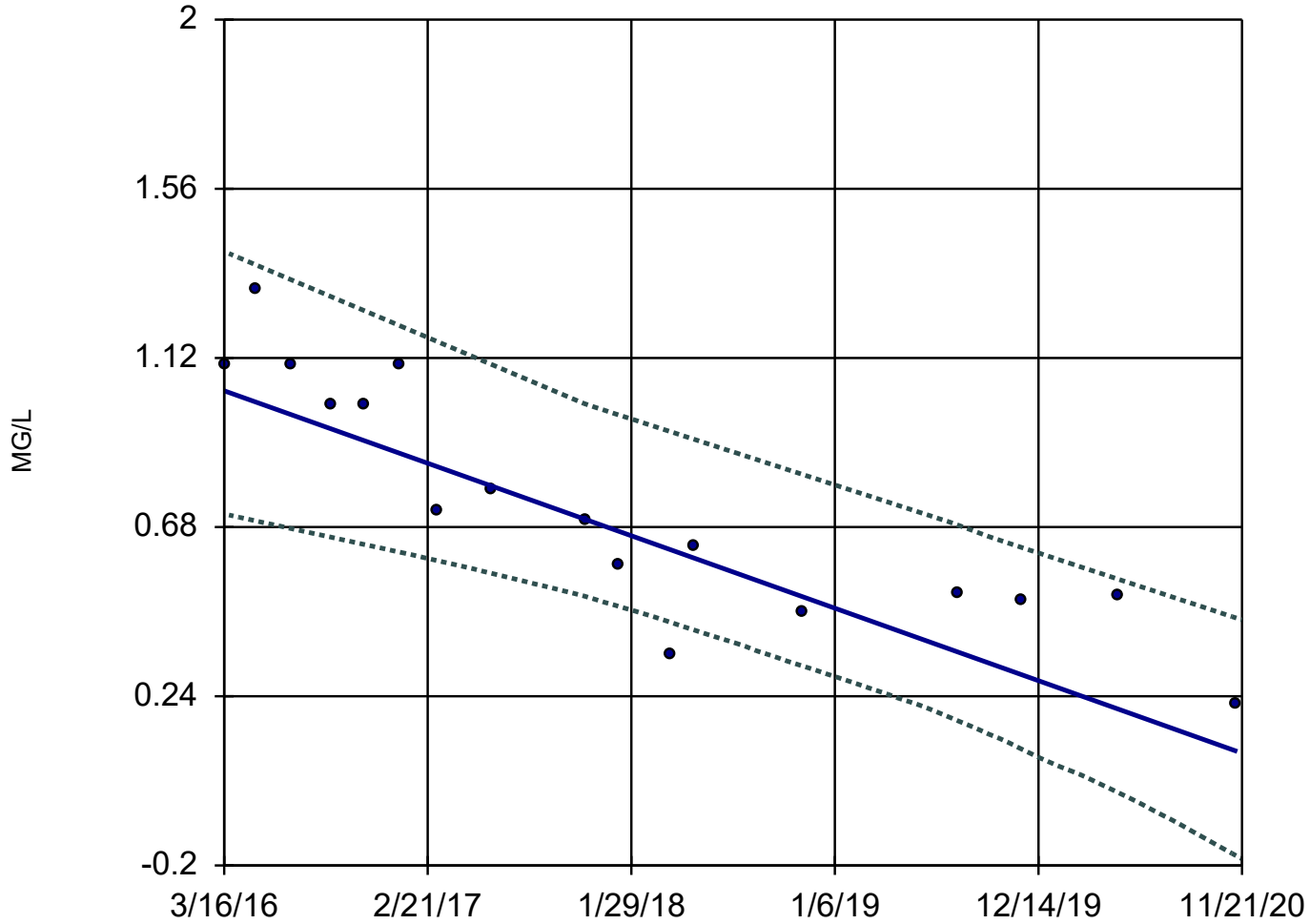
S-UMW-6D



n = 13
Slope = 0.02684
units per year.
Mann-Kendall
statistic = 56
critical = 39
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 17

Slope = -0.201
units per year.

Mann-Kendall
statistic = -104
critical = -58

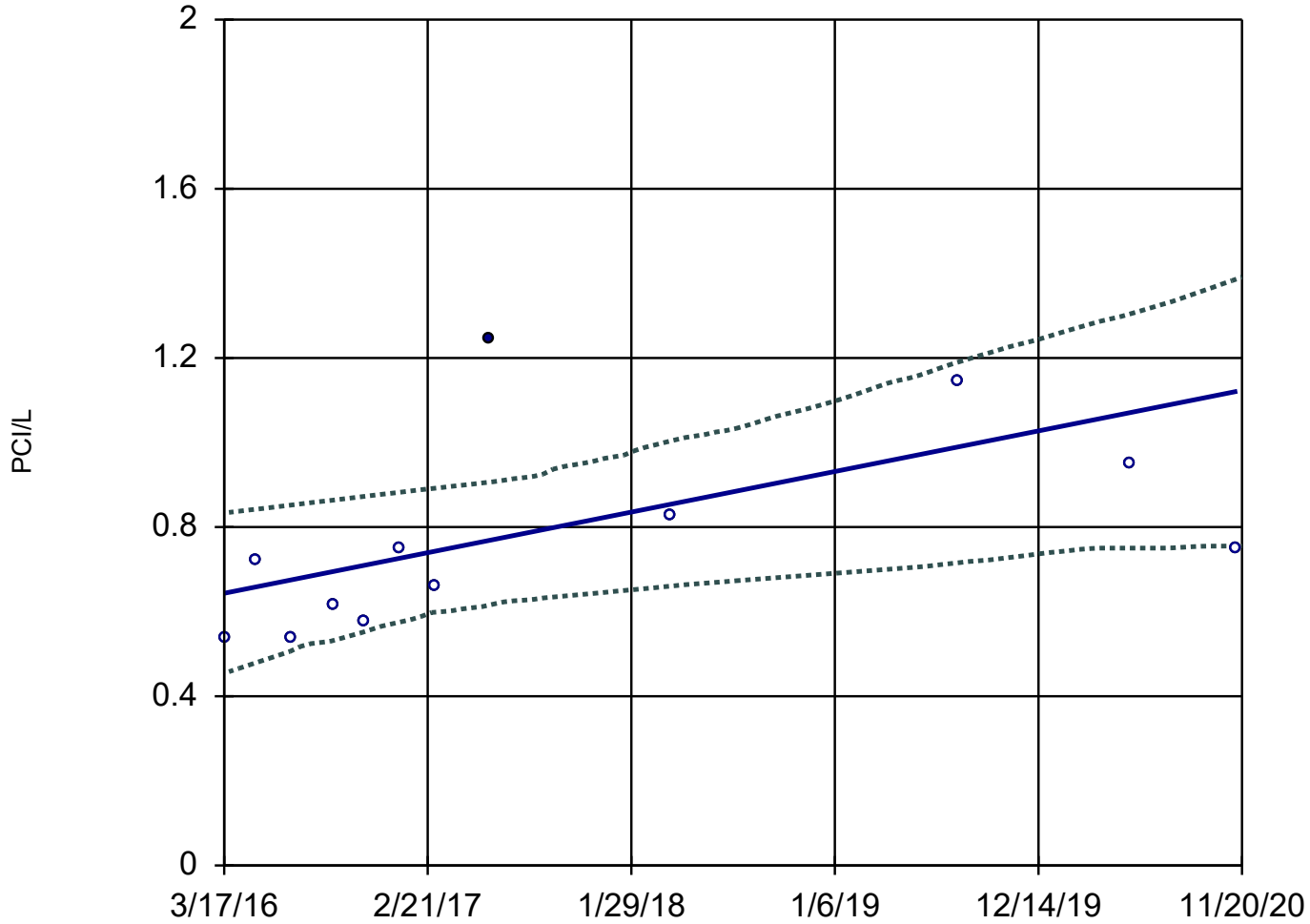
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: FLUORIDE, TOTAL Analysis Run 2/10/2021 10:07 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

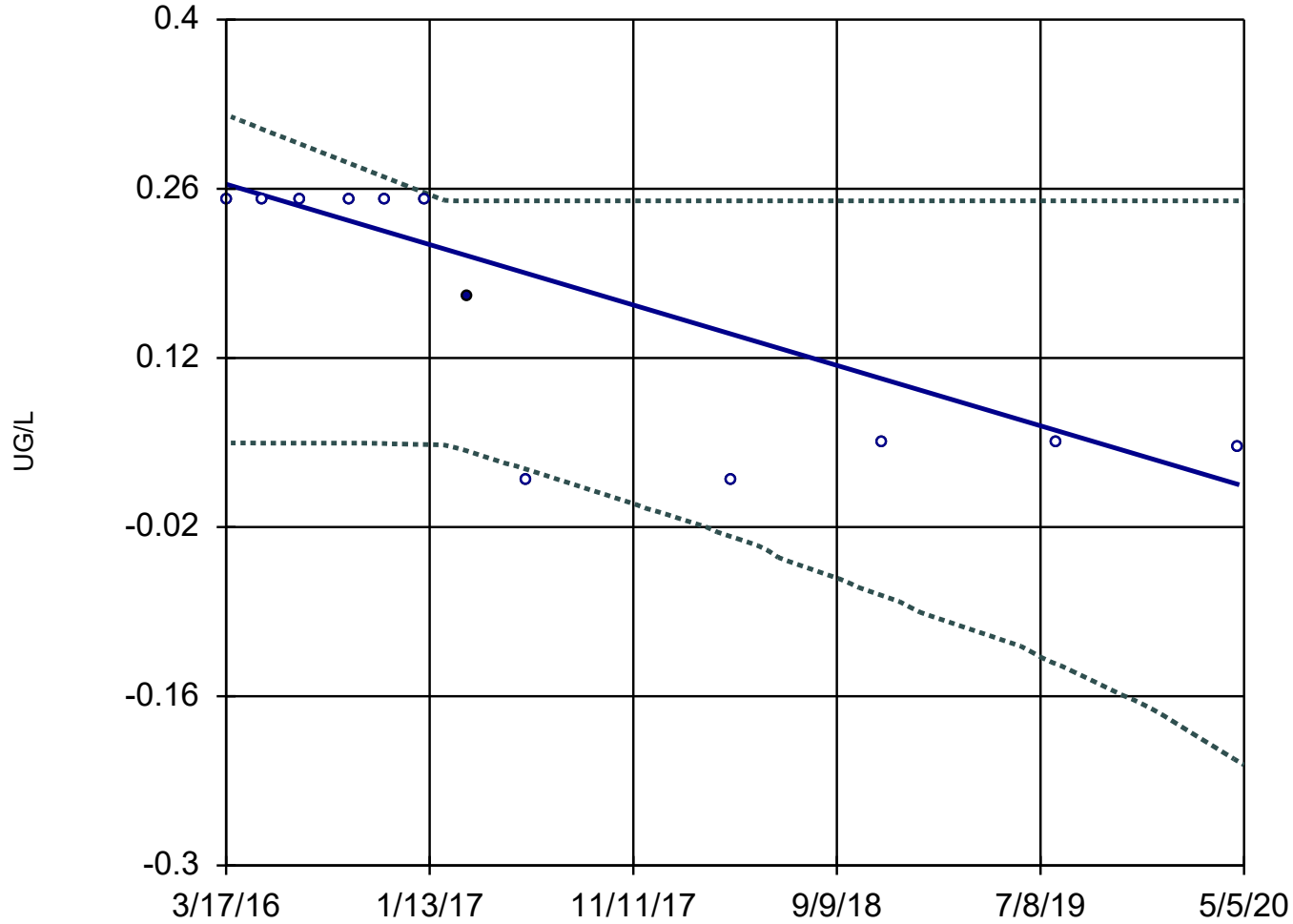
S-UMW-6D



n = 12
Slope = 0.1025
units per year.
Mann-Kendall
statistic = 37
critical = 35
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Sen's Slope and 95% Confidence Band

S-UMW-1D



n = 12

Slope = -0.0604
units per year.

Mann-Kendall
statistic = -37
critical = -35

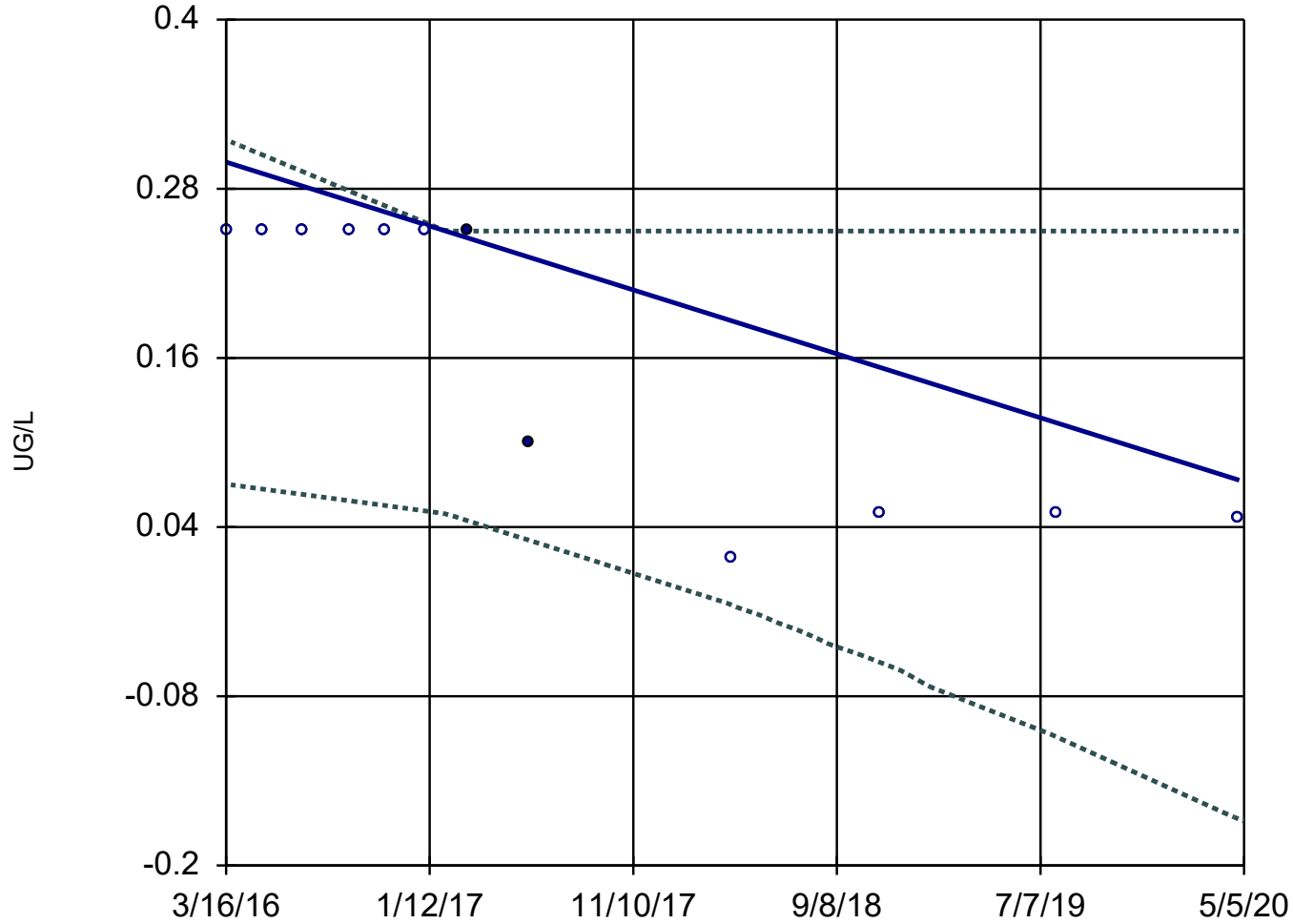
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

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

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 12

Slope = -0.05477
units per year.

Mann-Kendall
statistic = -38
critical = -35

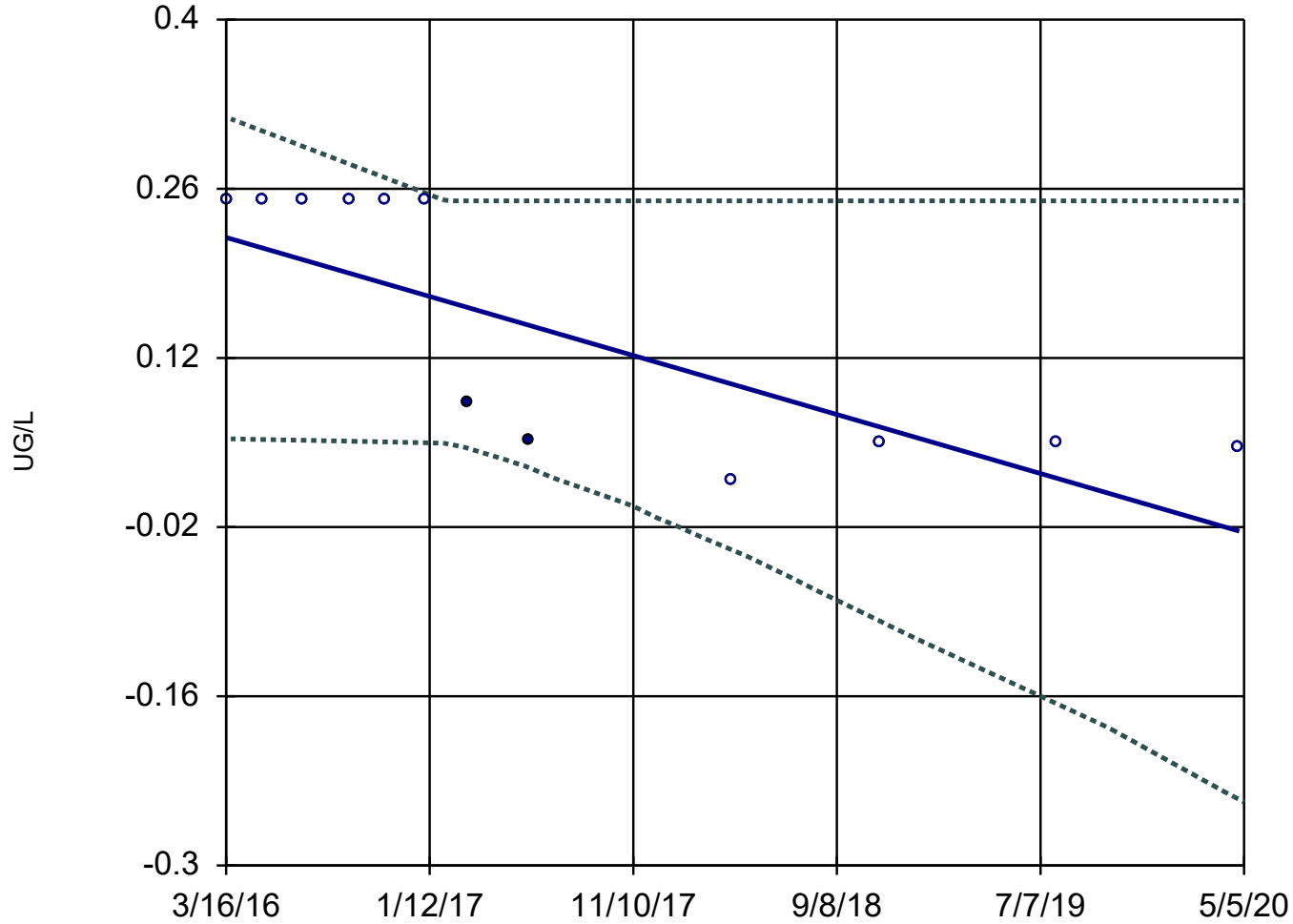
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 10:08 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-3D



n = 12

Slope = -0.05897
units per year.

Mann-Kendall
statistic = -44
critical = -35

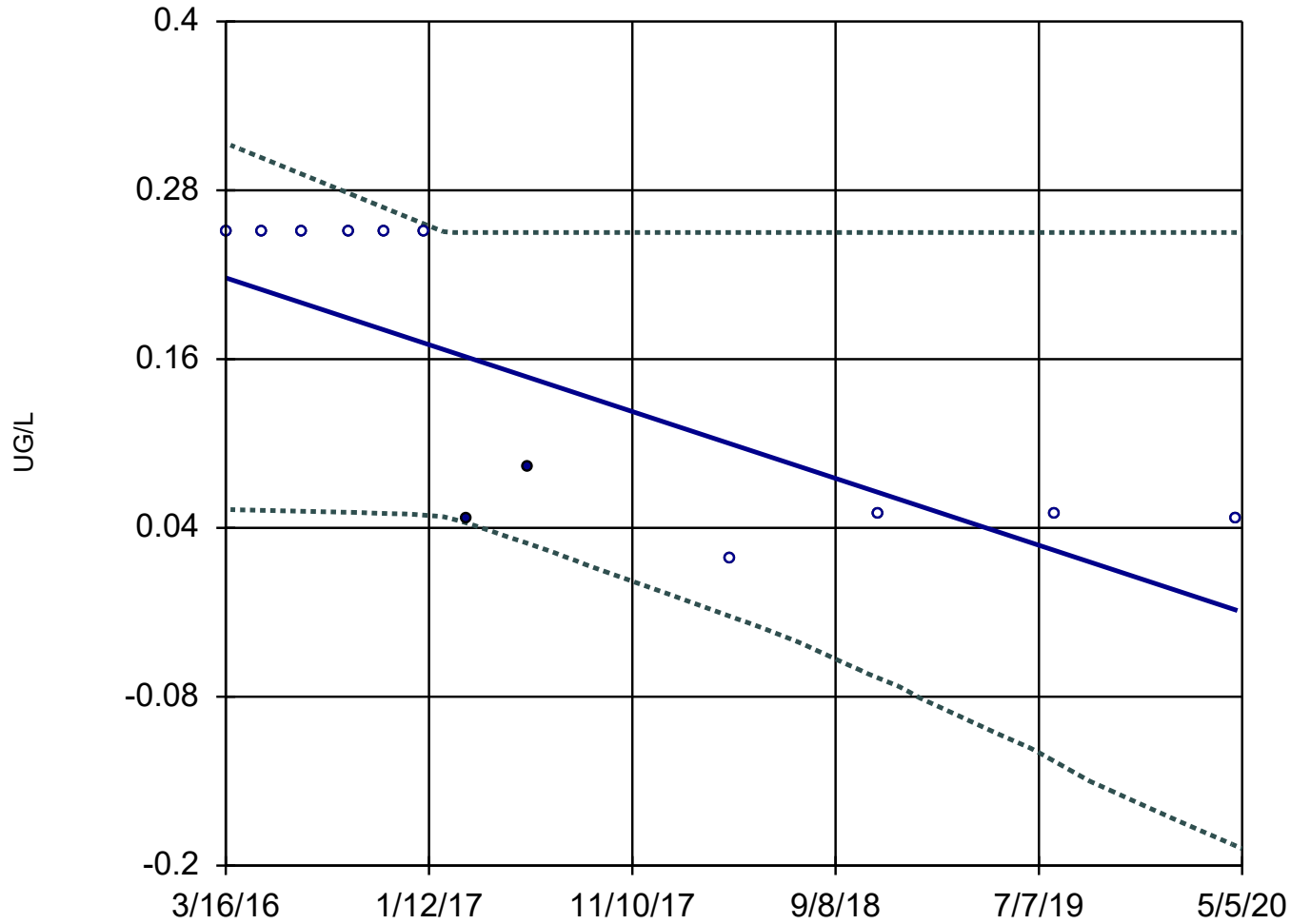
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 10:08 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-4D



n = 12

Slope = -0.05738
units per year.

