GOLDER
MEMBER OF WSP

REPORT

2021 Annual Groundwater Monitoring and Corrective Action Report

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

Submitted to:

Ameren Missouri

1901 Chouteau Avenue, St. Louis, Missouri 63103

Submitted by:

Golder Associates USA Inc.

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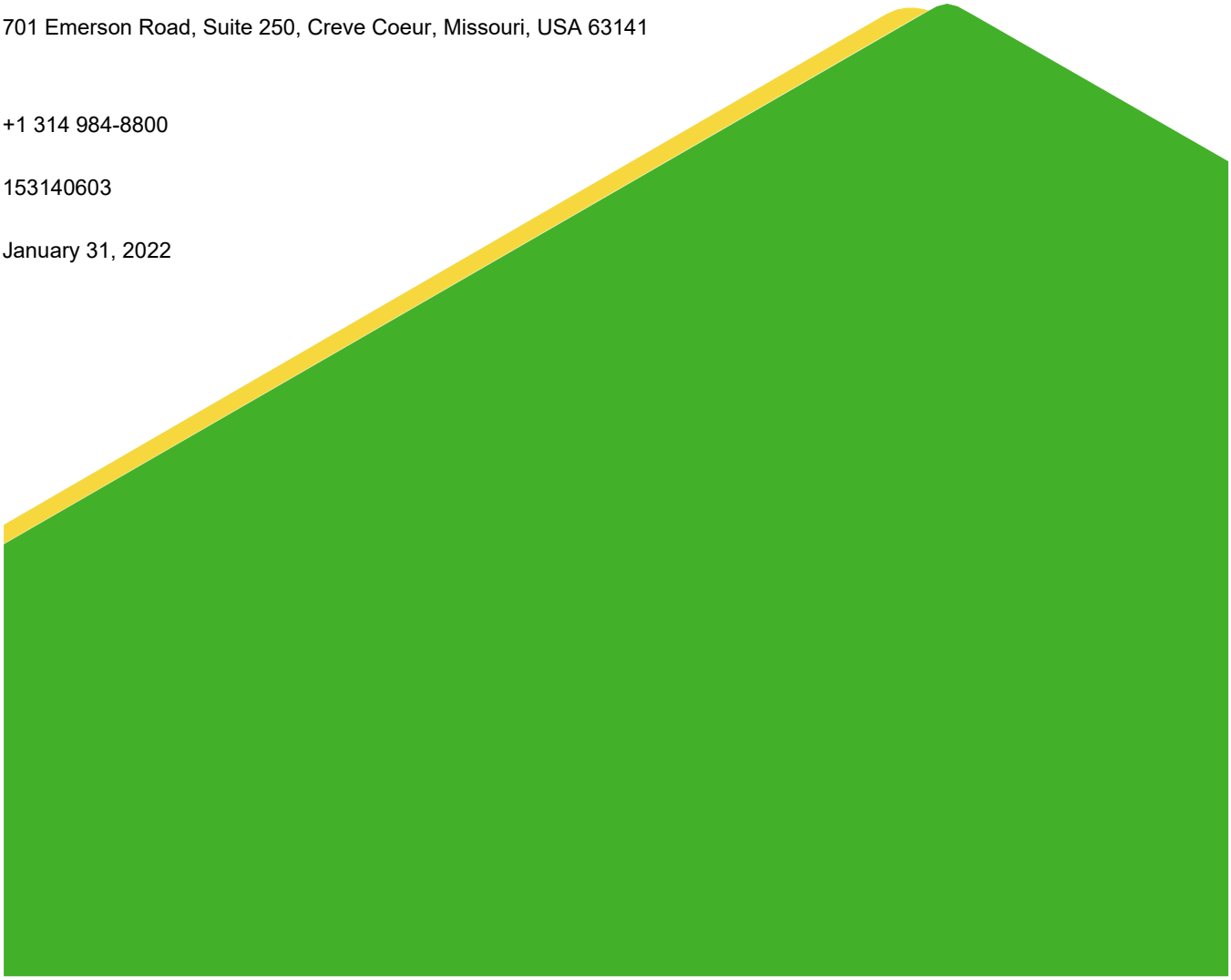
153140603

January 31, 2022



1.0 EXECUTIVE SUMMARY AND STATUS OF THE SCPB 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 SCPB 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 SCPB 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 SCPB CCR unit has been operating under the Detection Monitoring Program (§257.94) which began October 17, 2017. As a part of Detection Monitoring, statistical evaluations are completed after each sampling event to determine if there are any values that represent a Statistically Significant Increase (SSI) over background concentrations. SSIs have been determined during each sampling event and a summary of the SSIs for the past year is provided in **Table 1**.

Table 1 - Summary of 2021 SCPB Sampling Events, Previous Year Verification, and Statistical Evaluations

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt Date	Parameters Collected	Verified SSIs	SSI Determination Date	ASD Completion Date
November 2020 Sampling Event	Detection Monitoring, November 11-16, 2020	December 28, 2020	Appendix III, Major Cations and Anions	**Boron:** LMW-1S, LMW-2S, LMW-3S, LMW-4S, LMW-5S, LMW-6S, LMW-7S, LMW-8S, LMW-9S **Calcium:** LMW-2S, LMW-4S, LMW-5S, LMW-6S, LMW-7S, LMW-9S **Chloride:** LMW-1S, LMW-2S, LMW-3S, LMW-5S, LMW-7S, LMW-8S, LMW-9S, **Fluoride:** LMW-1S, LMW-2S **Sulfate:** LMW-1S, LMW-2S, LMW-5S, LMW-6S, LMW-7S, LMW-8S, LMW-9S **TDS:** LMW-2S, LMW-3S, LMW-4S, LMW-5S LMW-6S, LMW-7S, LMW-8S, LMW-9S	March 26, 2021	June 24, 2021
	Verification Sampling, January 8-11, 2021	January 20, 2021	Detected Appendix III parameters (See Note 1)			
April 2021 Sampling Event	Detection Monitoring, April 9-14, 2021	May 25, 2021	Appendix III, Major Cations and Anions	**Boron:** LMW-1S, LMW-2S, LMW-3S, LMW-4S, LMW-5S, LMW-6S, LMW-7S, LMW-8S, LMW-9S **Calcium:** LMW-2S, LMW-4S, LMW-5S, LMW-6S, LMW-7S, LMW-8S, LMW-9S **Chloride:** LMW-1S, LMW-2S, LMW-3S, LMW-5S, LMW-7S, LMW-8S, LMW-9S **Fluoride:** LMW-1S **Sulfate:** LMW-1S, LMW-2S LMW-5S, LMW-6S, LMW-7S, LMW-8S, LMW-9S **TDS:** LMW-2S, LMW-3S, LMW-4S, LMW-5S LMW-6S, LMW-7S, LMW-8S, LMW-9S	August 23, 2021	November 19, 2021
	Verification Sampling, June 2-3, 2021	June 18, 2021	Detected Appendix III parameters (See Note 1)			
November 2021 Sampling Event	Detection Monitoring, November 8-11, 2021	December 28, 2021	Appendix III, Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2022.		

Notes:
1) Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.
2) SSI – Statistically Significant Increase.
3) ASD – Alternative Source Demonstration.
4) TDS – Total Dissolved Solids.

As outlined in section 257.94(e)(2) of the CCR Rule, the owner or operator may demonstrate that a source other than the CCR Unit has caused an SSI and that the apparent SSI was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Alternative Source Demonstrations (ASDs) were prepared for each of these sampling events and are discussed further in this Annual Report.

There were no changes made to the monitoring system in 2021 with no new wells being installed or decomissioned. Additionally, substantial closure of the SCPB was completed in 2021, with the geomembrane liner system completed on December 21, 2021. Once closure is fully completed (anticipated Q2, 2022), the SCPB will transition into post-closure care requirements of the CCR Rule. As outlined in §257.104 (Post-closure Care Requirements) of the CCR Rule, once the SCPB CCR unit is successfully closed the monitoring system and programs must be maintained for at least 30 years.

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FIGURES

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2.0 INSTALLATION OR DECOMMISSIONING OF MONITORING WELLS

In accordance with the CCR Rule, a groundwater monitoring system has been installed to monitor the SCPB. The groundwater monitoring system consists of eleven (11) groundwater monitoring wells screened in the uppermost aquifer and is displayed in **Figure 1**. No new monitoring wells were installed or decommissioned in 2021 as a part of the CCR Rule monitoring program for the SCPB. For more information on the groundwater monitoring network, details are provided in the previous Annual Groundwater Monitoring Reports for the SCPB.

3.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the SCPB CCR Unit in 2021. **Table 2** below provides a summary of the groundwater samples collected in 2021 including the number of samples, the date of sample collection, and the monitoring program.

Table 2 – Summary of Groundwater Sampling Dates

Sampling Event	Groundwater Monitoring Wells											Monitoring Program
	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-3S	LMW-4S	LMW-5S	LMW-6S	LMW-7S	LMW-8S	LMW-9S	
	Date of Sample Collection											
January 2021 Verification Sampling	-	-	-	1/8/2021	-	-	1/11/2021	1/11/2021	-	-	1/11/2021	Detection
April 2021 Detection Monitoring	4/13/2021	4/13/2021	4/14/2021	4/12/2021	4/12/2021	4/12/2021	4/14/2021	4/14/2021	4/14/2021	4/12/2021	4/9/2021	Detection
June 2021 Verification Sampling	-	-	-	-	-	6/2/2021	6/3/2021	-	-	6/3/2021	6/3/2021	Detection
November 2021 Detection Monitoring	11/8/2021	11/8/2021	11/11/2021	11/10/2021	11/11/2021	11/10/2021	11/9/2021	11/9/2021	11/9/2021	11/10/2021	11/10/2021	Detection
Total Number of Samples Collected	2	2	2	3	2	3	4	3	2	3	4	NA

Notes:
1.) Detection Monitoring Events tested for Appendix III Parameters.
2.) Verification Sampling Events tested for Appendix III Parameters with initial exceedance that have not already been verified.
3.) "-" No sample collected.
4.) NA - Not applicable.

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 8-11, 2021 and verified SSIs. **Table 3** summarizes the results of the statistical analysis of the November 2020 Detection Monitoring event and laboratory analytical data are provided in **Appendix A**.

As outlined in section 257.94(e)(2) of the CCR Rule, the owner or operator may demonstrate that a source other than the CCR Unit has caused an SSI and that the apparent SSI was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. An ASD was completed for these SSIs and is provided in **Appendix B**. This ASD demonstrates that SSIs at the monitoring wells around SCPB are not caused by the SCPB CCR Unit and the SCPB CCR Unit remains in Detection Monitoring.

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. Statistical analysis of the data determined SSIs. Detections of Appendix III analytes triggered Verification Sampling, which was completed June 2-3, 2021. **Table 4** summarizes the results of the statistical analysis of the April 2021 Detection Monitoring event and laboratory analytical data are provided in **Appendix A**. As with the November 2020 sampling event, SSIs reported for the monitoring data are not caused by the SCPB CCR Unit and an ASD for this is provided in **Appendix C**.

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.

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 the results will be provided in the 2022 Annual Report. **Table 5** summarizes the results of the November 2021 Detection Monitoring event and laboratory analytical data are provided in **Appendix A**.

3.2 Groundwater Elevation, Flow Rate and Direction

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

Groundwater elevations were used to generate potentiometric surface maps included in **Appendix D**. As shown on the potentiometric surface maps, groundwater flow 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.

3.3 Sampling Issues

No notable sampling issues were encountered at the SCPB in 2021.

4.0 ACTIVITIES PLANNED FOR 2022

Detection Monitoring is scheduled to continue on a semi-annual basis in the second and fourth quarters of 2022. Statistical analysis of the November 2021 Detection Monitoring data will be completed in 2022 and included in the 2022 Annual Report.

Tables

Table 3
November 2020 Detection Monitoring Results
SCPB Surface Impoundment
Sioux Energy Center, St. Charles County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-3S	LMW-4S	LMW-5S	LMW-6S	LMW-7S	LMW-8S	LMW-9S
November 2020 Detection Monitoring Event													
DATE	NA	NA	11/16/2020	11/16/2020	11/11/2020	11/12/2020	11/12/2020	11/12/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020
pH	SU	6.387-7.785	6.96	7.07	7.23	7.10	6.89	6.94	6.86	6.75	6.71	6.57	6.84
BORON, TOTAL	µg/L	118	75.1 J	66.3 J	645	9,120	229	473	14,500 J	17,400	3,140	7,340	1,500 J
CALCIUM, TOTAL	µg/L	168,826	141,000	125,000	85,100	220,000	156,000 J	175,000	248,000 J	298,000	246,000	158,000	177,000
CHLORIDE, TOTAL	mg/L	12.32	7.0	11.4	23.3	135	58.2	2.4	22.5	4.0	17.6	19.1	91.6
FLUORIDE, TOTAL	mg/L	0.395	0.34	0.40	0.42	0.44	0.38	0.28	0.69	0.44	0.39	0.66	0.51
SULFATE, TOTAL	mg/L	37.38	24.8	30.6	75.1	221	33.8	36.0	792	771	349	292	277
TOTAL DISSOLVED SOLIDS	mg/L	565	505	455	8.5	984	625	631	1,690	1,560	1,100	763	957
January 2021 Verification Sampling Event													
DATE	NA	NA				1/8/2021			1/11/2021	1/11/2021			1/11/2021
pH	SU	6.387-7.785											
BORON, TOTAL	µg/L	118											
CALCIUM, TOTAL	µg/L	168,826											
CHLORIDE, TOTAL	mg/L	12.32											
FLUORIDE, TOTAL	mg/L	0.395				0.48			ND	ND			0.39
SULFATE, TOTAL	mg/L	37.38											
TOTAL DISSOLVED SOLIDS	mg/L	565											

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

Table 4
April 2021 Detection Monitoring Results
SCPB Surface Impoundment
Sioux Energy Center, St. Charles County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-3S	LMW-4S	LMW-5S	LMW-6S	LMW-7S	LMW-8S	LMW-9S
April 2021 Detection Monitoring Event													
DATE	NA	NA	4/13/2021	4/13/2021	4/14/2021	4/12/2021	4/12/2021	4/12/2021	4/14/2021	4/14/2021	4/14/2021	4/12/2021	4/9/2021
pH	SU	6.472-7.531	6.85	6.98	7.41	7.00	6.72	6.78	6.88	6.90	6.85	6.83	6.76
BORON, TOTAL	µg/L	120.5	70.8 J	74.2 J	532	10,400	232 J	356	15,200	16,500	3,810	6,180	1,380
CALCIUM, TOTAL	µg/L	166,512	149,000	134,000	68,900	199,000	161,000 J	189,000	254,000	249,000	238,000	172,000	188,000
CHLORIDE, TOTAL	mg/L	13.12	8.2	12.8	18.1	120	41.5	5.4	19.2	2.6	19.3	30.2	95.1
FLUORIDE, TOTAL	mg/L	0.416	0.36	0.39	0.54	ND	0.32	0.24	0.57	0.38	ND	0.77	0.43
SULFATE, TOTAL	mg/L	36.69	29.4	34.8	41.4	258	33.2	50.5	920	571	413	327	318
TOTAL DISSOLVED SOLIDS	mg/L	579	579	509	316	989	620	747	1,670	1,300	1,160	896	1,050
June 2021 Verification Sampling Event													
DATE	NA	NA						6/2/2021	6/3/2021			6/3/2021	6/3/2021
pH	SU	6.472-7.531											
BORON, TOTAL	µg/L	120.5											
CALCIUM, TOTAL	µg/L	166512										168,000	
CHLORIDE, TOTAL	mg/L	13.12											
FLUORIDE, TOTAL	mg/L	0.4159							0.26			0.23	ND
SULFATE, TOTAL	mg/L	36.69						34.0					
TOTAL DISSOLVED SOLIDS	mg/L	579											

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

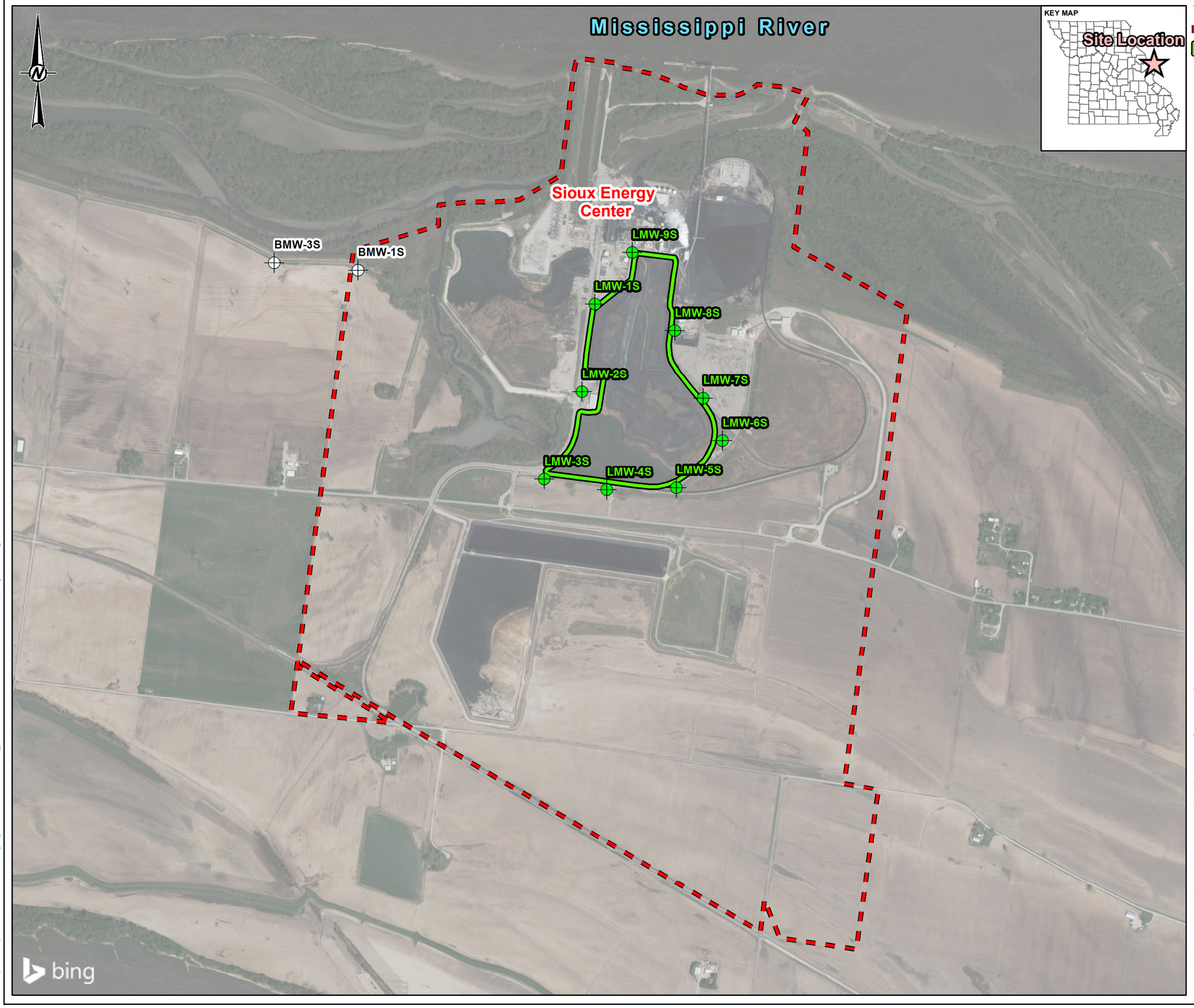
Table 5
November 2021 Detection Monitoring Results
SCPB Surface Impoundment
Sioux Energy Center, St. Charles County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-3S	LMW-4S	LMW-5S	LMW-6S	LMW-7S	LMW-8S	LMW-9S
November 2021 Detection Monitoring Event												
DATE	NA	11/8/2021	11/8/2021	11/11/2021	11/10/2021	11/11/2021	11/10/2021	11/9/2021	11/9/2021	11/9/2021	11/10/2021	11/10/2021
pH	SU	6.86	6.99	7.36	6.87	6.60	6.70	7.11	7.07	7.05	6.73	6.77
BORON, TOTAL	µg/L	66.9 J	67.8 J	307	8,000	219	254	12,900	22,500 J	2,900	5,200	1,330
CALCIUM, TOTAL	µg/L	160,000	137,000	70,500	236,000	155,000 J	185,000	253,000 J	291,000	246,000	177,000	193,000
CHLORIDE, TOTAL	mg/L	7.4	12.0	18.9	155	25.8	2.5 J	21.8	3.3 J	13.5	25.7	104
FLUORIDE, TOTAL	mg/L	ND	0.46	0.42	ND	0.26	0.22 J	0.55	ND	0.17 J	0.59 J	0.35
SULFATE, TOTAL	mg/L	31.8	31.2	46.0	186	29.1	31.4	835	809	397	304	273
TOTAL DISSOLVED SOLIDS	mg/L	534	461	320	967	753	624	1,620	1,570	1,160	841	941

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

Prepared By: LMS
Checked By: GTM
Reviewed By: MNH

Figures



KEY MAP

LEGEND

- Sioux Energy Center Property Boundary
- SCPB - Fly Ash Surface Impoundment

Groundwater Monitoring Wells Used for SCPB CCR Rule Monitoring

- Background Monitoring Well
- SCPB - Fly Ash Surface Impoundment Monitoring Well

0 1,000 2,000 3,000
Feet

NOTE(S)
1.) ALL BOUNDARIES AND LOCATIONS ARE APPROXIMATE.

