REPORT

2022 Annual Groundwater Monitoring and Corrective Action Report

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

Submitted to:

Ameren Missouri

1901 Chouteau Avenue, St. Louis, Missouri 63103

Submitted by:

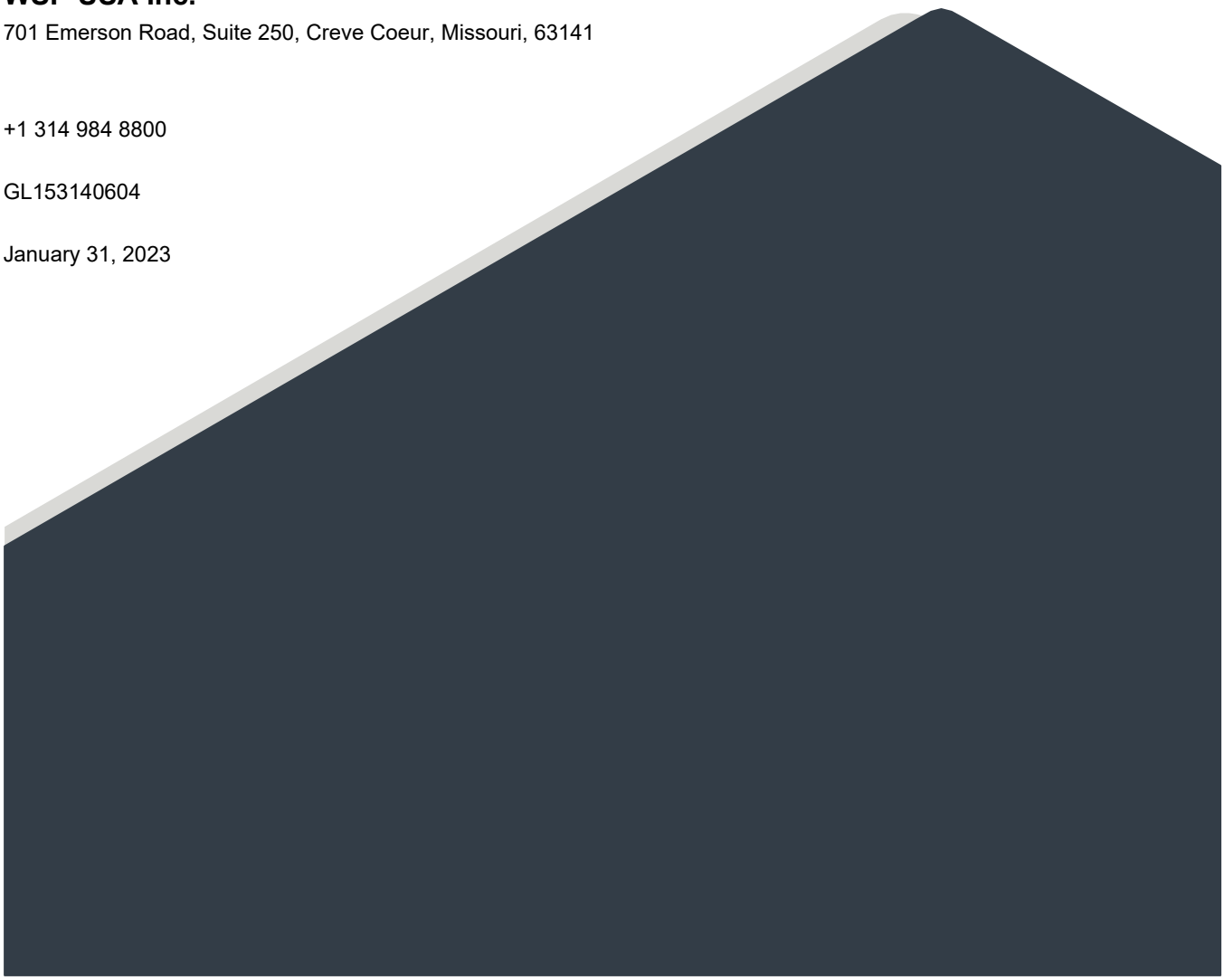
WSP USA Inc.

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

+1 314 984 8800

GL153140604

January 31, 2023



EXECUTIVE SUMMARY AND STATUS OF THE SCPC 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 Utility Waste Landfill (UWL) SCPC Surface Impoundment (or Cell 1) at the Sioux Energy Center (SEC) is subject to the requirements of the CCR Rule. This Annual Report for the SCPC describes CCR Rule groundwater monitoring activities from January 1, 2022 through December 31, 2022 including verification results related to late 2021 sampling.

Throughout 2022, the SCPC 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. In 2022, no verified SSIs were determined and a summary of the SSIs for the past year is provided in **Table 1**.

Table 1 - Summary of 2022 SCPC Sampling Events, Previous Year Verification, and Statistical Evaluations

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt Date	Parameters Collected	Verified SSI	SSI Determination Date	ASD Completion Date
November 2021 Sampling Event	Detection Monitoring, November 8-10, 2021	December 28, 2021	Appendix III, Major Cations and Anions	None	NA	NA
	Verification Sampling, February 8, 2022	February 23, 2022	Detected Appendix III parameters (See Note 1)			
March/April 2022 Sampling Event	Detection Monitoring, March 28 to April 4, 2022	May 25, 2022	Appendix III, Major Cations and Anions	None	NA	NA
	Verification Sampling, June 7, 2022	June 17, 2022	Detected Appendix III parameters (See Note 1)			
October 2022 Sampling Event	Detection Monitoring, October 18-21, 2022	November 22, 2022	Appendix III, Major Cations and Anions	To be determined after statistical analysis and any Verification Sampling are completed in 2023.		

Notes:
1) Only analytes/wells that were detected above the prediction limit were tested during Verification Sampling.
2) SSI – Statistically Significant Increase.
3) ASD – Alternative Source Demonstration.
4) NA – Not applicable.

There were no changes made to the monitoring system in 2022 with no new wells being installed or decommissioned.

On August 28, 2020, the USEPA issued revisions to the CCR Rule (40 C.F.R. § 257.101(a)(1), or "Part A") that require all unlined surface impoundments[1] to initiate closure by April 11, 2021 unless an alternative deadline is requested and approved. To comply with these regulations, Ameren completed and posted to its website a "Request for Alternative Closure Requirement" where closure of the SCPC was scheduled to be completed by October 15, 2023. On November 25, 2021, Ameren posted an Annual Progress Report on the Part A Request. On January 11, 2022, the USEPA posted to its website (https://www.epa.gov/coalash/coal-combustion-residuals-ccr-part-implementation) a prepublication copy of its interim decision on the Part A request titled "Proposed Date to Cease Receipt of Waste for Sioux Energy Center based on Interim Determination of Incompleteness of Demonstration" (Interim Decision).

Within the Interim Decision, the USEPA determined the following:

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

A comment period for the Interim Decision was from January 25, 2022 until February 23, 2022. During this timeframe the USEPA accepted comments only on the revised deadline and stated that it would not accept or respond to any comments on whether the Demonstration is complete. Eight (8) comments were received during the comment period, which are available online at https://www.regulations.gov/docket/EPA-HQ-OLEM-2021-0594. Comments were received from the following parties:

1) Michael L. Parsons, Governor of the State of Missouri.
2) Ameren Missouri
3) Great Rivers Environmental Law Center
4) Senator Roy Blunt and Representative Blaine Luetkemeyer
5) Utility Solid Waste Activities Group (USWAG)
6) Environmental Protection Network (EPN)
7) Midcontinent Independent System Operator (MISO)
8) Mike Shimmelpfennig

At this time, the USEPA has not issued its final decision, however, Ameren has moved forward with the rulings made in the Interim Decision. CCR placement within the SCPC has ceased as of December 14, 2022 and CCR was routed to the new cell east of the SCPC called the SCPD. More information on the SCPD Cell is provided in the SCPD Annual Report. Additionally, as required by the CCR Rule (§ 257.102(e)(1)) closure design has been initiated for the SCPC. Further information on the progression of closure activities of the SCPC Surface Impoundment will be included in the 2023 Annual Report.