Mann-Kendall
statistic = -36
critical = -35

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: THALLIUM, TOTAL Analysis Run 2/10/2021 10:08 AM View: Assessment Monitoring

Sioux E.C. Client: Ameren Data: SEC DATA_

Trend Test

Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 2/10/2021, 10:09 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	S-UMW-1D	-0.01759	-19	-35	No	12	41.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-2D	0	5	35	No	12	58.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-3D	0	0	35	No	12	75	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-4D	0.002431	19	35	No	12	91.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-5D	0	11	35	No	12	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-6D	0	11	35	No	12	100	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-1D	0.1984	74	48	Yes	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-2D	0.5978	86	48	Yes	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-3D	-0.01286	-6	-44	No	14	7.143	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-4D	0	0	44	No	14	21.43	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-5D	-0.0643	-32	-48	No	15	6.667	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-6D	0.03269	29	44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-1D	-5.765	-21	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-2D	-12.45	-49	-48	Yes	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-3D	-0.4097	-9	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-4D	-5.773	-39	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-5D	-4.93	-2	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-6D	0.8881	4	44	No	14	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-1D	0	-15	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-2D	0	-15	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-3D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-4D	0	-15	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-5D	0	-15	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-6D	0	-15	-35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-1D	0.001034	27	39	No	13	84.62	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-2D	0.07106	49	44	Yes	14	42.86	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-3D	0.3274	46	44	Yes	14	28.57	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-4D	0.5533	49	44	Yes	14	28.57	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-5D	0.03666	44	44	No	14	50	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-6D	0.003235	31	44	No	14	71.43	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-1D	-0.03811	-13	-35	No	12	41.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-2D	-0.06279	-33	-35	No	12	41.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-3D	-0.06109	-19	-35	No	12	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-4D	-0.07616	-36	-35	Yes	12	58.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-5D	-0.1341	-27	-35	No	12	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-6D	-0.06946	-24	-35	No	12	58.33	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-1D	0.02685	56	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-2D	0.02687	56	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-3D	0.02687	56	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-4D	0.02687	56	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-5D	0.02685	56	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-6D	0.02684	56	39	Yes	13	100	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-1D	-0.00...	-13	-58	No	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-2D	-0.201	-104	-58	Yes	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-3D	-0.01591	-21	-58	No	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-4D	-0.04811	-52	-63	No	18	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-5D	0.01321	11	58	No	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-6D	0.02374	55	58	No	17	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-1D	0.1286	23	39	No	13	92.31	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-2D	0.1447	27	39	No	13	76.92	n/a	n/a	0.02	NP

Trend Test

Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 2/10/2021, 10:09 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
LEAD, TOTAL (UG/L)	S-UMW-3D	-0.1275	-11	-39	No	13	61.54	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-4D	0.1028	4	39	No	13	53.85	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-5D	0	-4	-39	No	13	76.92	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-6D	0.1286	23	39	No	13	92.31	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-1D	-0.3607	-23	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-2D	-2.281	-23	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-3D	-0.07777	-7	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-4D	-1.493	-46	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-5D	-0.7914	-20	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-6D	0.2288	4	48	No	15	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-1D	0.002393	20	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-2D	0.002393	20	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-3D	0.002393	20	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-4D	0.002393	20	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-5D	0.002391	20	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-6D	0.00236	20	31	No	11	100	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-1D	-2.772	-28	-48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-2D	-80.09	-18	-48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-3D	-195.4	-44	-48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-4D	-581.5	-17	-48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-5D	46.45	17	48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-6D	-7.781	-39	-48	No	15	0	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-1D	0.03191	10	35	No	12	100	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-2D	0.05645	19	31	No	11	100	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-3D	0.1594	29	31	No	11	81.82	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-4D	0.04381	19	31	No	11	100	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-5D	0.03773	8	35	No	12	75	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-6D	0.1025	37	35	Yes	12	91.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-1D	0	-2	-39	No	13	84.62	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-2D	0	12	39	No	13	69.23	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-3D	-0.01009	-17	-39	No	13	15.38	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-4D	-0.01988	-21	-39	No	13	30.77	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-5D	-0.00...	-17	-39	No	13	30.77	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-6D	0	-26	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-1D	-0.0604	-37	-35	Yes	12	91.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-2D	-0.05477	-38	-35	Yes	12	83.33	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-3D	-0.05897	-44	-35	Yes	12	83.33	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-4D	-0.05738	-36	-35	Yes	12	83.33	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-5D	-0.05479	-29	-35	No	12	91.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-6D	-0.05404	-29	-35	No	12	100	n/a	n/a	0.02	NP

APPENDIX D

**April 2021 Assessment Monitoring
Statistical Evaluation**

TECHNICAL MEMORANDUM

DATE August 10, 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 SCPA SURFACE IMPOUNDMENT SIOUX ENERGY CENTER, ST. CHARLES COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the April 2021 sampling event at the SCPA Surface Impoundment of the Sioux Energy Center located in St. Charles 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:

- Antimony
 - S-UMW-3D at 0.21 J micrograms per liter (µg/L) on 5/10/2016: Value is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
- Arsenic
 - S-UMW-1D at 7.4 µg/L on 11/11/2020: Value is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.

An analysis of the outliers removed to date was completed and no statistical outliers that were previously removed were added back into the dataset.

No new SSLs were identified in the April 2021 sampling event. The SSLs reported for the April 2021 monitoring event are as follows:

- Molybdenum at UMW-2D, UMW-3D, UMW-4D and UMW-5D

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 – SCPA Groundwater Protection Standards

Appendix A – Sanitas Confidence Interval Statistical Output

Appendix B – Sanitas Trending Confidence Bands Statistical Output

**Table 1 - SCPA Groundwater Protection Standards
SCPA Surface Impoundment
Sioux Energy Center, St. Charles County, MO**

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring ⁶
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	10	0.6933
Barium	µg/L	2000	2000	699
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	DQR
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.403
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	40	28.86
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	2.537
Selenium	µg/L	50	50	DQR
Thallium	µg/L	2	2	DQR

Notes:

1. µg/L - micrograms per liter.
2. mg/L - milligrams per liter.
3. pCi/L - picocuries per liter.

4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Spring 2012.
<http://water.epa.gov/drink/contaminants/index.cfm>.

5. Health Based Groundwater Protection Standards (GWPS) were adopted for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at <https://www.epa.gov/coalash/coal-ash-rule>.

6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.

7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.

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-1D and BMW-3D.

Prepared by: EMS

Checked by: LMS

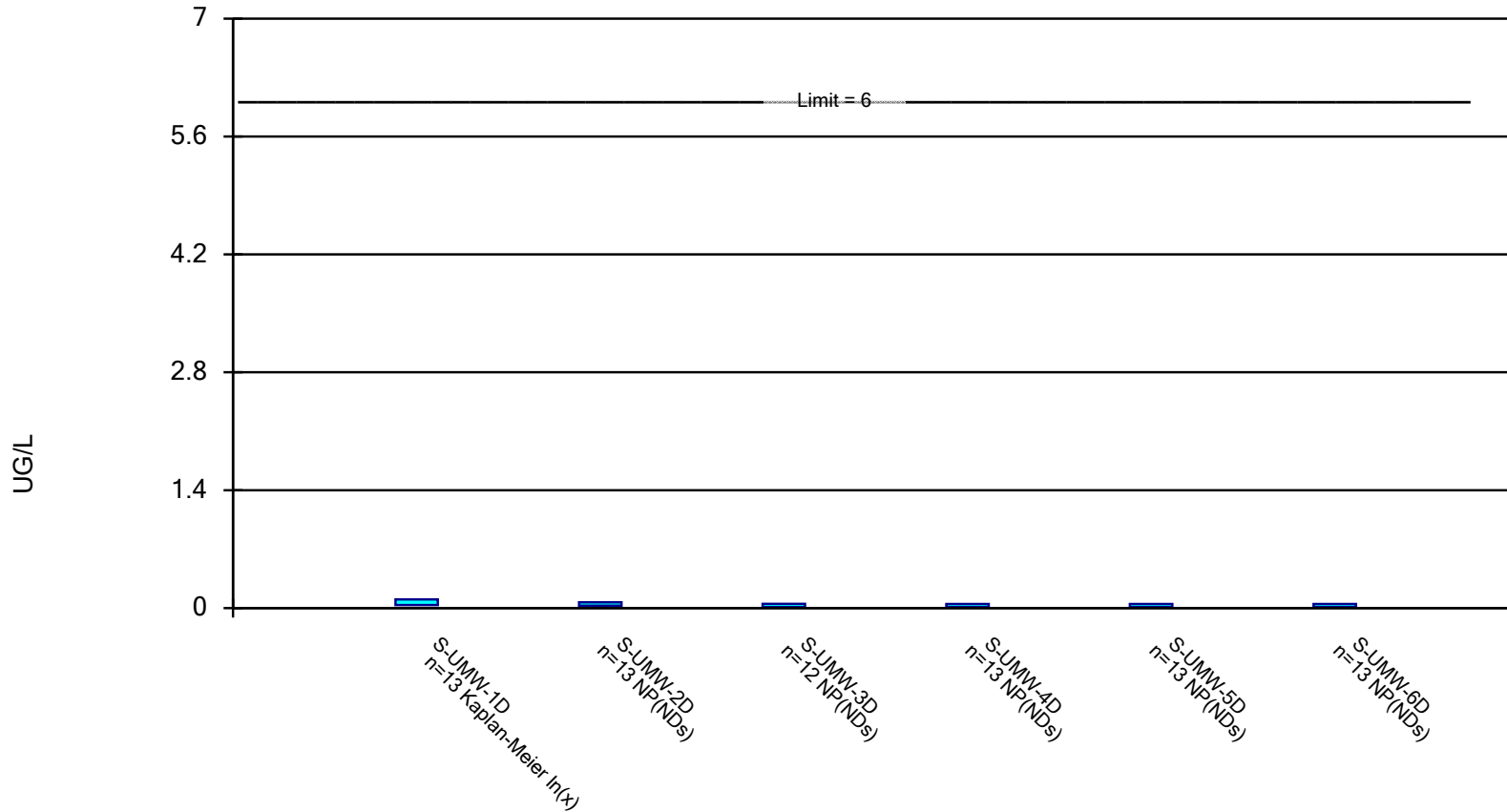
Reviewed by: SCP

APPENDIX A

**Sanitas Confidence Interval
Statistical Output**

Parametric and Non-Parametric (NP) Confidence Interval

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

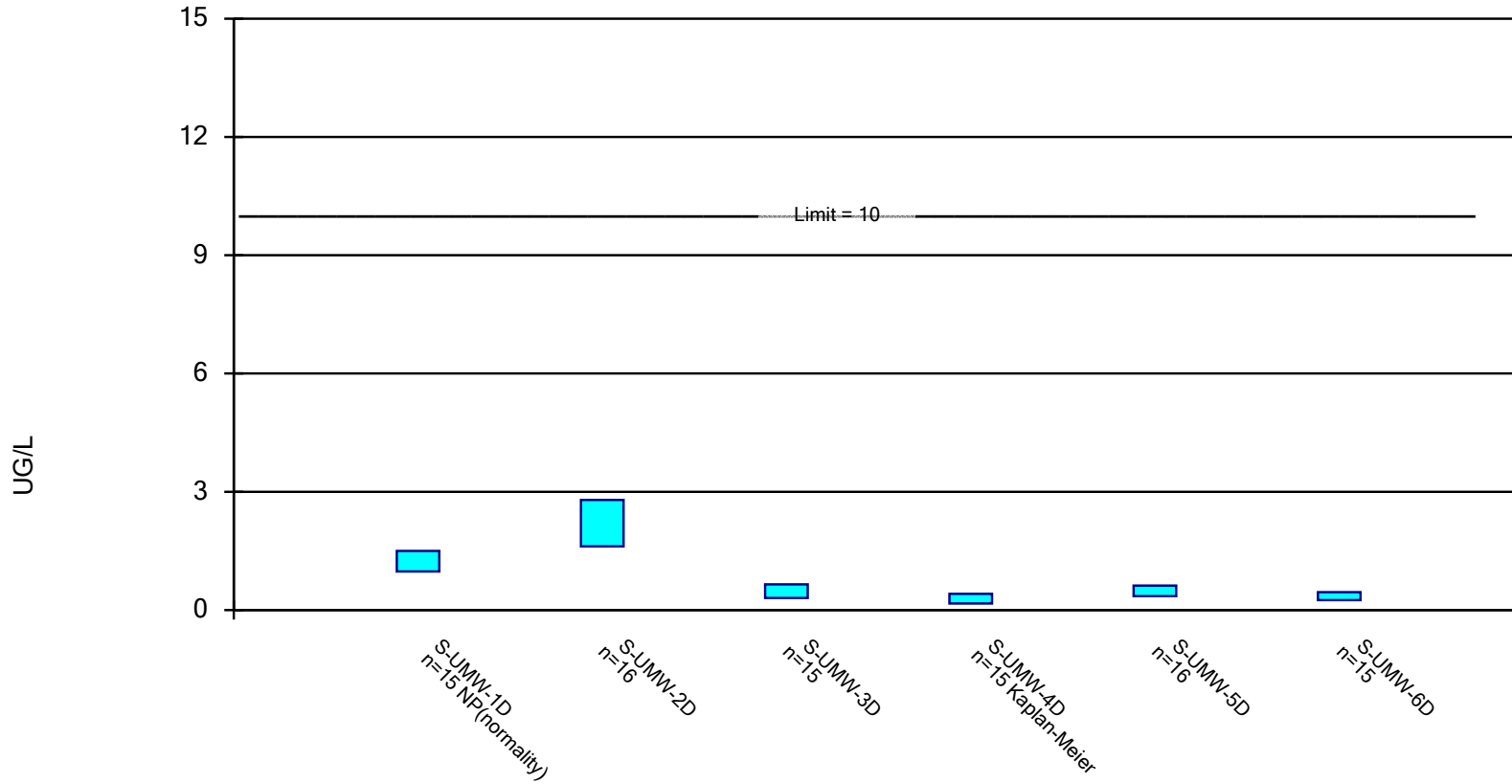


Constituent: ANTIMONY, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC 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.

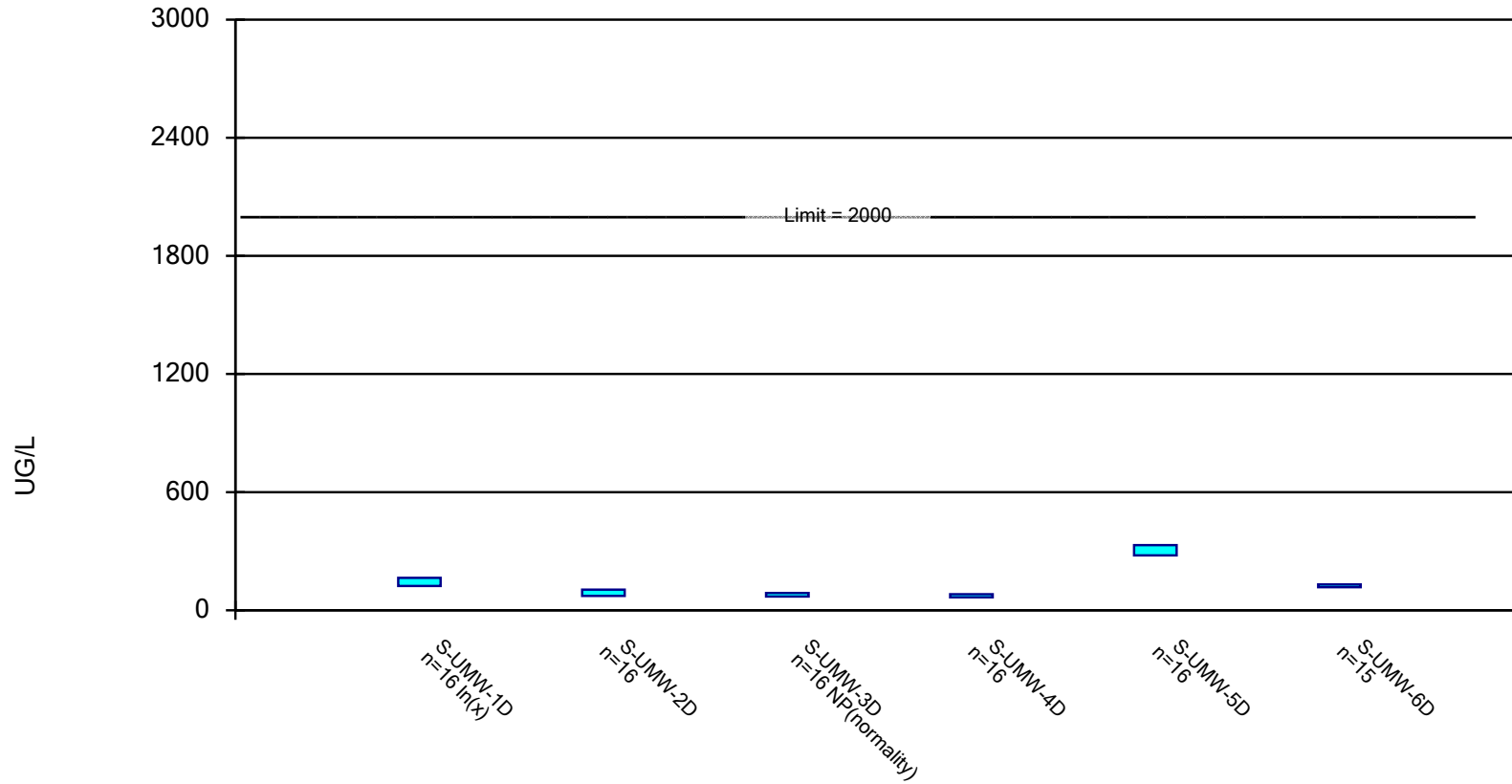


Constituent: ARSENIC, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

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

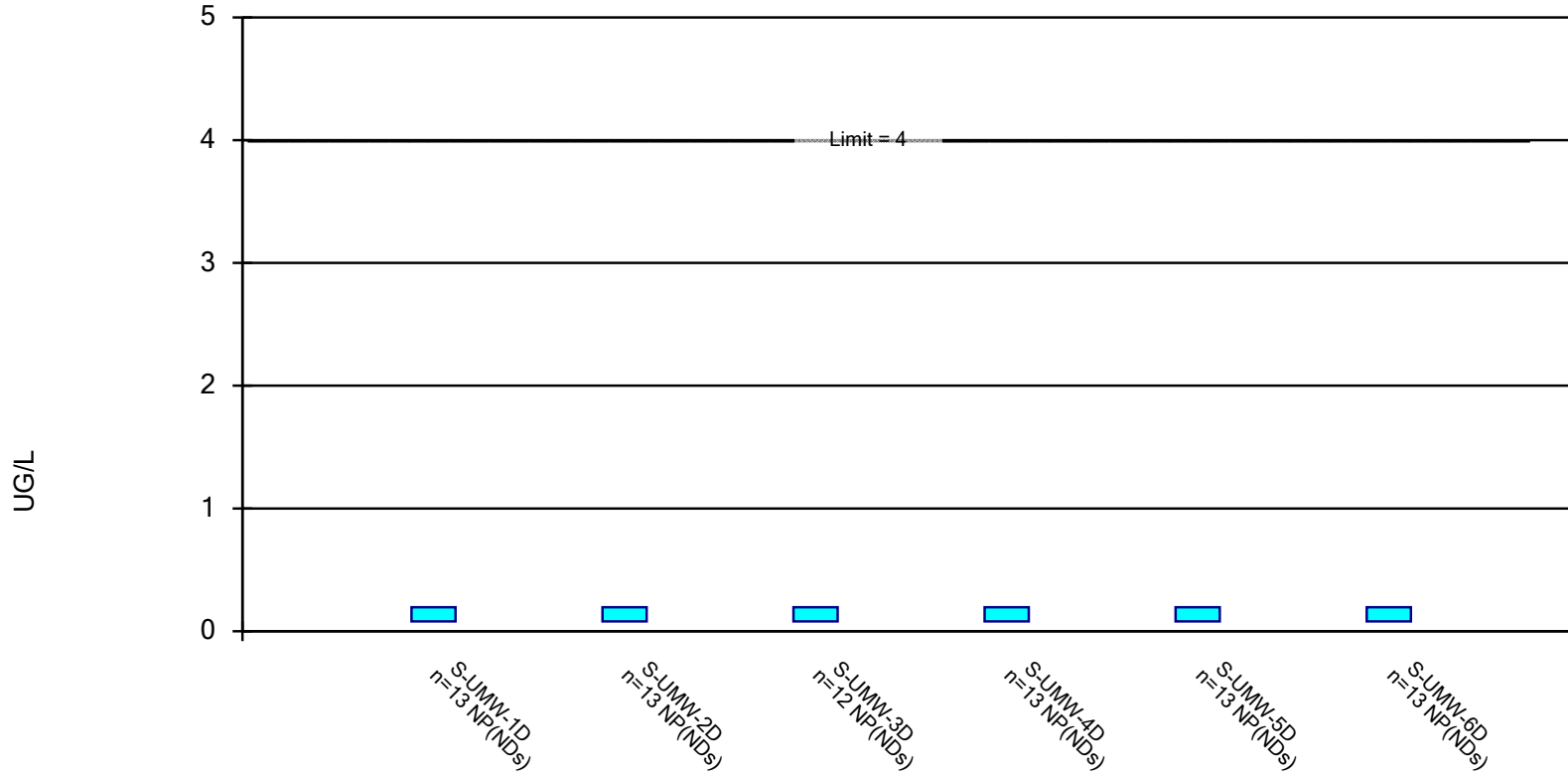


Constituent: BARIUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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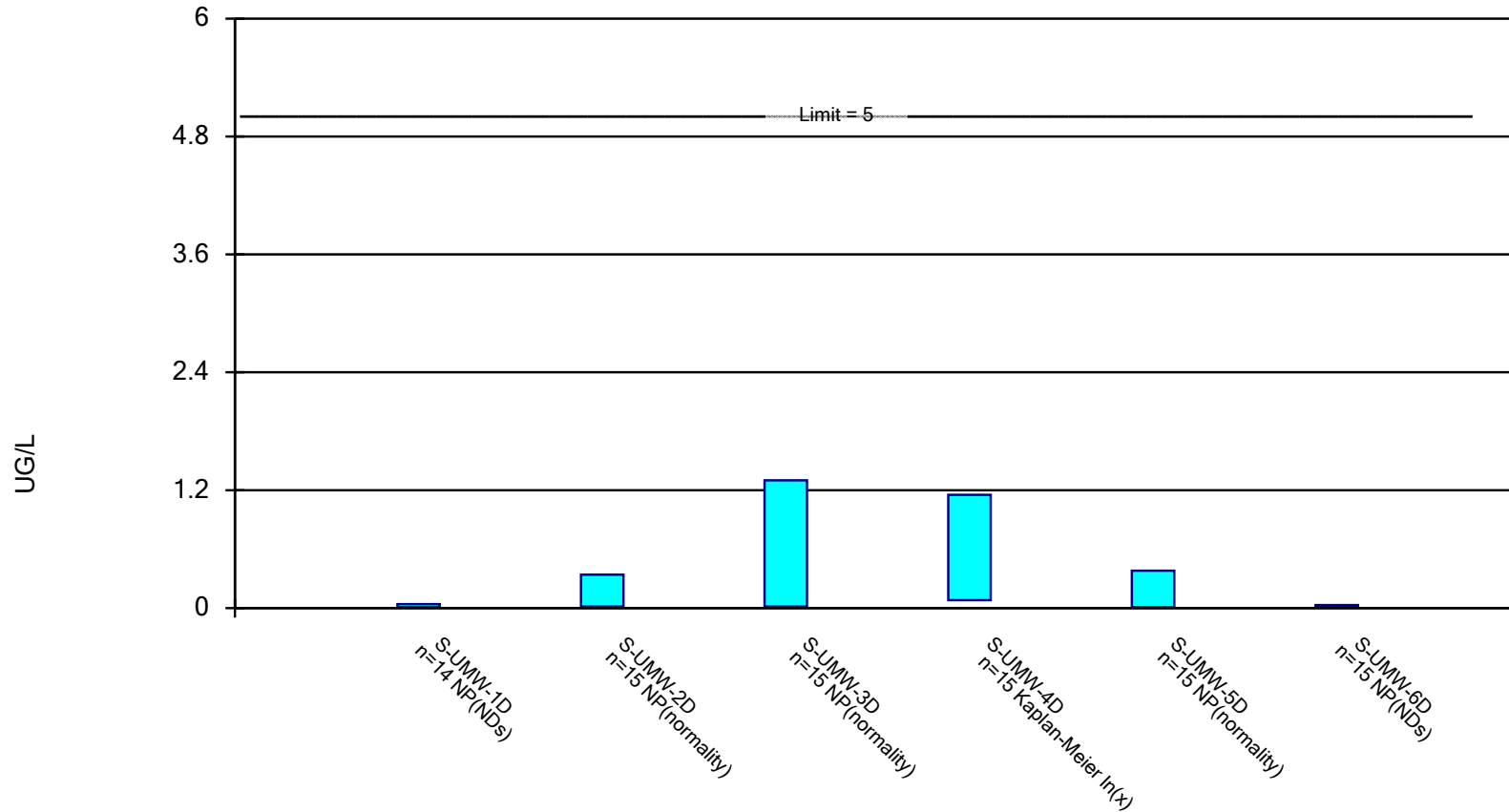