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
SITE LOCATION AERIAL MAP AND MONITORING WELL LOCATIONS

CONSULTANT
GOLDER
MEMBER OF WSP

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

PROJECT NO.	CONTROL	FIGURE
153140603	1240	1

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

PATH: G:\Projects\153 Projects\153140603 - Ameren GW Monitoring Program - MO\Phase 0003 - Sioux Energy\800 - FIGURES-DRAWINGS\PRODUCTION\2019 Annual Report\Figure 1 - SCPB_v2.mxd PRINTED ON: 2020-01-22 AT: 5:31:03 PM

APPENDIX A

Laboratory Analytical Data

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

January 20, 2021

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

RE: Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Dear Jeffrey Ingram:

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

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

CERTIFICATIONS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

SAMPLE SUMMARY

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60358710001	**S-LMW-2S**	Water	01/08/21 14:45	01/09/21 04:00
60358710002	**S-LMW-5S**	Water	01/11/21 11:58	01/13/21 04:00
60358710003	**S-LMW-6S**	Water	01/11/21 12:49	01/13/21 04:00
60358710004	**S-LMW-9S**	Water	01/11/21 14:58	01/13/21 04:00
60358710005	**S-SCPB-FB-1**	Water	01/11/21 13:00	01/13/21 04:00
60358710006	**S-SCPB-DUP-1**	Water	01/11/21 00:00	01/13/21 04:00

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60358710001	**S-LMW-2S**	EPA 300.0	CRN2	1	PASI-K
60358710002	**S-LMW-5S**	EPA 300.0	CRN2	1	PASI-K
60358710003	**S-LMW-6S**	EPA 300.0	CRN2	1	PASI-K
60358710004	**S-LMW-9S**	EPA 300.0	CRN2	1	PASI-K
60358710005	**S-SCPB-FB-1**	EPA 300.0	CRN2	1	PASI-K
60358710006	**S-SCPB-DUP-1**	EPA 300.0	CRN2	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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

ANALYTICAL RESULTS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Sample: S-LMW-2S **Lab ID: 60358710001** Collected: 01/08/21 14:45 Received: 01/09/21 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	**0.48**	mg/L	0.20	0.075	1		01/13/21 19:18	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Sample: S-LMW-5S **Lab ID: 60358710002** Collected: 01/11/21 11:58 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	**<0.085**	mg/L	0.20	0.085	1		01/14/21 14:06	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Sample: S-LMW-6S **Lab ID: 60358710003** Collected: 01/11/21 12:49 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	**<0.085**	mg/L	0.20	0.085	1		01/14/21 14:20	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Sample: S-LMW-9S **Lab ID: 60358710004** Collected: 01/11/21 14:58 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	**0.39**	mg/L	0.20	0.085	1		01/14/21 15:21	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Sample: S-SCPB-FB-1 **Lab ID: 60358710005** Collected: 01/11/21 13:00 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	**<0.085**	mg/L	0.20	0.085	1		01/14/21 15:36	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Sample: S-SCPB-DUP-1 **Lab ID: 60358710006** Collected: 01/11/21 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	**<0.085**	mg/L	0.20	0.085	1		01/14/21 15:50	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

QC Batch: 699123
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60358710001

METHOD BLANK: 2820088 Matrix: Water
Associated Lab Samples: 60358710001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	01/13/21 18:05	

METHOD BLANK: 2821871 Matrix: Water
Associated Lab Samples: 60358710001

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

METHOD BLANK: 2822618 Matrix: Water
Associated Lab Samples: 60358710001

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

LABORATORY CONTROL SAMPLE: 2820089

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

LABORATORY CONTROL SAMPLE: 2821872

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

LABORATORY CONTROL SAMPLE: 2822619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	101	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

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

QUALITY CONTROL DATA

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2820090 2820091

Parameter	Units	60358710001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.48	2.5	2.5	3.0	3.0	99	100	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2820092 2820093

Parameter	Units	60358711001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	<0.075	2.5	2.5	2.2	2.0	89	81	80-120	10	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2820094 2820095

Parameter	Units	60358712001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.42	2.5	2.5	3.0	2.8	104	94	80-120	9	15	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

QC Batch: 699213
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60358710002, 60358710003, 60358710004, 60358710005, 60358710006

METHOD BLANK: 2820424 Matrix: Water
Associated Lab Samples: 60358710002, 60358710003, 60358710004, 60358710005, 60358710006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.085	0.20	0.085	01/14/21 09:14	

METHOD BLANK: 2822622 Matrix: Water
Associated Lab Samples: 60358710002, 60358710003, 60358710004, 60358710005, 60358710006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.085	0.20	0.085	01/15/21 09:15	

METHOD BLANK: 2823083 Matrix: Water
Associated Lab Samples: 60358710002, 60358710003, 60358710004, 60358710005, 60358710006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.085	0.20	0.085	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	

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	

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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

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

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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPB - VS
Pace Project No.: 60358710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60358710001	**S-LMW-2S**	EPA 300.0	699123		
60358710002	**S-LMW-5S**	EPA 300.0	699213		
60358710003	**S-LMW-6S**	EPA 300.0	699213		
60358710004	**S-LMW-9S**	EPA 300.0	699213		
60358710005	**S-SCPB-FB-1**	EPA 300.0	699213		
60358710006	**S-SCPB-DUP-1**	EPA 300.0	699213		

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60358710

60358710

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 ☑ 2PCC

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

Cooler Temperature (°C): **As-read** 1.2 **Corr. Factor** -0.2 **Corrected** 1.0 °C

Temperature should be above freezing to 6°C 1.6 1.4°C

Date and initials of person examining contents: 1-9-21 KS

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: REVIEWED By jchurch at 8:56 am, 1/11/21 Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren – SCPB-VS
Project Number:	153140607

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N		60358710
1	S-LMW-25	WT	G			1/5/21	1445		1	1												/				S-SCPB-MS/MSD + dup @ LMW-25
2	S-SCPB-MS-1	WT	G			1	1445		1	1												/				
3	S-SCPB-MSD-1	WT	G			⊥	1445		1	1												/				
4		WT	G																							
5		WT	G																							
6		WT	G																							
7		WT	G																							
8		WT	G																							
9		WT	G																							
10		WT	G																							
11		WT	G																							
12		WT	G																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	1/6/21	1550	Angela McManus	1/8/21	1600				
	Angela McManus	1/8/21	1600	KDavidson/Pace	1/9/21	0400	1.0	Y	Y	Y
							1.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 01/08/21

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

Pace Analytical® www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60358710

60358710

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 ☑ BLC

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

Cooler Temperature (°C): **As-read** 1.0 / 2.1 **Corr. Factor** -0.2 **Corrected** 0.8 / 1.9-c

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 1-13-21 LO

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? 1-13-21 LO (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 603173	☑Yes ☐No ☑N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 11:25 am, 1/13/21

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren - SCPB-VS
Project Number:	153140602.0003B

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N		
1	~~S-LMW-2S~~	WT	G																							60358710
2	S-LMW-5S	WT	G			1-11-21	1158		1	1													/			
3	S-LMW-6S	WT	G				1249																			
4	S-LMW-9S	WT	G				1458																			
5	S-SCPB-FB-1	WT	G				1300																			
6	S-SCPB-DUP-1	WT	G				—																			
7	~~S-SCPB-MS-1~~	WT	G																							
8	~~S-SCPB-MSD-1~~	WT	G																							
9		WT	G																							
10		WT	G																							
11		WT	G																							
12		WT	G																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Brendan Talbert/Golder	1-12-2021	1245	Angela McMann	1/12	1250				
	Angela McMann	1/12	1850	Davison Pace	1/13/20	0400	0.8	Y	Y	Y
							1.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert

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

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

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

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 – SCPB – VERIFICATION SAMPLING - DATA PACKAGE 60358710

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

- None.

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: J. Ingram
Project Name: Ameren- Sioux - SCPB
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 01/28/2021

Laboratory: Pace Analytical Services - Kansas City
SDG #: 60358710
Analytical Method (type and no.): EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names S-LMW-2S, S-LMW-5S, S-LMW-6S, S-LMW-9S, S-SCPB-FB-1, S-SCPB-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?	x			01/08/2021 - 01/11/2021
b) Sampling team indicated?	x			EMS/BTT
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, S.Cond., Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☐	☒	☐	S-SCPB-FB-1 @ S-LMW-6S
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	S-SCPB-DUP-1 @ S-LMW-5S
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD: 0% (<20%)
c) Were lab duplicates analyzed (note original and duplicate samples)?	☐	☒	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☒	

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

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

Comments/Notes:

MS/MSD:

2820426: MS % recovery high for Fluoride. MS/MSD performed on unrelated sample, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Ann Muhlfeith _____ Date: 01/28/2021

Pace Analytical Services, LLC
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July 06, 2021

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

RE: Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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

REV-1, 7/6/21: S-BMW-1S and S-BMW-3S added per client request.

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

Sincerely,

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

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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

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SAMPLE SUMMARY

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60366227001	**S-LMW-9S**	Water	04/09/21 15:25	04/10/21 03:15
60366227002	**S-LMW-3S**	Water	04/12/21 12:26	04/14/21 03:50
60366227003	**S-LMW-8S**	Water	04/12/21 16:06	04/14/21 03:50
60366227004	**S-LMW-DUP-1**	Water	04/12/21 00:00	04/14/21 03:50
60366227005	**S-LMW-DUP-2**	Water	04/12/21 00:00	04/14/21 03:50
60366227006	**S-LMW-FB-1**	Water	04/12/21 12:46	04/14/21 03:50
60366227007	**S-LMW-7S**	Water	04/14/21 11:30	04/15/21 04:40
60366227008	**S-LMW-FB-2**	Water	04/14/21 11:50	04/15/21 04:40
60366138017	**S-LMW-1S**	Water	04/14/21 09:40	04/15/21 04:40
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
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
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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60366227001	S-LMW-9S	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366227002	S-LMW-3S	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	VRP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366227003	S-LMW-8S	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	VRP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366227004	S-LMW-DUP-1	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	VRP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366227005	S-LMW-DUP-2	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	VRP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366227006	S-LMW-FB-1	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	VRP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366227007	S-LMW-7S	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366227008	S-LMW-FB-2	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138017	S-LMW-1S	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138006	S-LMW-2S	EPA 200.7	JLH	7	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	MAP	1	PASI-K
		SM 2540C	VRP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138007	**S-LMW-4S**	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	VRP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138023	**S-LMW-5S**	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138024	**S-LMW-6S**	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138009	**S-BMW-1S**	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60366138010	**S-BMW-3S**	EPA 200.7	JLH	7	PASI-K
		SM 2320B	MAP	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-9S **Lab ID: 60366227001** Collected: 04/09/21 15:25 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								
Boron	**1380**	ug/L	100	8.6	1	04/14/21 17:05	04/26/21 10:11	7440-42-8	
Calcium	**188000**	ug/L	200	75.4	1	04/14/21 17:05	04/26/21 10:11	7440-70-2	
Iron	**120**	ug/L	50.0	21.4	1	04/14/21 17:05	04/26/21 10:11	7439-89-6	
Magnesium	**57200**	ug/L	50.0	31.4	1	04/14/21 17:05	04/26/21 10:11	7439-95-4	
Manganese	**716**	ug/L	5.0	0.74	1	04/14/21 17:05	04/26/21 10:11	7439-96-5	
Potassium	**4600**	ug/L	500	146	1	04/14/21 17:05	04/26/21 10:11	7440-09-7	
Sodium	**51700**	ug/L	500	254	1	04/14/21 17:05	04/26/21 10:11	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**378**	mg/L	20.0	7.5	1		04/15/21 18:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1050**	mg/L	13.3	13.3	1		04/15/21 13:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**95.1**	mg/L	20.0	7.8	20		04/20/21 15:44	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.086	1		04/19/21 19:50	16984-48-8	
Sulfate	**318**	mg/L	20.0	8.4	20		04/20/21 15:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-3S **Lab ID: 60366227002** Collected: 04/12/21 12:26 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								
Boron	**232**	ug/L	100	8.6	1	04/15/21 13:43	04/26/21 11:14	7440-42-8	B
Calcium	**161000**	ug/L	200	75.4	1	04/15/21 13:43	04/26/21 11:14	7440-70-2	M1
Iron	**64.3**	ug/L	50.0	21.4	1	04/15/21 13:43	04/26/21 11:14	7439-89-6	
Magnesium	**32200**	ug/L	50.0	31.4	1	04/15/21 13:43	04/26/21 11:14	7439-95-4	
Manganese	**12.1**	ug/L	5.0	0.74	1	04/15/21 13:43	04/26/21 11:14	7439-96-5	
Potassium	**4300**	ug/L	500	146	1	04/15/21 13:43	04/26/21 11:14	7440-09-7	
Sodium	**19200**	ug/L	500	254	1	04/15/21 13:43	04/26/21 11:14	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**500**	mg/L	20.0	7.5	1		04/21/21 20:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**620**	mg/L	10.0	10.0	1		04/19/21 17:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**41.5**	mg/L	10.0	3.9	10		04/21/21 20:27	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.086	1		04/21/21 19:55	16984-48-8	
Sulfate	**33.2**	mg/L	10.0	4.2	10		04/21/21 20:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-8S **Lab ID: 60366227003** Collected: 04/12/21 16:06 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								
Boron	**6180**	ug/L	100	8.6	1	04/15/21 13:43	04/26/21 11:22	7440-42-8	
Calcium	**172000**	ug/L	200	75.4	1	04/15/21 13:43	04/26/21 11:22	7440-70-2	
Iron	**65.1**	ug/L	50.0	21.4	1	04/15/21 13:43	04/26/21 11:22	7439-89-6	
Magnesium	**41600**	ug/L	50.0	31.4	1	04/15/21 13:43	04/26/21 11:22	7439-95-4	
Manganese	**471**	ug/L	5.0	0.74	1	04/15/21 13:43	04/26/21 11:22	7439-96-5	
Potassium	**4100**	ug/L	500	146	1	04/15/21 13:43	04/26/21 11:22	7440-09-7	
Sodium	**54100**	ug/L	500	254	1	04/15/21 13:43	04/26/21 11:22	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**353**	mg/L	20.0	7.5	1		04/21/21 20:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**896**	mg/L	10.0	10.0	1		04/19/21 17:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**30.2**	mg/L	2.0	0.78	2		04/22/21 11:09	16887-00-6	
Fluoride	**0.77**	mg/L	0.20	0.086	1		04/21/21 20:59	16984-48-8	
Sulfate	**327**	mg/L	50.0	21.0	50		04/21/21 21:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-DUP-1 **Lab ID: 60366227004** 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								
Boron	**228**	ug/L	100	8.6	1	04/15/21 13:43	04/26/21 11:24	7440-42-8	B
Calcium	**158000**	ug/L	200	75.4	1	04/15/21 13:43	04/26/21 11:24	7440-70-2	
Iron	**156**	ug/L	50.0	21.4	1	04/15/21 13:43	04/26/21 11:24	7439-89-6	
Magnesium	**31800**	ug/L	50.0	31.4	1	04/15/21 13:43	04/26/21 11:24	7439-95-4	
Manganese	**12.7**	ug/L	5.0	0.74	1	04/15/21 13:43	04/26/21 11:24	7439-96-5	
Potassium	**4180**	ug/L	500	146	1	04/15/21 13:43	04/26/21 11:24	7440-09-7	
Sodium	**18200**	ug/L	500	254	1	04/15/21 13:43	04/26/21 11:24	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**475**	mg/L	20.0	7.5	1		04/21/21 20:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**641**	mg/L	10.0	10.0	1		04/19/21 17:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**43.8**	mg/L	10.0	3.9	10		04/21/21 22:18	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.086	1		04/21/21 21:31	16984-48-8	
Sulfate	**31.9**	mg/L	10.0	4.2	10		04/21/21 22:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-DUP-2 **Lab ID: 60366227005** 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								
Boron	**6110**	ug/L	100	8.6	1	04/15/21 13:43	04/26/21 11:27	7440-42-8	
Calcium	**173000**	ug/L	200	75.4	1	04/15/21 13:43	04/26/21 11:27	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/15/21 13:43	04/26/21 11:27	7439-89-6	
Magnesium	**41200**	ug/L	50.0	31.4	1	04/15/21 13:43	04/26/21 11:27	7439-95-4	
Manganese	**464**	ug/L	5.0	0.74	1	04/15/21 13:43	04/26/21 11:27	7439-96-5	
Potassium	**4110**	ug/L	500	146	1	04/15/21 13:43	04/26/21 11:27	7440-09-7	
Sodium	**53700**	ug/L	500	254	1	04/15/21 13:43	04/26/21 11:27	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**349**	mg/L	20.0	7.5	1		04/21/21 20:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**901**	mg/L	10.0	10.0	1		04/19/21 17:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
	Pace Analytical Services - Kansas City								
Chloride	**30.3**	mg/L	2.0	0.78	2		04/22/21 11:23	16887-00-6	
Fluoride	**0.76**	mg/L	0.20	0.086	1		04/21/21 22:34	16984-48-8	
Sulfate	**335**	mg/L	50.0	21.0	50		04/21/21 22:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-FB-1 **Lab ID: 60366227006** Collected: 04/12/21 12:46 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								
Boron	**<8.6**	ug/L	100	8.6	1	04/15/21 13:43	04/26/21 11:37	7440-42-8	
Calcium	**<75.4**	ug/L	200	75.4	1	04/15/21 13:43	04/26/21 11:37	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/15/21 13:43	04/26/21 11:37	7439-89-6	
Magnesium	**<31.4**	ug/L	50.0	31.4	1	04/15/21 13:43	04/26/21 11:37	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	04/15/21 13:43	04/26/21 11:37	7439-96-5	
Potassium	**<146**	ug/L	500	146	1	04/15/21 13:43	04/26/21 11:37	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	04/15/21 13:43	04/26/21 11:37	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<7.5**	mg/L	20.0	7.5	1		04/21/21 20:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		04/19/21 17:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.39**	mg/L	1.0	0.39	1		04/21/21 23:06	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		04/21/21 23:06	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		04/21/21 23:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-7S **Lab ID: 60366227007** Collected: 04/14/21 11:30 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								
Boron	**3810**	ug/L	100	8.6	1	04/19/21 09:05	04/20/21 16:51	7440-42-8	
Calcium	**238000**	ug/L	200	75.4	1	04/19/21 09:05	04/20/21 16:51	7440-70-2	
Iron	**27.0J**	ug/L	50.0	21.4	1	04/19/21 09:05	04/20/21 16:51	7439-89-6	
Magnesium	**67000**	ug/L	50.0	31.4	1	04/19/21 09:05	04/20/21 16:51	7439-95-4	
Manganese	**1070**	ug/L	5.0	0.74	1	04/19/21 09:05	04/20/21 16:51	7439-96-5	
Potassium	**4800**	ug/L	500	146	1	04/19/21 09:05	04/20/21 16:51	7440-09-7	
Sodium	**27800**	ug/L	500	254	1	04/19/21 09:05	04/20/21 16:51	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**451**	mg/L	20.0	7.5	1		04/19/21 14:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1160**	mg/L	13.3	13.3	1		04/21/21 14:06		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
	Pace Analytical Services - Kansas City								
Chloride	**19.3**	mg/L	2.0	0.78	2		04/20/21 19:42	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		04/19/21 18:01	16984-48-8	
Sulfate	**413**	mg/L	50.0	21.0	50		04/19/21 18:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Sample: S-LMW-FB-2 **Lab ID: 60366227008** Collected: 04/14/21 11:50 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								
Boron	**<8.6**	ug/L	100	8.6	1	04/19/21 09:05	04/20/21 16:54	7440-42-8	
Calcium	**<75.4**	ug/L	200	75.4	1	04/19/21 09:05	04/20/21 16:54	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/19/21 09:05	04/20/21 16:54	7439-89-6	
Magnesium	**<31.4**	ug/L	50.0	31.4	1	04/19/21 09:05	04/20/21 16:54	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	04/19/21 09:05	04/20/21 16:54	7439-96-5	
Potassium	**<146**	ug/L	500	146	1	04/19/21 09:05	04/20/21 16:54	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	04/19/21 09:05	04/20/21 16:54	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<7.5**	mg/L	20.0	7.5	1		04/19/21 14:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**13.0**	mg/L	5.0	5.0	1		04/21/21 14:08		
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		04/19/21 18:30	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		04/19/21 18:30	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		04/19/21 18:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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								
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	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/22/21 11:30	05/07/21 07:39	7439-89-6	
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	
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	
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		
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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								
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
Iron	**45.0J**	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:28	7439-89-6	
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	
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	
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		
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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								
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	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:35	7439-89-6	
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	
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	
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		
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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								
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	
Iron	**122**	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 19:10	7439-89-6	
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	
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	
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		
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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								
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	
Iron	**112**	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 19:20	7439-89-6	
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	
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	
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		
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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								
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	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:41	7439-89-6	
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	
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	
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		
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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								
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	
Iron	**<21.4**	ug/L	50.0	21.4	1	04/22/21 11:30	04/30/21 23:43	7439-89-6	
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	
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	
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		
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	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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