[1] As identified in the Part A application for the SCPC, the SCPC has a composite bottom liner consisting of 60-mil HDPE over 2 feet of clay with a maximum permeability of $1x10^{-7}$ centimeters per second. The unit was built in 2010 and meets the requirements of CCR Rule except for 40 CFR §257.60(a) (Placement Above the Uppermost Aquifer).

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1.0 INSTALLATION OR DECOMMISSIONING OF MONITORING WELLS

In accordance with the CCR Rule, a groundwater monitoring system has been installed to monitor the SCPC. The groundwater monitoring system consists of eight (8) groundwater monitoring wells screened in the uppermost aquifer and is displayed in **Figure 1** and wells are listed on **Table 2** below. No new monitoring wells were installed or decommissioned in 2022 as a part of the CCR Rule monitoring program for the SCPC. For more information on the groundwater monitoring network, details are provided in the previous Annual Groundwater Monitoring Reports for the SCPC.

2.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the SCPC CCR Unit in 2022. **Table 2** below provides a summary of the groundwater samples collected in 2022 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	UG-1A	UG-2	DG-1	DG-2	DG-3	DG-4	
	Date of Sample Collection								
February 2022 Verification Sampling	-	-	2/8/2022	-	2/8/2022	-	-	-	Detection
March/April 2022 Sampling Event	3/29/2022	3/29/2022	3/28/2022	4/4/2022	3/28/2022	3/28/2022	4/1/2022	4/1/2022	Detection
June 2022 Verification Sampling	-	-	-	-	-	-	-	6/7/2022	Detection
October 2022 Sampling Event	10/18/2022	10/18/2022	10/21/2022	10/21/2022	10/20/2022	10/21/2022	10/21/2022	10/21/2022	Detection
Total Number of Samples Collected	2	2	3	2	3	2	2	3	NA

Notes:
1.) Detection Monitoring Events tested for Appendix III Parameters.
2.) Only analytes/wells that were detected above the prediction limit were tested during verification sampling.
3.) "-" No sample collected.
4.) NA - Not applicable.

2.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 8-10, 2021. Verification sampling and the statistical analysis to evaluate for SSIs for the November 2021 event were not completed until 2022 and are, therefore, included in this report. Detections of Appendix III analytes triggered a verification sampling event, which was completed on February 8, 2022 and did not verify SSIs. **Table 3** summarizes the results of the statistical analysis of the November 2021 Detection Monitoring event and laboratory analytical data are provided in **Appendix A**.

As outlined in the Statistical Analysis Plan for this site, updates to the statistical limits are completed once four (4) to eight (8) new samples results are available. After 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. These updated limits were used for the November 2021 analysis and will be used in subsequent statistical analyses.

Detection Monitoring samples were collected March 28 to April 4, 2022 and testing was completed for all Appendix III analytes, as well as major cations and anions. Detections of Appendix III analytes triggered verification sampling, which was completed June 7, 2022 and did not verify SSIs. **Table 4** summarizes the results and the statistical analysis for the March/April 2022 Detection Monitoring event and laboratory data are provided in **Appendix A**.

A Detection Monitoring sampling event was completed October 18-21, 2022 and testing was performed for all Appendix III analytes, as well as major cations and anions. Statistical analyses to evaluate for SSIs in the October 2022 data were not completed in 2022 and the results will be provided in the 2023 Annual Report. **Table 5** summarizes the results of the October 2022 Detection Monitoring event and laboratory analytical data are provided in **Appendix A**.

2.2 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 B**. 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, which affect water levels, gradients and flow directions in 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 at the SEC were estimated for the alluvial aquifer wells using commercially available software to evaluate data since 2016. Results indicate that groundwater flow direction at the SEC is variable due to fluctuating river levels but has often flowed from north to south. The overall net groundwater flow direction in the alluvial aquifer at the SEC was slightly to the southeast 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 four (4) feet per year in the prevailing downgradient direction.

2.3 Sampling Issues

No notable sampling issues were encountered at the SCPC in 2022.

3.0 ACTIVITIES PLANNED FOR 2023

Detection Monitoring is scheduled to continue on a semi-annual basis in the second and fourth quarters of 2023. Statistical analysis of the October 2022 Detection Monitoring data will be completed in 2023 and included in the 2023 Annual Report. Additionally, as required by § 257.102(e)(1) of the CCR Rule, Ameren has commenced closure at the SCPC after the final receipt of CCR. More information in closure progress of the SCPC will be included in the 2023 Annual Report.

Tables

Table 3
November 2021 Detection Monitoring Results
SCPC Surface Impoundment
Sioux Energy Center, St. Charles County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS											
ANALYTE	UNITS	BMW-1S	BMW-3S	Prediction Limit UG-1A	UG-1A	Prediction Limit UG-2	UG-2	Prediction Limit DG-1	DG-1	Prediction Limit DG-2	DG-2	Prediction Limit DG-3	DG-3	Prediction Limit DG-4	DG-4
November 2021 Detection Monitoring Event															
DATE	NA	11/8/2021	11/8/2021	NA	11/10/2021	NA	11/9/2021	NA	11/10/2021	NA	11/10/2021	NA	11/10/2021	NA	11/10/2021
pH	SU	6.86	6.99	6.423-7.284	6.70	6.29-7.36	6.90	6.653-7.324	6.88	6.681-7.341	6.92	6.64-7.251	6.88	6.617-7.24	6.86
BORON, TOTAL	µg/L	66.9 J	67.8 J	462.2	121	264.7	93.1 J	118.8	96.8 J	114.3	86.7 J	103.9	87.7 J	114.5	90.7 J
CALCIUM, TOTAL	µg/L	160,000	137,000	204,191	127,000	146,120	96,900 J	174,000	124,000	161,503	130,000	168,024	146,000	167,122	136,000
CHLORIDE, TOTAL	mg/L	7.4	12.0	147.5	50.1	98.49	33.7	10	1.8 J	10.72	2.7 J	17.71	2.7 J	111.7	58.3
FLUORIDE, TOTAL	mg/L	ND	0.46	0.4	0.44	0.3257	0.23	0.3803	0.41	0.4553	0.41	0.4775	0.43	0.4524	0.37
SULFATE, TOTAL	mg/L	31.8	31.2	115.8	42.8 J	95.94	41.7	71.52	19.1	68	33.1	72.94	46.8	80.26	49.9
TOTAL DISSOLVED SOLIDS	mg/L	534	461	810.6	568	758	461	548.8	451	537.9	491	592.9	547	808	643
February 2022 Verification Sampling Event															
DATE	NA				2/8/2022				2/8/2022						
pH	SU														
BORON, TOTAL	µg/L														
CALCIUM, TOTAL	µg/L														
CHLORIDE, TOTAL	mg/L														
FLUORIDE, TOTAL	mg/L				0.37				0.35						
SULFATE, TOTAL	mg/L														
TOTAL DISSOLVED SOLIDS	mg/L														

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units.
2. J - Result is an estimated value.
3. NA - Not applicable.
4. Prediction Limits calculated using Sanitas Software.
5. Values highlighted in green indicate an initial exceedance above the prediction limit that was not confirmed by Verification Sampling (not an SSI).
6. Only analytes/wells that were detected above the prediction limit were tested during Verification Sampling.
7. 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: EMS
Checked By: LMS
Reviewed By: MNH