Constituent: BERYLLIUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

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

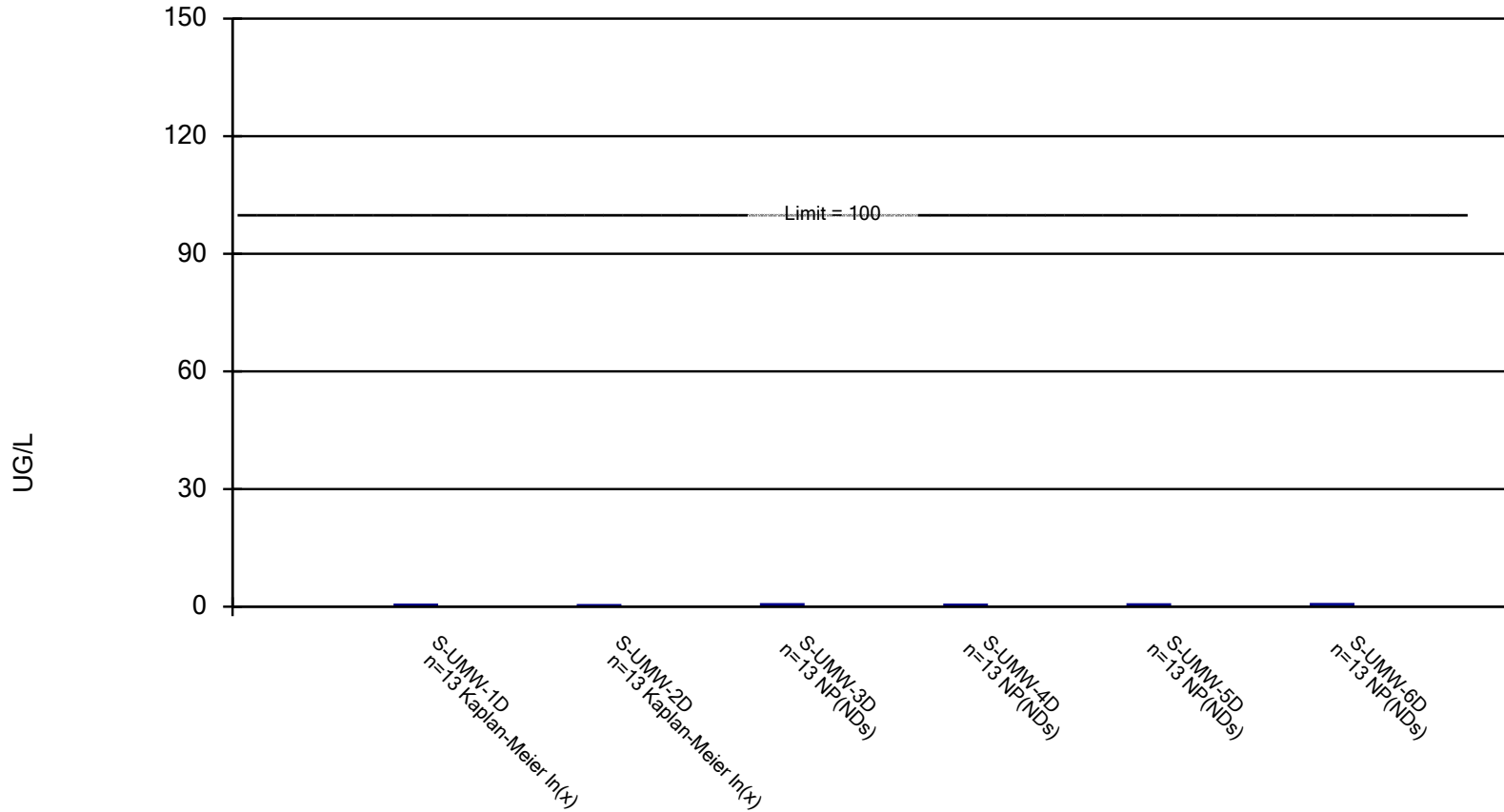


Constituent: CADMIUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC 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.

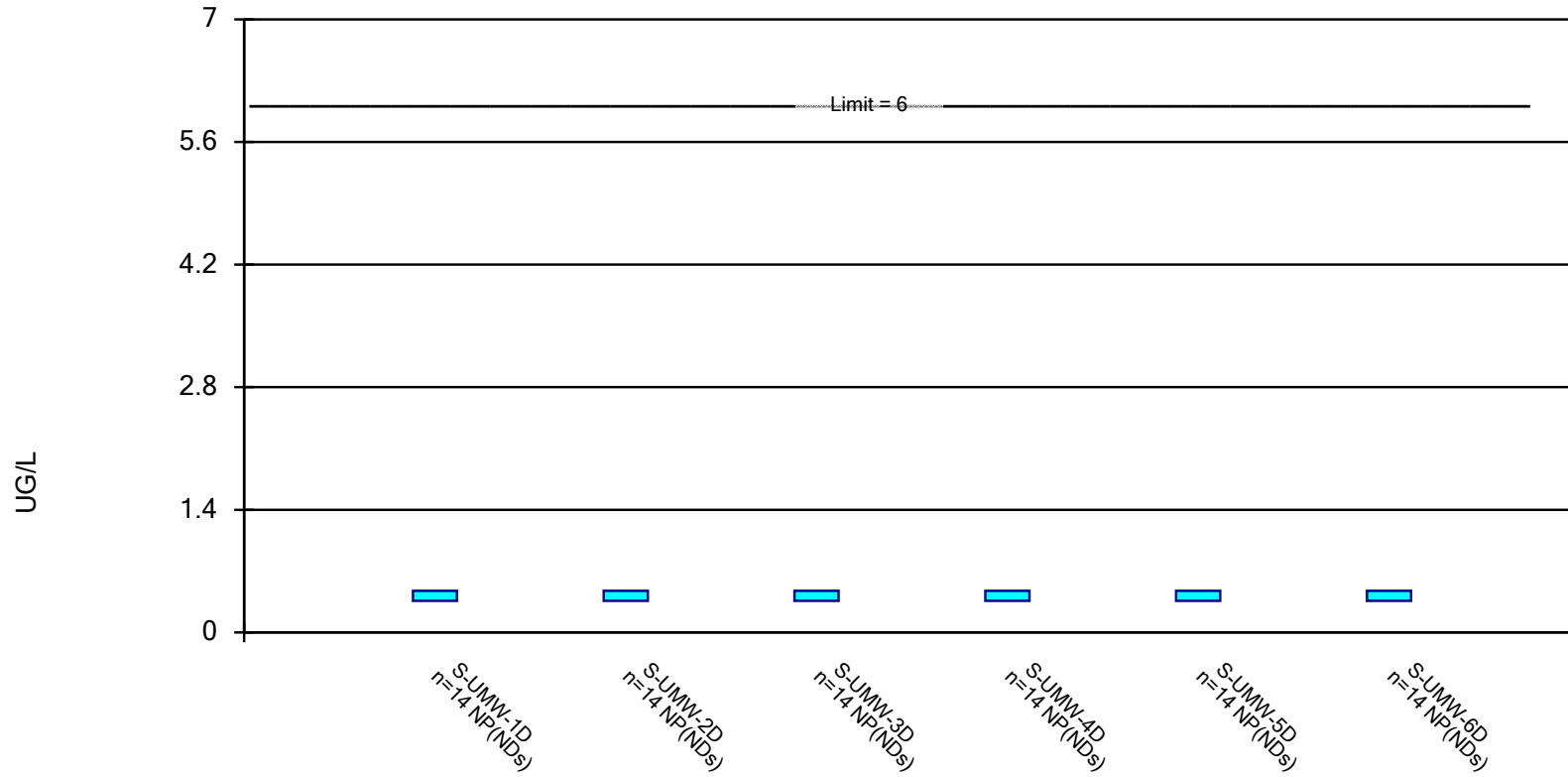


Constituent: CHROMIUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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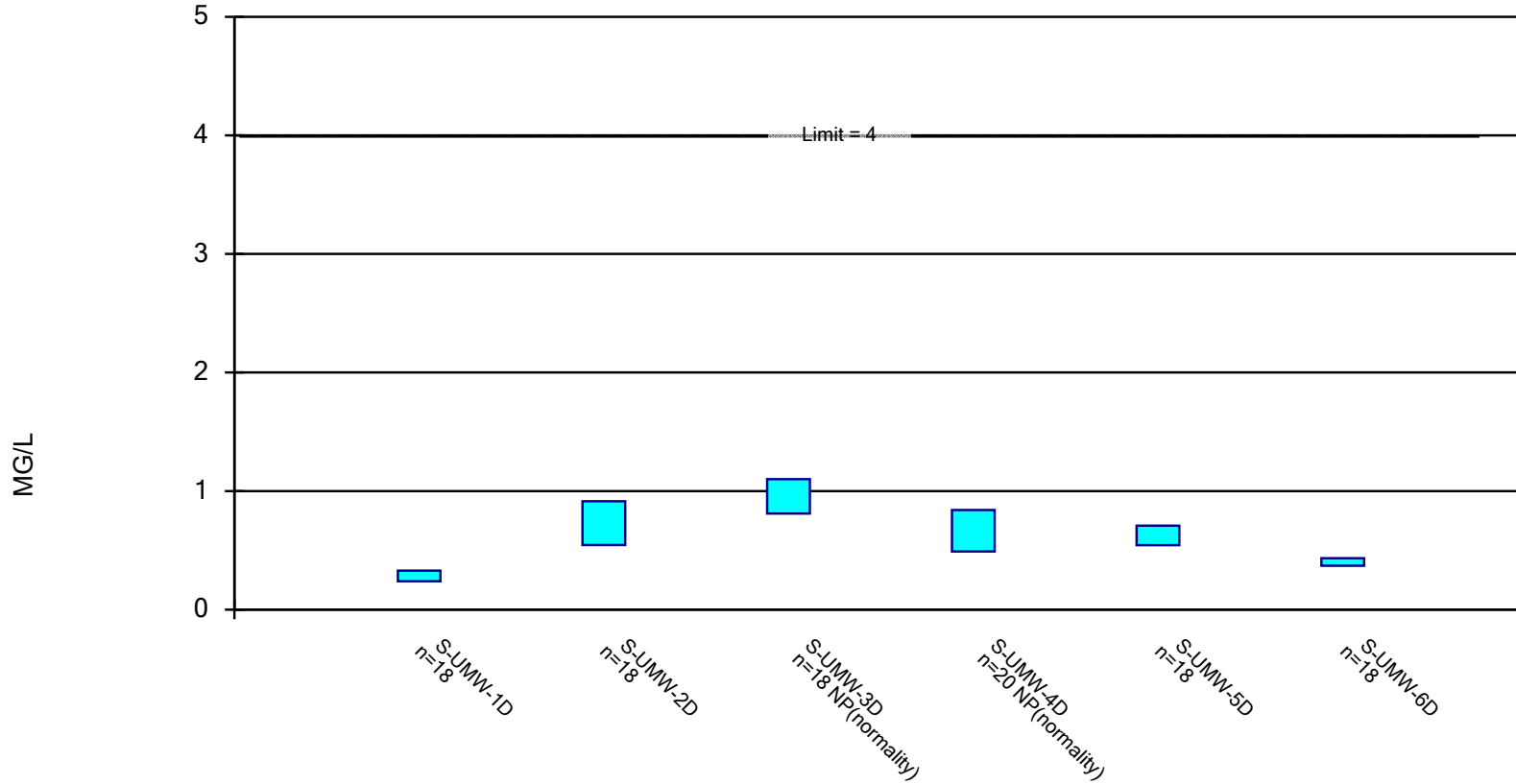


Constituent: COBALT, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC 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.

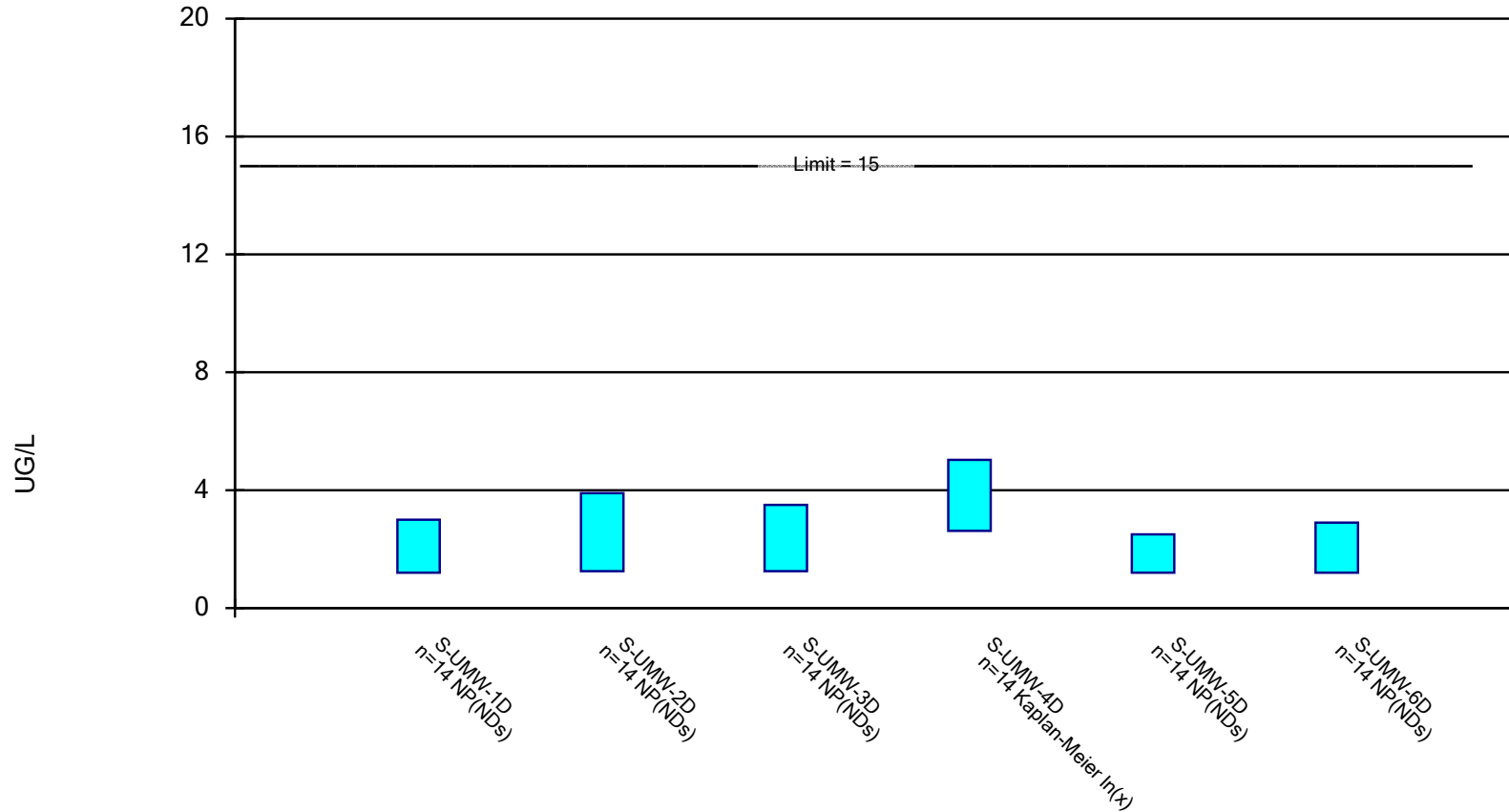


Constituent: FLUORIDE, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric and Non-Parametric (NP) Confidence Interval

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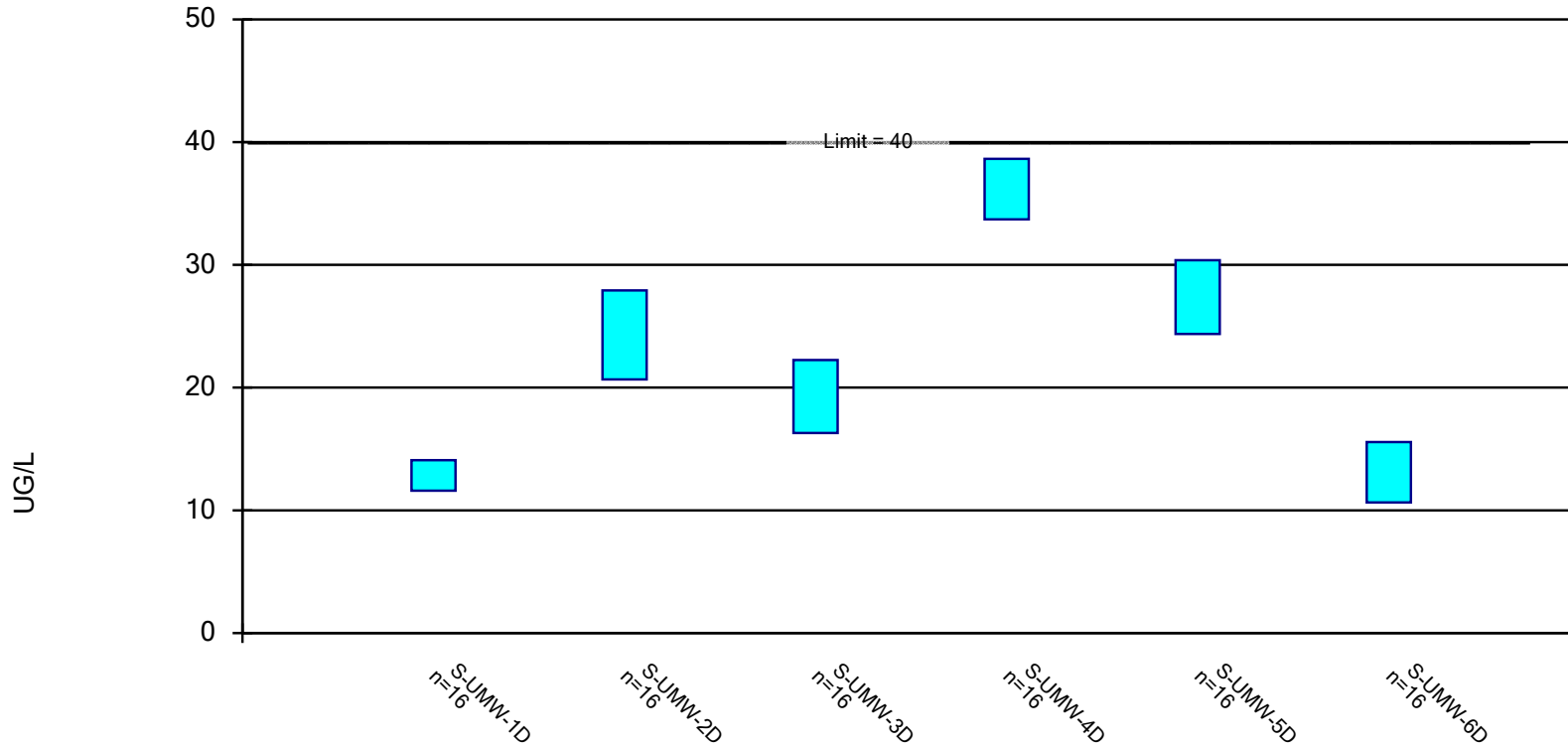


Constituent: LEAD, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Parametric Confidence Interval