Associated Lab Samples: 60366227001

METHOD BLANK: 2875149 Matrix: Water
Associated Lab Samples: 60366227001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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	
Iron	ug/L	<21.4	50.0	21.4	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	
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
Boron	ug/L	1000	958	96	85-115	
Calcium	ug/L	10000	10100	101	85-115	
Iron	ug/L	10000	10200	102	85-115	
Magnesium	ug/L	10000	9960	100	85-115	
Manganese	ug/L	1000	970	97	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
Boron	ug/L	56.2J	1000	1020	97	70-130	
Calcium	ug/L	124000	10000	133000	96	70-130	
Iron	ug/L	7900	10000	17700	98	70-130	
Magnesium	ug/L	31000	10000	40600	95	70-130	
Manganese	ug/L	496	1000	1440	95	70-130	
Potassium	ug/L	3640	10000	13300	97	70-130	
Sodium	ug/L	5180	10000	15000	98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875152 2875153

Parameter	Units	60366222004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875152 2875153

Parameter	Units	60366222004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	3700	10000	10000	13400	13600	97	98	70-130	1	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	
Potassium	ug/L	10100	10000	10000	19500	19700	94	96	70-130	1	20	
Sodium	ug/L	33800	10000	10000	43000	43200	92	95	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 714802
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

METHOD BLANK: 2875918 Matrix: Water
Associated Lab Samples: 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	28.8J	100	8.6	04/26/21 11:09	
Calcium	ug/L	<75.4	200	75.4	04/26/21 11:09	
Iron	ug/L	<21.4	50.0	21.4	04/26/21 11:09	
Magnesium	ug/L	<31.4	50.0	31.4	04/26/21 11:09	
Manganese	ug/L	<0.74	5.0	0.74	04/26/21 11:09	
Potassium	ug/L	<146	500	146	04/26/21 11:09	
Sodium	ug/L	<254	500	254	04/26/21 11:09	

LABORATORY CONTROL SAMPLE: 2875919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	953	95	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Iron	ug/L	10000	9930	99	85-115	
Magnesium	ug/L	10000	9820	98	85-115	
Manganese	ug/L	1000	951	95	85-115	
Potassium	ug/L	10000	9360	94	85-115	
Sodium	ug/L	10000	9800	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875920 2875921

Parameter	Units	60366227002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	232	1000	1000	1200	1190	97	96	70-130	1	20	
Calcium	ug/L	161000	10000	10000	168000	166000	67	51	70-130	1	20	M1
Iron	ug/L	64.3	10000	10000	9860	9940	98	99	70-130	1	20	
Magnesium	ug/L	32200	10000	10000	41600	41000	94	88	70-130	1	20	
Manganese	ug/L	12.1	1000	1000	953	953	94	94	70-130	0	20	
Potassium	ug/L	4300	10000	10000	13900	13900	96	96	70-130	0	20	
Sodium	ug/L	19200	10000	10000	28500	28300	94	92	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 715283
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366227007, 60366227008

METHOD BLANK: 2878023 Matrix: Water
Associated Lab Samples: 60366227007, 60366227008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<8.6	100	8.6	04/20/21 16:03	
Calcium	ug/L	<75.4	200	75.4	04/20/21 16:03	
Iron	ug/L	<21.4	50.0	21.4	04/20/21 16:03	
Magnesium	ug/L	<31.4	50.0	31.4	04/20/21 16:03	
Manganese	ug/L	<0.74	5.0	0.74	04/20/21 16:03	
Potassium	ug/L	<146	500	146	04/20/21 16:03	
Sodium	ug/L	<254	500	254	04/20/21 16:03	

LABORATORY CONTROL SAMPLE: 2878024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	980	98	85-115	
Calcium	ug/L	10000	9920	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Magnesium	ug/L	10000	9940	99	85-115	
Manganese	ug/L	1000	972	97	85-115	
Potassium	ug/L	10000	9810	98	85-115	
Sodium	ug/L	10000	9940	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878025 2878026

Parameter	Units	60366586002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	146	1000	1000	1120	1160	97	101	70-130	4	20	
Calcium	ug/L	146000	10000	10000	151000	162000	53	167	70-130	7	20	M1
Iron	ug/L	<21.4	10000	10000	9720	10200	97	102	70-130	5	20	
Magnesium	ug/L	34500	10000	10000	43200	46300	87	118	70-130	7	20	
Manganese	ug/L	63.7	1000	1000	995	1040	93	98	70-130	4	20	
Potassium	ug/L	7900	10000	10000	17400	18400	95	106	70-130	6	20	
Sodium	ug/L	32600	10000	10000	41400	44500	89	120	70-130	7	20	

MATRIX SPIKE SAMPLE: 2878027

Parameter	Units	60366586004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	103	1000	1100	100	70-130	
Calcium	ug/L	135000	10000	146000	114	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

MATRIX SPIKE SAMPLE: 2878027

Parameter	Units	60366586004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	3790	10000	13800	100	70-130	
Magnesium	ug/L	29600	10000	39800	101	70-130	
Manganese	ug/L	471	1000	1440	97	70-130	
Potassium	ug/L	5770	10000	15900	101	70-130	
Sodium	ug/L	4820	10000	15000	101	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 716201
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138006, 60366138007, 60366138009, 60366138010, 60366138017

METHOD BLANK: 2881020 Matrix: Water
Associated Lab Samples: 60366138006, 60366138007, 60366138009, 60366138010, 60366138017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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	
Iron	ug/L	<21.4	50.0	21.4	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	
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
Boron	ug/L	1000	988	99	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Iron	ug/L	10000	10100	101	85-115	
Magnesium	ug/L	10000	9920	99	85-115	
Manganese	ug/L	1000	984	98	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	60366138006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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
Iron	ug/L	45.0J	10000	10000	10000	9750	100	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	
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 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	6000	1000	7050	105	70-130	
Calcium	ug/L	144000	10000	153000	81	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

MATRIX SPIKE SAMPLE: 2881024

Parameter	Units	60366138014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	9430	10000	18900	95	70-130	
Magnesium	ug/L	35300	10000	45500	102	70-130	
Manganese	ug/L	1130	1000	2140	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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 716203
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138023, 60366138024

METHOD BLANK: 2881028 Matrix: Water
Associated Lab Samples: 60366138023, 60366138024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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	
Iron	ug/L	<21.4	50.0	21.4	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	
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
Boron	ug/L	1000	955	95	85-115	
Calcium	ug/L	10000	11000	110	85-115	
Iron	ug/L	10000	9660	97	85-115	
Magnesium	ug/L	10000	9620	96	85-115	
Manganese	ug/L	1000	945	94	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	60366969001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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
Iron	ug/L	16600	10000	10000	25100	26300	85	96	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	
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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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

Associated Lab Samples: 60366227001

METHOD BLANK: 2875429 Matrix: Water
Associated Lab Samples: 60366227001

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 SCPB
Pace Project No.: 60366227

QC Batch: 715392
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366227007, 60366227008

METHOD BLANK: 2878406 Matrix: Water
Associated Lab Samples: 60366227007, 60366227008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	7.5	04/19/21 11:53	

LABORATORY CONTROL SAMPLE: 2878407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	501	100	90-110	

SAMPLE DUPLICATE: 2878408

Parameter	Units	60366498001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	1280	1320	3	10	

SAMPLE DUPLICATE: 2878409

Parameter	Units	60366586006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	426	435	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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, 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

METHOD BLANK: 2880339 Matrix: Water
Associated Lab Samples: 60366138006, 60366138007, 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

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 SCPB
Pace Project No.: 60366227

QC Batch: 716345
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138009, 60366138010

METHOD BLANK: 2881690 Matrix: Water
Associated Lab Samples: 60366138009, 60366138010

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 716860
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138017, 60366138023, 60366138024

METHOD BLANK: 2883949 Matrix: Water
Associated Lab Samples: 60366138017, 60366138023, 60366138024

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 SCPB
Pace Project No.: 60366227

QC Batch: 714769
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366227001

METHOD BLANK: 2875773 Matrix: Water
Associated Lab Samples: 60366227001

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 SCPB
Pace Project No.: 60366227

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, 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

METHOD BLANK: 2878845 Matrix: Water
Associated Lab Samples: 60366138006, 60366138007, 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

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 SCPB
Pace Project No.: 60366227

QC Batch: 715646
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138009, 60366138010

METHOD BLANK: 2879035 Matrix: Water
Associated Lab Samples: 60366138009, 60366138010

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 SCPB
Pace Project No.: 60366227

QC Batch: 715937
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138017, 60366138023, 60366138024

METHOD BLANK: 2880011 Matrix: Water
Associated Lab Samples: 60366138017, 60366138023, 60366138024

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 SCPB
Pace Project No.: 60366227

QC Batch: 715938
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366227007, 60366227008

METHOD BLANK: 2880019 Matrix: Water
Associated Lab Samples: 60366227007, 60366227008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/21/21 14:06	

LABORATORY CONTROL SAMPLE: 2880020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	992	99	80-120	

SAMPLE DUPLICATE: 2880021

Parameter	Units	60366586008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	<5.0	<5.0		10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 715327
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366227007, 60366227008

METHOD BLANK: 2878144 Matrix: Water
Associated Lab Samples: 60366227007, 60366227008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/19/21 09:31	
Fluoride	mg/L	<0.086	0.20	0.086	04/19/21 09:31	
Sulfate	mg/L	<0.42	1.0	0.42	04/19/21 09:31	

METHOD BLANK: 2880162 Matrix: Water
Associated Lab Samples: 60366227007, 60366227008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/20/21 07:53	
Fluoride	mg/L	<0.086	0.20	0.086	04/20/21 07:53	
Sulfate	mg/L	<0.42	1.0	0.42	04/20/21 07:53	

LABORATORY CONTROL SAMPLE: 2878145

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	101	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 2880163

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	100	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878146 2878147

Parameter	Units	60366692007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	1000	1000	1040	1340	104	134	80-120	25	15	M1,R1
Fluoride	mg/L	ND	500	500	477	630	95	126	80-120	28	15	M1,R1
Sulfate	mg/L	426	1000	1000	1430	1780	100	136	80-120	22	15	M1,R1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

MATRIX SPIKE SAMPLE: 2878148

Parameter	Units	60366586006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	95.3	50	143	95	80-120	
Fluoride	mg/L	0.34	2.5	2.6	91	80-120	
Sulfate	mg/L	51.1	50	97.4	93	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 715329
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60366227001

METHOD BLANK: 2878150 Matrix: Water
Associated Lab Samples: 60366227001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/19/21 09:32	
Fluoride	mg/L	<0.086	0.20	0.086	04/19/21 09:32	
Sulfate	mg/L	<0.42	1.0	0.42	04/19/21 09:32	

METHOD BLANK: 2880156 Matrix: Water
Associated Lab Samples: 60366227001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/20/21 07:53	
Fluoride	mg/L	<0.086	0.20	0.086	04/20/21 07:53	
Sulfate	mg/L	<0.42	1.0	0.42	04/20/21 07:53	

METHOD BLANK: 2880188 Matrix: Water
Associated Lab Samples: 60366227001

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

LABORATORY CONTROL SAMPLE: 2878151

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2880157

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	100	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

LABORATORY CONTROL SAMPLE: 2880189

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	100	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878152 2878153

Parameter	Units	60366120007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5600	5000	5000	12600	12300	140	135	80-120	2	15	M1
Fluoride	mg/L	1.9	2.5	2.5	2.9	3.9	40	82	80-120	31	15	M1,R1
Sulfate	mg/L	4.5	5	5	7.1	8.6	51	83	80-120	20	15	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2878155 2880144

Parameter	Units	60366064004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.2	5	5	9.1	9.0	99	97	80-120	1	15	
Fluoride	mg/L	0.35	2.5	2.5	2.9	3.0	101	104	80-120	3	15	
Sulfate	mg/L	104	50	50	159	166	109	123	80-120	4	15	M1

SAMPLE DUPLICATE: 2878154

Parameter	Units	60366120007 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	5600	5680	1	15	
Fluoride	mg/L	1.9	1.8	2	15	
Sulfate	mg/L	4.5	4.4	2	15	

SAMPLE DUPLICATE: 2880145

Parameter	Units	60366064004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	4.2	4.1	1	15	
Fluoride	mg/L	0.35	0.35	0	15	
Sulfate	mg/L	104	105	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 715726
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

METHOD BLANK: 2879432 Matrix: Water
Associated Lab Samples: 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

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

METHOD BLANK: 2882319 Matrix: Water
Associated Lab Samples: 60366227002, 60366227003, 60366227004, 60366227005, 60366227006

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

LABORATORY CONTROL SAMPLE: 2879433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 2882320

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879434 2879435

Parameter	Units	60366957002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	5	5	6.3	6.5	92	96	80-120	3	15	
Fluoride	mg/L	0.91			3.2	3.4				5	15	
Sulfate	mg/L	2.0	5	5	7.0	7.2	100	104	80-120	3	15	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2879434 2881092

Parameter	Units	60366957002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	5	5	6.3	6.9	92	94	80-120	10	15	
Fluoride	mg/L	0.91		2.5	3.2	2.9		103		12	15	
Sulfate	mg/L	2.0	5	25	7.0	97.5	100	108	80-120	173	15	R1

MATRIX SPIKE SAMPLE: 2879436

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

MATRIX SPIKE SAMPLE: 2881093

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

SAMPLE DUPLICATE: 2880018

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

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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

METHOD BLANK: 2882108 Matrix: Water
Associated Lab Samples: 60366138007, 60366138009, 60366138010

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: 60366138007, 60366138009, 60366138010

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882113 2882114

Parameter	Units	60367128001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

QC Batch: 716447
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60366138017, 60366138023, 60366138024

METHOD BLANK: 2882121 Matrix: Water
Associated Lab Samples: 60366138017, 60366138023, 60366138024

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: 60366138017, 60366138023, 60366138024

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	60367402001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1140	1000	1000	2360	2220	122	108	80-120	6	15	M1
Fluoride	mg/L	5.9	2.5	2.5	8.2	8.4	90	98	80-120	2	15	
Sulfate	mg/L	1830	1000	1000	3270	2990	145	116	80-120	9	15	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

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

QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

MATRIX SPIKE SAMPLE: 2882126

Parameter	Units	60366138022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
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 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	1140	1190	4	15	
Fluoride	mg/L	5.9	6.0	1	15	
Sulfate	mg/L	1830	1950	7	15	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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

Associated Lab Samples: 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	60366138006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

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

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366227001	**S-LMW-9S**	EPA 200.7	714611	EPA 200.7	714628
60366138006	**S-LMW-2S**	EPA 200.7	716201	EPA 200.7	716306
60366138007	**S-LMW-4S**	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
60366227002	**S-LMW-3S**	EPA 200.7	714802	EPA 200.7	714926
60366227003	**S-LMW-8S**	EPA 200.7	714802	EPA 200.7	714926
60366227004	**S-LMW-DUP-1**	EPA 200.7	714802	EPA 200.7	714926
60366227005	**S-LMW-DUP-2**	EPA 200.7	714802	EPA 200.7	714926
60366227006	**S-LMW-FB-1**	EPA 200.7	714802	EPA 200.7	714926
60366138017	**S-LMW-1S**	EPA 200.7	716201	EPA 200.7	716306
60366138023	**S-LMW-5S**	EPA 200.7	716203	EPA 200.7	716308
60366138024	**S-LMW-6S**	EPA 200.7	716203	EPA 200.7	716308
60366227007	**S-LMW-7S**	EPA 200.7	715283	EPA 200.7	715444
60366227008	**S-LMW-FB-2**	EPA 200.7	715283	EPA 200.7	715444
60366227001	**S-LMW-9S**	SM 2320B	714700		
60366138006	**S-LMW-2S**	SM 2320B	716011		
60366138007	**S-LMW-4S**	SM 2320B	716011		
60366138009	**S-BMW-1S**	SM 2320B	716345		
60366138010	**S-BMW-3S**	SM 2320B	716345		
60366227002	**S-LMW-3S**	SM 2320B	716011		
60366227003	**S-LMW-8S**	SM 2320B	716011		
60366227004	**S-LMW-DUP-1**	SM 2320B	716011		
60366227005	**S-LMW-DUP-2**	SM 2320B	716011		
60366227006	**S-LMW-FB-1**	SM 2320B	716011		
60366138017	**S-LMW-1S**	SM 2320B	716860		
60366138023	**S-LMW-5S**	SM 2320B	716860		
60366138024	**S-LMW-6S**	SM 2320B	716860		
60366227007	**S-LMW-7S**	SM 2320B	715392		
60366227008	**S-LMW-FB-2**	SM 2320B	715392		
60366227001	**S-LMW-9S**	SM 2540C	714769		
60366138006	**S-LMW-2S**	SM 2540C	715580		
60366138007	**S-LMW-4S**	SM 2540C	715580		
60366138009	**S-BMW-1S**	SM 2540C	715646		
60366138010	**S-BMW-3S**	SM 2540C	715646		
60366227002	**S-LMW-3S**	SM 2540C	715580		
60366227003	**S-LMW-8S**	SM 2540C	715580		
60366227004	**S-LMW-DUP-1**	SM 2540C	715580		
60366227005	**S-LMW-DUP-2**	SM 2540C	715580		
60366227006	**S-LMW-FB-1**	SM 2540C	715580		
60366138017	**S-LMW-1S**	SM 2540C	715937		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPB
Pace Project No.: 60366227

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60366138023	**S-LMW-5S**	SM 2540C	715937		
60366138024	**S-LMW-6S**	SM 2540C	715937		
60366227007	**S-LMW-7S**	SM 2540C	715938		
60366227008	**S-LMW-FB-2**	SM 2540C	715938		
60366227001	**S-LMW-9S**	EPA 300.0	715329		
60366138006	**S-LMW-2S**	EPA 300.0	716877		
60366138007	**S-LMW-4S**	EPA 300.0	716443		
60366138009	**S-BMW-1S**	EPA 300.0	716443		
60366138010	**S-BMW-3S**	EPA 300.0	716443		
60366227002	**S-LMW-3S**	EPA 300.0	715726		
60366227003	**S-LMW-8S**	EPA 300.0	715726		
60366227004	**S-LMW-DUP-1**	EPA 300.0	715726		
60366227005	**S-LMW-DUP-2**	EPA 300.0	715726		
60366227006	**S-LMW-FB-1**	EPA 300.0	715726		
60366138017	**S-LMW-1S**	EPA 300.0	716447		
60366138023	**S-LMW-5S**	EPA 300.0	716447		
60366138024	**S-LMW-6S**	EPA 300.0	716447		
60366227007	**S-LMW-7S**	EPA 300.0	715327		
60366227008	**S-LMW-FB-2**	EPA 300.0	715327		

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Sample Condition Upon Receipt

WO# : 60366227

60366227

Client Name: Golder Associates

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

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

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

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

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

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

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

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 603173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 4:21 pm, 4/12/21

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — **Required** Client Information:

Company:	Golder Associates
Address:	13515 Barrett Parkway 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 #9
Project Name:	Ameren Sioux Energy Center SCPB
Project Number:	153140603.0003B

Section C — Invoice Information:

Attention:	
Company Name:	Golder Associates Inc
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 3

REGULATORY AGENCY

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

Site Location STATE: MO

Section D — **Required** Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N		
1	S-LMW-DUP-2	WT	G																					
2	S-LMW-FB-1	WT	G																					
3	S-LMW-FB-2	WT	G																					
4	S-LMW-MS-1	WT	G																					
5	S-LMW-MSD-1	WT	G																					
6	S-LMW-9S	WT	G			4-9-21	1525		2	1		1							/	/	/	/	3B 3N	3BP1U		001
7		WT	G																					
8		WT	G																					
9		WT	G																					
10		WT	G																					
11		WT	G																					
12		WT	G																					

Pace Project No./ Lab I.D.: 60366227

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert/Golder	4-9-21	1710		4/10/21	0315	0.4	Y	X	Y

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Brendan Talbert	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): 04-09-21			

*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.