Table 4
March/April 2022 Detection Monitoring Results
SCPC Surface Impoundment
Sioux Energy Center, St. Charles County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS											
ANALYTE	UNITS	BMW-1S	BMW-3S	Prediction Limit UG-1A	UG-1A	Prediction Limit UG-2	UG-2	Prediction Limit DG-1	DG-1	Prediction Limit DG-2	DG-2	Prediction Limit DG-3	DG-3	Prediction Limit DG-4	DG-4
March-April 2022 Detection Monitoring Event															
DATE	NA	3/29/2022	3/29/2022	NA	3/28/2022	NA	4/4/2022	NA	3/28/2022	NA	3/28/2022	NA	4/1/2022	NA	4/1/2022
pH	SU	6.80	6.94	6.423-7.284	7.07	6.29-7.36	7.02	6.653-7.324	7.03	6.681-7.341	7.07	6.64-7.251	6.72	6.617-7.24	6.62
BORON, TOTAL	µg/L	68.0 J	70.7 J	462.2	73.2 J	264.7	113	118.8	96.0 J	114.3	91.2 J	103.9	93.3 J	114.5	117
CALCIUM, TOTAL	µg/L	173,000	147,000	204,191	111,000	146,120	97,300	174,000	131,000	161,503	130,000	168,024	163,000	167,122	144,000
CHLORIDE, TOTAL	mg/L	8.5	11.8	147.5	10.6	98.49	33.7	10	4.0	10.72	3.6	17.71	8.5	111.7	15.6
FLUORIDE, TOTAL	mg/L	0.30	0.36	0.4	0.33	0.3257	0.18 J	0.3803	0.32	0.4553	0.38	0.4775	0.38	0.4524	0.35
SULFATE, TOTAL	mg/L	44.9	47.8	115.8	106.0	95.94	66.4	71.52	45.9	68	45.9	72.94	63.9	80.26	65.1
TOTAL DISSOLVED SOLIDS	mg/L	591	508	810.6	468	758	493	548.8	480	537.9	516	592.9	578	808	632
June 2022 Verification Sampling Event															
DATE	NA														6/7/2022
pH	SU														
BORON, TOTAL	µg/L														77.5 J
CALCIUM, TOTAL	µg/L														
CHLORIDE, TOTAL	mg/L														
FLUORIDE, TOTAL	mg/L														
SULFATE, TOTAL	mg/L														
TOTAL DISSOLVED SOLIDS	mg/L														

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units.
2. J - Result is an estimated value.
3. NA - Not applicable.
4. Prediction Limits calculated using Sanitas Software.
5. Values highlighted in green indicate an initial exceedance above the prediction limit that was not confirmed by Verification Sampling (not an SSI).
6. Only analytes/wells that were detected above the prediction limit were tested during Verification Sampling.

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

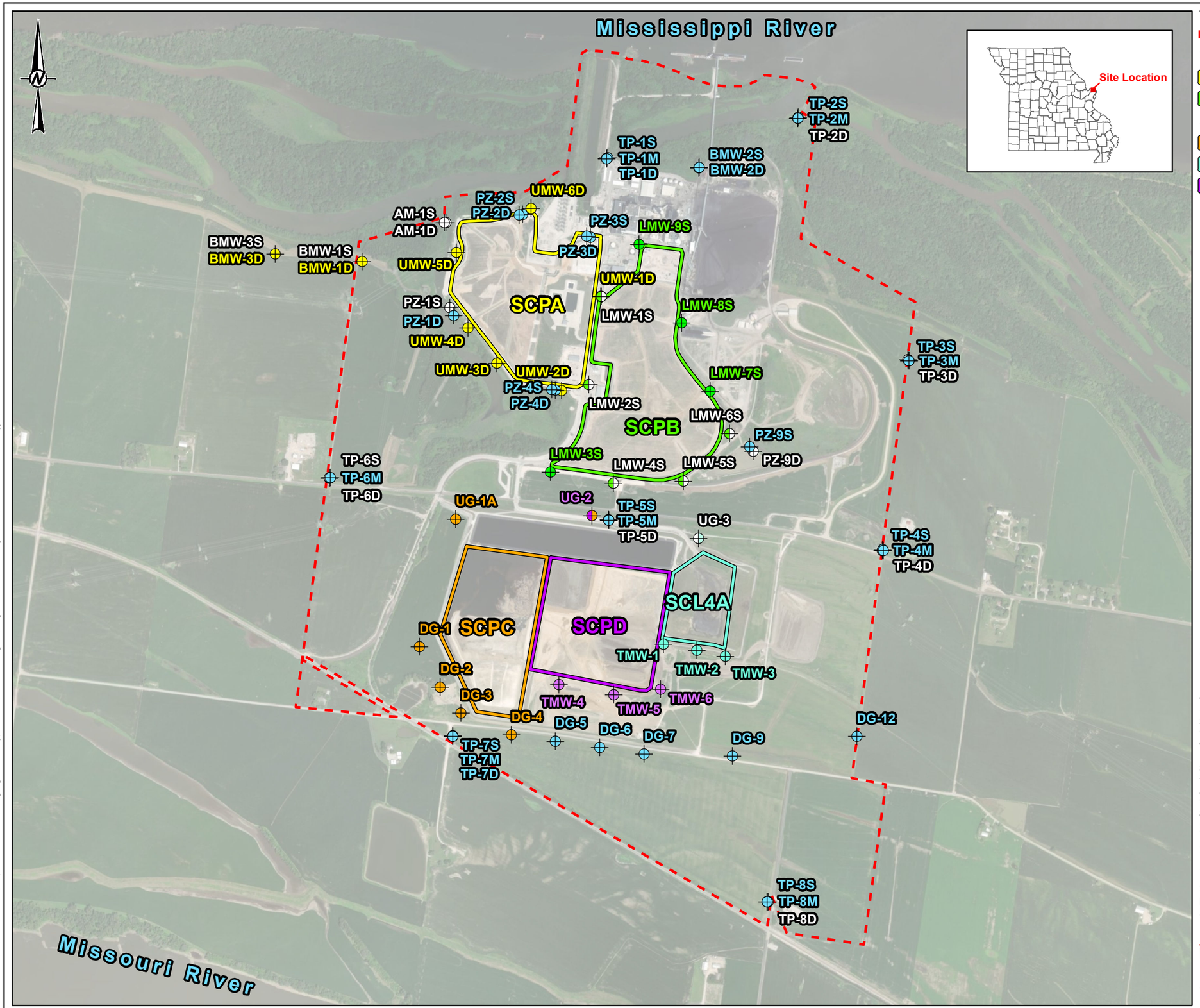
Table 5
October 2022 Detection Monitoring Results
SCPC Surface Impoundment
Sioux Energy Center, St. Charles County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS					
ANALYTE	UNITS	BMW-1S	BMW-3S	UG-1A	UG-2	DG-1	DG-2	DG-3	DG-4
October 2022 Detection Monitoring Event									
DATE	NA	10/18/2022	10/18/2022	10/21/2022	10/21/2022	10/20/2022	10/21/2022	10/21/2022	10/21/2022
pH	SU	6.84	7.01	6.26	7.00	6.95	6.93	6.89	6.94
BORON, TOTAL	µg/L	73.0 J	84.2 J	ND	184	ND	ND	ND	ND
CALCIUM, TOTAL	µg/L	168,000	131,000	109,000	122,000	131,000	130,000	162,000	136,000
CHLORIDE, TOTAL	mg/L	9.2	11.7	6.4	59.2	3.4	2.8	3.3	54.0
FLUORIDE, TOTAL	mg/L	0.20 J	0.22	0.47	ND	ND	ND	ND	ND
SULFATE, TOTAL	mg/L	61.1	27.8	72.2	47.3	28.1	32.3	63.8	52
TOTAL DISSOLVED SOLIDS	mg/L	711	467	279	649	517	1,320 J	622	636

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: EMS
Checked By: JAB
Reviewed By: MNH

Figures



LEGEND

- Sioux Energy Center Property Boundary

CCR Units

- SCPA - Closed Bottom Ash Surface Impoundment
- SCPB - Closed Fly Ash Surface Impoundment

Utility Waste Landfill (UWL)

- SCPC - WFGD Surface Impoundment
- SCL4A - Dry CCR Disposal Area
- SCPD - WFGD Surface Impoundment