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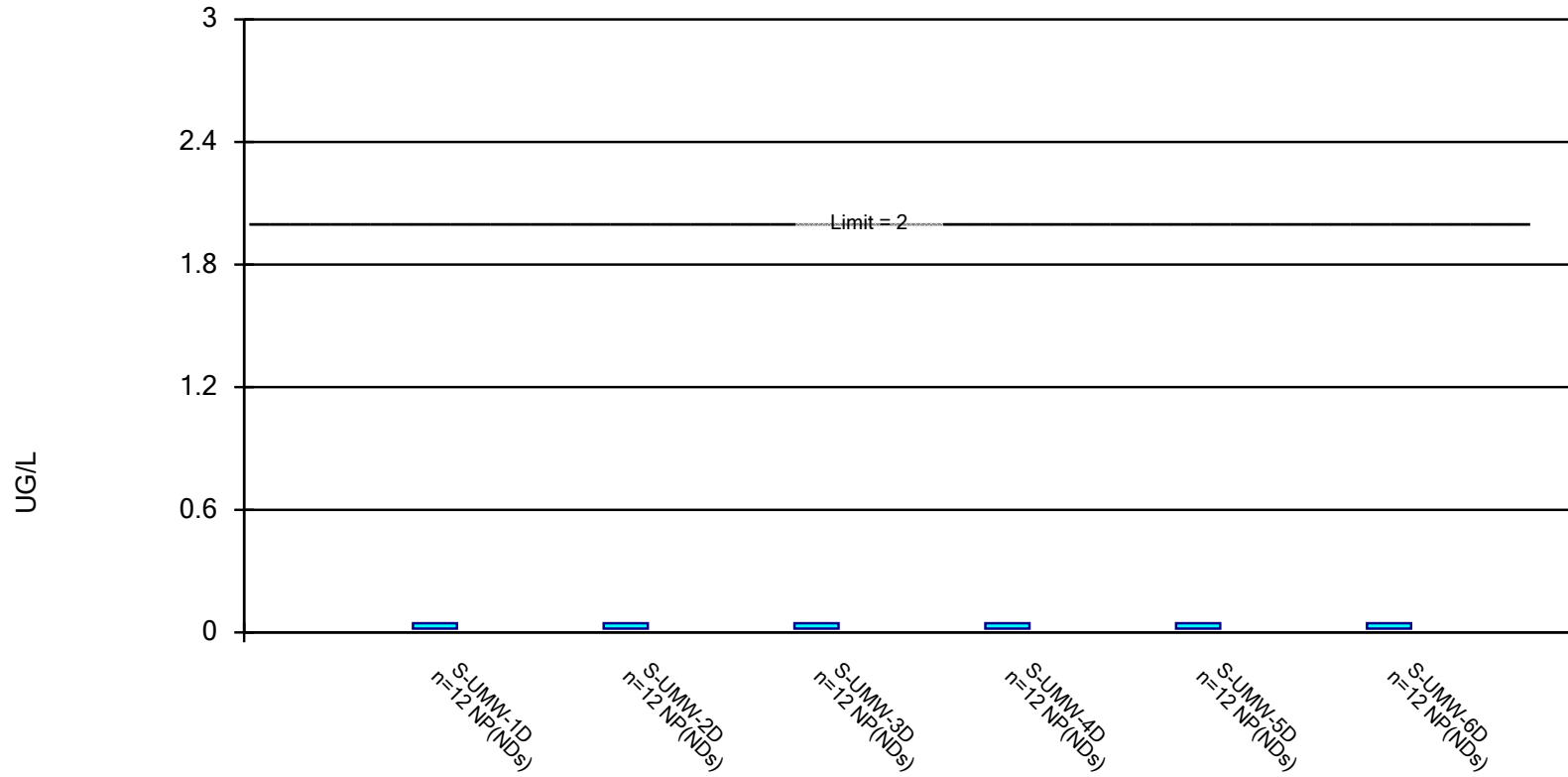


Constituent: LITHIUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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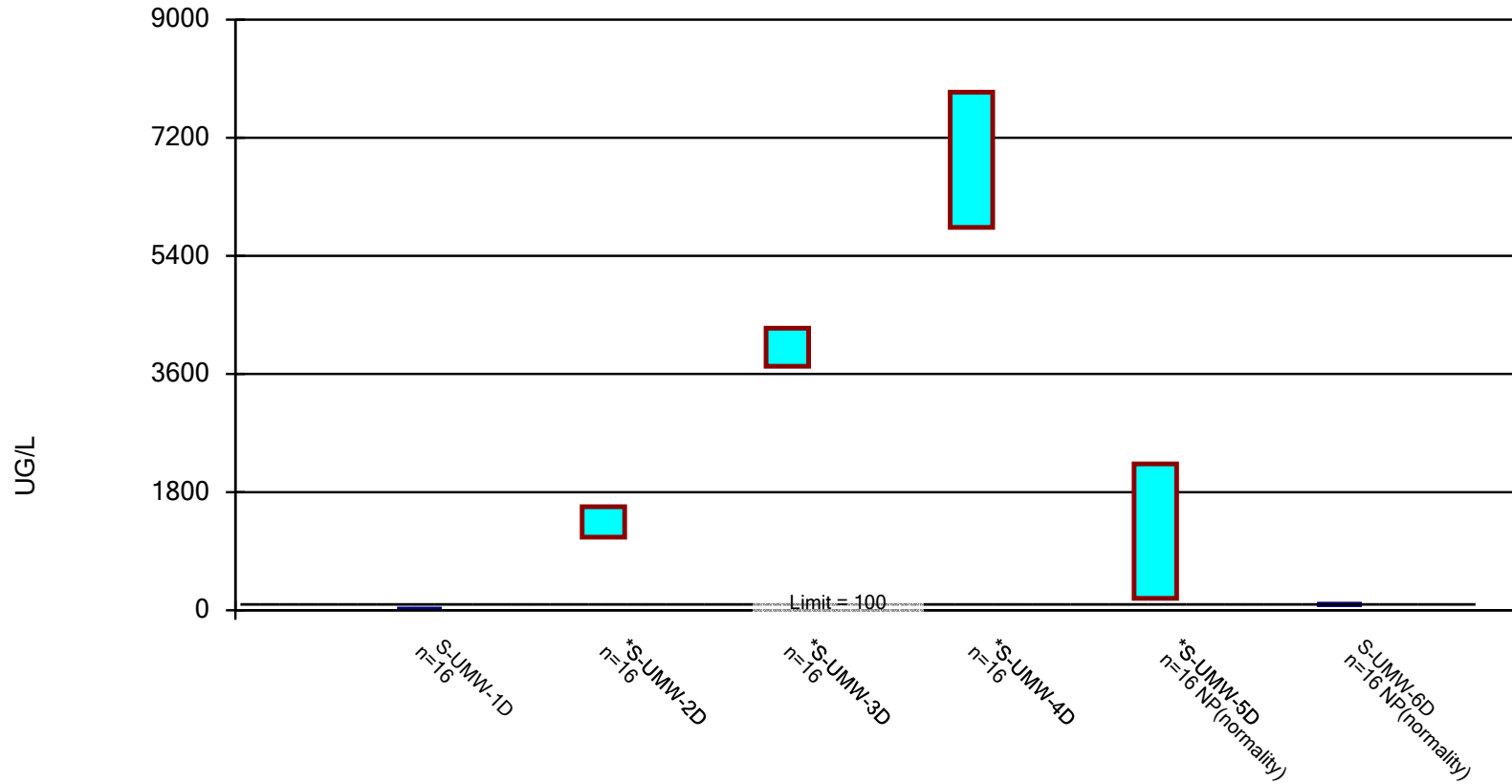


Constituent: MERCURY, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC 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.

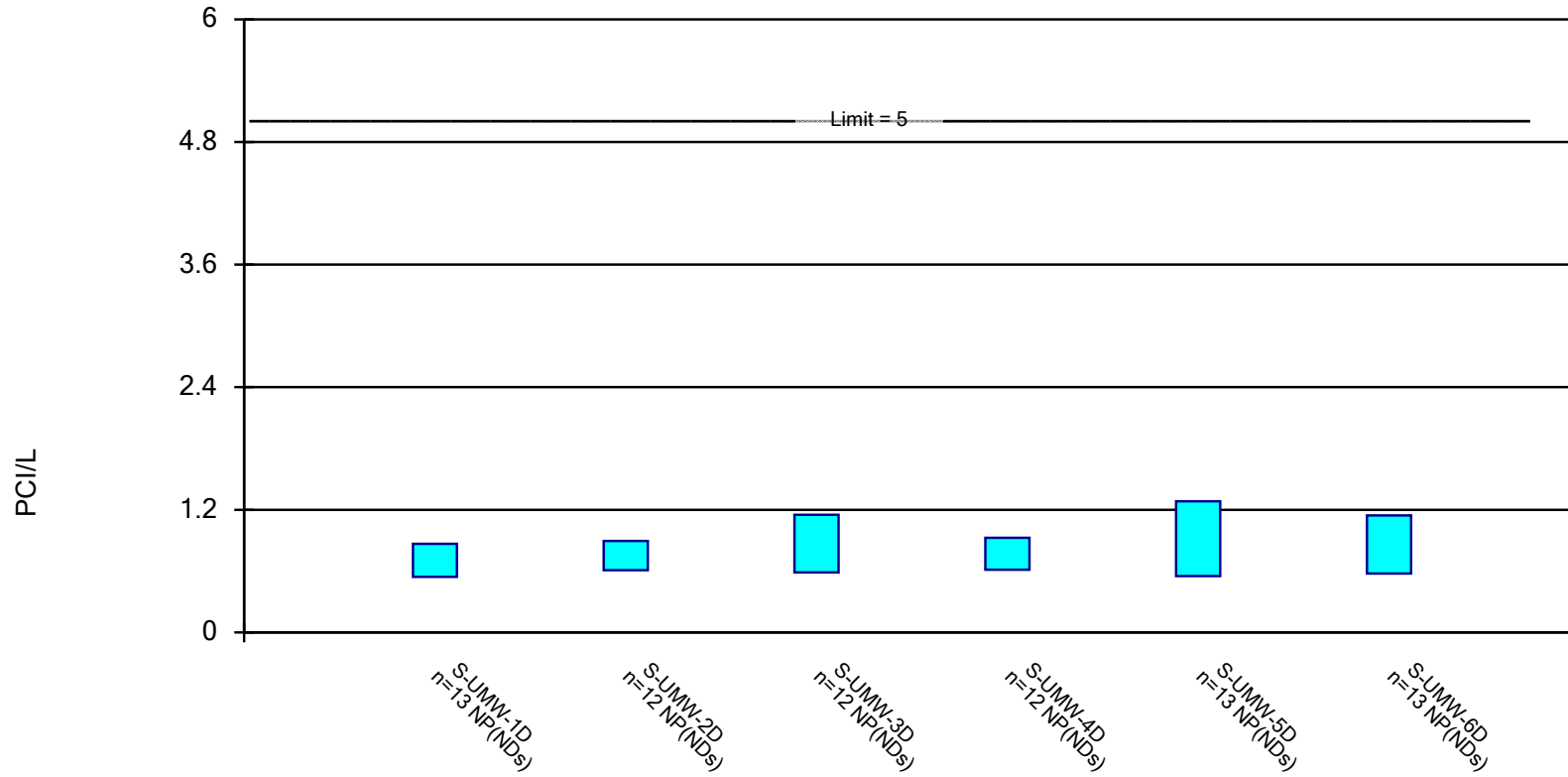


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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

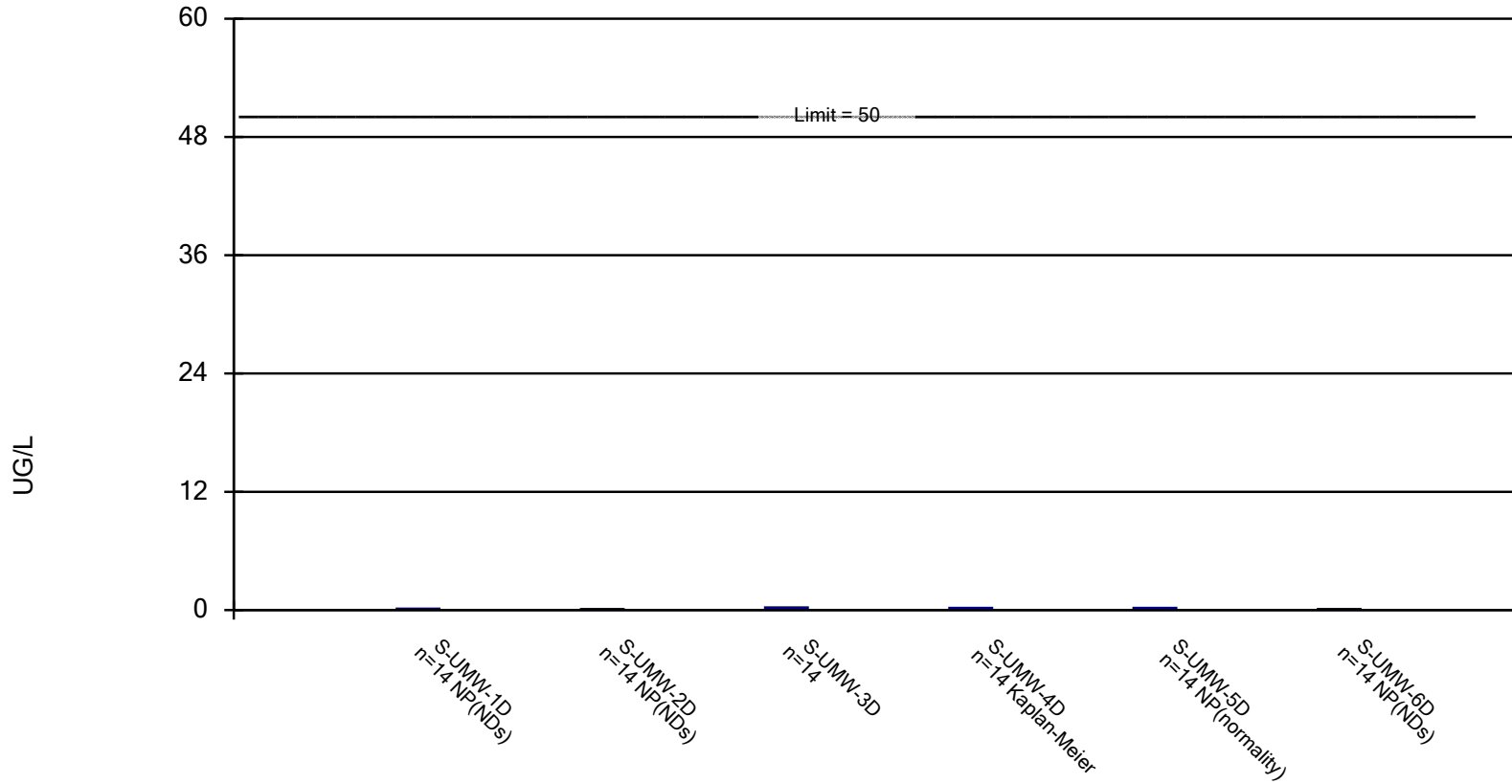


Constituent: RADIUM [226 + 228] Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC 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.

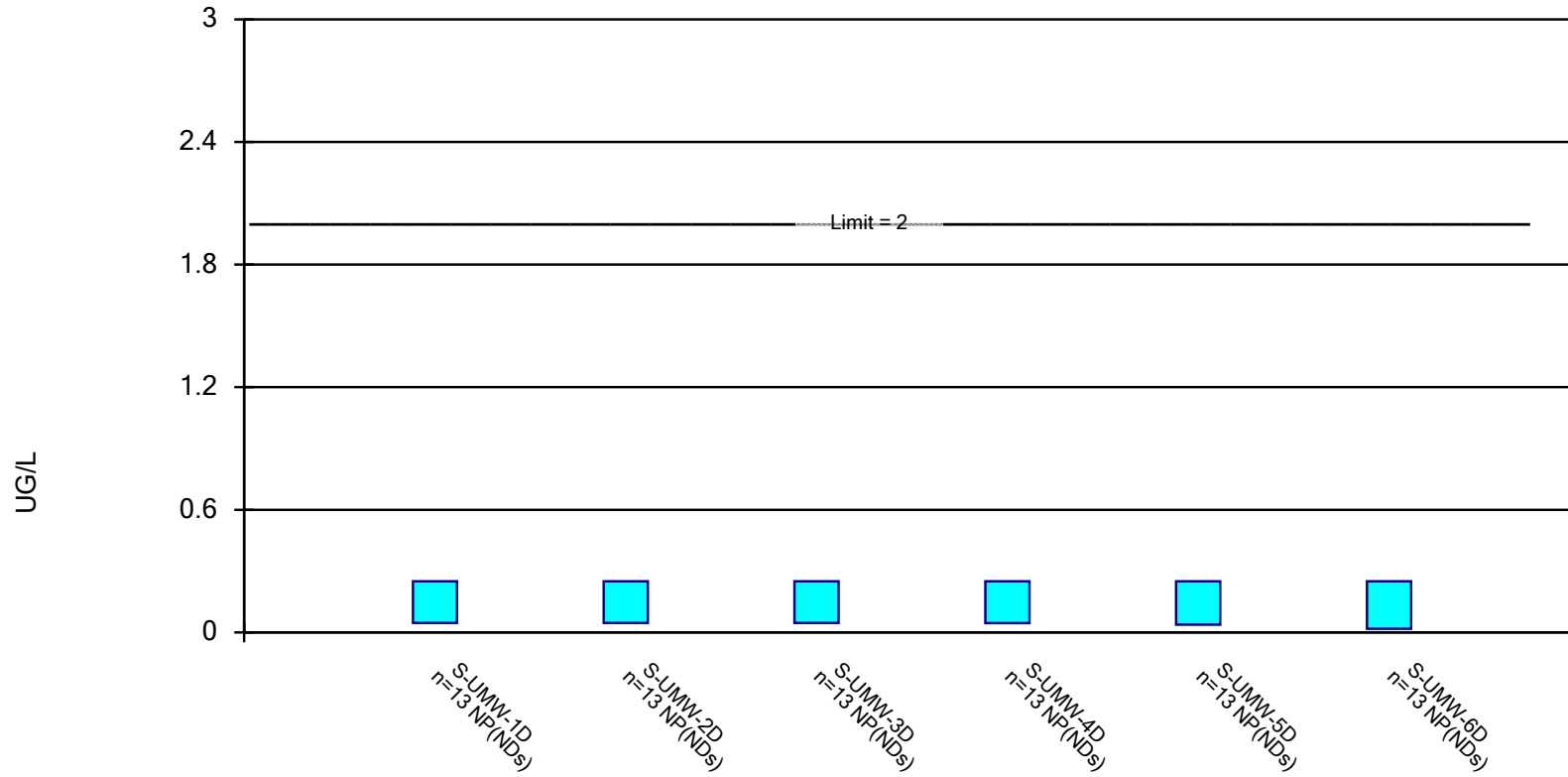


Constituent: SELENIUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Non-Parametric Confidence Interval

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



Constituent: THALLIUM, TOTAL Analysis Run 7/22/2021 9:17 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Confidence Interval

Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 7/22/2021, 9:18 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	S-UMW-1D	0.1034	0.03668	6	No	13	38.46	ln(x)	0.01	Param.
ANTIMONY, TOTAL (UG/L)	S-UMW-2D	0.068	0.029	6	No	13	61.54	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-3D	0.05	0.013	6	No	12	83.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-4D	0.0485	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-5D	0.0485	0.013	6	No	13	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	S-UMW-6D	0.0485	0.013	6	No	13	100	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	S-UMW-1D	1.5	0.98	10	No	15	0	No	0.01	NP (normality)
ARSENIC, TOTAL (UG/L)	S-UMW-2D	2.793	1.616	10	No	16	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-3D	0.6526	0.3056	10	No	15	6.667	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-4D	0.4091	0.1663	10	No	15	20	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-5D	0.6217	0.3528	10	No	16	6.25	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	S-UMW-6D	0.4536	0.2531	10	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-1D	164.5	123.1	2000	No	16	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-2D	105	72.67	2000	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-3D	88	69.5	2000	No	16	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	S-UMW-4D	81.03	66.1	2000	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-5D	330.8	279	2000	No	16	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	S-UMW-6D	131.4	117.1	2000	No	15	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	S-UMW-1D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-2D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-3D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-4D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-5D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	S-UMW-6D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	S-UMW-1D	0.04	0.009	5	No	14	78.57	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	S-UMW-2D	0.34	0.0145	5	No	15	40	No	0.01	NP (normality)
CADMIUM, TOTAL (UG/L)	S-UMW-3D	1.3	0.0145	5	No	15	26.67	No	0.01	NP (normality)
CADMIUM, TOTAL (UG/L)	S-UMW-4D	1.153	0.08041	5	No	15	26.67	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	S-UMW-5D	0.38	0.009	5	No	15	46.67	No	0.01	NP (normality)
CADMIUM, TOTAL (UG/L)	S-UMW-6D	0.031	0.009	5	No	15	73.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	S-UMW-1D	0.5123	0.09738	100	No	13	38.46	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	S-UMW-2D	0.3754	0.08157	100	No	13	46.15	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	S-UMW-3D	0.62	0.039	100	No	13	53.85	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	S-UMW-4D	0.48	0.039	100	No	13	61.54	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	S-UMW-5D	0.56	0.027	100	No	13	53.85	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	S-UMW-6D	0.67	0.027	100	No	13	61.54	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-1D	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-2D	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-3D	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-4D	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-5D	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	S-UMW-6D	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	S-UMW-1D	0.3287	0.239	4	No	18	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	S-UMW-2D	0.9135	0.5454	4	No	18	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	S-UMW-3D	1.1	0.81	4	No	18	5.556	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	S-UMW-4D	0.84	0.49	4	No	20	5	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	S-UMW-5D	0.7079	0.5432	4	No	18	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	S-UMW-6D	0.4338	0.3696	4	No	18	0	No	0.01	Param.
LEAD, TOTAL (UG/L)	S-UMW-1D	3	1.2	15	No	14	85.71	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	S-UMW-2D	3.9	1.25	15	No	14	71.43	No	0.01	NP (NDs)