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Sample Condition Upon Receipt

WO# : 60366227

60366227

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 ☑ Ziplc

Thermometer Used: T295 **Type of Ice:** Wet Blue (None)

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

Date and initials of person examining contents: 4/14/21 SR

Temperature should be above freezing to 6°C 17.8 0.0 17.8

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	Did not rcvd Sample S-MW-15 4/14/21 SR
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	~~only rcvd 1 EnCore 1 BP1NS Sample S-MW-46~~
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	Did not rcv SBMW-15
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	Did not rcv S-BMW-35
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	Did not rcv S-MW-45
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 203173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 8:04 am, 4/15/21

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

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

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 Schneider, Ryan Feldmann
Purchase Order No.:	COC #9
Project Name:	Ameren Sioux Energy Center SCPB
Project Number:	153140603.0003B

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	App III and Cat/An Metals	Chloride/Fluoride/Sulfate	TDS	Alkalinity	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N	N	N		60366227
1	S-LMW-1S	WT	G																					
2	S-LMW-2S	WT	G			4/12/21	0940		2	1		1							X	X	X	X		
3	S-LMW-3S	WT	G			4/12/21	1226		2	1		1							X	X	X	X		
4	S-LMW-4S	WT	G			4/12/21	1357		2	1		1							X	X	X	X		
5	S-LMW-5S	WT	G																					
6	S-LMW-6S	WT	G																					
7	S-LMW-7S	WT	G																					
8	S-LMW-8S	WT	G			4/12/21	1606		2	1		1							X	X	X	X		
9	S-LMW-9S	WT	G			4/13/21																		
10	S-BMW-1S	WT	G			[illegible]	1335		2	1		1							X	X	X	X		
11	S-BMW-3S	WT	G			4/13/21	1217		2	1		1							X	X	X	X		
12	S-LMW-DUP-1	WT	G			4/12/21	—		2	1		1							X	X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
EPA 200.7: B, Ca, Fe, Mn, Mg, K, Na	[illegible]	4/13/21	1645	Angela MC	4/13	1700				
	Angela MC	4/13	1700	Schneider/Pace	4/14/21	0350	0.6	Y	Y	Y
							17.5	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/13/21

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Golder Associates
Address:	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:	
Purchase Order No.:	COC #9
Project Name:	Ameren Sioux Energy Center SCPB
Project Number:	153140603.003B

Section C Invoice Information:

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

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER _____

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

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

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	App III and Cat/An Metals	Chloride/Fluoride/Sulfate	TDS	Alkalinity	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N		60366227
1	S-LMW-DUP-2	WT	G			4/12/21	—		2	1		1							X	X	X	X		
2	S-LMW-FB-1	WT	G			4/12/21	1246		2	1		1							X	X	X	X		
3	S-LMW-FB-2	WT	G																					
4	S-LMW-MS-1	WT	G																					
5	S-LMW-MSD-1	WT	G																					
6		WT	G																					
7		WT	G																					
8		WT	G																					
9		WT	G																					
10		WT	G																					
11		WT	G																					
12		WT	G																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: B, Ca, Fe, Mn, Mg, K, Na		4/13/21	1643		4/13	1700	
		4/13	1700		4/14/21	0350	0.6 +1.5 Y Y Y

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:		(MM/DD/YY):	04/13/21		

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.6 +1.5	Y	Y	Y

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Sample Condition Upon Receipt

WO# : 60366227

60366227

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:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 603173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED
By jchurch at 4:19 pm, 4/16/21

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #1
Project Name:	Ameren Sioux Energy Center ~~SCL4A~~ SCPB
Project Number:	153140602.0003B

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates Inc
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 3

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
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ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: N	N	N	N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS		60036622
1	~~S-UG-2~~ S-LMW-1S	WT	G			4/14/21	0940		2	1		1						X	X	X	X		
2	~~S-TMW-1~~ S-LMW-5S	WT	G				1621		1	1		1						1	1	1	1		
3	~~S-TMW-2~~ S-LMW-6S	WT	G				1616		1	1		1						1	1	1	1		
4	~~S-TMW-3~~ S-LMW-7S	WT	G				1130		1	1		1						1	1	1	1		
5	~~S-SCL4A-DUP-1~~ S-LMW-FB-2	WT	G			1	1130		1	1		1						1	1	1	1		
6	~~S-SCL4A-PB-1~~	WT	G																				
7	~~S-SCL4A-MS-1~~	WT	G																				
8	~~S-SCL4A-MSD-1~~	WT	G																				
9	~~S-BMW-1S~~	WT	G																				
10	~~S-BMW-3S~~	WT	G																				
11		WT	G																				
12		WT	G																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[signature] / Golder	4/14/21	1800	Davison / Pace	4/15/21	0440	1.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schnieder

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 04/14/21

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

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

MEMORANDUM

DATE July 6, 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 – SCPB – DETECTION MONITORING - DATA PACKAGE 60366227REV1

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 for detects, UJ for non-detects) 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).

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: J. Ingram
Project Name: Ameren - SEC - SCPB
Project Number: 153140603
Reviewer: A. Muehlfarth
Validation Date: 7/6/2021

Laboratory: Pace Analytical - Kansas City
SDG #: 60366227rev1
Analytical Method (type and no.): EPA 200.7 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names S-LMW-9S, S-LMW-3S, S-LMW-8S, S-LMW-DUP-1, S-LMW-DUP-2, S-LMW-FB-1, S-LMW-7S, S-LMW-FB-2, S-LMW-1S, S-LMW-2S, S-LMW-4S, S-LMW-5S, S-LMW-6S, S-BMW-1S, S-BMW-3S

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			4/9/2021 - 4/14/2021
b) Sampling team indicated?	x			SMK/BTT
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp. Cond, turbidity, temperature, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

A "Sample Condition Upon Receipt" form dated 4/14/2021 noted that the lab did not receive samples for S-LMW-2S, S-BMW-1S, S-BMW-3S, and S-LMW-4S, which are all noted on the chain.

A revised data packet was issued July 6, 2021 to add samples S-BMW-1S (-38009) and S-BMW-3S (-38010).

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

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Blanks:

2875918: Boron (28.8J), associated with samples -002 through -006. Samples detected at > RL but <10x the blank were qualified as estimates (J).

2882121: Chloride (0.51J), associated with unrelated samples, no qualification necessary.

S-LMW-FB-1 @ S-LMW-3: No detections in FB-1.

S-LMW-FB-2 @ S-LMW-7S: TDS (13.0). TDS in associated sample >10x blank result, no qualification necessary

Duplicates:

S-LMW-DUP-1 @ S-LMW-3S: Dup RPD exceeds limit (20%) for Iron (83.3%).

S-LMW-DUP-2 @ S-LMW-8S: Iron detected in sample, ND in Dup

Lab analyzed sample duplicates for Alkalinity, TDS, Chloride, Fluoride, and Suflate.

Sample Duplicate 2880018: Dup RPD exceeds limit (15%) for Fluoride (26%). Sample duplicate performed on unrelated sample, no qualification necessary.

MS/MSD:

2875920/2875921: MS/MSD recovery low for Calcium. Associated with S-LMW-3S.

2881022/2881023: MSD % recovery low for Boron; MS % recovery high for Calcium. Associated with S-LMW-2S. Only 1 QC indicator out, no qualification necessary.

2878025/2878026: MS % recovery low and MSD % recovery high for Calcium. MS/MSD performed on unrelated sample, no qualification necessary.

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

2878146/2878147: MSD % recovery high and RPD exceeds limit for Chloride, Fluoride, Sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

2878152/2878153: MS/MSD % recovery high for Chloride; MSD % recovery high for Sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

2878155/2880144: MSD % recovery high for Sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

2879434/2881092: RPD exceeds limit for Sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

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

2882124/2882125: MS % recovery high for Chloride, Sulfate. 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-LMW-3S	Boron	232	J	Detected in MB, 10x blank>result>RL
S-LMW-DUP-1	"	228	J	"
S-LMW-3S	Iron	64.3	J	DUP RPD exceeds limit
S-LMW-DUP-1	"	156	J	"
S-LMW-8S	"	65.1	J	Detected in sample, ND in Dup
S-LMW-DUP-2	"	21.4	UJ	"
S-LMW-3S	Calcium	161000	J-	MS/MSD % recovery low

Signature: Ann Muehlfarth Date: 7/6/2021

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

June 18, 2021

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

RE: Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

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

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

CERTIFICATIONS

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

SAMPLE SUMMARY

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60371255001	**S-LMW-4S**	Water	06/02/21 13:26	06/04/21 04:25
60371255002	**S-LMW-5S**	Water	06/03/21 11:48	06/04/21 04:25
60371255003	**S-LMW-8S**	Water	06/03/21 10:10	06/04/21 04:25
60371255004	**S-LMW-9S**	Water	06/02/21 16:08	06/04/21 04:25
60371255005	**S-SCPB-FB-1**	Water	06/02/21 13:30	06/04/21 04:25
60371255006	**S-SCPB-DUP-1**	Water	06/03/21 08:00	06/04/21 04:25

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

SAMPLE ANALYTE COUNT

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60371255001	**S-LMW-4S**	EPA 300.0	CRN2	1	PASI-K
60371255002	**S-LMW-5S**	EPA 200.7	JLH	1	PASI-K
		EPA 300.0	CRN2	2	PASI-K
60371255003	**S-LMW-8S**	EPA 200.7	JLH	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60371255004	**S-LMW-9S**	EPA 300.0	CRN2	1	PASI-K
60371255005	**S-SCPB-FB-1**	EPA 200.7	JLH	1	PASI-K
		EPA 300.0	CRN2	2	PASI-K
60371255006	**S-SCPB-DUP-1**	EPA 200.7	JLH	1	PASI-K
		EPA 300.0	CRN2	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Sample: S-LMW-4S **Lab ID: 60371255001** Collected: 06/02/21 13:26 Received: 06/04/21 04:25 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	**34.0**	mg/L	10.0	4.2	10		06/16/21 13:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Sample: S-LMW-5S **Lab ID: 60371255002** Collected: 06/03/21 11:48 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								
Calcium	**252000**	ug/L	200	75.4	1	06/11/21 16:09	06/14/21 14:46	7440-70-2	M1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**0.26**	mg/L	0.20	0.086	1		06/16/21 19:59	16984-48-8	
Sulfate	**845**	mg/L	100	42.1	100		06/16/21 20:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Sample: S-LMW-8S **Lab ID: 60371255003** Collected: 06/03/21 10:10 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								
Calcium	**168000**	ug/L	200	75.4	1	06/11/21 16:09	06/14/21 14:58	7440-70-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**0.23**	mg/L	0.20	0.086	1		06/16/21 14:09	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Sample: S-LMW-9S **Lab ID: 60371255004** Collected: 06/02/21 16:08 Received: 06/04/21 04:25 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	**<0.086**	mg/L	0.20	0.086	1		06/16/21 14:45	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Sample: S-SCPB-FB-1 **Lab ID: 60371255005** Collected: 06/02/21 13:30 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								
Calcium	**<75.4**	ug/L	200	75.4	1	06/11/21 16:09	06/14/21 15:01	7440-70-2	
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 14:57	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		06/16/21 14:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Sample: S-SCPB-DUP-1 **Lab ID: 60371255006** Collected: 06/03/21 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								
Calcium	**161000**	ug/L	200	75.4	1	06/11/21 16:09	06/14/21 15:03	7440-70-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**0.24**	mg/L	0.20	0.086	1		06/16/21 15:21	16984-48-8	
Sulfate	**299**	mg/L	50.0	21.0	50		06/17/21 16:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

QC Batch: 725898
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371255002, 60371255003, 60371255005, 60371255006

METHOD BLANK: 2916937 Matrix: Water
Associated Lab Samples: 60371255002, 60371255003, 60371255005, 60371255006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<75.4	200	75.4	06/14/21 14:26	

LABORATORY CONTROL SAMPLE: 2916938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	9830	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916939 2916940

Parameter	Units	60371252002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	202000	10000	10000	208000	218000	53	152	70-130	5	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916941 2916942

Parameter	Units	60371255002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	252000	10000	10000	247000	256000	-46	40	70-130	3	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916943 2916944

Parameter	Units	60371258002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	152000	10000	10000	163000	162000	106	97	70-130	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

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: 60371255001, 60371255003, 60371255004, 60371255005, 60371255006

METHOD BLANK: 2918610 Matrix: Water
Associated Lab Samples: 60371255001, 60371255003, 60371255004, 60371255005, 60371255006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	06/16/21 12:20	
Sulfate	mg/L	<0.42	1.0	0.42	06/16/21 12:20	

METHOD BLANK: 2921617 Matrix: Water
Associated Lab Samples: 60371255001, 60371255003, 60371255004, 60371255005, 60371255006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	06/17/21 08:37	
Sulfate	mg/L	<0.42	1.0	0.42	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	
Sulfate	mg/L	5	4.7	95	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	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918613 2918614

Parameter	Units	60371252002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	<0.086	2.5	2.5	2.5	2.6	101	102	80-120	2	15	
Sulfate	mg/L	717	5	5	721	721	80	82	80-120	0	15	E

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-VS-SCPB
Pace Project No.: 60371255

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	
Sulfate	mg/L	52.6	25	76.9	97	80-120	

SAMPLE DUPLICATE: 2918612

Parameter	Units	60371252002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	<0.086	<0.086		15	
Sulfate	mg/L	717	718	0	15	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

QC Batch: 726576
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60371255002

METHOD BLANK: 2919147 Matrix: Water
Associated Lab Samples: 60371255002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	06/16/21 19:35	
Sulfate	mg/L	<0.42	1.0	0.42	06/16/21 19:35	

METHOD BLANK: 2922023 Matrix: Water
Associated Lab Samples: 60371255002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	06/18/21 09:15	
Sulfate	mg/L	<0.42	1.0	0.42	06/18/21 09:15	

LABORATORY CONTROL SAMPLE: 2919148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 2922024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919150 2919151

Parameter	Units	60371255002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.26	2.5	2.5	2.9	2.9	104	106	80-120	1	15	
Sulfate	mg/L	845	500	500	1360	1350	102	101	80-120	0	15	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919152 2919153

Parameter	Units	60371258002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	<0.86	25	25	26.4	26.7	106	107	80-120	1	15	
Sulfate	mg/L	52.2	50	50	99.1	99.4	94	94	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919155 2919156

Parameter	Units	60371986003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	<0.086	2.5	2.5	2.4	2.5	93	98	80-120	5	15	
Sulfate	mg/L	290	200	200	483	482	96	96	80-120	0	15	E

SAMPLE DUPLICATE: 2919149

Parameter	Units	60371255002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.26	<0.086		15	
Sulfate	mg/L	845	842	0	15	

SAMPLE DUPLICATE: 2919154

Parameter	Units	60371258002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	<0.86	<0.86		15	
Sulfate	mg/L	52.2	49.7	5	15	

SAMPLE DUPLICATE: 2919157

Parameter	Units	60371986003 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	<0.086	<0.086		15	
Sulfate	mg/L	290	290	0	15	

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

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.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN-VS-SCPB
Pace Project No.: 60371255

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60371255002	**S-LMW-5S**	EPA 200.7	725898	EPA 200.7	725984
60371255003	**S-LMW-8S**	EPA 200.7	725898	EPA 200.7	725984
60371255005	**S-SCPB-FB-1**	EPA 200.7	725898	EPA 200.7	725984
60371255006	**S-SCPB-DUP-1**	EPA 200.7	725898	EPA 200.7	725984
60371255001	**S-LMW-4S**	EPA 300.0	726410		
60371255002	**S-LMW-5S**	EPA 300.0	726576		
60371255003	**S-LMW-8S**	EPA 300.0	726410		
60371255004	**S-LMW-9S**	EPA 300.0	726410		
60371255005	**S-SCPB-FB-1**	EPA 300.0	726410		
60371255006	**S-SCPB-DUP-1**	EPA 300.0	726410		

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Sample Condition Upon Receipt

WO# : 60371255

60371255

Client Name: Golder Associates

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

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

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

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

Thermometer Used: T298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.4 **Corr. Factor** 0.6 0.0 **Corrected** 1.4 2.0

Temperature should be above freezing to 6°C 2.0

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

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# L603173	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 3:11 pm, 6/4/21

Project Manager Review: _____ Date: _____

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — **Required** Client Information:

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

Section B — **Required** Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #1
Project Name:	Ameren - Verification Sampling - SCPB
Project Number:	153140603 . 0003B

Section C — Invoice Information:

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

REGULATORY AGENCY

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

Site Location — **STATE:** MO

Section D — **Required** Client Information

Valid Matrix Codes

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

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

ITEM #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Chloride	Fluoride	Sulfate	TDS	Calcium	Boron			Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)	60371255 Pace Project No./ Lab I.D.
																	Y/N ↓	N	N	N	N	N	N	N	N	N	N	
1	S-LMW-4S	WT	G			6-2-21	1326		1	1									/						1-BP2U		
2	S-LMW-5S	WT	G			6-3-21	1148		1	1									/						1-BP2U		
3	S-LMW-8S	WT	G			1	1010		2	1		1							/			/			1-BP2U	1-BP3N	
4	S-LMW-9S	WT	G			6-2-21	1608		1	1									/						1-BP2U		
5	S-SCPB-FB-1	WT	G			6-2-21	1330		2	1		1							/	/		/			1-BP2U	1-BP3N	
6	S-SCPB-DUP-1	WT	G			6-3-21	—		2	1		1							/	/		/			↓	↓	
7	S-SCPB-MS-1	WT	G			6-3-21	1148		2	1		1							/	/		/					
8	S-SCPB-MSD-1	WT	G			6-3-21	1148		2	1		1							/	/		/			↓		
9		WT	G																								
10		WT	G																								
11		WT	G																								
12		WT	G																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Brendan Talbert/Golder	6-3-21	1345	Angela McMa	6/3	1400				
	Angela McMa	6-3	1400	SRoadnetPace	6/4/21	0425	1.4	Y	Y	Y
							2.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert — DATE Signed (MM/DD/YY): 06/03/21

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

MEMORANDUM

DATE 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 – SCPB – VERIFICATION SAMPLING - DATA PACKAGE 60371255

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

- None.