Monitoring Well Networks

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

0 1,000 2,000 3,000

Feet

NOTE(S)

1.) ALL BOUNDARIES AND LOCATIONS ARE APPROXIMATE.
2.) WFGD - WET FLUE GAS DESULFURIZATION
3.) CCR - COAL COMBUSTION RESIDUALS

REFERENCE(S)

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

CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER

PROJECT
GROUNDWATER MONITORING PROGRAM

TITLE
SIOUX ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND SAMPLE LOCATION MAP

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-12
DESIGNED	JSI
PREPARED	EMS
REVIEWED	GTM/JSI
APPROVED	MNH

PROJECT NO.	CONTROL	REV.	FIGURE
1531406-04	1240	0	1

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

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PATH: C:\Users\Eschneider\Golder Associates\1531406\01.02 - Ameren CCR GW Monitoring Program 2020 - APF (1)\5 Technical Work\0003-SEC\3.5-Figures-Drawings\PRODUCTION\MNA Eval\Figure XX - CCR WELL PROGRAMS - MNA - Copy.mxd PRINTED ON: 2022-12-12 AT: 8:34:56 AM

APPENDIX A

Laboratory Analytical Data

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

February 23, 2022

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

RE: Project: AMEREN VS SCPC
Pace Project No.: 60392271

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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 SCPC
Pace Project No.: 60392271

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

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

SAMPLE SUMMARY

Project: AMEREN VS SCPC
Pace Project No.: 60392271

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60392271001	**S-DG-1**	Water	02/08/22 10:18	02/09/22 04:04
60392271002	**S-UG-1A**	Water	02/08/22 11:47	02/09/22 04:04
60392271003	**S-SCPC-FB-1**	Water	02/08/22 10:30	02/09/22 04:04
60392271004	**S-SCPC-DUP-1**	Water	02/08/22 08:00	02/09/22 04:04

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: AMEREN VS SCPC
Pace Project No.: 60392271

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60392271001	**S-DG-1**	EPA 300.0	SK	1	PASI-K
60392271002	**S-UG-1A**	EPA 300.0	CRN2	1	PASI-K
60392271003	**S-SCPC-FB-1**	EPA 300.0	SK	1	PASI-K
60392271004	**S-SCPC-DUP-1**	EPA 300.0	SK	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 VS SCPC
Pace Project No.: 60392271

Sample: S-DG-1 **Lab ID: 60392271001** Collected: 02/08/22 10:18 Received: 02/09/22 04:04 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	**0.35**	mg/L	0.20	0.12	1		02/16/22 13:58	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 SCPC
Pace Project No.: 60392271

Sample: S-UG-1A **Lab ID: 60392271002** Collected: 02/08/22 11:47 Received: 02/09/22 04:04 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	**0.37**	mg/L	0.20	0.12	1		02/18/22 08:31	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN VS SCPC
Pace Project No.: 60392271

Sample: S-SCPC-FB-1 **Lab ID: 60392271003** Collected: 02/08/22 10:30 Received: 02/09/22 04:04 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	**<0.12**	mg/L	0.20	0.12	1		02/16/22 14:12	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 SCPC
Pace Project No.: 60392271

Sample: S-SCPC-DUP-1 **Lab ID: 60392271004** Collected: 02/08/22 08:00 Received: 02/09/22 04:04 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	0.12	1		02/16/22 14:26	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN VS SCPC
Pace Project No.: 60392271

QC Batch: 771173
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: 60392271001, 60392271003, 60392271004

METHOD BLANK: 3079295 Matrix: Water
Associated Lab Samples: 60392271001, 60392271003, 60392271004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/15/22 08:48	

METHOD BLANK: 3081055 Matrix: Water
Associated Lab Samples: 60392271001, 60392271003, 60392271004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/16/22 13:17	

METHOD BLANK: 3081506 Matrix: Water
Associated Lab Samples: 60392271001, 60392271003, 60392271004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/17/22 18:53	

LABORATORY CONTROL SAMPLE: 3079296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	97	90-110	

LABORATORY CONTROL SAMPLE: 3081056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	108	90-110	

LABORATORY CONTROL SAMPLE: 3081507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	108	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
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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN VS SCPC
Pace Project No.: 60392271

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3079297 3079298

Parameter	Units	60392266002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.47	2.5	2.5	2.7	2.8	91	95	80-120	3	15	

SAMPLE DUPLICATE: 3079299

Parameter	Units	60392266002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.47	0.47	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

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN VS SCPC
Pace Project No.: 60392271

QC Batch: 771702
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: 60392271002

METHOD BLANK: 3081280 Matrix: Water
Associated Lab Samples: 60392271002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/18/22 07:28	

METHOD BLANK: 3084126 Matrix: Water
Associated Lab Samples: 60392271002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/23/22 09:22	

LABORATORY CONTROL SAMPLE: 3081281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	103	90-110	

LABORATORY CONTROL SAMPLE: 3084127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3081282 3081283

Parameter	Units	60392271002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.37	2.5	2.5	3.0	3.1	106	107	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3081284 3081285

Parameter	Units	60392702001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.16J	2.5	2.5	3.0	3.0	113	115	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

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QUALIFIERS

Project: AMEREN VS SCPC
Pace Project No.: 60392271

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN VS SCPC
Pace Project No.: 60392271

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60392271001	**S-DG-1**	EPA 300.0	771173		
60392271002	**S-UG-1A**	EPA 300.0	771702		
60392271003	**S-SCPC-FB-1**	EPA 300.0	771173		
60392271004	**S-SCPC-DUP-1**	EPA 300.0	771173		

WO# : 60392271

60392271

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

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

Cooler Temperature (°C): **As-read** 1.5 **Corr. Factor** -0.2 **Corrected** 1.3

Date and initials of person examining contents: 12/9/22

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Page 1 of 1

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — **Required** Client Information:

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

Section B — **Required** Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman, Brendan Talbert
Purchase Order No.:	
Project Name:	Ameren - Verification Sampling - SCPC
Project Number:	153140603, 00035

Section C — Invoice Information:

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

REGULATORY AGENCY

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

Site Location — **STATE:** MO

Section D — **Required** Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride	Fluoride	Sulfate	TDS	Calcium	Boron					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N	N	N	N	N	N	N	N	
1	S-DG-1	WT	G			2-8-22	1018		1	1										/									60892271 BP2U
2	S-UG-1A	WT	G				1147		2	2																				6BP3U
3	S-SCPC-FB-1	WT	G				1030		1	1																				↓
4	S-SCPC-DUP-1	WT	G				—		2	2																				2BP3U
5	S-SCPC-MS-1	WT	G				1147		2	2																				
6	S-SCPC-MSD-1	WT	G				1147		2	2																				
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			
	Brendan Talbert / Golder	2-8-22	1456	Angela McMillen	2/8	1500				
	Angela McMillen	2-8	1500		2/9	0404	1-3	X	X	X

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert — DATE Signed (MM/DD/YY): 02/08/22

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

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

MEMORANDUM

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

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPC – VERIFICATION SAMPLING - DATA PACKAGE 60392271

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

- None.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc / WSP
Project Manager: J. Ingram
Project Name: Ameren- Sioux - SCPC
Project Number: 153140604
Reviewer: A. Muehlfarth
Validation Date: 3/2/2022

Laboratory: Pace Analytical Services - Kansas City
SDG #: 60392271
Analytical Method (type and no.): EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names S-DG-1, S-UG-1A, S-SCPC-FB-1, S-SCPC-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			2/8/2022
b) Sampling team indicated?	x			BTT
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☐	☒	☐	S-SCPC-FB-1 @ S-DG-1
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-UG-1A @ S-SCPC-DUP-1
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD: 5.2% [<20%]
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	
d) Were lab dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD: 1% [<15%]

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:

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Ann Muhlfeith Date: 3/2/2022

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

May 25, 2022

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

RE: Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between March 30, 2022 and April 05, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City
- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