Confidence Interval

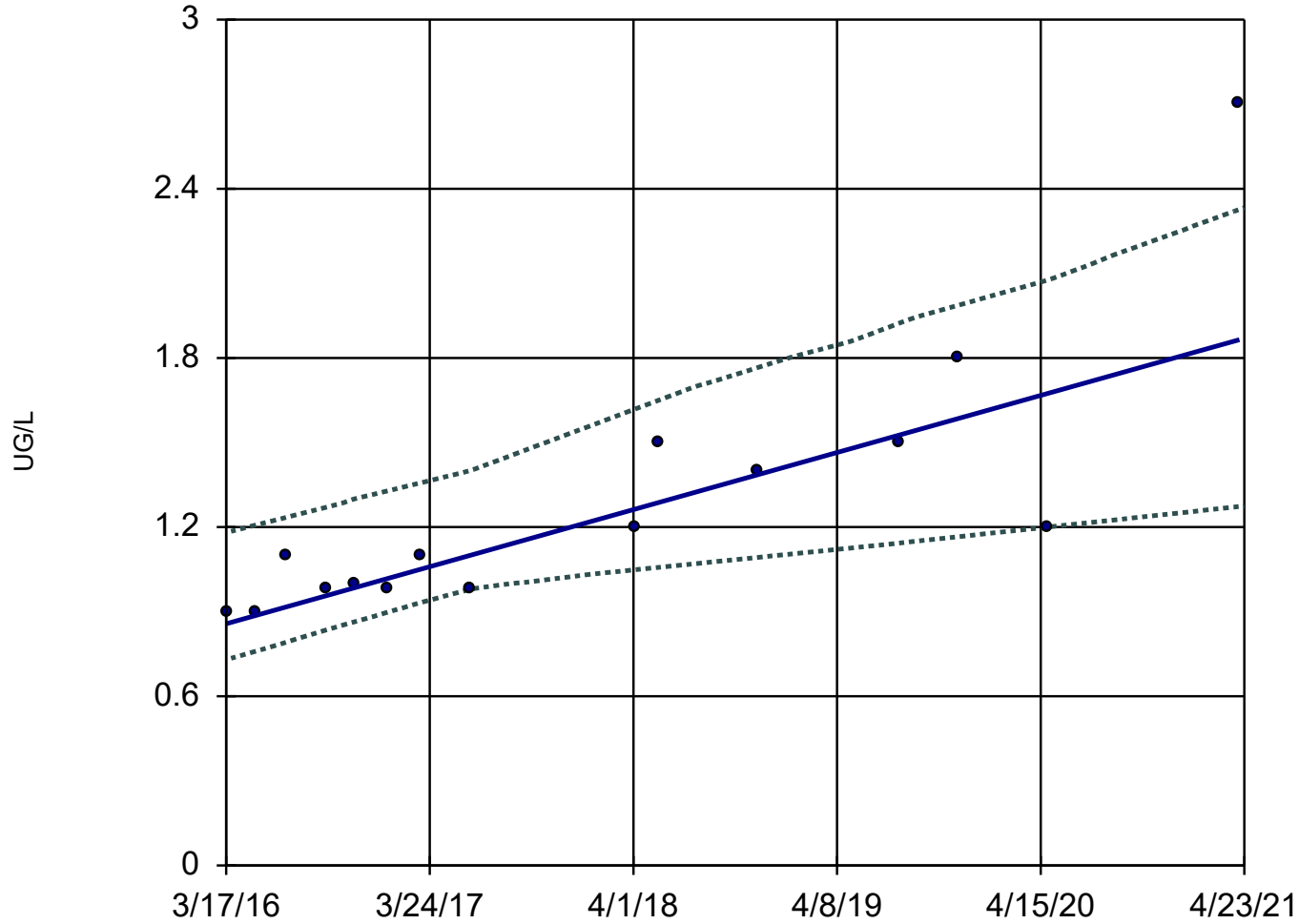
Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 7/22/2021, 9:18 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
LEAD, TOTAL (UG/L)	S-UMW-3D	3.5	1.25	15	No	14	57.14	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	S-UMW-4D	5.028	2.618	15	No	14	50	ln(x)	0.01	Param.
LEAD, TOTAL (UG/L)	S-UMW-5D	2.5	1.2	15	No	14	78.57	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	S-UMW-6D	2.9	1.2	15	No	14	92.86	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	S-UMW-1D	14.08	11.59	40	No	16	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-2D	27.92	20.66	40	No	16	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-3D	22.24	16.31	40	No	16	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-4D	38.64	33.7	40	No	16	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-5D	30.38	24.37	40	No	16	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	S-UMW-6D	15.57	10.65	40	No	16	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	S-UMW-1D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-2D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-3D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-4D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-5D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	S-UMW-6D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	S-UMW-1D	37.54	26.79	100	No	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-2D	1576	1114	100	Yes	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-3D	4298	3717	100	Yes	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-4D	7894	5833	100	Yes	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	S-UMW-5D	2230	181	100	Yes	16	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	S-UMW-6D	112	66.1	100	No	16	0	No	0.01	NP (normality)
RADIUM [226 + 228] (PCI/L)	S-UMW-1D	0.8665	0.543	5	No	13	100	No	0.01	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-2D	0.8955	0.609	5	No	12	100	No	0.01	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-3D	1.151	0.5865	5	No	12	83.33	No	0.01	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-4D	0.9255	0.613	5	No	12	100	No	0.01	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-5D	1.283	0.552	5	No	13	76.92	No	0.01	NP (NDs)
RADIUM [226 + 228] (PCI/L)	S-UMW-6D	1.145	0.576	5	No	13	92.31	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	S-UMW-1D	0.13	0.043	50	No	14	78.57	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	S-UMW-2D	0.096	0.043	50	No	14	71.43	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	S-UMW-3D	0.2549	0.1565	50	No	14	14.29	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	S-UMW-4D	0.2071	0.1409	50	No	14	28.57	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	S-UMW-5D	0.22	0.09	50	No	14	28.57	No	0.01	NP (normality)
SELENIUM, TOTAL (UG/L)	S-UMW-6D	0.09	0.0425	50	No	14	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-1D	0.25	0.0465	2	No	13	92.31	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-2D	0.25	0.0465	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-3D	0.25	0.0465	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-4D	0.25	0.046	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-5D	0.25	0.038	2	No	13	92.31	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	S-UMW-6D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)

APPENDIX B

Sanitas Trending Confidence Band
Statistical Output

Sen's Slope and 95% Confidence Band S-UMW-1D



n = 15

Slope = 0.1984
units per year.

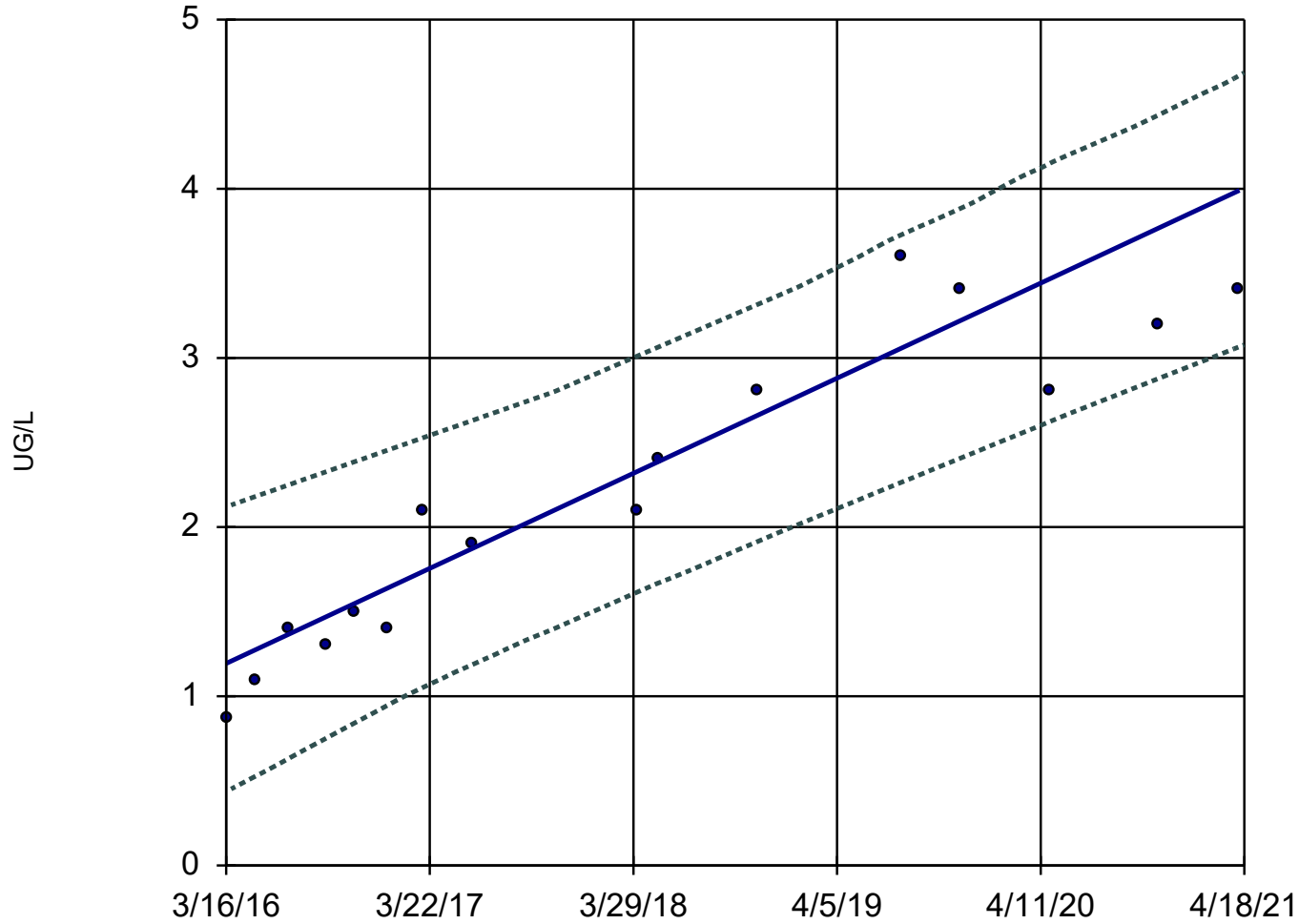
Mann-Kendall
statistic = 74
critical = 48

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: ARSENIC, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band S-UMW-2D



n = 16

Slope = 0.5517
units per year.

Mann-Kendall
statistic = 98
critical = 53

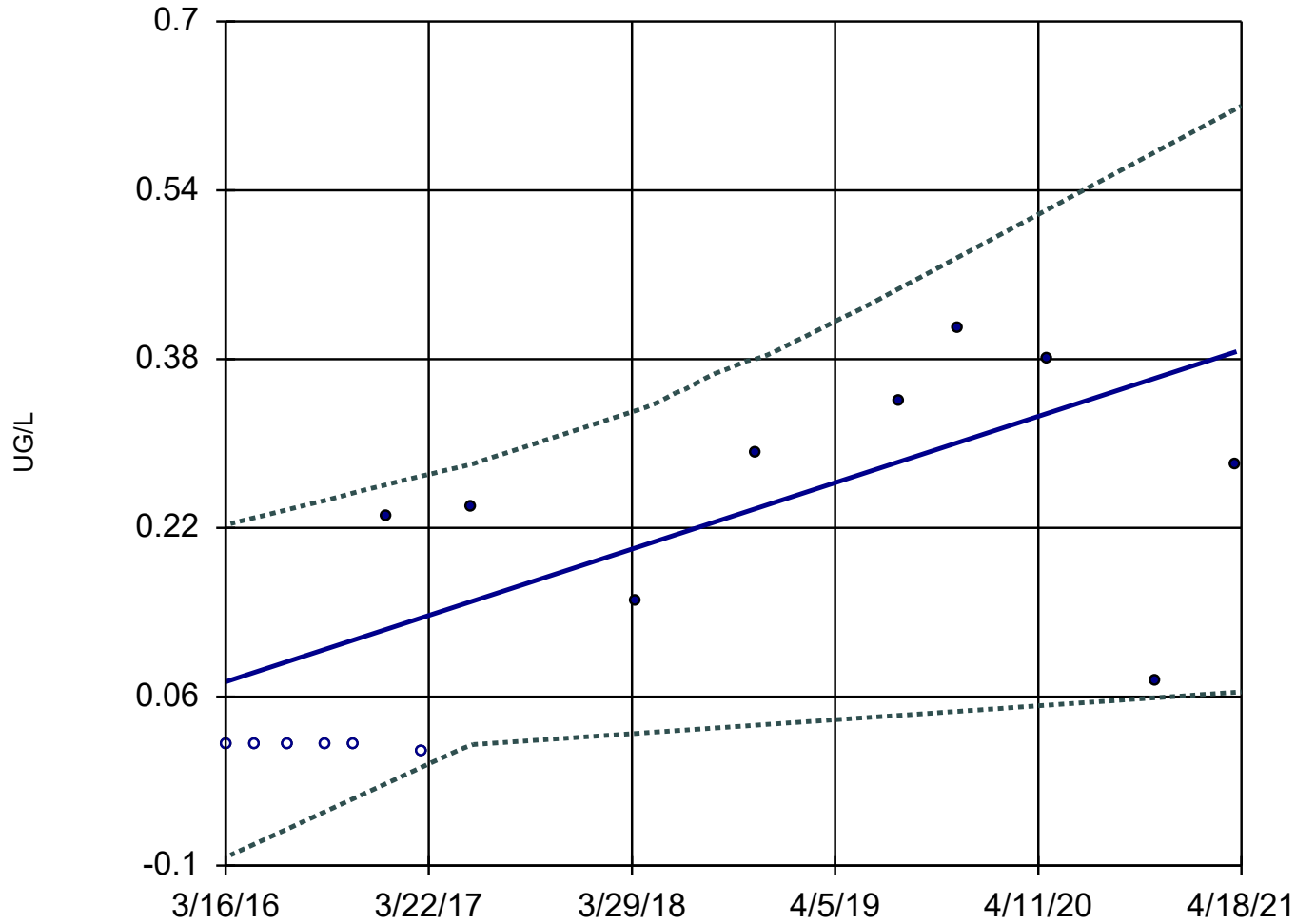
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: ARSENIC, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 15

Slope = 0.06175
units per year.

Mann-Kendall
statistic = 55
critical = 48

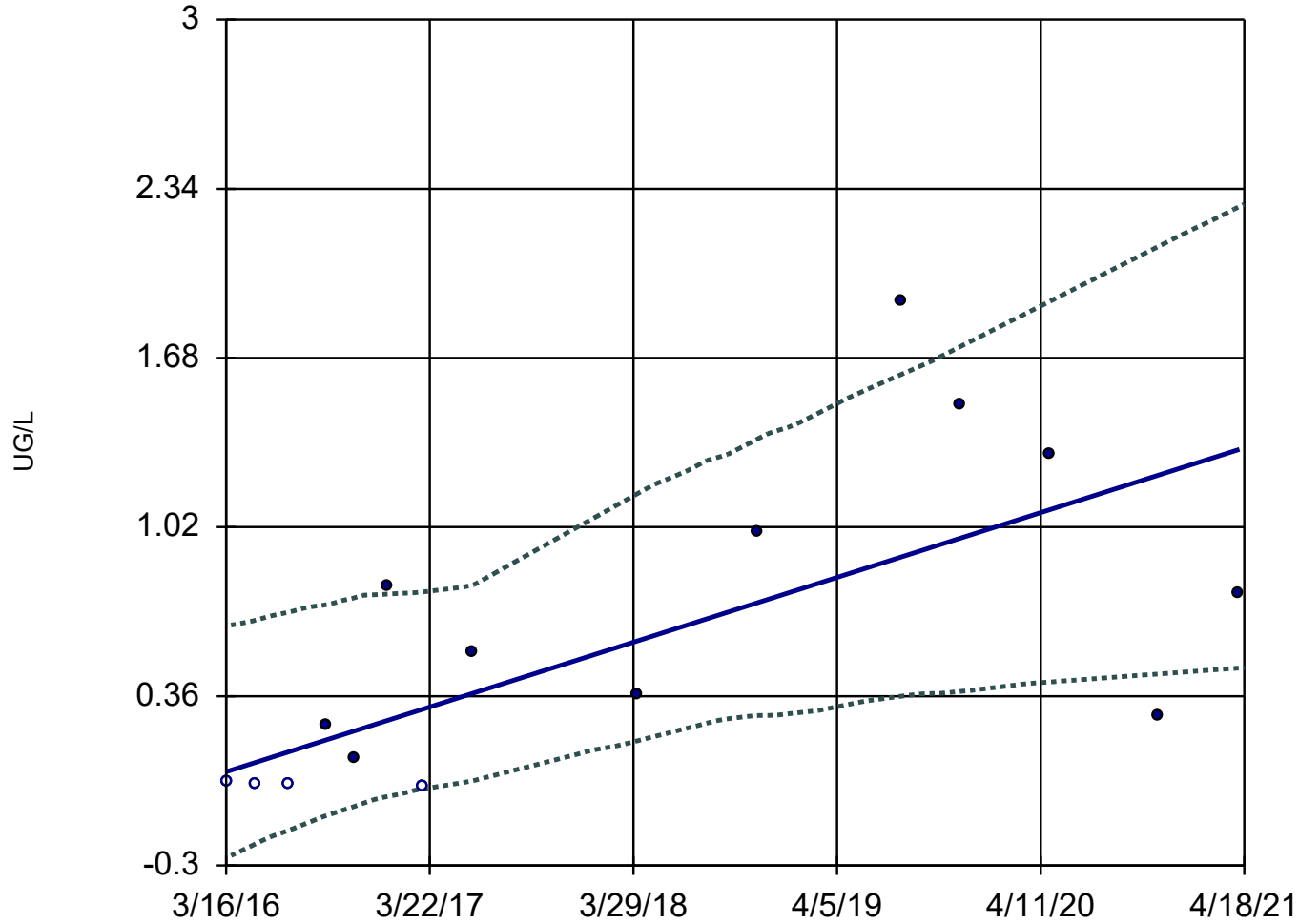
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: CADMIUM, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-3D



n = 15

Slope = 0.2482
units per year.

Mann-Kendall
statistic = 50
critical = 48

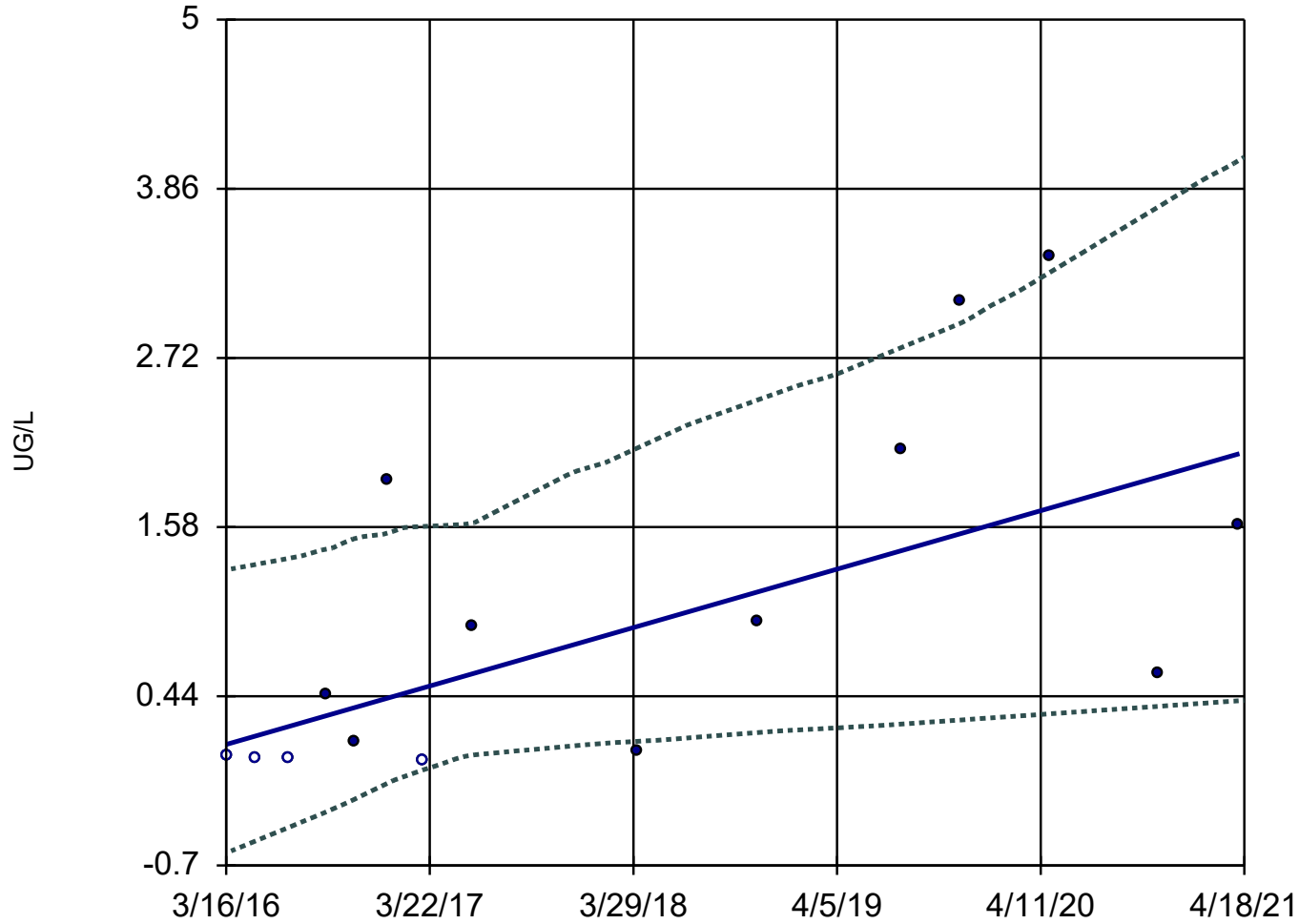
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: CADMIUM, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-4D



n = 15

Slope = 0.3866
units per year.

Mann-Kendall
statistic = 55
critical = 48

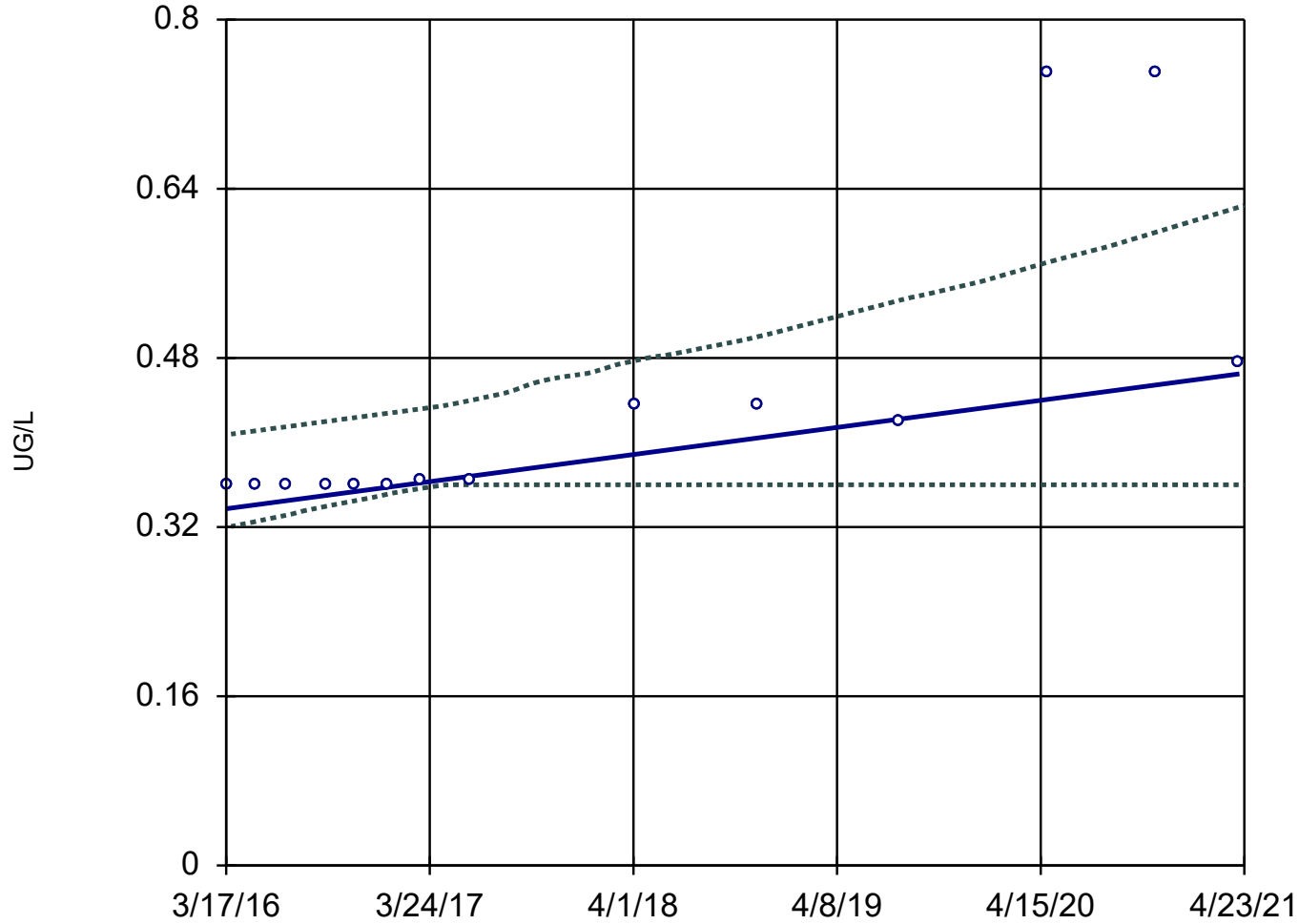
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: CADMIUM, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-1D



n = 14

Slope = 0.0251
units per year.