Golder Associates Inc.
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QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: J. Ingram
Project Name: Ameren- Sioux - SCPB
Project Number: 153140603
Reviewer: K. Bartels
Validation Date: 07/20/2021

Laboratory: Pace Analytical Services - Kansas City
SDG #: 60371255
Analytical Method (type and no.): EPA 300.0 (Anions), EPA 200.7 (Metals, Total)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names S-LMW-4S, S-LMW-5S, S-LMW-8S, S-LMW-9S, S-SCPB-FB-1, S-SCPB-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?	x			6/2/2021-6/3/2021
b) Sampling team indicated?	x			BTT/SSS
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, S.Cond., Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☐	☒	☐	S-SCPB-FB-1 @ S-LMW-4S
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	S-SCPB-DUP-1 @ S-LMW-8S
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	RPD < 20%
c) Were lab duplicates analyzed (note original and duplicate samples)?	☐	☒	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☒	

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

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

Comments/Notes:

Sulfate diluted in -001, -002, and -006; no qualification necessary.

MS/MSD:

2916939/2916940: MS % recovery low, MSD % recovery high for Calcium. MS/MSD performed on unrelated sample, no qualification necessary.

2916941/2916942: MS/MSD % recovery low for Calcium. Associated with sample -002. Sample result >4x spike added, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Date: 07/20/2021

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

December 28, 2021

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

RE: Project: AMEREN SCPB
Pace Project No.: 60385870

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

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CERTIFICATIONS

Project: AMEREN SCPB
Pace Project No.: 60385870

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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SAMPLE SUMMARY

Project: AMEREN SCPB
Pace Project No.: 60385870

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60385870001	S-LMW-FB-1	Water	11/09/21 13:55	11/10/21 05:17
60385870002	S-LMW-7S	Water	11/09/21 13:35	11/10/21 05:17
60385870003	S-LMW-3S	Water	11/11/21 13:20	11/13/21 04:32
60385870004	S-LMW-8S	Water	11/10/21 12:46	11/13/21 04:32
60385870005	S-LMW-9S	Water	11/10/21 13:39	11/13/21 04:32
60385870006	S-LMW-DUP-1	Water	11/10/21 00:00	11/13/21 04:32
60385870007	S-LMW-FB-2	Water	11/11/21 11:00	11/13/21 04:32
60385870008	S-LMW-DUP-2	Water	11/10/21 00:00	11/12/21 04:32
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
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
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

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SAMPLE ANALYTE COUNT

Project: AMEREN SCPB
Pace Project No.: 60385870

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385870001	S-LMW-FB-1	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385870002	S-LMW-7S	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60385870003	S-LMW-3S	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385870004	S-LMW-8S	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385870005	S-LMW-9S	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385870006	S-LMW-DUP-1	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385870007	S-LMW-FB-2	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385870008	S-LMW-DUP-2	EPA 200.7	JLH	7	PASI-K
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60385860001	S-BMW-1S	EPA 200.7	MA1	7	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

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SCPB
Pace Project No.: 60385870

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	MAW	3	PASI-K
60385860002	S-BMW-3S	EPA 200.7	MA1	7	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
60385860015	S-LMW-1S	EPA 200.7	MA1	7	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
60385860016	S-LMW-2S	EPA 200.7	MA1	7	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
60385860017	S-LMW-4S	EPA 200.7	MA1	7	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	7	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	7	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

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SAMPLE ANALYTE COUNT

Project: AMEREN SCPB
Pace Project No.: 60385870

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

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

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-FB-1 **Lab ID: 60385870001** Collected: 11/09/21 13:55 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								
Boron	**<8.6**	ug/L	100	8.6	1	11/27/21 16:56	11/30/21 18:30	7440-42-8	
Calcium	**<75.4**	ug/L	200	75.4	1	11/27/21 16:56	11/30/21 18:30	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	11/27/21 16:56	11/30/21 18:30	7439-89-6	
Magnesium	**<31.4**	ug/L	50.0	31.4	1	11/27/21 16:56	11/30/21 18:30	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	11/27/21 16:56	11/30/21 18:30	7439-96-5	
Potassium	**<146**	ug/L	500	146	1	11/27/21 16:56	11/30/21 18:30	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	11/27/21 16:56	11/30/21 18:30	7440-23-5	
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 09:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**0.55J**	mg/L	1.0	0.39	1		11/20/21 16:58	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/20/21 16:58	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		11/20/21 16:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-7S **Lab ID: 60385870002** Collected: 11/09/21 13:35 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								
Boron	**2900**	ug/L	100	8.6	1	11/27/21 16:56	11/30/21 18:32	7440-42-8	
Calcium	**246000**	ug/L	2000	754	10	11/27/21 16:56	12/01/21 14:56	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	11/27/21 16:56	11/30/21 18:32	7439-89-6	
Magnesium	**70700**	ug/L	500	314	10	11/27/21 16:56	12/01/21 14:56	7439-95-4	
Manganese	**740**	ug/L	5.0	0.74	1	11/27/21 16:56	11/30/21 18:32	7439-96-5	
Potassium	**4170**	ug/L	500	146	1	11/27/21 16:56	11/30/21 18:32	7440-09-7	
Sodium	**21300**	ug/L	500	254	1	11/27/21 16:56	11/30/21 18:32	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**442**	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	**1160**	mg/L	13.3	13.3	1		11/16/21 09:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.5**	mg/L	1.0	0.39	1		11/20/21 17:10	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.086	1		11/20/21 17:10	16984-48-8	
Sulfate	**397**	mg/L	100	42.1	100		11/21/21 13:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-3S **Lab ID: 60385870003** Collected: 11/11/21 13:20 Received: 11/13/21 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								
Boron	**219**	ug/L	100	8.6	1	11/17/21 12:35	11/19/21 11:52	7440-42-8	
Calcium	**155000**	ug/L	1000	377	5	11/17/21 12:35	11/22/21 12:32	7440-70-2	M1
Iron	**<21.4**	ug/L	50.0	21.4	1	11/17/21 12:35	11/19/21 11:52	7439-89-6	
Magnesium	**28000**	ug/L	50.0	31.4	1	11/17/21 12:35	11/19/21 11:52	7439-95-4	
Manganese	**9.0**	ug/L	5.0	0.74	1	11/17/21 12:35	11/19/21 11:52	7439-96-5	
Potassium	**4500**	ug/L	500	146	1	11/17/21 12:35	11/19/21 11:52	7440-09-7	
Sodium	**18000**	ug/L	500	254	1	11/17/21 12:35	11/19/21 11:52	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**435**	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	**753**	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	**25.8**	mg/L	5.0	1.9	5		11/17/21 15:02	16887-00-6	
Fluoride	**0.26**	mg/L	0.20	0.086	1		11/17/21 14:36	16984-48-8	
Sulfate	**29.1**	mg/L	5.0	2.1	5		11/17/21 15:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-8S **Lab ID: 60385870004** Collected: 11/10/21 12:46 Received: 11/13/21 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								
Boron	**5200**	ug/L	100	8.6	1	11/17/21 12:35	11/19/21 11:58	7440-42-8	
Calcium	**177000**	ug/L	1000	377	5	11/17/21 12:35	11/22/21 12:38	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	11/17/21 12:35	11/19/21 11:58	7439-89-6	
Magnesium	**36700**	ug/L	50.0	31.4	1	11/17/21 12:35	11/19/21 11:58	7439-95-4	
Manganese	**542**	ug/L	5.0	0.74	1	11/17/21 12:35	11/19/21 11:58	7439-96-5	
Potassium	**4080**	ug/L	500	146	1	11/17/21 12:35	11/19/21 11:58	7440-09-7	
Sodium	**48900**	ug/L	500	254	1	11/17/21 12:35	11/19/21 11:58	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**299**	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	**841**	mg/L	10.0	10.0	1		11/17/21 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.7**	mg/L	5.0	1.9	5		11/17/21 15:42	16887-00-6	
Fluoride	**0.59**	mg/L	0.20	0.086	1		11/17/21 15:29	16984-48-8	
Sulfate	**304**	mg/L	50.0	21.0	50		11/17/21 15:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-9S **Lab ID: 60385870005** Collected: 11/10/21 13:39 Received: 11/13/21 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								
Boron	**1330**	ug/L	100	8.6	1	11/17/21 12:35	11/19/21 12:00	7440-42-8	
Calcium	**193000**	ug/L	1000	377	5	11/17/21 12:35	11/22/21 12:44	7440-70-2	
Iron	**23.6J**	ug/L	50.0	21.4	1	11/17/21 12:35	11/19/21 12:00	7439-89-6	
Magnesium	**45300**	ug/L	50.0	31.4	1	11/17/21 12:35	11/19/21 12:00	7439-95-4	
Manganese	**663**	ug/L	5.0	0.74	1	11/17/21 12:35	11/19/21 12:00	7439-96-5	
Potassium	**4770**	ug/L	500	146	1	11/17/21 12:35	11/19/21 12:00	7440-09-7	
Sodium	**51800**	ug/L	500	254	1	11/17/21 12:35	11/19/21 12:00	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**354**	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	**941**	mg/L	13.3	13.3	1		11/17/21 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**104**	mg/L	10.0	3.9	10		11/17/21 18:55	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.086	1		11/17/21 18:42	16984-48-8	
Sulfate	**273**	mg/L	50.0	21.0	50		11/17/21 19:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-DUP-1 **Lab ID: 60385870006** Collected: 11/10/21 00:00 Received: 11/13/21 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								
Boron	**259**	ug/L	100	8.6	1	11/17/21 12:35	11/19/21 12:06	7440-42-8	
Calcium	**192000**	ug/L	1000	377	5	11/17/21 12:35	11/22/21 12:46	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	11/17/21 12:35	11/19/21 12:06	7439-89-6	
Magnesium	**37000**	ug/L	50.0	31.4	1	11/17/21 12:35	11/19/21 12:06	7439-95-4	
Manganese	**253**	ug/L	5.0	0.74	1	11/17/21 12:35	11/19/21 12:06	7439-96-5	
Potassium	**5120**	ug/L	500	146	1	11/17/21 12:35	11/19/21 12:06	7440-09-7	
Sodium	**12000**	ug/L	500	254	1	11/17/21 12:35	11/19/21 12:06	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**574**	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	**612**	mg/L	10.0	10.0	1		11/17/21 10:03		
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		11/17/21 19:22	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.086	1		11/17/21 19:22	16984-48-8	
Sulfate	**33.2**	mg/L	5.0	2.1	5		11/17/21 19:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-FB-2 **Lab ID: 60385870007** Collected: 11/11/21 11:00 Received: 11/13/21 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								
Boron	**<8.6**	ug/L	100	8.6	1	11/17/21 12:35	11/19/21 12:08	7440-42-8	
Calcium	**<75.4**	ug/L	200	75.4	1	11/17/21 12:35	11/19/21 12:08	7440-70-2	
Iron	**<21.4**	ug/L	50.0	21.4	1	11/17/21 12:35	11/19/21 12:08	7439-89-6	
Magnesium	**<31.4**	ug/L	50.0	31.4	1	11/17/21 12:35	11/19/21 12:08	7439-95-4	
Manganese	**<0.74**	ug/L	5.0	0.74	1	11/17/21 12:35	11/19/21 12:08	7439-96-5	
Potassium	**<146**	ug/L	500	146	1	11/17/21 12:35	11/19/21 12:08	7440-09-7	
Sodium	**<254**	ug/L	500	254	1	11/17/21 12:35	11/19/21 12:08	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**<2.0**	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	**<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	**0.40J**	mg/L	1.0	0.39	1		11/17/21 20:02	16887-00-6	
Fluoride	**<0.086**	mg/L	0.20	0.086	1		11/17/21 20:02	16984-48-8	
Sulfate	**<0.42**	mg/L	1.0	0.42	1		11/17/21 20:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

Sample: S-LMW-DUP-2 **Lab ID: 60385870008** 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								
Boron	**5240**	ug/L	100	8.6	1	11/16/21 10:33	11/17/21 16:35	7440-42-8	
Calcium	**154000**	ug/L	200	75.4	1	11/16/21 10:33	11/18/21 16:47	7440-70-2	M1
Iron	**<21.4**	ug/L	50.0	21.4	1	11/16/21 10:33	11/17/21 16:35	7439-89-6	
Magnesium	**37800**	ug/L	50.0	31.4	1	11/16/21 10:33	11/17/21 16:35	7439-95-4	
Manganese	**533**	ug/L	5.0	0.74	1	11/16/21 10:33	11/17/21 16:35	7439-96-5	
Potassium	**3960**	ug/L	500	146	1	11/16/21 10:33	11/17/21 16:35	7440-09-7	
Sodium	**48500**	ug/L	500	254	1	11/16/21 10:33	11/17/21 16:35	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Indianapolis								
Alkalinity, Total as CaCO3	**295**	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	**856**	mg/L	10.0	10.0	1		11/17/21 10:08		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.4**	mg/L	5.0	1.9	5		11/17/21 14:22	16887-00-6	
Fluoride	**<4.3**	mg/L	10.0	4.3	50		11/18/21 11:10	16984-48-8	
Sulfate	**357**	mg/L	50.0	21.0	50		11/18/21 11:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

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								
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	
Iron	**<21.4**	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:12	7439-89-6	
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	
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	
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 SCPB
Pace Project No.: 60385870

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								
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	
Iron	**56.3**	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:14	7439-89-6	
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	
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	
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

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								
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	
Iron	**72.9**	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:43	7439-89-6	
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	
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	
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

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								
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	
Iron	**78.3**	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:45	7439-89-6	
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	
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	
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

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								
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	
Iron	**25.0J**	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:51	7439-89-6	
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	
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	
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	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SCPB
Pace Project No.: 60385870

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								
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
Iron	**59.1**	ug/L	50.0	21.4	1	12/06/21 10:43	12/07/21 19:04	7439-89-6	
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	
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
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 SCPB
Pace Project No.: 60385870

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								
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
Iron	**43.0J**	ug/L	50.0	21.4	1	12/03/21 10:02	12/07/21 18:16	7439-89-6	
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	
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
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	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 756549
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385870008

METHOD BLANK: 3027374 Matrix: Water
Associated Lab Samples: 60385870008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<8.6	100	8.6	11/17/21 16:00	
Calcium	ug/L	<75.4	200	75.4	11/17/21 16:00	
Iron	ug/L	<21.4	50.0	21.4	11/17/21 16:00	
Magnesium	ug/L	<31.4	50.0	31.4	11/17/21 16:00	
Manganese	ug/L	<0.74	5.0	0.74	11/17/21 16:00	
Potassium	ug/L	<146	500	146	11/17/21 16:00	
Sodium	ug/L	<254	500	254	11/17/21 16:00	

LABORATORY CONTROL SAMPLE: 3027375

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	991	99	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Iron	ug/L	10000	10300	103	85-115	
Magnesium	ug/L	10000	10400	104	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3027376 3027377

Parameter	Units	60385198001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	203	1000	1000	1200	1190	100	98	70-130	1	20	
Calcium	ug/L	94100	10000	10000	99700	99600	56	55	70-130	0	20	M1
Iron	ug/L	70.6	10000	10000	10100	9800	100	97	70-130	3	20	
Magnesium	ug/L	24500	10000	10000	33600	32600	91	81	70-130	3	20	
Manganese	ug/L	384	1000	1000	1390	1350	101	96	70-130	3	20	
Potassium	ug/L	73800	10000	10000	83300	83100	95	93	70-130	0	20	
Sodium	ug/L	138000	10000	10000	148000	146000	97	84	70-130	1	20	

MATRIX SPIKE SAMPLE: 3027378

Parameter	Units	60385870008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	5240	1000	6440	120	70-130	
Calcium	ug/L	154000	10000	171000	169	70-130	M1

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

MATRIX SPIKE SAMPLE: 3027378

Parameter	Units	60385870008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	<21.4	10000	9770	98	70-130	
Magnesium	ug/L	37800	10000	46300	84	70-130	
Manganese	ug/L	533	1000	1520	99	70-130	
Potassium	ug/L	3960	10000	14500	106	70-130	
Sodium	ug/L	48500	10000	60600	120	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 756897
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385870003, 60385870004, 60385870005, 60385870006, 60385870007

METHOD BLANK: 3028931 Matrix: Water
Associated Lab Samples: 60385870003, 60385870004, 60385870005, 60385870006, 60385870007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<8.6	100	8.6	11/19/21 11:47	
Calcium	ug/L	<75.4	200	75.4	11/19/21 11:47	
Iron	ug/L	<21.4	50.0	21.4	11/19/21 11:47	
Magnesium	ug/L	<31.4	50.0	31.4	11/19/21 11:47	
Manganese	ug/L	<0.74	5.0	0.74	11/19/21 11:47	
Potassium	ug/L	<146	500	146	11/19/21 11:47	
Sodium	ug/L	<254	500	254	11/19/21 11:47	

LABORATORY CONTROL SAMPLE: 3028932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	964	96	85-115	
Calcium	ug/L	10000	9660	97	85-115	
Iron	ug/L	10000	9780	98	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	968	97	85-115	
Potassium	ug/L	10000	9760	98	85-115	
Sodium	ug/L	10000	9840	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3028933 3028934

Parameter	Units	60385870003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	219	1000	1000	1190	1180	97	96	70-130	1	20	
Calcium	ug/L	155000	10000	10000	172000	172000	163	162	70-130	0	20	M1
Iron	ug/L	<21.4	10000	10000	9610	9600	96	96	70-130	0	20	
Magnesium	ug/L	28000	10000	10000	35600	35300	77	73	70-130	1	20	
Manganese	ug/L	9.0	1000	1000	952	952	94	94	70-130	0	20	
Potassium	ug/L	4500	10000	10000	14800	14500	103	100	70-130	1	20	
Sodium	ug/L	18000	10000	10000	28600	28200	106	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 758172
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385870001, 60385870002

METHOD BLANK: 3034277 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	15.5J	100	8.6	11/30/21 18:09	
Calcium	ug/L	95.6J	200	75.4	11/30/21 18:09	
Iron	ug/L	<21.4	50.0	21.4	11/30/21 18:09	
Magnesium	ug/L	<31.4	50.0	31.4	11/30/21 18:09	
Manganese	ug/L	<0.74	5.0	0.74	11/30/21 18:09	
Potassium	ug/L	<146	500	146	11/30/21 18:09	
Sodium	ug/L	<254	500	254	11/30/21 18:09	

LABORATORY CONTROL SAMPLE: 3034278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	962	96	85-115	
Calcium	ug/L	10000	9750	97	85-115	
Iron	ug/L	10000	9750	97	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	973	97	85-115	
Potassium	ug/L	10000	9630	96	85-115	
Sodium	ug/L	10000	10000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034279 3034280

Parameter	Units	60385386027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	10300	1000	1000	11100	11400	80	106	70-130	2	20	
Calcium	ug/L	105000	10000	10000	113000	115000	73	96	70-130	2	20	
Iron	ug/L	4680	10000	10000	14400	14500	97	98	70-130	1	20	
Magnesium	ug/L	23200	10000	10000	32000	32700	88	95	70-130	2	20	
Manganese	ug/L	175	1000	1000	1140	1160	97	98	70-130	1	20	
Potassium	ug/L	6850	10000	10000	16400	16700	95	99	70-130	2	20	
Sodium	ug/L	125000	10000	10000	132000	134000	67	94	70-130	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 759536
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385860001, 60385860002, 60385860004, 60385860015, 60385860016, 60385860017