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

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60396338001	**S-UG-1A**	Water	03/28/22 10:15	03/30/22 04:23
60396338002	**S-DG-1**	Water	03/28/22 10:55	03/30/22 04:23
60396338003	**S-DG-2**	Water	03/28/22 11:42	03/30/22 04:23
60396338004	**S-DG-3**	Water	04/01/22 15:56	04/02/22 03:00
60396338005	**S-DG-4**	Water	04/01/22 14:22	04/02/22 03:00
60396338006	**S-SCPC-DUP-1**	Water	04/01/22 08:00	04/02/22 03:00
60396338007	**S-SCPC-FB-1**	Water	04/01/22 14:25	04/02/22 03:00
60396338008	**S-UG-2**	Water	04/04/22 14:00	04/05/22 04:32
60396337002	**S-BMW-1S**	Water	03/29/22 14:00	03/30/22 04:23
60396337003	**S-BMW-3S**	Water	03/29/22 12:20	03/30/22 04:23

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60396338001	**S-UG-1A**	EPA 200.7	JLH, MRV	7	PASI-K
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60396338002	**S-DG-1**	EPA 200.7	MRV	7	PASI-K
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60396338003	**S-DG-2**	EPA 200.7	MRV	7	PASI-K
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	KB	3	PASI-K
60396338004	**S-DG-3**	EPA 200.7	JLH, MRV	7	PASI-K
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60396338005	**S-DG-4**	EPA 200.7	JLH, MRV	7	PASI-K
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60396338006	**S-SCPC-DUP-1**	EPA 200.7	JLH, MRV	7	PASI-K
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60396338007	**S-SCPC-FB-1**	EPA 200.7	MRV	7	PASI-K
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60396338008	**S-UG-2**	EPA 200.7	MRV	7	PASI-K
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60396337002	**S-BMW-1S**	EPA 200.7	JLH, MRV	7	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60396337003	**S-BMW-3S**	EPA 300.0	KB	3	PASI-K
		EPA 200.7	JLH, MRV	7	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		EPA 300.0	KB	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-UG-1A **Lab ID: 60396338001** Collected: 03/28/22 10:15 Received: 03/30/22 04:23 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	**73.2J**	ug/L	100	7.1	1	04/04/22 09:58	04/05/22 18:12	7440-42-8	
Calcium	**111000**	ug/L	400	143	2	04/04/22 09:58	04/06/22 10:50	7440-70-2	
Iron	**<21.1**	ug/L	50.0	21.1	1	04/04/22 09:58	04/05/22 18:12	7439-89-6	
Magnesium	**25500**	ug/L	50.0	11.7	1	04/04/22 09:58	04/05/22 18:12	7439-95-4	
Manganese	**443**	ug/L	5.0	1.1	1	04/04/22 09:58	04/05/22 18:12	7439-96-5	
Potassium	**7050**	ug/L	500	224	1	04/04/22 09:58	04/05/22 18:12	7440-09-7	
Sodium	**9000**	ug/L	500	166	1	04/04/22 09:58	04/05/22 18:12	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**316**	mg/L	20.0	4.6	1		04/05/22 10:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**468**	mg/L	10.0	10.0	1		03/31/22 14:24		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.6**	mg/L	1.0	0.53	1		04/01/22 19:00	16887-00-6	
Fluoride	**0.33**	mg/L	0.20	0.12	1		04/01/22 19:00	16984-48-8	
Sulfate	**106**	mg/L	10.0	5.5	10		04/01/22 19:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-DG-1 **Lab ID: 60396338002** Collected: 03/28/22 10:55 Received: 03/30/22 04:23 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	**96.0J**	ug/L	100	7.1	1	04/04/22 09:58	04/06/22 10:52	7440-42-8	
Calcium	**131000**	ug/L	400	143	2	04/04/22 09:58	04/06/22 10:55	7440-70-2	
Iron	**226**	ug/L	50.0	21.1	1	04/04/22 09:58	04/06/22 10:52	7439-89-6	
Magnesium	**28800**	ug/L	50.0	11.7	1	04/04/22 09:58	04/06/22 10:52	7439-95-4	
Manganese	**48.8**	ug/L	5.0	1.1	1	04/04/22 09:58	04/06/22 10:52	7439-96-5	
Potassium	**4850**	ug/L	500	224	1	04/04/22 09:58	04/06/22 10:52	7440-09-7	
Sodium	**4410**	ug/L	500	166	1	04/04/22 09:58	04/06/22 10:52	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**424**	mg/L	20.0	4.6	1		04/05/22 11:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**480**	mg/L	10.0	10.0	1		03/31/22 14:24		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.0**	mg/L	1.0	0.53	1		04/01/22 19:28	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.12	1		04/01/22 19:28	16984-48-8	
Sulfate	**45.9**	mg/L	5.0	2.8	5		04/01/22 19:41	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-DG-2 **Lab ID: 60396338003** Collected: 03/28/22 11:42 Received: 03/30/22 04:23 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	**91.2J**	ug/L	100	7.1	1	04/04/22 09:58	04/06/22 10:57	7440-42-8	
Calcium	**130000**	ug/L	400	143	2	04/04/22 09:58	04/06/22 10:59	7440-70-2	
Iron	**174**	ug/L	50.0	21.1	1	04/04/22 09:58	04/06/22 10:57	7439-89-6	
Magnesium	**27300**	ug/L	50.0	11.7	1	04/04/22 09:58	04/06/22 10:57	7439-95-4	
Manganese	**432**	ug/L	5.0	1.1	1	04/04/22 09:58	04/06/22 10:57	7439-96-5	
Potassium	**5930**	ug/L	500	224	1	04/04/22 09:58	04/06/22 10:57	7440-09-7	
Sodium	**4420**	ug/L	500	166	1	04/04/22 09:58	04/06/22 10:57	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**418**	mg/L	20.0	4.6	1		04/05/22 11:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**516**	mg/L	10.0	10.0	1		03/31/22 14:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.6**	mg/L	1.0	0.53	1		04/01/22 20:23	16887-00-6	
Fluoride	**0.38**	mg/L	0.20	0.12	1		04/01/22 20:23	16984-48-8	
Sulfate	**45.9**	mg/L	5.0	2.8	5		04/01/22 20:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-DG-3 **Lab ID: 60396338004** Collected: 04/01/22 15:56 Received: 04/02/22 03:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	**93.3J**	ug/L	100	7.1	1	04/07/22 13:51	04/09/22 16:04	7440-42-8	
Calcium	**163000**	ug/L	400	143	2	04/07/22 13:51	04/11/22 17:58	7440-70-2	
Iron	**2250**	ug/L	50.0	21.1	1	04/07/22 13:51	04/09/22 16:04	7439-89-6	
Magnesium	**28300**	ug/L	50.0	11.7	1	04/07/22 13:51	04/09/22 16:04	7439-95-4	
Manganese	**1110**	ug/L	5.0	1.1	1	04/07/22 13:51	04/09/22 16:04	7439-96-5	
Potassium	**6150**	ug/L	500	224	1	04/07/22 13:51	04/09/22 16:04	7440-09-7	
Sodium	**5150**	ug/L	500	166	1	04/07/22 13:51	04/10/22 14:30	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**460**	mg/L	20.0	4.6	1		04/08/22 12:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**578**	mg/L	10.0	10.0	1		04/07/22 16:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**8.5**	mg/L	1.0	0.53	1		04/08/22 11:40	16887-00-6	
Fluoride	**0.38**	mg/L	0.20	0.12	1		04/08/22 11:40	16984-48-8	
Sulfate	**63.9**	mg/L	5.0	2.8	5		04/08/22 13:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-DG-4 **Lab ID: 60396338005** Collected: 04/01/22 14:22 Received: 04/02/22 03:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	**117**	ug/L	100	7.1	1	04/07/22 13:51	04/09/22 16:10	7440-42-8	