Mann-Kendall
statistic = 65
critical = 44

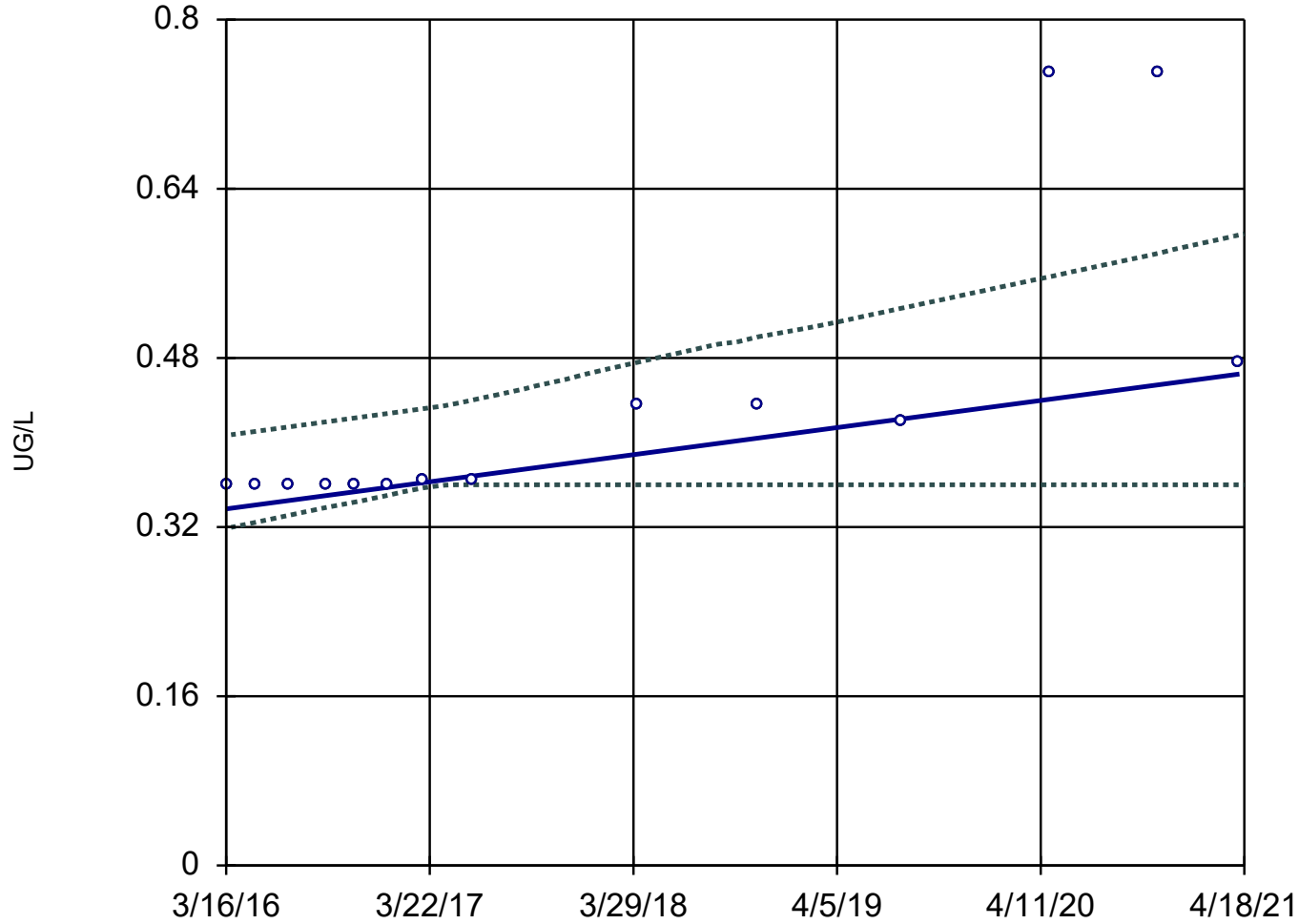
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 14

Slope = 0.02516
units per year.

Mann-Kendall
statistic = 65
critical = 44

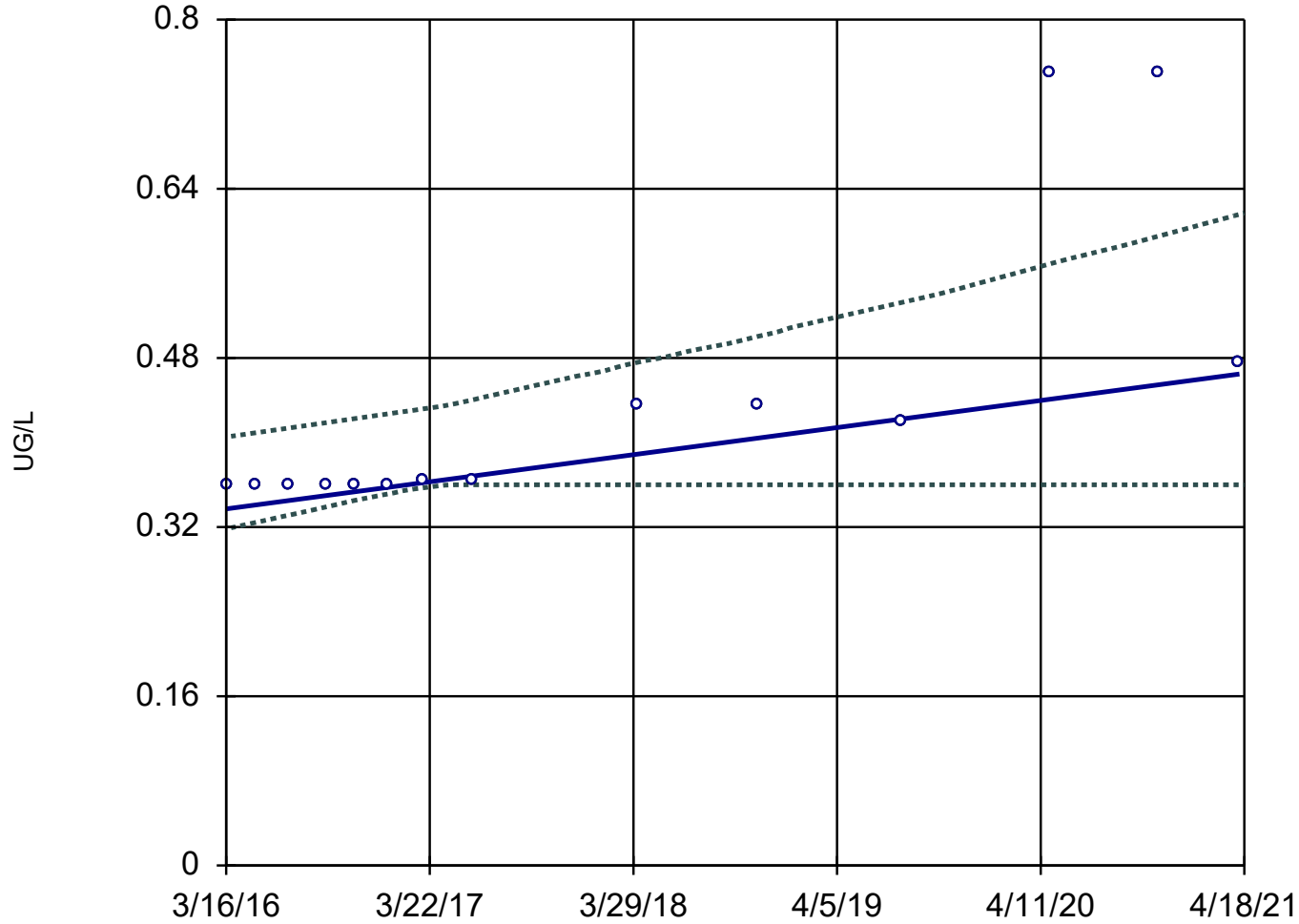
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-3D



n = 14

Slope = 0.02516
units per year.

Mann-Kendall
statistic = 65
critical = 44

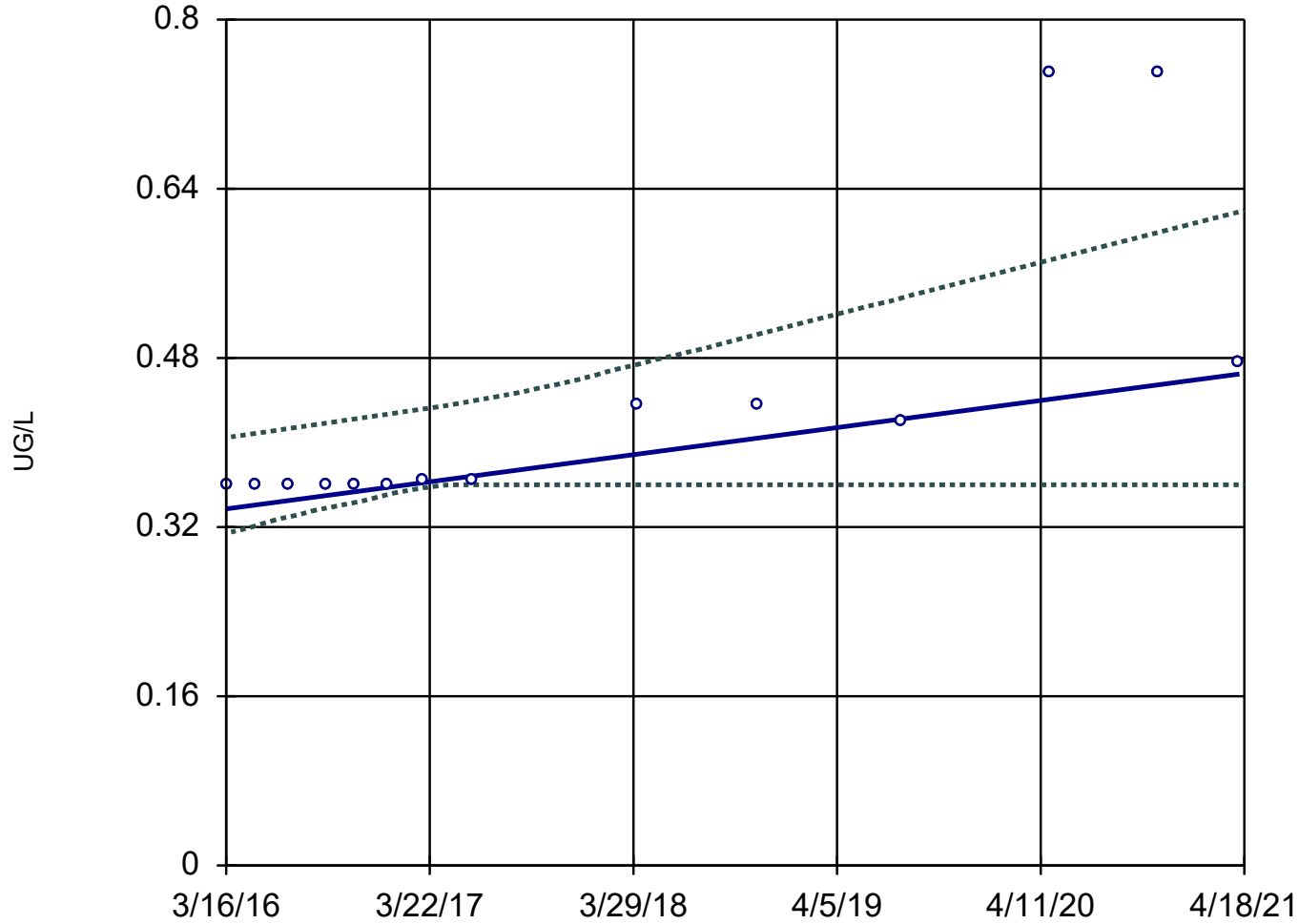
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-4D



n = 14

Slope = 0.02516
units per year.

Mann-Kendall
statistic = 65
critical = 44

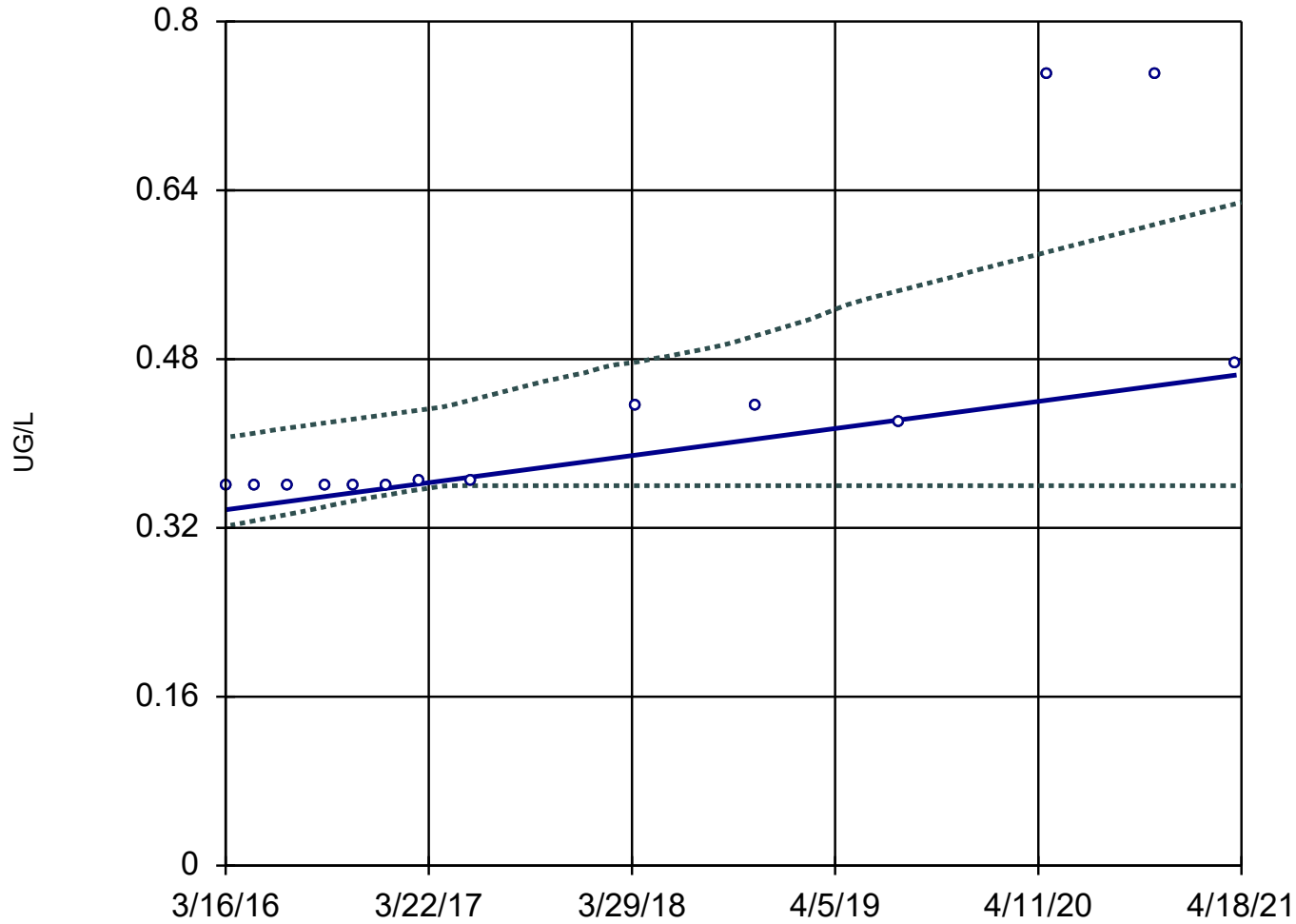
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-5D



n = 14

Slope = 0.0252
units per year.

Mann-Kendall
statistic = 65
critical = 44

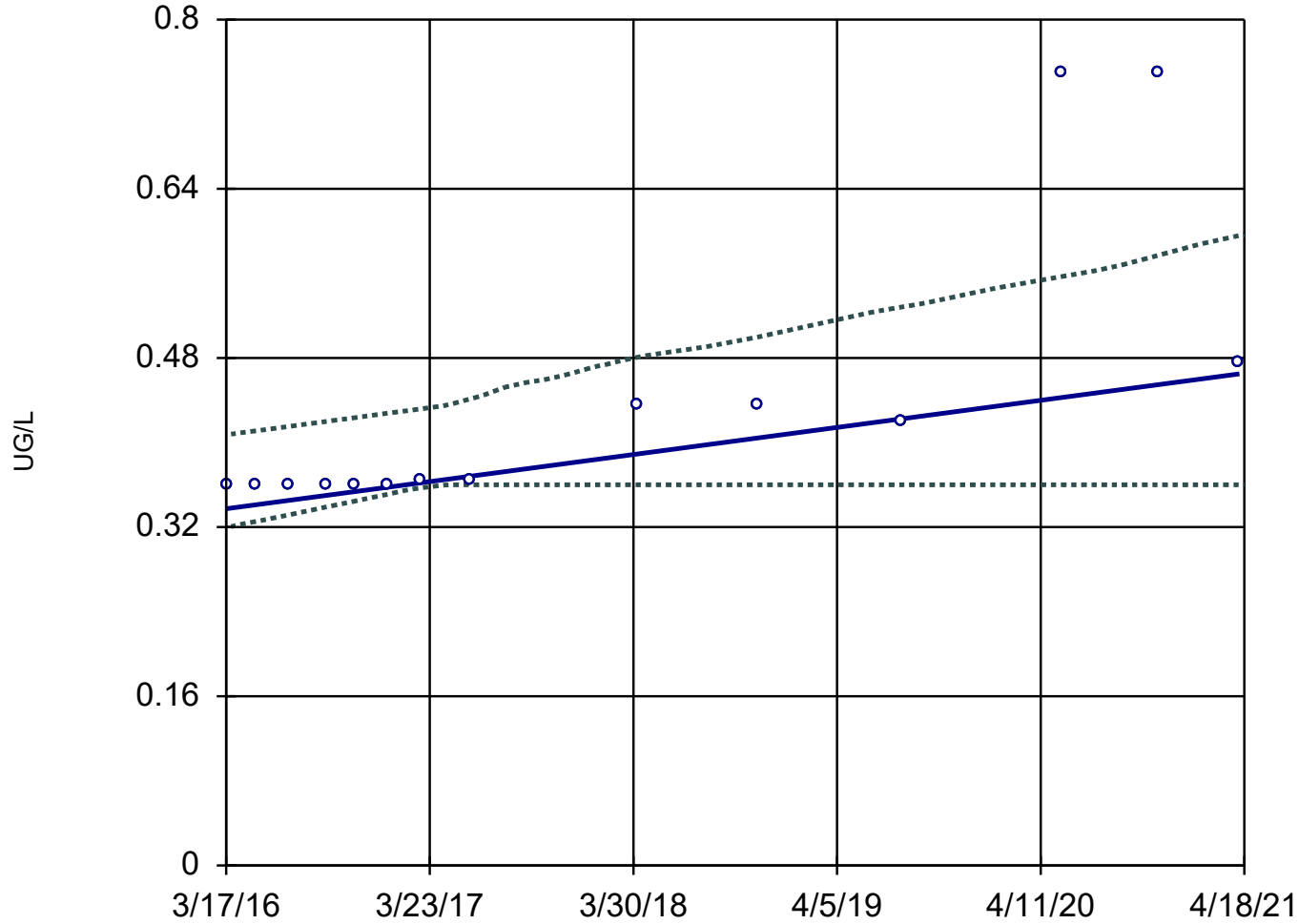
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-6D



n = 14

Slope = 0.0252
units per year.

Mann-Kendall
statistic = 65
critical = 44

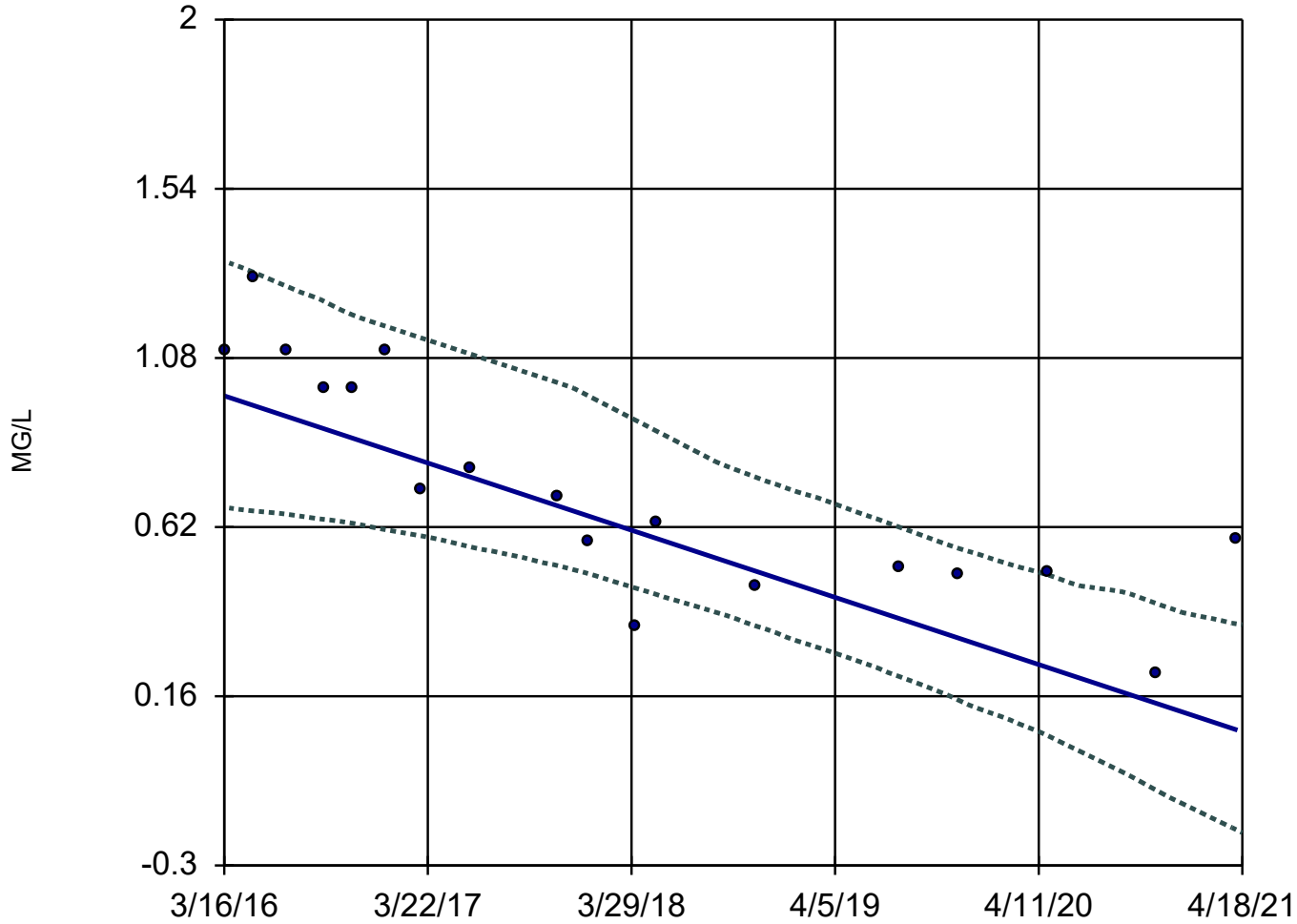
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: COBALT, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 18

Slope = -0.1794
units per year.