METHOD BLANK: 3038952 Matrix: Water
Associated Lab Samples: 60385860001, 60385860002, 60385860004, 60385860015, 60385860016, 60385860017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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	
Iron	ug/L	<21.4	50.0	21.4	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	
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
Boron	ug/L	1000	1000	100	85-115	
Calcium	ug/L	10000	9980	100	85-115	
Iron	ug/L	10000	10000	100	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	1000	100	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
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
Iron	ug/L	43.0J	10000	10000	10500	10300	105	103	70-130	2	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	
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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

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

Associated Lab Samples: 60385860003

METHOD BLANK: 3040508 Matrix: Water
Associated Lab Samples: 60385860003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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	
Iron	ug/L	<21.4	50.0	21.4	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	
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
Boron	ug/L	1000	927	93	85-115	
Calcium	ug/L	10000	9390	94	85-115	
Iron	ug/L	10000	9420	94	85-115	
Magnesium	ug/L	10000	9460	95	85-115	
Manganese	ug/L	1000	940	94	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	60385860003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	12900	1000	1000	14000	14500	113	157	70-130	3	20	M1
Calcium	ug/L	253000	10000	10000	268000	275000	144	216	70-130	3	20	M1
Iron	ug/L	59.1	10000	10000	9550	9870	95	98	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	
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 Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	21300	1000	1000	22400	23000	111	170	70-130	3	20	M1

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040512 3040513

Parameter	Units	60385853004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	199000	10000	10000	214000	215000	145	154	70-130	0	20	M1
Iron	ug/L	285	10000	10000	8590	10200	83	99	70-130	17	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	
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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

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, 60385870001, 60385870002

METHOD BLANK: 2998639 Matrix: Water
Associated Lab Samples: 60385860001, 60385860002, 60385860003, 60385860004, 60385870001, 60385870002

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 650882 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 60385870003, 60385870004, 60385870005, 60385870006, 60385870007, 60385870008

METHOD BLANK: 2999813 Matrix: Water
Associated Lab Samples: 60385870003, 60385870004, 60385870005, 60385870006, 60385870007, 60385870008

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 651335
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 60385860016, 60385860017

METHOD BLANK: 3001987 Matrix: Water
Associated Lab Samples: 60385860016, 60385860017

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 651462
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 60385860015

METHOD BLANK: 3002719 Matrix: Water
Associated Lab Samples: 60385860015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	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 CaCO3	mg/L	50	48.7	97	90-110	

SAMPLE DUPLICATE: 3002721

Parameter	Units	50302779001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	463	461	0	20	

SAMPLE DUPLICATE: 3002722

Parameter	Units	50302828001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	590	591	0	20	

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 756220
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385860001, 60385860002

METHOD BLANK: 3026260 Matrix: Water
Associated Lab Samples: 60385860001, 60385860002

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 SCPB
Pace Project No.: 60385870

QC Batch: 756566
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385860003, 60385860004

METHOD BLANK: 3027452 Matrix: Water
Associated Lab Samples: 60385860003, 60385860004

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 SCPB
Pace Project No.: 60385870

QC Batch: 756569
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385870001, 60385870002

METHOD BLANK: 3027456 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/16/21 09:56	

LABORATORY CONTROL SAMPLE: 3027457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	989	99	80-120	

SAMPLE DUPLICATE: 3027458

Parameter	Units	60385861001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	390	384	2	10	

SAMPLE DUPLICATE: 3027459

Parameter	Units	60385866001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	461	474	3	10	

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

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, 60385870004, 60385870005, 60385870006

METHOD BLANK: 3028772 Matrix: Water
Associated Lab Samples: 60385860016, 60385860017, 60385870004, 60385870005, 60385870006

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 756845
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385860015, 60385870008

METHOD BLANK: 3028779 Matrix: Water
Associated Lab Samples: 60385860015, 60385870008

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 757164
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385870003, 60385870007

METHOD BLANK: 3029977 Matrix: Water
Associated Lab Samples: 60385870003, 60385870007

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 SCPB
Pace Project No.: 60385870

QC Batch: 756399
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385870003, 60385870004, 60385870005, 60385870006, 60385870007, 60385870008

METHOD BLANK: 3026976 Matrix: Water
Associated Lab Samples: 60385870003, 60385870004, 60385870005, 60385870006, 60385870007, 60385870008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/17/21 11:15	
Fluoride	mg/L	<0.086	0.20	0.086	11/17/21 11:15	
Sulfate	mg/L	<0.42	1.0	0.42	11/17/21 11:15	

METHOD BLANK: 3030678 Matrix: Water
Associated Lab Samples: 60385870003, 60385870004, 60385870005, 60385870006, 60385870007, 60385870008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.55J	1.0	0.39	11/18/21 08:42	
Fluoride	mg/L	<0.086	0.20	0.086	11/18/21 08:42	
Sulfate	mg/L	<0.42	1.0	0.42	11/18/21 08:42	

LABORATORY CONTROL SAMPLE: 3026977

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	101	90-110	

LABORATORY CONTROL SAMPLE: 3030679

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	2.5	101	90-110	
Sulfate	mg/L	5	5.4	109	90-110	

MATRIX SPIKE SAMPLE: 3026980

Parameter	Units	60385870003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	25.8	25	48.2	90	80-120	
Fluoride	mg/L	0.26	2.5	2.7	96	80-120	
Sulfate	mg/L	29.1	25	51.9	91	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3027917 3027918

Parameter	Units	60385875001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	721	250	250	936	1110	86	154	80-120	17	15	E
Fluoride	mg/L	15.0	125	125	98.4	101	67	69	80-120	3	15	M1
Sulfate	mg/L	91.2	250	250	315	332	90	96	80-120	5	15	

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 756748
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385870001, 60385870002

METHOD BLANK: 3028317 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.53J	1.0	0.39	11/17/21 19:42	
Fluoride	mg/L	<0.086	0.20	0.086	11/17/21 19:42	
Sulfate	mg/L	<0.42	1.0	0.42	11/17/21 19:42	

METHOD BLANK: 3032080 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.54J	1.0	0.39	11/19/21 08:48	
Fluoride	mg/L	<0.086	0.20	0.086	11/19/21 08:48	
Sulfate	mg/L	<0.42	1.0	0.42	11/19/21 08:48	

METHOD BLANK: 3032296 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.58J	1.0	0.39	11/20/21 09:52	
Fluoride	mg/L	<0.086	0.20	0.086	11/20/21 09:52	
Sulfate	mg/L	<0.42	1.0	0.42	11/20/21 09:52	

METHOD BLANK: 3033016 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/21/21 13:18	
Fluoride	mg/L	<0.086	0.20	0.086	11/21/21 13:18	
Sulfate	mg/L	<0.42	1.0	0.42	11/21/21 13:18	

METHOD BLANK: 3035242 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/24/21 07:22	

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

METHOD BLANK: 3035242 Matrix: Water
Associated Lab Samples: 60385870001, 60385870002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	11/24/21 07:22	
Sulfate	mg/L	<0.42	1.0	0.42	11/24/21 07:22	

LABORATORY CONTROL SAMPLE: 3028318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 3032081

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

LABORATORY CONTROL SAMPLE: 3032297

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	104	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.4	108	90-110	

LABORATORY CONTROL SAMPLE: 3033017

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	101	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3035243

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	
Sulfate	mg/L	5	5.0	100	90-110	

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3028319 3028320

Parameter	Units	60385861002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.8	5	5	6.1	6.2	85	87	80-120	2	15	
Fluoride	mg/L	0.36	2.5	2.5	2.8	2.9	99	103	80-120	3	15	
Sulfate	mg/L	46.0	25	25	71.5	70.9	102	100	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 757720
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385860001, 60385860002, 60385860003, 60385860004

METHOD BLANK: 3032270 Matrix: Water
Associated Lab Samples: 60385860001, 60385860002, 60385860003, 60385860004

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

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

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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

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 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.8	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 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.3	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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

QC Batch: 757722
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60385860015, 60385860016, 60385860017

METHOD BLANK: 3032281 Matrix: Water
Associated Lab Samples: 60385860015, 60385860016, 60385860017

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

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

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

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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SCPB
Pace Project No.: 60385870

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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN SCPB
Pace Project No.: 60385870

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPB
Pace Project No.: 60385870

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
60385870001	**S-LMW-FB-1**	EPA 200.7	758172	EPA 200.7	758546
60385870002	**S-LMW-7S**	EPA 200.7	758172	EPA 200.7	758546
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
60385870003	**S-LMW-3S**	EPA 200.7	756897	EPA 200.7	757072
60385870004	**S-LMW-8S**	EPA 200.7	756897	EPA 200.7	757072
60385870005	**S-LMW-9S**	EPA 200.7	756897	EPA 200.7	757072
60385870006	**S-LMW-DUP-1**	EPA 200.7	756897	EPA 200.7	757072
60385870007	**S-LMW-FB-2**	EPA 200.7	756897	EPA 200.7	757072
60385870008	**S-LMW-DUP-2**	EPA 200.7	756549	EPA 200.7	756657
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		
60385860015	**S-LMW-1S**	EPA 903.1	475137		
60385860016	**S-LMW-2S**	EPA 903.1	475137		
60385860017	**S-LMW-4S**	EPA 903.1	475137		
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		
60385860015	**S-LMW-1S**	EPA 904.0	475138		
60385860016	**S-LMW-2S**	EPA 904.0	475138		
60385860017	**S-LMW-4S**	EPA 904.0	475138		
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		
60385870001	**S-LMW-FB-1**	SM 2320B	650630		
60385870002	**S-LMW-7S**	SM 2320B	650630		
60385860015	**S-LMW-1S**	SM 2320B	651462		
60385860016	**S-LMW-2S**	SM 2320B	651335		
60385860017	**S-LMW-4S**	SM 2320B	651335		
60385870003	**S-LMW-3S**	SM 2320B	650882		
60385870004	**S-LMW-8S**	SM 2320B	650882		
60385870005	**S-LMW-9S**	SM 2320B	650882		
60385870006	**S-LMW-DUP-1**	SM 2320B	650882		
60385870007	**S-LMW-FB-2**	SM 2320B	650882		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPB
Pace Project No.: 60385870

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385870008	**S-LMW-DUP-2**	SM 2320B	650882		
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		
60385870001	**S-LMW-FB-1**	SM 2540C	756569		
60385870002	**S-LMW-7S**	SM 2540C	756569		
60385860015	**S-LMW-1S**	SM 2540C	756845		
60385860016	**S-LMW-2S**	SM 2540C	756844		
60385860017	**S-LMW-4S**	SM 2540C	756844		
60385870003	**S-LMW-3S**	SM 2540C	757164		
60385870004	**S-LMW-8S**	SM 2540C	756844		
60385870005	**S-LMW-9S**	SM 2540C	756844		
60385870006	**S-LMW-DUP-1**	SM 2540C	756844		
60385870007	**S-LMW-FB-2**	SM 2540C	757164		
60385870008	**S-LMW-DUP-2**	SM 2540C	756845		
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		
60385870001	**S-LMW-FB-1**	EPA 300.0	756748		
60385870002	**S-LMW-7S**	EPA 300.0	756748		
60385860015	**S-LMW-1S**	EPA 300.0	757722		
60385860016	**S-LMW-2S**	EPA 300.0	757722		
60385860017	**S-LMW-4S**	EPA 300.0	757722		
60385870003	**S-LMW-3S**	EPA 300.0	756399		
60385870004	**S-LMW-8S**	EPA 300.0	756399		
60385870005	**S-LMW-9S**	EPA 300.0	756399		
60385870006	**S-LMW-DUP-1**	EPA 300.0	756399		
60385870007	**S-LMW-FB-2**	EPA 300.0	756399		
60385870008	**S-LMW-DUP-2**	EPA 300.0	756399		

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Sample Condition Upon Receipt

WO# : 60385870

60385870

Client Name: Golder Assoc.

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

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

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

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

Thermometer Used: T24a

Type of Ice: ~~Wet~~ Blue None

Cooler Temperature (°C): **As-read** 2.1, 3.3, 2.2 / 4.3, 1.8 **Corr. Factor** -0.2 **Corrected** 1.9, 3.1, 2.0 / 4.3, 1.6

Date and initials of person examining contents: CL 11/12

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	TDS exp 11/15
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 603173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED
By jchurch at 12:43 pm, 11/12/21

Project Manager Review: _____ Date: _____

F-KS-C-003-Rev.11, February 28, 2018

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren SCPB
Project Number:	153-140603.0003B (COC #9)

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N		60385870
1	~~S-LMW-1~~S S-LMW-MS-1	WT	G			11-9-21	1227		2	1		1							/	/	/	/		
2	~~S-LMW-2~~S S-LMW-MSD-1	WT	G			"	"		2	1		1							/	/	/	/		
3	~~S-LMW-3S~~ S-LMW-FB-1	WT	G			11-9-21	1355		2	1		1							/	/	/	/		
4	S-LMW-4S	WT	G																					
5	S-LMW-5S	WT	G			11-9-21	1047		2	1		1							/	/	/	/		
6	S-LMW-6S	WT	G			11-9-21	1227		2	1		1							/	/	/	/		
7	S-LMW-7S	WT	G			11-9-21	1335		2	1		1							/	/	/	/		
8	S-LMW-8S	WT	G																					
9	S-LMW-9S	WT	G																					
10	S-BMW-1S	WT	G			11-8-21	1441		2	1		1							/	/	/	/		
11	S-BMW-3S	WT	G			"	1515		2	1		1							/	/	/	/		
12	S-LMW-DUP-1	WT	G																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Sierra Shields / Golder	11/9/21	1530	Angela Mc	11/9	1535	
	Angela Mc	11/9	1535				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sierra Shields

SIGNATURE of SAMPLER: Sierra Shields

DATE Signed (MM/DD/YY): 11/9/21

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

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

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Sample Condition Upon Receipt

WO# : 60385870

60385870

Client Name: Golder Assoc.

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

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

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

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

Thermometer Used: T240 1.6, 13.5, 0.9, 12.3 **Type of Ice:** Wet Blue None 1.4, 13.3, 0.7,

Cooler Temperature (°C): As-read 1.6, 20.1 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:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	TDS 11/17
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix W t	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 607173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED
By jchurch at 1:55 pm, 11/13/21

Project Manager Review: _____ Date: _____

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren SCPB
Project Number:	153-140603.0003B (COC #9)

Section C — Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D — Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N		60385870
1	S-LMW-1S	WT	G			11-11-21	1007		2	1		1							/	/	/	/		
2	S-LMW-2S	WT	G			11-10-21	1546		1	1		1							/	/	/	/		
3	S-LMW-3S	WT	G			11-11-21	1320		1	1		1							/	/	/	/		
4	S-LMW-4S	WT	G			11-10-21	1511		1	1		1							/	/	/	/		
5	S-LMW-5S	WT	G																					
6	S-LMW-6S	WT	G																					
7	S-LMW-7S	WT	G																					
8	S-LMW-8S	WT	G			11-10-21	1246																	
9	S-LMW-9S	WT	G			11-10-21	1339																	
10	S-BMW-1S	WT	G																					
11	S-BMW-3S	WT	G																					
12	S-LMW-DUP-1	WT	G			11-10-21	—		2	1		1							/	/	/	/		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Sierra Shields/Golder	11/11/21	1640	Elyncn/Pace	11/12	0432	1.4,1.3	Y	Y	Y
							0.7 1.4			
							1.5 12.1			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sierra Shields

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

*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.

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical
www.pacelabs.com

Section A — **Required** Client Information:

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

Section B — **Required** Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren SCPB
Project Number:	153-140603.00033 (COC #9)

Section C — Invoice Information:

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

REGULATORY AGENCY

NPDES / GROUND WATER DRINKING WATER
UST RCRA OTHER _____

Site Location STATE: MO

Section D — **Required** Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate N	App III and Cat/An Metals N	Alkalinity N	TDS N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	S-LMW-DUP-2	WT	G			11-10-21	—		2	1		1							/	/	/	/		60385870
2	S-LMW-FB-1	WT	G																					
3	S-LMW-FB-2	WT	G			11-11-21	1100		2	1		1							/	/	/	/		
4	S-LMW-MS-1	WT	G																					
5	S-LMW-MSD-1	WT	G																					
6		WT	G																					
7		WT	G																					
8		WT	G																					
9		WT	G																					
10		WT	G																					
11		WT	G																					
12		WT	G																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Sierra Shields/Golder	11/11/21	1640	ELynch/Pace	11/12	0432		Y	Y	Y
					11/12			1	1	1

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Sierra Shields				
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY):	11/11/21		

MEMORANDUM

DATE January 12, 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 – SCPB – DETECTION MONITORING - DATA PACKAGE 60385870

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 Manager: J. Ingram
Project Name: Ameren- Sioux - SCPB
Project Number: 153140603
Reviewer: A. Muehlfarth
Validation Date: 1/12/2022

Laboratory: Pace Analytical Services
SDG #: 60385870
Analytical Method (type and no.): EPA 200.7 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names S-LMW-FB-1, S-LMW-7S, S-LMW-3S, S-LMW-8S, S-LMW-9S, S-LMW-DUP-1, S-LMW-FB-2, S-LMW-DUP-2, S-BMW-1S, S-BMW-3S, S-LMW-1S, S-LMW-2S, S-LMW-4S, S-LMW-5S, S-LMW-6S

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			11/8/2021 - 11/11/2021
b) Sampling team indicated?	x			SSS/ETF/BTT
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			See Notes
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?	x			Max RPD: 6% [<10%]

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

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

Comments/Notes:

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

Blanks:

3034277: Boron (15.5J), Calcium (95.6J). Associated with samples -70001, -70002. Associated sample results ND or >10x blank and RL, no qualification necessary.

3030678: Chloride (0.55J). Associated with samples -70003 through -70008. Results >RL and 10x blank not qualified. Results >RL but <10x blank qualified as estimates. Results <RL reported at RL and qualified as ND.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

3028317/3032080/3032296: Chloride (0.53J/0.54J/0.58J). Associated with samples -70001, -70002.Results >RL and 10x blank not qualified. Results <RL reported at RL and qualified as ND.

3035149: Chloride (0.69J). Associated with samples -60001 through -60004. Results >RL and 10x blank not qualified. Results >RL but <10x blank qualified as estimates.

3035156/3036538: Chloride (0.65J/0.71J). Associated with samples -60015, -60016, -60017. Results >RL and 10x blank not qualified. Results >RL but <10x blank qualified as estimates.

S-LMW-FB-1 @ S-LMW-7S: Chloride (0.55J). Associated result >RL and 10x blank, no qualification necessary.

S-LMW-FB-2 @ S-LMW-1S: Chloride (0.40J). Associated result >RL and 10x blank, no qualification necessary.

Duplicates:

S-LMW-DUP-1 @ S-LMW-4S: Iron was detected in sample, ND in the duplicate; Dup RPD exceeds limit (20%) by fluoride (25.6%).

S-LMW-DUP-2 @ S-LMW-8S: Fluoride detected in sample, ND in duplicate.

The laboratory analyzed sample duplicates for alkalinity and TDS.

MS/MSD:

3027376/3027377: MS/MSD % recovery low for calcium. MS/MSD performed on unrelated sample, no qualification necessary.

3034279/3034280: MS % recovery low for sodium. MS performed on unrelated sample, no qualification necessary.

3040512/3040513: MSD % recovery high for boron, calcium. MS/MSD performed on unrelated sample, no qualification necessary.

3027917/3027918: MS/MSD % recovery low for fluoride. MS/MSD performed on unrelated sample, no qualification necessary.

3027378: MS % recovery high for calcium. Associated with sample -70008. Only 1 QC indicator out, no qualification necessary.

3032272/3032273: MS % recovery high for sulfate. Associated with sample -60003. Only 1 QC indicator out, no qualification necessary.

3040510/3040511: MSD % recovery high for boron, sodium. Only 1 QC indicator out, no qualification necessary.

MS/MSD % recovery high for calcium, magnesium. Associated with sample -60003

3038956/3038957: MS % recovery high for calcium, sodium; Only 1 QC indicator out, no qualification necessary.