Calcium	**144000**	ug/L	400	143	2	04/07/22 13:51	04/11/22 18:09	7440-70-2	
Iron	**<21.1**	ug/L	50.0	21.1	1	04/07/22 13:51	04/09/22 16:10	7439-89-6	
Magnesium	**40600**	ug/L	50.0	11.7	1	04/07/22 13:51	04/09/22 16:10	7439-95-4	
Manganese	**1030**	ug/L	5.0	1.1	1	04/07/22 13:51	04/09/22 16:10	7439-96-5	
Potassium	**7950**	ug/L	500	224	1	04/07/22 13:51	04/09/22 16:10	7440-09-7	
Sodium	**6990**	ug/L	500	166	1	04/07/22 13:51	04/10/22 14:37	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**487**	mg/L	20.0	4.6	1		04/08/22 12:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**632**	mg/L	10.0	10.0	1		04/07/22 16:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**15.6**	mg/L	1.0	0.53	1		04/08/22 13:58	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.12	1		04/08/22 13:58	16984-48-8	
Sulfate	**65.1**	mg/L	5.0	2.8	5		04/08/22 14:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-SCPC-DUP-1 **Lab ID: 60396338006** Collected: 04/01/22 08:00 Received: 04/02/22 03:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	**111**	ug/L	100	7.1	1	04/07/22 13:51	04/09/22 16:13	7440-42-8	
Calcium	**150000**	ug/L	400	143	2	04/07/22 13:51	04/11/22 18:11	7440-70-2	
Iron	**<21.1**	ug/L	50.0	21.1	1	04/07/22 13:51	04/09/22 16:13	7439-89-6	
Magnesium	**40500**	ug/L	50.0	11.7	1	04/07/22 13:51	04/09/22 16:13	7439-95-4	
Manganese	**1010**	ug/L	5.0	1.1	1	04/07/22 13:51	04/09/22 16:13	7439-96-5	
Potassium	**7810**	ug/L	500	224	1	04/07/22 13:51	04/09/22 16:13	7440-09-7	
Sodium	**6930**	ug/L	500	166	1	04/07/22 13:51	04/10/22 14:39	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**489**	mg/L	20.0	4.6	1		04/08/22 12:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**660**	mg/L	10.0	10.0	1		04/07/22 16:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**15.7**	mg/L	1.0	0.53	1		04/08/22 14:26	16887-00-6	
Fluoride	**0.37**	mg/L	0.20	0.12	1		04/08/22 14:26	16984-48-8	
Sulfate	**65.6**	mg/L	5.0	2.8	5		04/08/22 14:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-SCPC-FB-1 **Lab ID: 60396338007** Collected: 04/01/22 14:25 Received: 04/02/22 03:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	**<7.1**	ug/L	100	7.1	1	04/07/22 13:51	04/09/22 16:15	7440-42-8	
Calcium	**152J**	ug/L	200	71.3	1	04/07/22 13:51	04/09/22 16:15	7440-70-2	
Iron	**<21.1**	ug/L	50.0	21.1	1	04/07/22 13:51	04/09/22 16:15	7439-89-6	
Magnesium	**42.2J**	ug/L	50.0	11.7	1	04/07/22 13:51	04/09/22 16:15	7439-95-4	
Manganese	**<1.1**	ug/L	5.0	1.1	1	04/07/22 13:51	04/09/22 16:15	7439-96-5	
Potassium	**<224**	ug/L	500	224	1	04/07/22 13:51	04/09/22 16:15	7440-09-7	
Sodium	**<166**	ug/L	500	166	1	04/07/22 13:51	04/10/22 14:41	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		04/08/22 12:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**7.0**	mg/L	5.0	5.0	1		04/07/22 16:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		04/08/22 14:54	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/08/22 14:54	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		04/08/22 14:54	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-UG-2 **Lab ID: 60396338008** Collected: 04/04/22 14:00 Received: 04/05/22 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	**113**	ug/L	100	7.1	1	04/07/22 13:51	04/09/22 16:35	7440-42-8	
Calcium	**97300**	ug/L	200	71.3	1	04/07/22 13:51	04/09/22 16:35	7440-70-2	M1
Iron	**<21.1**	ug/L	50.0	21.1	1	04/07/22 13:51	04/09/22 16:35	7439-89-6	
Magnesium	**21400**	ug/L	50.0	11.7	1	04/07/22 13:51	04/09/22 16:35	7439-95-4	
Manganese	**14.8**	ug/L	5.0	1.1	1	04/07/22 13:51	04/09/22 16:35	7439-96-5	
Potassium	**5150**	ug/L	500	224	1	04/07/22 13:51	04/09/22 16:35	7440-09-7	
Sodium	**43400**	ug/L	500	166	1	04/07/22 13:51	04/10/22 15:01	7440-23-5	M1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**326**	mg/L	20.0	4.6	1		04/12/22 13:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**493**	mg/L	10.0	10.0	1		04/08/22 15:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**33.7**	mg/L	5.0	2.6	5		04/06/22 12:46	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.12	1		04/06/22 12:32	16984-48-8	
Sulfate	**66.4**	mg/L	5.0	2.8	5		04/06/22 12:46	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-BMW-1S **Lab ID: 60396337002** Collected: 03/29/22 14:00 Received: 03/30/22 04:23 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	**68.0J**	ug/L	100	7.1	1	04/07/22 13:51	04/09/22 16:38	7440-42-8	
Calcium	**173000**	ug/L	400	143	2	04/07/22 13:51	04/11/22 18:22	7440-70-2	
Iron	**<21.1**	ug/L	50.0	21.1	1	04/07/22 13:51	04/09/22 16:38	7439-89-6	
Magnesium	**30000**	ug/L	50.0	11.7	1	04/07/22 13:51	04/09/22 16:38	7439-95-4	
Manganese	**675**	ug/L	5.0	1.1	1	04/07/22 13:51	04/09/22 16:38	7439-96-5	
Potassium	**470J**	ug/L	500	224	1	04/07/22 13:51	04/09/22 16:38	7440-09-7	
Sodium	**4900**	ug/L	1000	332	2	04/07/22 13:51	04/11/22 18:22	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**505**	mg/L	20.0	4.6	1		04/05/22 10:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**591**	mg/L	10.0	10.0	1		04/01/22 17:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**8.5**	mg/L	1.0	0.53	1		04/01/22 18:04	16887-00-6	
Fluoride	**0.30**	mg/L	0.20	0.12	1		04/01/22 18:04	16984-48-8	
Sulfate	**44.9**	mg/L	5.0	2.8	5		04/01/22 18:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-BMW-3S **Lab ID: 60396337003** Collected: 03/29/22 12:20 Received: 03/30/22 04:23 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	**70.7J**	ug/L	100	7.1	1	04/07/22 13:51	04/09/22 16:40	7440-42-8	
Calcium	**147000**	ug/L	400	143	2	04/07/22 13:51	04/11/22 18:29	7440-70-2	
Iron	**<21.1**	ug/L	50.0	21.1	1	04/07/22 13:51	04/09/22 16:40	7439-89-6	
Magnesium	**24100**	ug/L	50.0	11.7	1	04/07/22 13:51	04/09/22 16:40	7439-95-4	
Manganese	**215**	ug/L	5.0	1.1	1	04/07/22 13:51	04/09/22 16:40	7439-96-5	
Potassium	**569**	ug/L	500	224	1	04/07/22 13:51	04/09/22 16:40	7440-09-7	
Sodium	**6270**	ug/L	500	166	1	04/07/22 13:51	04/10/22 15:06	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**428**	mg/L	20.0	4.6	1		04/05/22 10:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**508**	mg/L	10.0	10.0	1		04/01/22 17:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**11.8**	mg/L	1.0	0.53	1		04/01/22 18:32	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.12	1		04/01/22 18:32	16984-48-8	
Sulfate	**47.8**	mg/L	5.0	2.8	5		04/01/22 18:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 779353
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: 60396338001, 60396338002, 60396338003