Mann-Kendall
statistic = -107
critical = -63

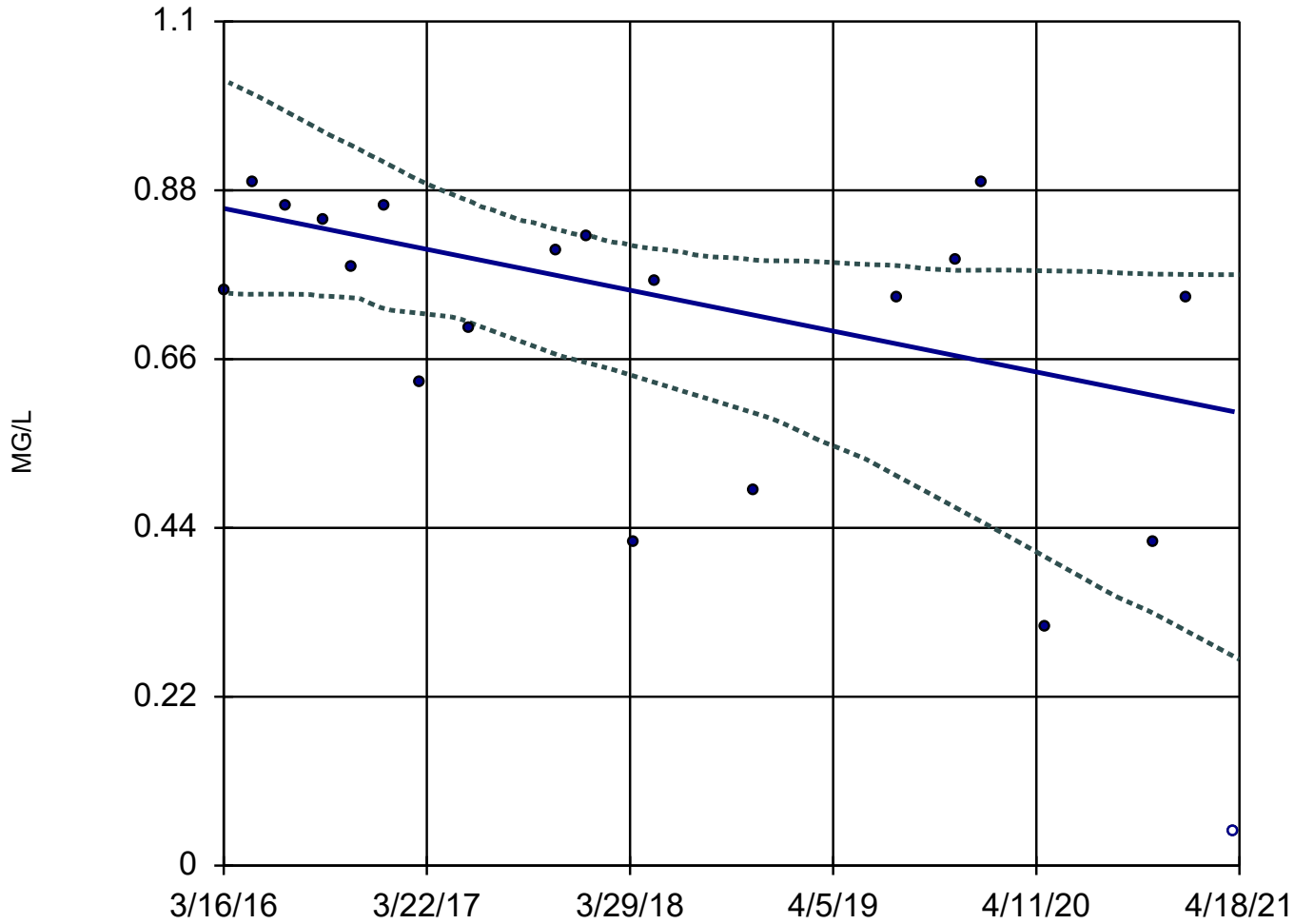
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: FLUORIDE, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-4D



n = 20

Slope = -0.05227
units per year.

Mann-Kendall
statistic = -76
critical = -73

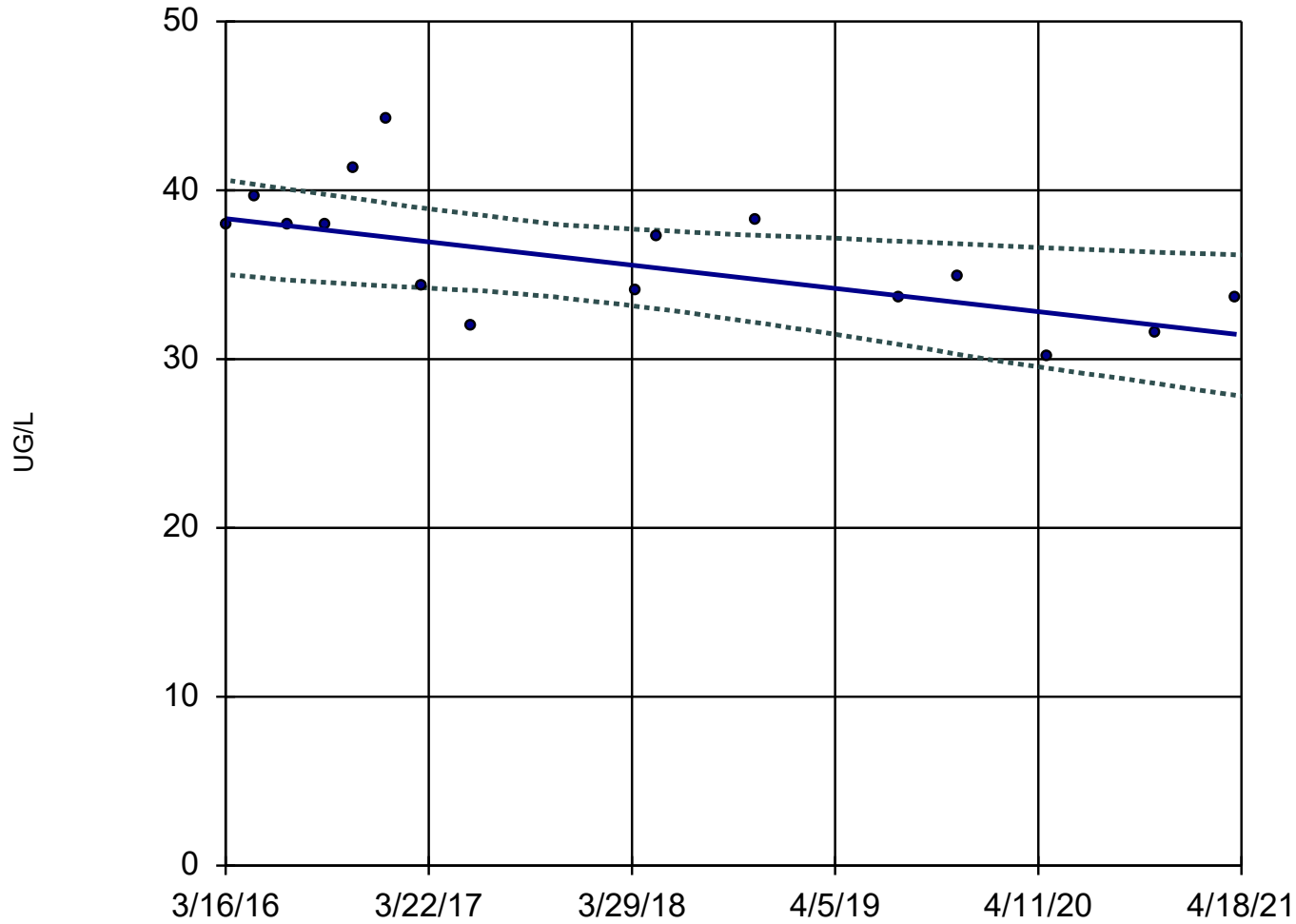
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: FLUORIDE, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-4D



n = 16

Slope = -1.353
units per year.

Mann-Kendall
statistic = -55
critical = -53

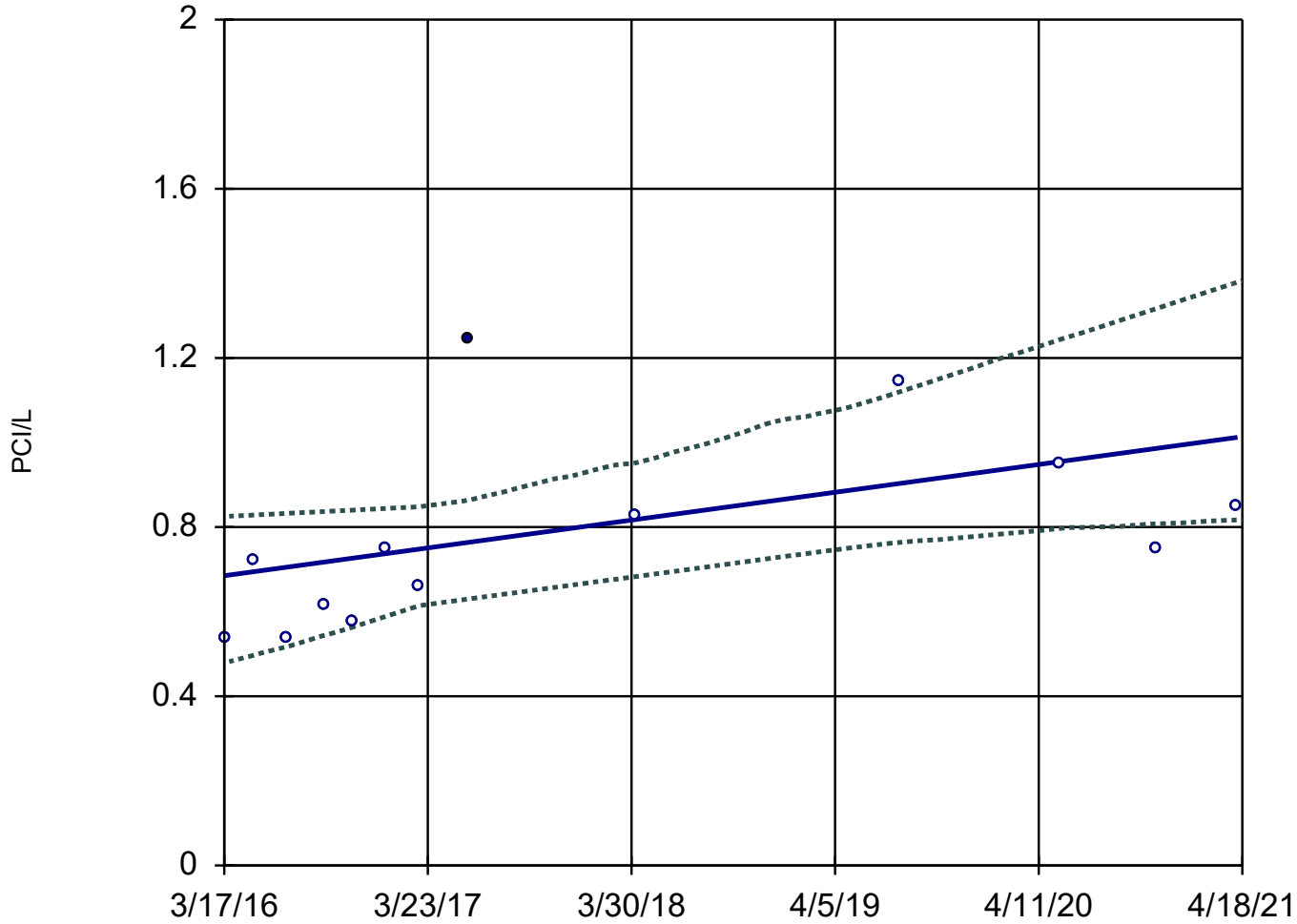
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: LITHIUM, TOTAL Analysis Run 7/22/2021 9:19 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-6D



n = 13

Slope = 0.06459
units per year.

Mann-Kendall
statistic = 43
critical = 39

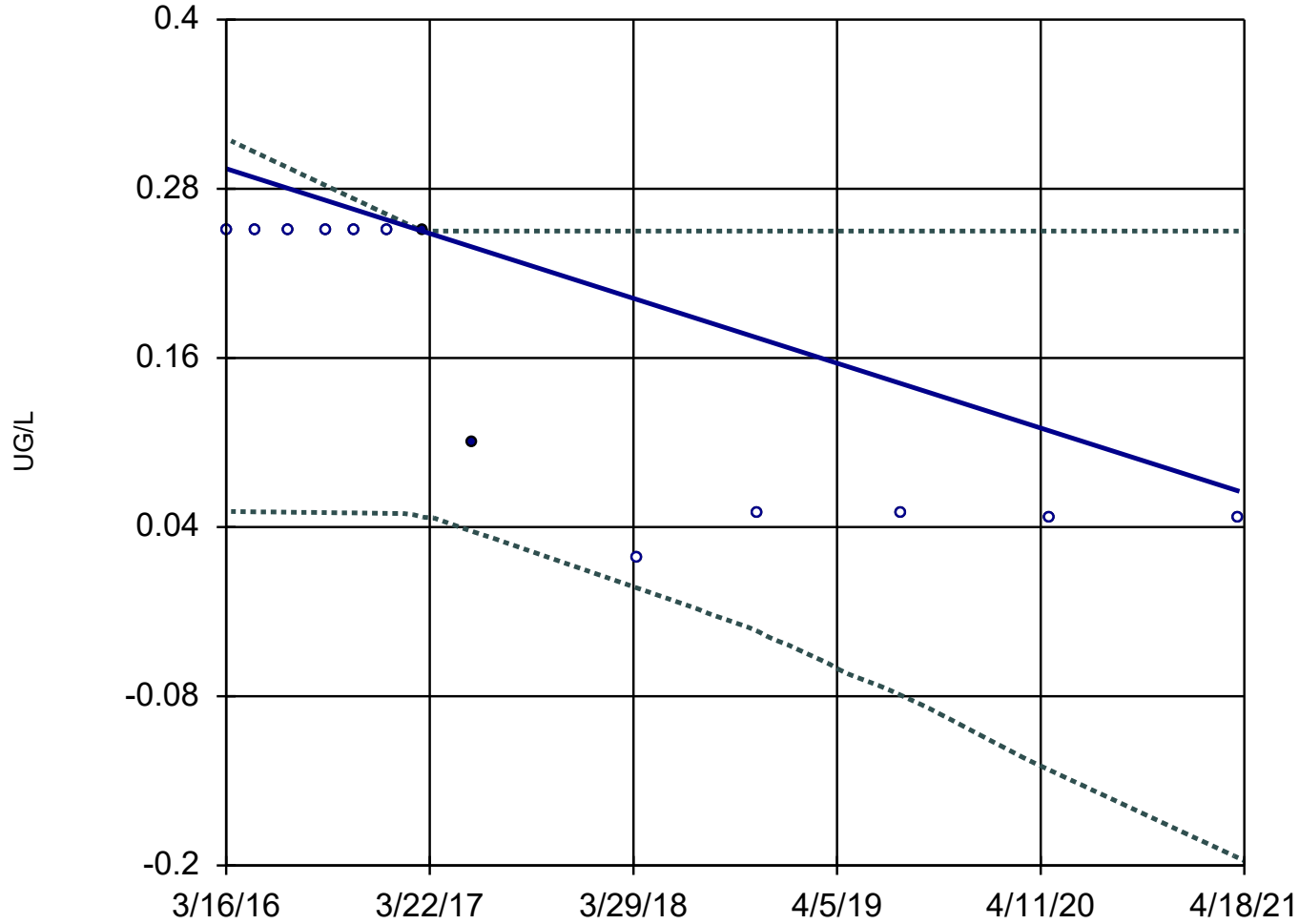
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: RADIUM [226 + 228] Analysis Run 7/22/2021 9:20 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-2D



n = 13

Slope = -0.04516
units per year.

Mann-Kendall
statistic = -46
critical = -39

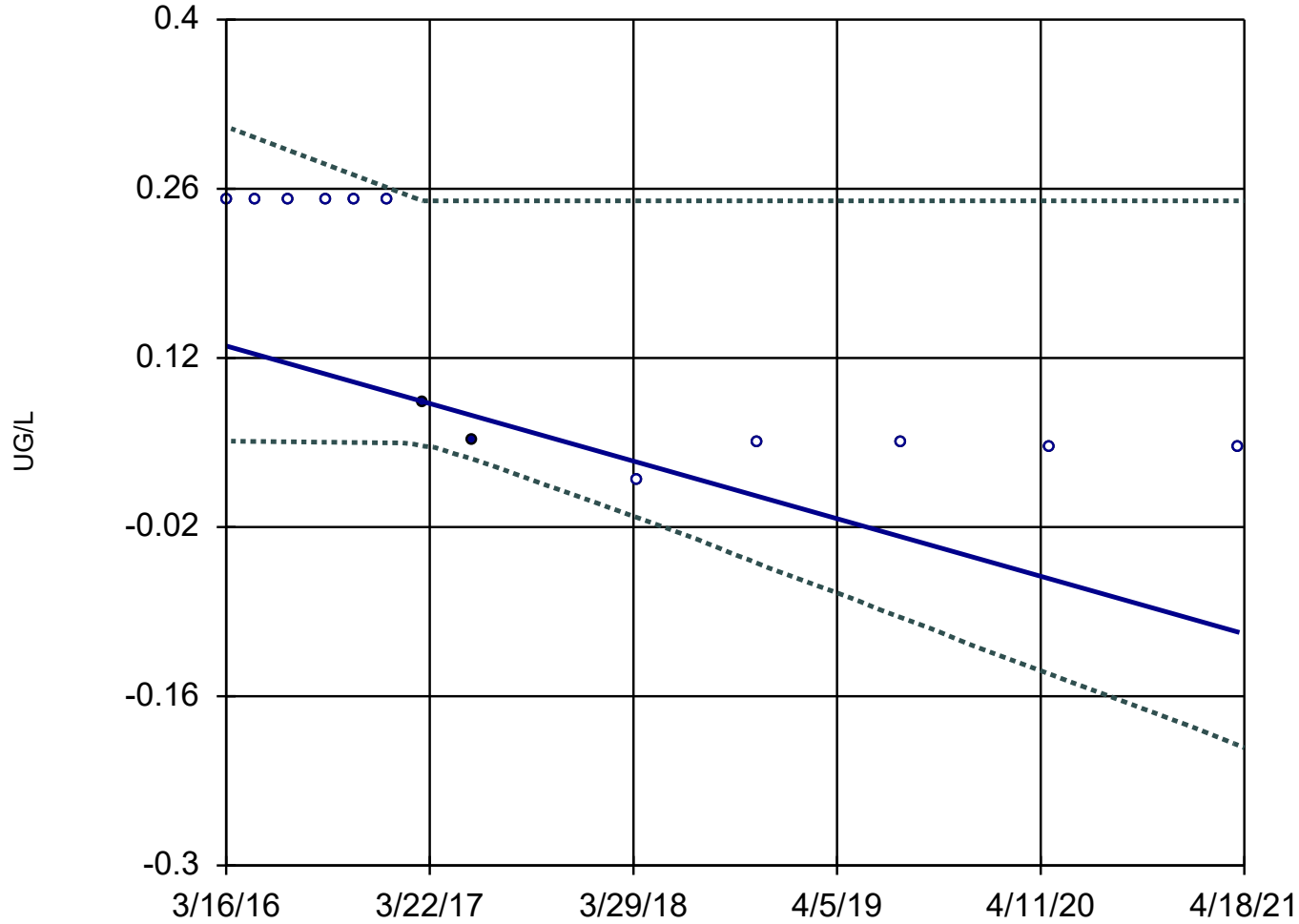
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: THALLIUM, TOTAL Analysis Run 7/22/2021 9:20 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Sen's Slope and 95% Confidence Band

S-UMW-3D



n = 13

Slope = -0.04678
units per year.