MS/MSD % recovery high for boron. Associated with sample -60004.

3028933/3028934: MS/MSD % recovery high for calcium. Associated with sample -70003.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
S-LMW-DUP-1	Chloride	2.5	J	Detected in MB, 10x blank > result > RL
S-LMW-4S	"	2.5	J	"
S-LMW-FB-2	"	1.0	U	Detected in MB, RL > result
S-LMW-FB-1	"	1.0	U	"
S-LMW-4S	Iron	25.0	J	Detected in sample, ND in dup
"	Fluoride	0.22	J	Dup RPD exceeds limit
S-LMW-DUP-1	Iron	21.4	UJ	Detected in sample, ND in dup
"	Fluoride	0.17	J	Dup RPD exceeds limit
S-LMW-8S	"	0.59	J	Detected in sample, ND in dup
S-LMW-DUP-2	"	4.3	UJ	"
S-LMW-5S	Calcium	253000	J+	MS/MSD % recovery high
"	Magnesium	47100	J+	"
S-LMW-6S	Boron	22500	J+	"
S-LMW-3S	Calcium	155000	J+	"

Signature: Ann Muhlfarth Date: 1/12/2022

APPENDIX B

Alternative Source Demonstration - November 2020 Sampling Event

TECHNICAL MEMORANDUM

DATE June 24, 2021 **Project No.** 153140602

TO Ameren Missouri
1901 Chouteau Ave, St. Louis, MO 63103

FROM Mark Haddock, P.E., R.G., Jeffrey Ingram, R.G.

SCPB – ALTERNATIVE SOURCE DEMONSTRATION – NOVEMBER 2020 SAMPLING EVENT

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), Golder Associates Inc. ("Golder") has prepared this Technical Memorandum that indicates Statistically Significant Increases (SSIs) reported for Ameren Missouri's (Ameren) Sioux Energy Center (SEC) fly ash surface impoundment (SCPB) result from an alternative source. This SCPB Alternative Source Demonstration (ASD) satisfies the requirements of §257.94(e)(2), which allows the owner or operator to demonstrate that a source other than the CCR Unit has caused an SSI and that the apparent SSI was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

2.0 BACKGROUND

In November 2017, the first round of Detection Monitoring was completed at the SEC's SCPB CCR Unit in St. Charles County, Missouri. This sampling was completed in accordance with the CCR Rule and SSIs were identified and verified. In February/March 2018, additional drilling and a detailed analysis of results were completed for the SCPB and it was determined that the SSIs in the CCR Rule groundwater monitoring wells at the SCPB were not caused by impacts from the SCPB. Based on the ASD, the SSIs observed in SCPB wells were caused by the adjacent SCPA surface impoundment. A copy of the ASD report for the November 2017 sampling event was included in Appendix B of the 2018 SCPB Annual Groundwater Monitoring and Corrective Action Report.

3.0 NOVEMBER 2020 SAMPLING EVENT

A summary of the November 2020 sampling results can be found in **Table 1**. **Figure 1** of this Technical Memorandum displays a comparison of November 2020 SCPB CCR Rule groundwater monitoring well data to cation and anion data for the SCPA pore-water, SCPB pore-water, and background groundwater zones. As shown in **Figure 1**, and as expected if the SSIs were a result of the SCPA, the November 2020 SCPB monitoring results plot in and between the background groundwater quality and the SCPA pore-water on the Piper diagram. The pattern shown in **Figure 1** indicates that the groundwater impacts from the SCPA are mixing with groundwater as they migrate and influencing groundwater quality at the SCPB which is located hydraulically downgradient of the SCPA. Like the November 2017 Sampling Event ASD, results shown in **Figure 1** demonstrate that groundwater quality in the monitoring wells around the SCPB is impacted by the SCPA and not the SCPB.

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

Additional supporting lines of evidence from the previous ASDs are also applicable in this November 2020 Sampling Event ASD. These supporting lines of evidence include:

- Potentiometric surface mapping from 2018 to 2021 continue to show that while groundwater conditions can be variable, net groundwater movement around the SCPB is toward the east-northeast, flowing from the SCPA toward the SCPB. The groundwater flow pattern around SCPA and SCPB supports the conclusion that the unlined SCPA is the source of impacts at the downgradient monitoring wells because impacted monitoring wells around the SCPB are generally located hydraulically downgradient from the SCPA.
- The SCPB was constructed with an engineered liner system consisting of a 60-mil High Density Polyethylene (HDPE) geomembrane liner with a bottom elevation of approximately 419 feet above mean sea level (FT MSL) at its lowest point. The low permeability HDPE liner system in the SCPB is a barrier to CCR impact migration and provides containment for CCR.
- The SCPA began operation in 1967 and has a bottom elevation estimated to be at approximately 370 FT MSL, which is much deeper than the SCPB. In addition to the different pore-water fingerprints, there are elevated concentrations of CCR impact indicators in the intermediate and deep zones of groundwater in the alluvial aquifer as shown in the SCPA Annual Reports. Since impacts are present in the shallow, intermediate (middle), and deep alluvial zones and are not isolated to the shallow zone where SCPB impacts would most readily occur, the impacts are most likely from the SCPA, which extends to deeper depths in the aquifer.
- The SCPA pore water (within the waste mass) and SCPB pore water are different, as shown on **Figure 1**. If the reported SSIs were a result of influence from SCPB, the groundwater results for the SCPB monitoring wells would be expected to plot in the “SCPB Mixing Zone” area on **Figure 1**. Because the results from the November 2020 monitoring event generally plot in the SCPA Mixing Zone, the SCPB does not appear to be influencing groundwater quality of the SCPB monitoring wells.

In summary, groundwater chemistry, pore-water chemistry fingerprints, cell construction, and hydrogeological evidence all demonstrate that impacts (SSIs) reported for the November 2020 Sampling Event at the SCPB CCR Unit were not caused by impacts from the SCPB surface impoundment, but the SCPA surface impoundment is the source of the SSIs reported for SCPB.

CERTIFICATION STATEMENT

This *SCPB – Alternative Source Demonstration – November 2020 Sampling Event has* been prepared to comply with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule under the direction of a licensed professional engineer with Golder Associates Inc.

I hereby certify that this *SCPB – Alternative Source Demonstration – November 2020 Sampling Event* located at 8501 Missouri 94, West Alton, Missouri 63386 has been prepared to meet the requirements of 40 CFR §257.94(e)(2).

GOLDER ASSOCIATES INC.

Mark Haddock, P.E., R.G.

Principal, Practice Leader

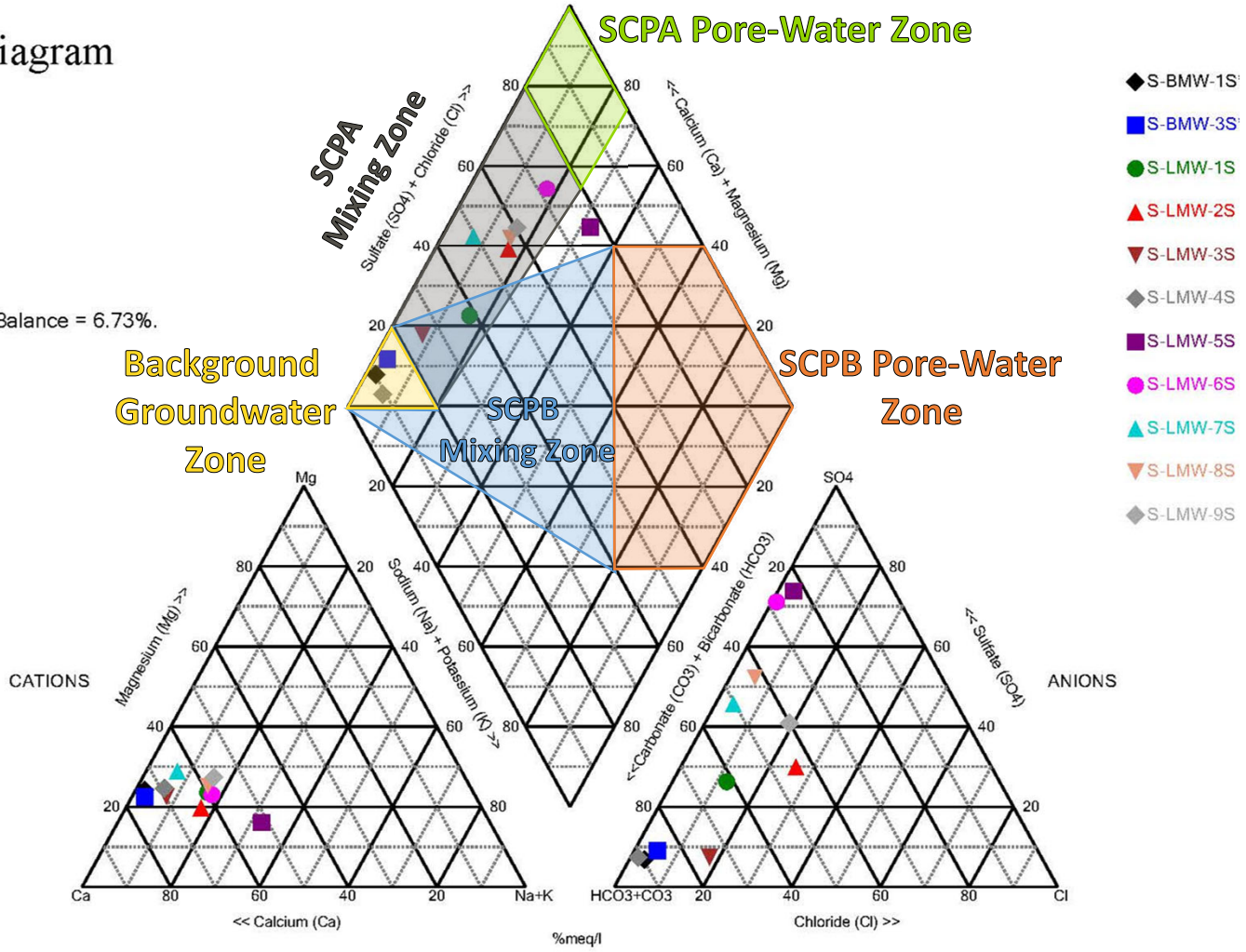
Table 1
November 2020 Detection Monitoring Results
SCPB Surface Impoundment
Sioux Energy Center, St. Charles County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-3S	LMW-4S	LMW-5S	LMW-6S	LMW-7S	LMW-8S	LMW-9S
November 2020 Detection Monitoring Event													
DATE	NA	NA	11/16/2020	11/16/2020	11/11/2020	11/12/2020	11/12/2020	11/12/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020
pH	SU	6.387-7.785	6.96	7.07	7.23	7.10	6.89	6.94	6.86	6.75	6.71	6.57	6.84
BORON, TOTAL	µg/L	118	75.1 J	66.3 J	645	9,120	229	473	14,500 J	17,400	3,140	7,340	1,500 J
CALCIUM, TOTAL	µg/L	168,826	141,000	125,000	85,100	220,000	156,000 J	175,000	248,000 J	298,000	246,000	158,000	177,000
CHLORIDE, TOTAL	mg/L	12.32	7.0	11.4	23.3	135	58.2	2.4	22.5	4.0	17.6	19.1	91.6
FLUORIDE, TOTAL	mg/L	0.395	0.34	0.40	0.42	0.44	0.38	0.28	0.69	0.44	0.39	0.66	0.51
SULFATE, TOTAL	mg/L	37.38	24.8	30.6	75.1	221	33.8	36.0	792	771	349	292	277
TOTAL DISSOLVED SOLIDS	mg/L	565	505	455	8.5	984	625	631	1,690	1,560	1,100	763	957
January 2021 Verification Sampling Event													
DATE	NA	NA				1/8/2021			1/11/2021	1/11/2021			1/11/2021
pH	SU	6.387-7.785											
BORON, TOTAL	µg/L	118											
CALCIUM, TOTAL	µg/L	168,826											
CHLORIDE, TOTAL	mg/L	12.32											
FLUORIDE, TOTAL	mg/L	0.395				0.48			ND	ND			0.39
SULFATE, TOTAL	mg/L	37.38											
TOTAL DISSOLVED SOLIDS	mg/L	565											

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

Piper Diagram



Notes:
1.) Data used to generate diagram is available in the SCPB Annual Reports.
2.) Piper diagram generated using Sanitas Software.

CLIENT/PROJECT					TITLE						
AMEREN MISSOURI SIOUX ENERGY CENTER				GOLDER	**SCPB PIPER DIAGRAM FOR NOVEMBER 2020**						
PREPARED	CHECKED	REVIEWED	DATE	SCALE	FILE NO.	PROJECT NO.	DRAWING NO.	SUBTITLE	REV. NO.	FIGURE	
EMS	BTT	MNH	2021/02/10	NA	NA	153140603	NA	NA	0	1	

APPENDIX C

Alternative Source Demonstration April 2021 Sampling Event

GOLDER
MEMBER OF WSP

TECHNICAL MEMORANDUM

DATE November 19, 2021 **Project No.** 153140603

TO Ameren Missouri
1901 Chouteau Ave, St. Louis, Mo 63103

FROM Mark Haddock, P.E., R.G., Jeffrey Ingram, R.G.

SCPB – ALTERNATIVE SOURCE DEMONSTRATION – APRIL 2021 SAMPLING EVENT

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), Golder Associates USA Inc. ("Golder") has prepared this Technical Memorandum to show that Statistically Significant Increases (SSIs) identified at Ameren Missouri's (Ameren) Sioux Energy Center (SEC) fly ash surface impoundment (SCPB) originate from an alternative source and are not related to impacts from SCPB. This SCPB Alternative Source Demonstration (ASD) satisfies the requirements of §257.94(e)(2), which allows the owner or operator to demonstrate that a source other than the CCR Unit has caused an SSI and that the apparent SSI was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

2.0 BACKGROUND

In November 2017, the first round of Detection Monitoring was completed at the SEC's SCPB CCR Unit in St. Charles County, Missouri. This sampling was completed in accordance with the CCR Rule and SSIs were identified and verified. In February/March 2018, additional well installation/sampling and a detailed analysis of results were completed for the SCPB and it was determined that the SSIs in the CCR Rule groundwater monitoring wells at the SCPB were not caused by impacts from the SCPB. Based on the ASD, the SSIs observed in the SCPB wells were caused by the adjacent SCPA surface impoundment. A copy of the ASD report for the November 2017 sampling event is provided in Appendix B of the 2018 SCPB Annual Groundwater Monitoring and Corrective Action Report.

3.0 APRIL 2021 SAMPLING EVENT

A summary of the April 2021 sampling results is provided in **Table 1**. **Figure 1** of this Technical Memorandum is a Piper Diagram which displays a comparison of April 2021 SCPB CCR Rule groundwater monitoring well data to cation and anion data for the SCPA pore-water, SCPB pore-water, and background groundwater zones. As shown in **Figure 1**, and as expected if the SSIs were a result of the SCPA, the April 2021 SCPB monitoring results plot in and between the background groundwater quality and the SCPA pore-water on the Piper diagram. The pattern shown in **Figure 1** indicates that the groundwater impacts from the SCPA are mixing with groundwater as they migrate and, thus, the SCPA is influencing groundwater quality at the SCPB, which is located hydraulically downgradient of the SCPA. As described in the ASD for the November 2017 Sampling

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

Event, results displayed in **Figure 1** demonstrate that groundwater quality in the monitoring wells around the SCPB are impacted by the SCPA and not the SCPB.

Additional supporting lines of evidence from the previous ASDs are also applicable in this April 2021 Sampling Event ASD. A summary of these additional supporting lines of evidence is provided in the following bullets:

- Potentiometric surface mapping from 2018 to 2021 continues to show that, while groundwater conditions can be variable, net groundwater movement around the SCPB is toward the east-northeast, flowing from the SCPA toward the SCPB. This supports the conclusion that the unlined SCPA is the source of impacts at the downgradient monitoring wells relative to both the SCPA and SCPB, because impacted monitoring wells around the SCPB are generally located downgradient from the SCPA.
- The SCPB was constructed with an engineered liner system consisting of a 60-mil High Density Polyethylene (HDPE) geomembrane liner with a minimum bottom elevation of approximately 419 feet above mean sea level (FT MSL). The low permeability HDPE liner system in the SCPB is a barrier to the migration of CCR influenced liquids and provides containment for CCR.
- The SCPA began operation in 1967 and has a bottom elevation estimated to be at approximately 370 FT MSL, which is much deeper than the SCPB. In addition to the different pore-water fingerprints, there are elevated concentrations of CCR impact indicators in the intermediate and deep zones of groundwater in the alluvial aquifer as shown in the SCPA Annual Reports. Impacts from the SCPA are evident in the shallow, intermediate (middle), and deep alluvial zones and are not isolated to the shallow zone, which would be the most likely zone of influence for the SCPB if leakage had occurred. Because impacts also are noted in the deeper zone, the impacts are related to historical leakage from the SCPA, which extends to deeper depths in the aquifer.
- The SCPA porewater (within the waste mass) and SCPB pore water are different, as shown on **Figure 1**. If the reported SSIs were a result of influence from SCPB, the groundwater results for the SCPB monitoring wells would be expected to show influence from the “SCPB Mixing Zone” on **Figure 1**. Because the results from the April 2021 monitoring event generally plot with the results from the SCPA Mixing Zone, the SCPB does not appear to be influencing groundwater quality of the SCPB monitoring wells.

In summary, groundwater chemistry, pore-water chemistry fingerprints, cell construction, and hydrogeological evidence all demonstrate that impacts (SSIs) calculated during the April 2021 Sampling Event for the SCPB CCR Unit were not caused by impacts from the SCPB surface impoundment, and the SCPA surface impoundment is the source of the SCPB SSIs.

CERTIFICATION STATEMENT

This *SCPB – Alternative Source Demonstration – April 2021 Sampling Event has* been prepared to comply with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule under the direction of a licensed professional engineer with Golder Associates Inc.

I hereby certify that this *SCPB – Alternative Source Demonstration – April 2021 Sampling Event* located at 8501 Missouri 94, West Alton, Missouri 63386 has been prepared to meet the requirements of 40 CFR §257.94(e)(2).

Golder Associates Inc.