METHOD BLANK: 3108936 Matrix: Water
Associated Lab Samples: 60396338001, 60396338002, 60396338003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<7.1	100	7.1	04/05/22 18:01	
Calcium	ug/L	<71.3	200	71.3	04/05/22 18:01	
Iron	ug/L	<21.1	50.0	21.1	04/05/22 18:01	
Magnesium	ug/L	<11.7	50.0	11.7	04/05/22 18:01	
Manganese	ug/L	<1.1	5.0	1.1	04/05/22 18:01	
Potassium	ug/L	<224	500	224	04/05/22 18:01	
Sodium	ug/L	<166	500	166	04/05/22 18:01	

LABORATORY CONTROL SAMPLE: 3108937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	950	95	85-115	
Calcium	ug/L	10000	9980	100	85-115	
Iron	ug/L	10000	10000	100	85-115	
Magnesium	ug/L	10000	10500	105	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9570	96	85-115	
Sodium	ug/L	10000	9750	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3108938 3108939

Parameter	Units	60396339002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	84.9J	1000	1000	1080	1080	100	100	70-130	0	20	
Calcium	ug/L	124000	10000	10000	133000	127000	89	37	70-130	4	20	M1
Iron	ug/L	1140	10000	10000	11300	11200	102	100	70-130	1	20	
Magnesium	ug/L	22100	10000	10000	30500	30000	84	79	70-130	2	20	
Manganese	ug/L	372	1000	1000	1390	1380	102	101	70-130	1	20	
Potassium	ug/L	5310	10000	10000	15900	15800	106	105	70-130	1	20	
Sodium	ug/L	3820	10000	10000	14600	14600	107	108	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 780187
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: 60396337002, 60396337003, 60396338004, 60396338005, 60396338006, 60396338007, 60396338008

METHOD BLANK: 3111909 Matrix: Water
Associated Lab Samples: 60396337002, 60396337003, 60396338004, 60396338005, 60396338006, 60396338007, 60396338008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<7.1	100	7.1	04/09/22 15:48	
Calcium	ug/L	<71.3	200	71.3	04/09/22 15:48	
Iron	ug/L	<21.1	50.0	21.1	04/09/22 15:48	
Magnesium	ug/L	<11.7	50.0	11.7	04/09/22 15:48	
Manganese	ug/L	<1.1	5.0	1.1	04/09/22 15:48	
Potassium	ug/L	<224	500	224	04/09/22 15:48	
Sodium	ug/L	<166	500	166	04/12/22 13:11	

LABORATORY CONTROL SAMPLE: 3111910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	978	98	85-115	
Calcium	ug/L	10000	9160	92	85-115	
Iron	ug/L	10000	9920	99	85-115	
Magnesium	ug/L	10000	9930	99	85-115	
Manganese	ug/L	1000	963	96	85-115	
Potassium	ug/L	10000	11100	111	85-115	
Sodium	ug/L	10000	11000	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3111911 3111912

Parameter	Units	60396338004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	93.3J	1000	1000	1090	1100	100	101	70-130	1	20	
Calcium	ug/L	163000	10000	10000	171000	172000	72	86	70-130	1	20	
Iron	ug/L	2250	10000	10000	12100	12100	99	98	70-130	1	20	
Magnesium	ug/L	28300	10000	10000	36300	35800	80	75	70-130	1	20	
Manganese	ug/L	1110	1000	1000	2100	2080	99	96	70-130	1	20	
Potassium	ug/L	6150	10000	10000	17900	17700	117	116	70-130	1	20	
Sodium	ug/L	5150	10000	10000	16800	16700	116	116	70-130	0	20	

MATRIX SPIKE SAMPLE: 3111913

Parameter	Units	60396338008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	113	1000	1140	103	70-130	
Calcium	ug/L	97300	10000	119000	216	70-130	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

MATRIX SPIKE SAMPLE: 3111913

Parameter	Units	60396338008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	<21.1	10000	9940	99	70-130	
Magnesium	ug/L	21400	10000	30000	87	70-130	
Manganese	ug/L	14.8	1000	995	98	70-130	
Potassium	ug/L	5150	10000	17700	126	70-130	
Sodium	ug/L	43400	10000	56900	135	70-130	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 779612 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60396337002, 60396337003, 60396338001, 60396338002, 60396338003

METHOD BLANK: 3109702 Matrix: Water
Associated Lab Samples: 60396337002, 60396337003, 60396338001, 60396338002, 60396338003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/05/22 09:48	

LABORATORY CONTROL SAMPLE: 3109703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	490	98	90-110	

SAMPLE DUPLICATE: 3109704

Parameter	Units	60395733004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	154	152	1	10	

SAMPLE DUPLICATE: 3109705

Parameter	Units	60396339002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	328	330	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 780151 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60396338004, 60396338005, 60396338006, 60396338007

METHOD BLANK: 3111773 Matrix: Water
Associated Lab Samples: 60396338004, 60396338005, 60396338006, 60396338007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/08/22 11:08	

LABORATORY CONTROL SAMPLE: 3111774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	490	98	90-110	

SAMPLE DUPLICATE: 3111775

Parameter	Units	60396168004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	604	603	0	10	

SAMPLE DUPLICATE: 3112713

Parameter	Units	60396338004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	460	461	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 780885
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60396338008

METHOD BLANK: 3114450 Matrix: Water
Associated Lab Samples: 60396338008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/12/22 13:31	

LABORATORY CONTROL SAMPLE: 3114451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	493	99	90-110	

SAMPLE DUPLICATE: 3114455

Parameter	Units	60397293004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	443	449	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 778990
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60396338001, 60396338002, 60396338003

METHOD BLANK: 3107469 Matrix: Water
Associated Lab Samples: 60396338001, 60396338002, 60396338003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	03/31/22 14:23	

LABORATORY CONTROL SAMPLE: 3107470

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

SAMPLE DUPLICATE: 3107471

Parameter	Units	60396339004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	357	366	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 779231
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60396337002, 60396337003

METHOD BLANK: 3108391 Matrix: Water
Associated Lab Samples: 60396337002, 60396337003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/01/22 17:19	

LABORATORY CONTROL SAMPLE: 3108392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	966	97	80-120	

SAMPLE DUPLICATE: 3108393

Parameter	Units	60396337001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	621	613	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 780233 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60396338004, 60396338005, 60396338006, 60396338007

METHOD BLANK: 3112059 Matrix: Water
Associated Lab Samples: 60396338004, 60396338005, 60396338006, 60396338007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/07/22 16:11	

LABORATORY CONTROL SAMPLE: 3112060

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

SAMPLE DUPLICATE: 3112061

Parameter	Units	60396333011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	534	515	4	10	

SAMPLE DUPLICATE: 3112062

Parameter	Units	60396338004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	578	589	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 780462
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60396338008

METHOD BLANK: 3112983 Matrix: Water
Associated Lab Samples: 60396338008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/08/22 15:17	

LABORATORY CONTROL SAMPLE: 3112984

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	980	98	80-120	

SAMPLE DUPLICATE: 3112985

Parameter	Units	60396735004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	540	523	3	10	

SAMPLE DUPLICATE: 3112986

Parameter	Units	60396757006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4640	5210	12	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 779018
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: 60396337002, 60396337003, 60396338001, 60396338002, 60396338003

METHOD BLANK: 3107513 Matrix: Water
Associated Lab Samples: 60396337002, 60396337003, 60396338001, 60396338002, 60396338003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/02/22 01:00	
Fluoride	mg/L	<0.12	0.20	0.12	04/02/22 01:00	
Sulfate	mg/L	<0.55	1.0	0.55	04/02/22 01:00	

LABORATORY CONTROL SAMPLE: 3107514

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	102	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE SAMPLE: 3107517

Parameter	Units	60396337001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	33.4	50	77.9	89	80-120	
Fluoride	mg/L	<0.12	2.5	2.8	108	80-120	
Sulfate	mg/L	65.0	50	114	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3107518 3107519