Mann-Kendall
statistic = -52
critical = -39

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Constituent: THALLIUM, TOTAL Analysis Run 7/22/2021 9:20 AM

Sioux E.C. Client: Ameren Data: SEC DATA_

Trend Test

Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 7/22/2021, 9:21 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	S-UMW-1D	-0.00428	-7	-39	No	13	38.46	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-2D	0.000...	11	39	No	13	61.54	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-3D	0.002821	18	35	No	12	83.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-4D	0.003567	31	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-5D	0.003027	23	39	No	13	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	S-UMW-6D	0.003028	23	39	No	13	100	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-1D	0.1984	74	48	Yes	15	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-2D	0.5517	98	53	Yes	16	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-3D	-0.00...	-2	-48	No	15	6.667	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-4D	0.01283	8	48	No	15	20	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-5D	-0.04257	-33	-53	No	16	6.25	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	S-UMW-6D	0.04601	41	48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-1D	-2.735	-12	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-2D	-11.28	-52	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-3D	-0.7071	-24	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-4D	-4.418	-48	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-5D	-3.779	-5	-53	No	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	S-UMW-6D	-0.6789	-8	-48	No	15	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-1D	0	-5	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-2D	0	-5	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-3D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-4D	0	-5	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-5D	0	-5	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	S-UMW-6D	0	-5	-39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-1D	0.003366	40	44	No	14	78.57	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-2D	0.06175	55	48	Yes	15	40	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-3D	0.2482	50	48	Yes	15	26.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-4D	0.3866	55	48	Yes	15	26.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-5D	0.04118	54	48	Yes	15	46.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	S-UMW-6D	0.003257	40	48	No	15	73.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-1D	-0.00...	-3	-39	No	13	38.46	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-2D	-0.05496	-27	-39	No	13	46.15	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-3D	-0.03433	-13	-39	No	13	53.85	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-4D	-0.05524	-24	-39	No	13	61.54	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-5D	-0.09335	-19	-39	No	13	53.85	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	S-UMW-6D	-0.04393	-16	-39	No	13	61.54	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-1D	0.0251	65	44	Yes	14	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-2D	0.02516	65	44	Yes	14	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-3D	0.02516	65	44	Yes	14	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-4D	0.02516	65	44	Yes	14	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-5D	0.0252	65	44	Yes	14	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	S-UMW-6D	0.0252	65	44	Yes	14	100	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-1D	0	-7	-63	No	18	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-2D	-0.1794	-107	-63	Yes	18	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-3D	-0.03989	-38	-63	No	18	5.556	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-4D	-0.05227	-76	-73	Yes	20	5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-5D	0.01848	24	63	No	18	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	S-UMW-6D	0.02217	57	63	No	18	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-1D	0.1609	36	44	No	14	85.71	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-2D	0.1647	38	44	No	14	71.43	n/a	n/a	0.02	NP

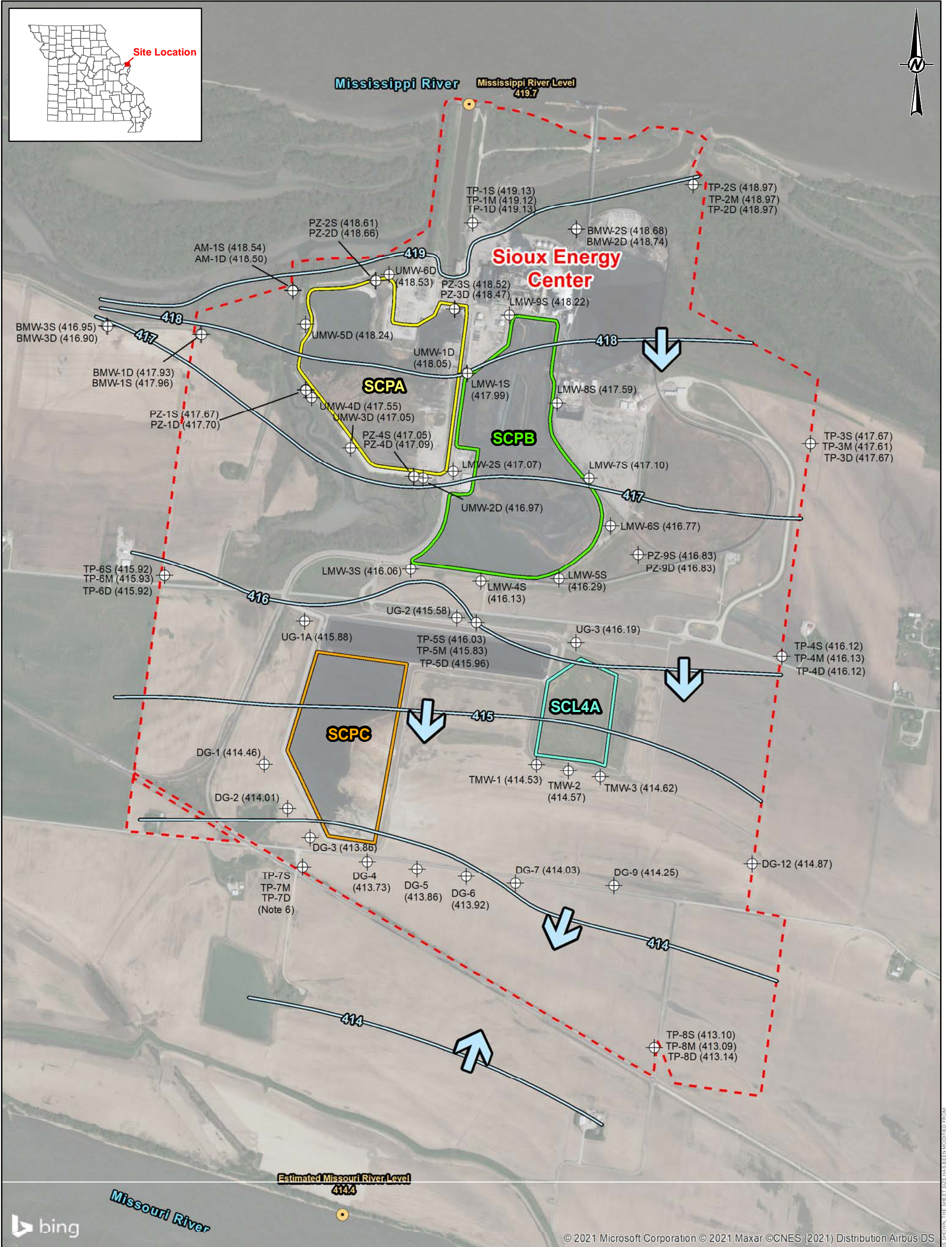
Trend Test

Sioux E.C. Client: Ameren Data: SEC DATA_ Printed 7/22/2021, 9:21 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
LEAD, TOTAL (UG/L)	S-UMW-3D	0	2	44	No	14	57.14	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-4D	0.1465	15	44	No	14	50	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-5D	0	-1	-44	No	14	78.57	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	S-UMW-6D	0.1609	36	44	No	14	92.86	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-1D	-0.3582	-28	-53	No	16	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-2D	-1.739	-26	-53	No	16	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-3D	-0.06456	-4	-53	No	16	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-4D	-1.353	-55	-53	Yes	16	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-5D	-0.7926	-25	-53	No	16	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	S-UMW-6D	-0.4727	-9	-53	No	16	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-1D	0.003054	31	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-2D	0.003051	31	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-3D	0.003051	31	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-4D	0.003051	31	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-5D	0.003051	31	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	S-UMW-6D	0.003062	31	35	No	12	100	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-1D	-1.868	-24	-53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-2D	-66.81	-17	-53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-3D	-166.4	-51	-53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-4D	-69.31	-8	-53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-5D	168.8	26	53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	S-UMW-6D	-8.155	-50	-53	No	16	0	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-1D	0.007309	2	39	No	13	100	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-2D	0.0403	20	35	No	12	100	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-3D	0.09148	28	35	No	12	83.33	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-4D	0.02791	18	35	No	12	100	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-5D	0.01179	8	39	No	13	76.92	n/a	n/a	0.02	NP
RADIUM [226 + 228] (PCI/L)	S-UMW-6D	0.06459	43	39	Yes	13	92.31	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-1D	0	11	44	No	14	78.57	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-2D	0	9	44	No	14	71.43	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-3D	-0.00...	-15	-44	No	14	14.29	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-4D	-0.01205	-18	-44	No	14	28.57	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-5D	0	-7	-44	No	14	28.57	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	S-UMW-6D	0	-21	-44	No	14	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-1D	-0.04981	-43	-39	Yes	13	92.31	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-2D	-0.04516	-46	-39	Yes	13	84.62	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-3D	-0.04678	-52	-39	Yes	13	84.62	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-4D	-0.04516	-42	-39	Yes	13	84.62	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-5D	-0.04357	-33	-39	No	13	92.31	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	S-UMW-6D	-0.04357	-33	-39	No	13	100	n/a	n/a	0.02	NP

APPENDIX E

2021 Potentiometric Surface Maps



LEGEND

CCR Units

- SCPA - Bottom Ash Surface Impoundment
- SCPB - Fly Ash Surface Impoundment
- SCPC - WFGD Surface Impoundment
- SCL4A - Dry CCR Disposal Area

Groundwater Elevation Contour (FT MSL)

- Groundwater Elevation Contour (FT MSL)
- Inferred Groundwater Elevation Contour (FT MSL)

Ground/Surface Water Measurement Locations

- River Gauge Location
- Monitoring Well or Piezometer

Groundwater Flow Direction

NOTES

- 1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
- 2.) GROUNDWATER AND SURFACE WATER ELEVATIONS DISPLAYED IN FEET ABOVE MEAN SEA LEVEL (FT MSL).
- 3.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
- 4.) MISSISSIPPI RIVER ELEVATION ESTIMATED BASED ON NEARBY UNITED STATES GEOLOGICAL SURVEY (USGS) RIVER GAUGING LOCATIONS.
- 5.) MISSISSIPPI RIVER ELEVATION PROVIDED BY AMEREN MISSOURI.
- 6.) TP-7S, TP-7M, AND TP-7D WERE NOT USED IN POTENTIOMETRIC CONTOURING DUE TO MEASUREMENT ERROR.
- 7.) WFGD - WET FLUE GAS DESULFURIZATION.

REFERENCE

- 1.) AMEREN MISSOURI SIOUX ENERGY CENTER, SIOUX PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2,401 FEET.
- 3.) USGS NATIONAL WATER INFORMATION SYSTEM, USGS GAUGES 06935965 (ST. CHARLES), 07010000 (ST. LOUIS), 05587498 (ALTON), GRAFTON (05587450).

CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
JANUARY 8, 2021 POTENTIOMETRIC SURFACE MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-01-28
PREPARED	BTT
DESIGN	JSI
REVIEW	EMS
APPROVED	MNH

PROJECT No. 153-140603 PHASE 0003

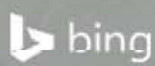
0 500 1,000 1,500 2,000 Feet

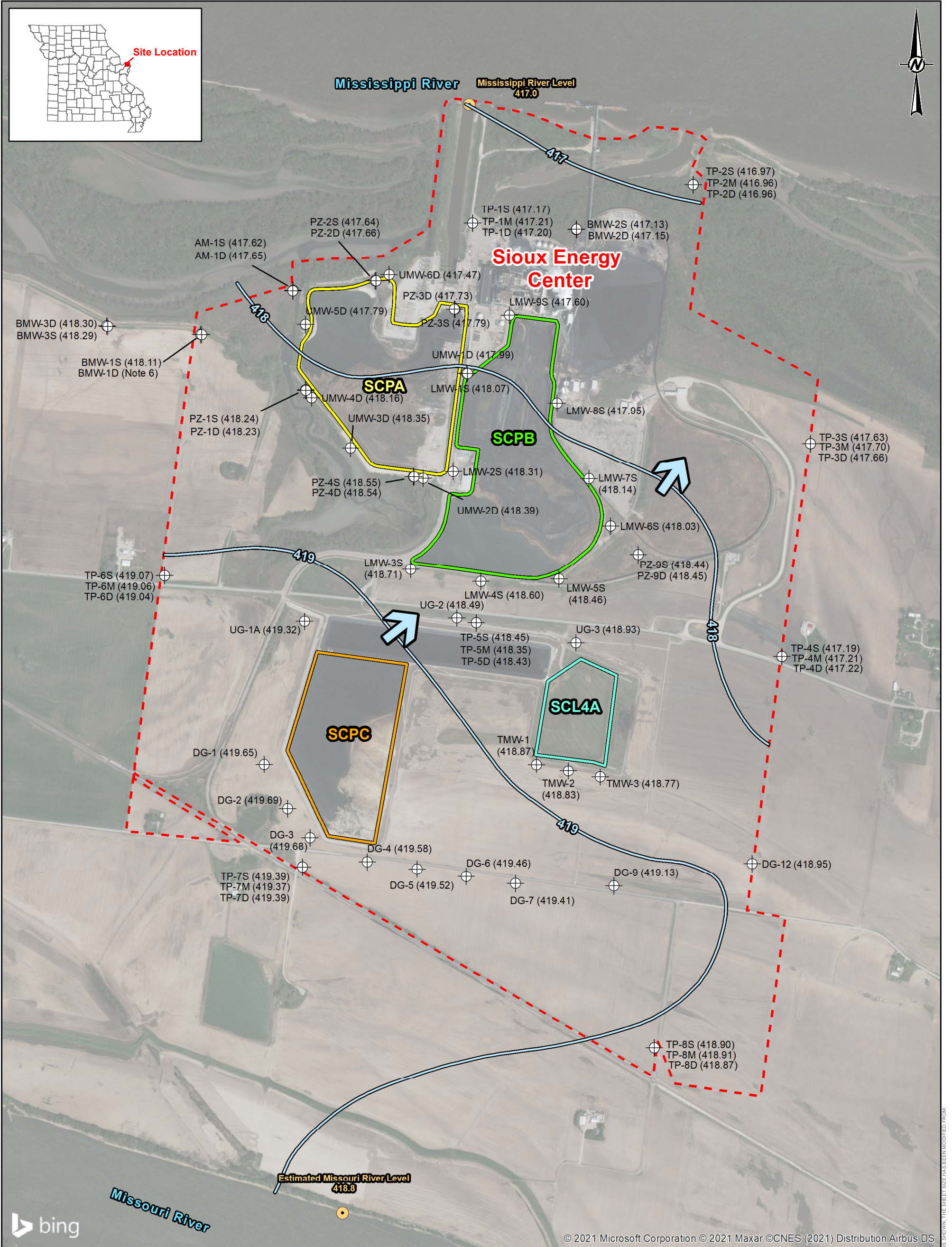
AMEREN

GOLDER
MEMBER OF WSP

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM 11in

FIGURE E1





LEGEND

- Sioux Energy Center Property Boundary
- CCR Units**
 - SCPA - Bottom Ash Surface Impoundment
 - SCPB - Fly Ash Surface Impoundment
 - SCPC - WFGD Surface Impoundment
 - SCL4A - Dry CCR Disposal Area
- Groundwater Flow Direction

Groundwater Elevation Contour (FT MSL)

- Groundwater Elevation Contour (FT MSL)
- Inferred Groundwater Elevation Contour (FT MSL)

Ground/Surface Water Measurement Locations

- River Gauge Location
- Monitoring Well or Piezometer

NOTES

- ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
- GROUNDWATER AND SURFACE WATER ELEVATIONS DISPLAYED IN FEET ABOVE MEAN SEA LEVEL (FT MSL).
- GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
- MISSOURI RIVER ELEVATION ESTIMATED BASED ON NEARBY UNITED STATES GEOLOGICAL SURVEY (USGS) RIVER GAUGING LOCATIONS.
- MISSISSIPPI RIVER ELEVATION PROVIDED BY AMEREN MISSOURI.
- BMW-1D IS NOT USED FOR POTENTIOMETRIC CONTOURING DUE TO MEASUREMENT ERROR.
- WFGD - WET FLU GAS DESULFURIZATION.

REFERENCE

- AMEREN MISSOURI SIOUX ENERGY CENTER, SIOUX PROPERTY CONTROL MAP, FEBRUARY 2011.
- COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2,401 FEET.
- USGS NATIONAL WATER INFORMATION SYSTEM, USGS GAUGES 06935965 (ST. CHARLES), 07010000 (ST. LOUIS), 05587498 (ALTON), GRAFTON (05587450).

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

CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
APRIL 8, 2021 POTENTIOMETRIC SURFACE MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-05-10
PREPARED	BTT
DESIGN	JSI
REVIEW	EMS
APPROVED	MNH

PROJECT No. 153-140603 PHASE 0003

FIGURE **E2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM 11in



LEGEND

- Sioux Energy Center Property Boundary
- CCR Units**
 - SCPA - Bottom Ash Surface Impoundment
 - SCPB - Fly Ash Surface Impoundment
 - SCPC - WFGD Surface Impoundment
 - SCL4A - Dry CCR Disposal Area
- Groundwater Flow Direction

Groundwater Elevation Contour (FT MSL)

- Groundwater Elevation Contour (FT MSL)
- Inferred Groundwater Elevation Contour (FT MSL)

Ground/Surface Water Measurement Locations

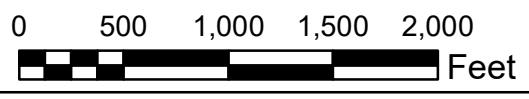
- River Gauge Location
- Monitoring Well or Piezometer

NOTES

- 1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
- 2.) GROUNDWATER AND SURFACE WATER ELEVATIONS DISPLAYED IN FEET ABOVE MEAN SEA LEVEL (FT MSL).
- 3.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
- 4.) MISSOURI RIVER ELEVATION ESTIMATED BASED ON NEARBY UNITED STATES GEOLOGICAL SURVEY (USGS) RIVER GAUGING LOCATIONS.
- 5.) MISSISSIPPI RIVER ELEVATION PROVIDED BY AMEREN MISSOURI.
- 6.) WFGD - WET FLUE GAS DESULFURIZATION.

REFERENCE

- 1.) AMEREN MISSOURI SIOUX ENERGY CENTER, SIOUX PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2,401 FEET.
- 3.) USGS NATIONAL WATER INFORMATION SYSTEM, USGS GAUGES 06935965 (ST. CHARLES), 07010000 (ST. LOUIS), 05587498 (ALTON), GRAFTON (05587450).



CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
JUNE 1, 2021 POTENTIOMETRIC SURFACE MAP

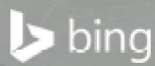
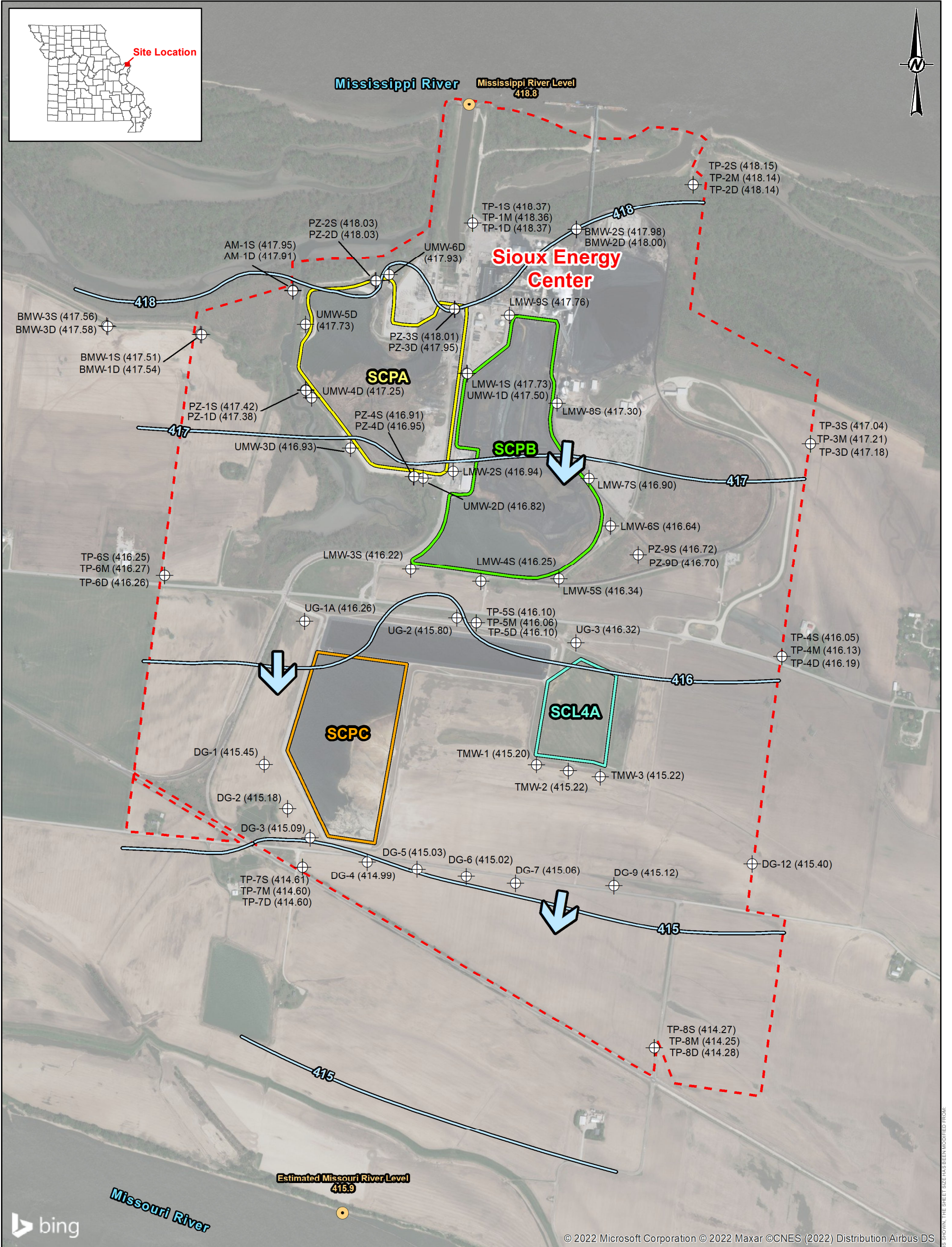
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-10-11
PREPARED	ETF
DESIGN	JSI
REVIEW	EMS
APPROVED	MNH

PROJECT No. 153-140603 PHASE 0003

FIGURE **E3**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM 11in



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LEGEND

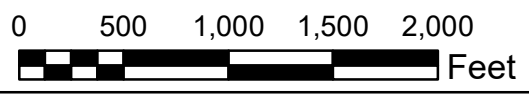
- Sioux Energy Center Property Boundary
- CCR Units**
 - SCPA - Bottom Ash Surface Impoundment
 - SCPB - Fly Ash Surface Impoundment
 - SCPC - WFGD Surface Impoundment
 - SCL4A - Dry CCR Disposal Area
- Groundwater Flow Direction
- Groundwater Elevation Contour (FT MSL)**
 - Groundwater Elevation Contour (FT MSL)
 - Inferred Groundwater Elevation Contour (FT MSL)
- Ground/Surface Water Measurement Locations**
 - River Gauge Location
 - Monitoring Well or Piezometer

NOTES

- 1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
- 2.) GROUNDWATER AND SURFACE WATER ELEVATIONS DISPLAYED IN FEET ABOVE MEAN SEA LEVEL (FT MSL).
- 3.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
- 4.) MISSOURI RIVER ELEVATION ESTIMATED BASED ON NEARBY UNITED STATES GEOLOGICAL SURVEY (USGS) RIVER GAUGING LOCATIONS.
- 5.) MISSISSIPPI RIVER ELEVATION PROVIDED BY AMEREN MISSOURI.
- 6.) WFGD - WET FLUE GAS DESULFURIZATION.

REFERENCE

- 1.) AMEREN MISSOURI SIOUX ENERGY CENTER, SIOUX PROPERTY CONTROL MAP, FEBRUARY 2011.
- 2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2,401 FEET.
- 3.) USGS NATIONAL WATER INFORMATION SYSTEM, USGS GAUGES 06935965 (ST. CHARLES), 07010000 (ST. LOUIS), 05587498 (ALTON), GRAFTON (05587450).



CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
NOVEMBER 8, 2021 POTENTIOMETRIC SURFACE MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-12-02
PREPARED	ETF
DESIGN	JSI
REVIEW	BTT
APPROVED	MNH

PROJECT No. 153-140603 PHASE 0003

FIGURE **E4**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM 11in



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