Mark Haddock, P.E., R.G.
Principal, Practice Leader
MNH

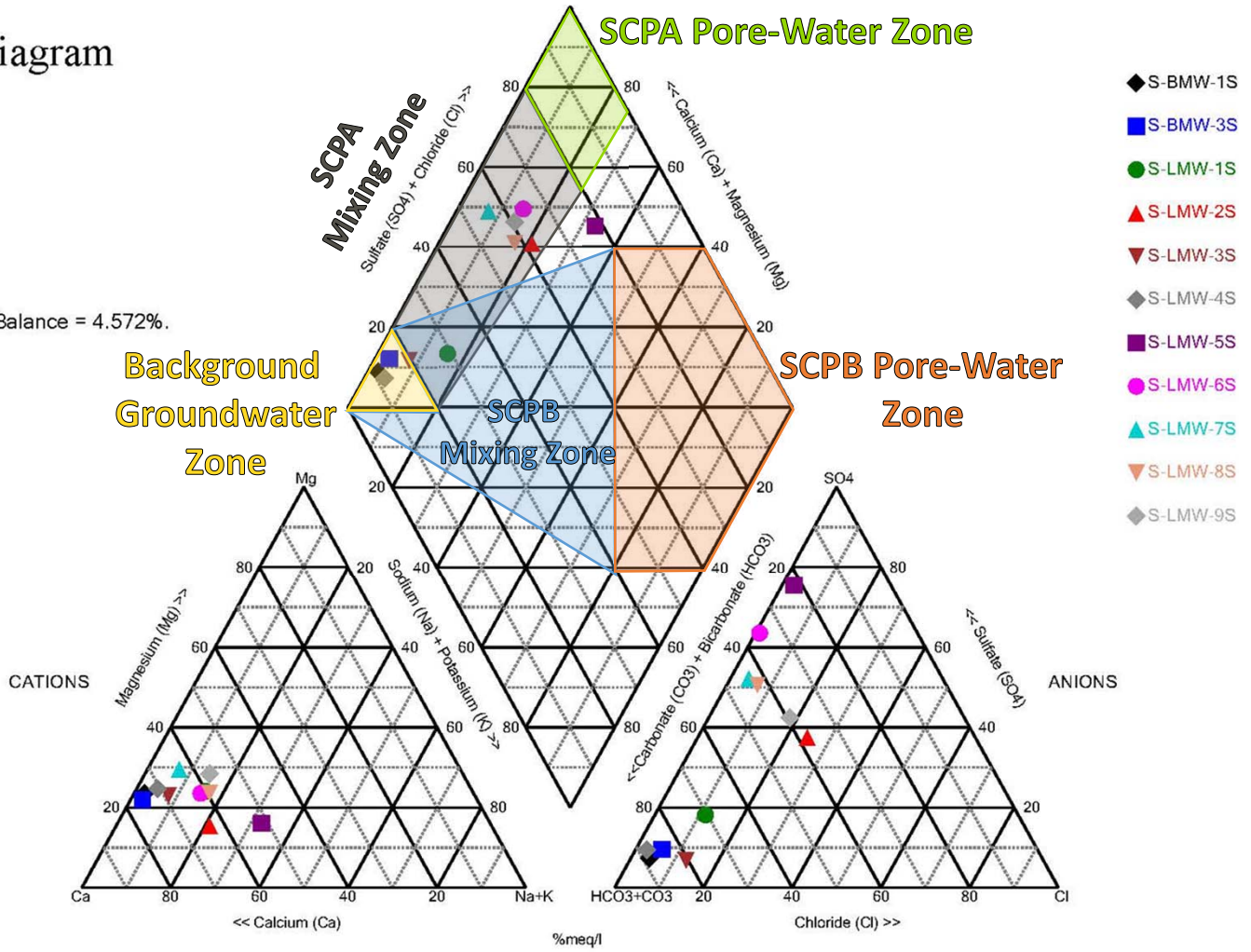
Table 1
April 2021 Detection Monitoring Results
SCPB Surface Impoundment
Sioux Energy Center, St. Charles County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1S	BMW-3S	LMW-1S	LMW-2S	LMW-3S	LMW-4S	LMW-5S	LMW-6S	LMW-7S	LMW-8S	LMW-9S
April 2021 Detection Monitoring Event													
DATE	NA	NA	4/13/2021	4/13/2021	4/14/2021	4/12/2021	4/12/2021	4/12/2021	4/14/2021	4/14/2021	4/14/2021	4/12/2021	4/9/2021
pH	SU	6.472-7.531	6.85	6.98	7.41	7.00	6.72	6.78	6.88	6.90	6.85	6.83	6.76
BORON, TOTAL	µg/L	120.5	70.8 J	74.2 J	532	10,400	232 J	356	15,200	16,500	3,810	6,180	1,380
CALCIUM, TOTAL	µg/L	166,512	149,000	134,000	68,900	199,000	161,000 J	189,000	254,000	249,000	238,000	172,000	188,000
CHLORIDE, TOTAL	mg/L	13.12	8.2	12.8	18.1	120	41.5	5.4	19.2	2.6	19.3	30.2	95.1
FLUORIDE, TOTAL	mg/L	0.416	0.36	0.39	0.54	ND	0.32	0.24	0.57	0.38	ND	0.77	0.43
SULFATE, TOTAL	mg/L	36.69	29.4	34.8	41.4	258	33.2	50.5	920	571	413	327	318
TOTAL DISSOLVED SOLIDS	mg/L	579	579	509	316	989	620	747	1,670	1,300	1,160	896	1,050
June 2021 Verification Sampling Event													
DATE	NA	NA						6/2/2021	6/3/2021			6/3/2021	6/3/2021
pH	SU	6.472-7.531											
BORON, TOTAL	µg/L	120.5											
CALCIUM, TOTAL	µg/L	166512										168,000	
CHLORIDE, TOTAL	mg/L	13.12											
FLUORIDE, TOTAL	mg/L	0.4159							0.26			0.23	ND
SULFATE, TOTAL	mg/L	36.69						34.0					
TOTAL DISSOLVED SOLIDS	mg/L	579											

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

Piper Diagram



Notes:
1.) Data used to generate diagram is available in the SCPB Annual Reports.
2.) Piper diagram generated using Sanitas Software.

CLIENT/PROJECT						TITLE				
AMEREN MISSOURI SIOUX ENERGY CENTER				GOLDER MEMBER OF WSP		**SCPB PIPER DIAGRAM FOR APRIL 2021**				
PREPARED	CHECKED	REVIEWED	DATE	SCALE	FILE NO.	PROJECT NO.	DRAWING NO.	SUBTITLE	REV. NO.	FIGURE
BTT	EMS	SCP	2021/10/20	NA	NA	153140603	NA	NA	0	1

APPENDIX D

2021 Potentiometric Surface Maps

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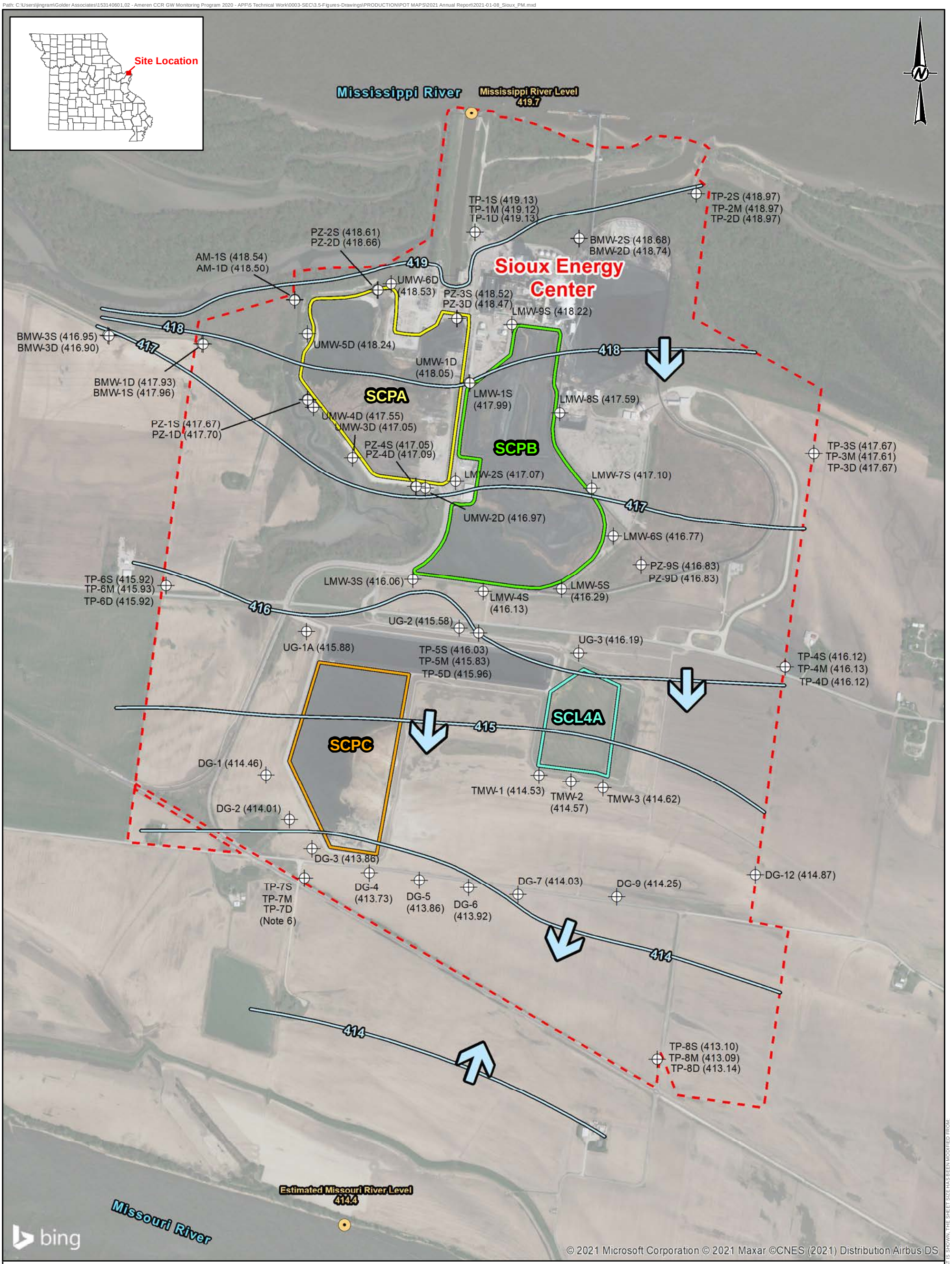

LEGEND

- Sioux Energy Center Property Boundary

CCR Units

- SCPA - Bottom Ash Surface Impoundment
- SCPB - Fly Ash Surface Impoundment
- SCPC - WFGD Surface Impoundmet
- 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.) TP-7S, TP-7M, AND TP-7D WERE NOT USED IN POTENTIOMETRIC CONTOURING DUE TO MEASUREMENT ERROR.
7.) WFGD - WET FLUE GAS DESULURIZATION.

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).

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

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
FIGURE **D1**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 1 in 0

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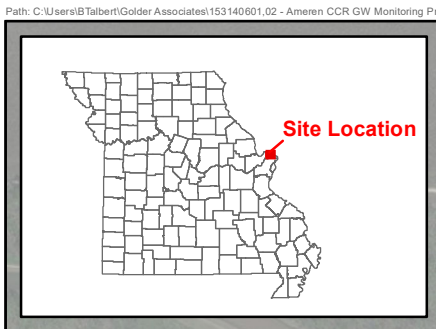

Mississippi River
Mississippi River Level
417.0
417
TP-2S (416.97)
TP-2M (416.96)
TP-2D (416.96)
TP-1S (417.17)
TP-1M (417.21)
TP-1D (417.20)
BMW-2S (417.13)
BMW-2D (417.15)
PZ-2S (417.64)
PZ-2D (417.66)
AM-1S (417.62)
AM-1D (417.65)
Sioux Energy Center
UMW-6D (417.47)
PZ-3D (417.73)
LMW-9S (417.60)
UMW-5D (417.79)
PZ-3S (417.79)
418
BMW-3D (418.30)
BMW-3S (418.29)
BMW-1S (418.11)
BMW-1D (Note 6)
UMW-1D (417.99)
SCPA
LMW-1S (418.07)
UMW-4D (418.16)
LMW-8S (417.95)
PZ-1S (418.24)
PZ-1D (418.23)
UMW-3D (418.35)
SCPB
TP-3S (417.63)
TP-3M (417.70)
TP-3D (417.66)
LMW-2S (418.31)
LMW-7S
(418.14)
PZ-4S (418.55)
PZ-4D (418.54)
UMW-2D (418.39)
LMW-6S (418.03)
419
PZ-9S (418.44)
PZ-9D (418.45)
LMW-3S
(418.71)
LMW-4S (418.60)
LMW-5S
(418.46)
TP-6S (419.07)
TP-6M (419.06)
TP-6D (419.04)
UG-2 (418.49)
UG-1A (419.32)
TP-5S (418.45)
TP-5M (418.35)
TP-5D (418.43)
UG-3 (418.93)
418
TP-4S (417.19)
TP-4M (417.21)
TP-4D (417.22)
SCL4A
SCPC
TMW-1
(418.87)
DG-1 (419.65)
TMW-2
(418.83)
TMW-3 (418.77)
DG-2 (419.69)
419
DG-3
(419.68)
DG-4 (419.58)
DG-6 (419.46)
DG-12 (418.95)
TP-7S (419.39)
TP-7M (419.37)
TP-7D (419.39)
DG-5 (419.52)
DG-9 (419.13)
DG-7 (419.41)
TP-8S (418.90)
TP-8M (418.91)
TP-8D (418.87)
Estimated Missouri River Level
418.8
Missouri River
bing
© 2021 Microsoft Corporation © 2021 Maxar ©CNES (2021) Distribution Airbus DS

LEGEND

- Sioux Energy Center Property Boundary

CCR Units

- SCPA - Bottom Ash Surface Impoundment
- SCPB - Fly Ash Surface Impoundment
- SCPC - WFGD Surface Impoundmet
- 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.) BMW-1D IS NOT USED FOR POTENTIOMETRIC CONTOURING DUE TO MEASUREMENT ERROR.
7.) WFGD - WET FLUE GAS DESULURIZATION.

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).

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 **D2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 1 in 0

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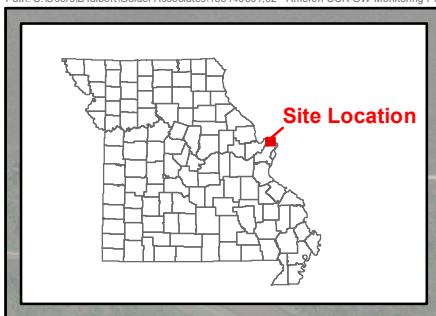

Mississippi River
Mississippi River Level
417.4
TP-1S (417.41)
TP-1M (417.43)
TP-1D (417.43)
TP-2S (417.21)
TP-2M (417.21)
TP-2D (417.21)
BMW-2S (417.37)
BMW-2D (417.42)
PZ-2S (417.8)
PZ-2D (417.84)
AM-1S (417.76)
AM-1D (417.76)
UMW-6D (417.68)
Sioux Energy Center
PZ-3S (418.04)
PZ-3D (418.00)
LMW-9S (417.89)
UMW-5D (417.91)
BMW-3S (418.38)
BMW-3D (418.41)
BMW-1S (418.20)
BMW-1D (418.18)
SCPA
LMW-1S (418.36)
UMW-1D (418.37)
UMW-4D (418.31)
LMW-8S (418.23)
PZ-1S (418.39)
PZ-1D (418.37)
UMW-3D (418.55)
418
TP-3S (417.98)
TP-3M (418.02)
TP-3D (418.03)
SCPB
LMW-7S (418.41)
LMW-2S (418.58)
PZ-4S (418.72)
PZ-4D (418.77)
UMW-2D (418.63)
LMW-6S (418.51)
TP-6S (419.42)
TP-6M (419.44)
TP-6D (419.44)
LMW-3S (418.89)
PZ-9S (418.75)
PZ-9D (418.78)
LMW-4S (418.82)
LMW-5S (418.75)
UG-1A (419.52)
UG-2 (418.72)
UG-3 (419.24)
TP-4S (418.39)
TP-4M (418.58)
TP-4D (418.61)
TP-5S (418.97)
TP-5M (418.98)
TP-5D (418.98)
419
SCPC
SCL4A
DG-1 (419.98)
TMW-1 (419.19)
TMW-2 (419.14)
TMW-3 (419.14)
DG-2 (419.99)
DG-3 (420.03)
DG-4 (419.97)
DG-12 (419.33)
TP-7S (419.76)
TP-7M (419.79)
TP-7D (419.79)
DG-5 (419.91)
DG-6 (419.83)
DG-9 (419.53)
DG-7 (419.77)
420
TP-8S (419.30)
TP-8M (419.35)
TP-8D (419.36)
Estimated Missouri River Level
420.6
Missouri River
bing
© 2022 Microsoft Corporation © 2022 Maxar ©CNES (2022) Distribution Airbus DS

LEGEND

- Sioux Energy Center Property Boundary

CCR Units

- SCPA - Bottom Ash Surface Impoundment
- SCPB - Fly Ash Surface Impoundment
- SCPC - WFGD Surface Impoundmet
- 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

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6.) WFGD - WET FLUE GAS DESULURIZATION.

REFERENCE

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3.) 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
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 **D3**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 1 in 0

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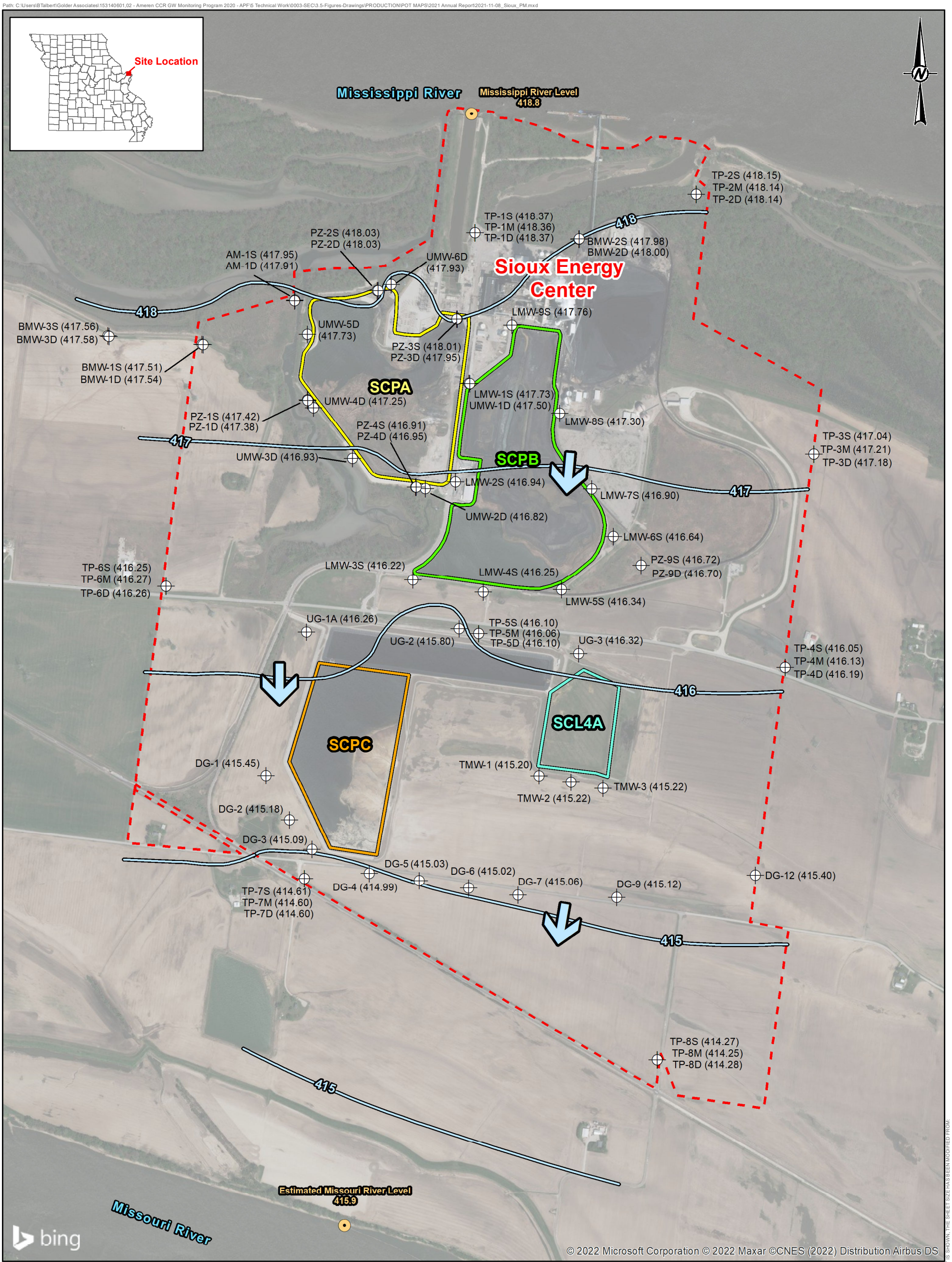

LEGEND

- Sioux Energy Center Property Boundary

CCR Units

- SCPA - Bottom Ash Surface Impoundment
- SCPB - Fly Ash Surface Impoundment
- SCPC - WFGD Surface Impoundmet
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- Groundwater Flow Direction

Groundwater Elevation Contour (FT MSL)

- Groundwater Elevation Contour (FT MSL)
- Inferred Groundwater Elevation Contour (FT MSL)

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- Monitoring Well or Piezometer

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3.) 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
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 **D4**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 1 in 0

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