Parameter	Units	60396339002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.4	5	5	8.0	8.0	92	92	80-120	0	15	
Fluoride	mg/L	0.34	2.5	2.5	3.0	3.0	105	106	80-120	1	15	
Sulfate	mg/L	79.0	25	25	105	108	106	115	80-120	2	15	E

SAMPLE DUPLICATE: 3107520

Parameter	Units	60396339002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.4	3.4	0	15	
Fluoride	mg/L	0.34	0.35	1	15	
Sulfate	mg/L	79.0	78.9	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 779776
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: 60396338008

METHOD BLANK: 3110383 Matrix: Water
Associated Lab Samples: 60396338008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/06/22 09:21	
Fluoride	mg/L	<0.12	0.20	0.12	04/06/22 09:21	
Sulfate	mg/L	<0.55	1.0	0.55	04/06/22 09:21	

METHOD BLANK: 3114219 Matrix: Water
Associated Lab Samples: 60396338008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/07/22 09:06	
Fluoride	mg/L	<0.12	0.20	0.12	04/07/22 09:06	
Sulfate	mg/L	<0.55	1.0	0.55	04/07/22 09:06	

METHOD BLANK: 3114244 Matrix: Water
Associated Lab Samples: 60396338008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/08/22 09:08	
Fluoride	mg/L	<0.12	0.20	0.12	04/08/22 09:08	
Sulfate	mg/L	<0.55	1.0	0.55	04/08/22 09:08	

LABORATORY CONTROL SAMPLE: 3110384

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	2.3	92	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 3114220

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

LABORATORY CONTROL SAMPLE: 3114245

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110385 3110386

Parameter	Units	60396337010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	88.7	100	100	181	179	93	90	80-120	2	15	
Fluoride	mg/L	0.28	2.5	2.5	2.6	2.6	92	93	80-120	1	15	
Sulfate	mg/L	299	100	100	405	393	106	94	80-120	3	15	E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3110389 3110390

Parameter	Units	60396333011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9.7	5	5	14.6	14.8	98	102	80-120	1	15	
Fluoride	mg/L	0.22	2.5	2.5	2.8	2.9	102	107	80-120	4	15	
Sulfate	mg/L	112	50	50	164	183	103	142	80-120	11	15	M1

SAMPLE DUPLICATE: 3110388

Parameter	Units	60396337010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	88.7	86.4	3	15	
Fluoride	mg/L	0.28	0.26	6	15	
Sulfate	mg/L	299	290	3	15	

SAMPLE DUPLICATE: 3110391

Parameter	Units	60396333011 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	9.7	9.7	0	15	
Fluoride	mg/L	0.22	0.22	0	15	
Sulfate	mg/L	112	107	5	15	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 780287
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: 60396338004, 60396338005, 60396338006, 60396338007

METHOD BLANK: 3112201 Matrix: Water
Associated Lab Samples: 60396338004, 60396338005, 60396338006, 60396338007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/08/22 10:44	
Fluoride	mg/L	<0.12	0.20	0.12	04/08/22 10:44	
Sulfate	mg/L	<0.55	1.0	0.55	04/08/22 10:44	

LABORATORY CONTROL SAMPLE: 3112202

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	2.6	105	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112203 3112204

Parameter	Units	60396338004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	8.5	5	5	13.4	13.4	97	98	80-120	0	15	
Fluoride	mg/L	0.38	2.5	2.5	3.0	3.0	103	107	80-120	3	15	
Sulfate	mg/L	63.9	25	25	87.8	86.6	95	91	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3112206 3112207

Parameter	Units	60396332004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.5	5	5	20.8	20.8	105	105	80-120	0	15	E
Fluoride	mg/L	0.77	2.5	2.5	3.5	3.5	110	111	80-120	1	15	
Sulfate	mg/L	773	500	500	1300	1290	104	104	80-120	0	15	

SAMPLE DUPLICATE: 3112205

Parameter	Units	60396338004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	8.5	8.5	0	15	
Fluoride	mg/L	0.38	0.37	1	15	
Sulfate	mg/L	63.9	62.0	3	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

SAMPLE DUPLICATE: 3112208

Parameter	Units	60396332004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	15.5	15.5	0	15	
Fluoride	mg/L	0.77	0.78	2	15	
Sulfate	mg/L	773	781	1	15	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-BMW-1S **Lab ID: 60396337002** Collected: 03/29/22 14:00 Received: 03/30/22 04:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.283 ± 0.264 (0.347) C:NA T:88%**	pCi/L	04/28/22 13:28		
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.467 ± 0.635 (1.36) C:76% T:88%**	pCi/L	04/20/22 21:46		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Sample: S-BMW-3S **Lab ID: 60396337003** Collected: 03/29/22 12:20 Received: 03/30/22 04:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0831 ± 0.379 (0.225) C:NA T:93%**	pCi/L	04/27/22 16:23		
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0142 ± 0.558 (1.30) C:72% T:86%**	pCi/L	04/26/22 16:48		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 496688
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60396337002

METHOD BLANK: 2403505 Matrix: Water
Associated Lab Samples: 60396337002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.670 ± 0.346 (0.587) C:76% T:90%	pCi/L	04/20/22 16:30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 497782
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60396337003

METHOD BLANK: 2409269
Matrix: Water
Associated Lab Samples: 60396337003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.264 ± 0.311 (0.655) C:80% T:88%	pCi/L	04/26/22 13:21	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 496687
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60396337002

METHOD BLANK: 2403504 Matrix: Water
Associated Lab Samples: 60396337002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0453 ± 0.235 (0.544) C:NA T:90%	pCi/L	04/28/22 12:28	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

QC Batch: 497781
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60396337003

METHOD BLANK: 2409265 Matrix: Water
Associated Lab Samples: 60396337003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0680 ± 0.310 (0.184) C:NA T:94%	pCi/L	04/27/22 16:06	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60396337002	S-BMW-1S	EPA 200.7	780187	EPA 200.7	780329
60396337003	S-BMW-3S	EPA 200.7	780187	EPA 200.7	780329
60396338001	S-UG-1A	EPA 200.7	779353	EPA 200.7	779414
60396338002	S-DG-1	EPA 200.7	779353	EPA 200.7	779414
60396338003	S-DG-2	EPA 200.7	779353	EPA 200.7	779414
60396338004	S-DG-3	EPA 200.7	780187	EPA 200.7	780329
60396338005	S-DG-4	EPA 200.7	780187	EPA 200.7	780329
60396338006	S-SCPC-DUP-1	EPA 200.7	780187	EPA 200.7	780329
60396338007	S-SCPC-FB-1	EPA 200.7	780187	EPA 200.7	780329
60396338008	S-UG-2	EPA 200.7	780187	EPA 200.7	780329
60396337002	S-BMW-1S	EPA 903.1	496687		
60396337003	S-BMW-3S	EPA 903.1	497781		
60396337002	S-BMW-1S	EPA 904.0	496688		
60396337003	S-BMW-3S	EPA 904.0	497782		
60396337002	S-BMW-1S	SM 2320B	779612		
60396337003	S-BMW-3S	SM 2320B	779612		
60396338001	S-UG-1A	SM 2320B	779612		
60396338002	S-DG-1	SM 2320B	779612		
60396338003	S-DG-2	SM 2320B	779612		
60396338004	S-DG-3	SM 2320B	780151		
60396338005	S-DG-4	SM 2320B	780151		
60396338006	S-SCPC-DUP-1	SM 2320B	780151		
60396338007	S-SCPC-FB-1	SM 2320B	780151		
60396338008	S-UG-2	SM 2320B	780885		
60396337002	S-BMW-1S	SM 2540C	779231		
60396337003	S-BMW-3S	SM 2540C	779231		
60396338001	S-UG-1A	SM 2540C	778990		
60396338002	S-DG-1	SM 2540C	778990		
60396338003	S-DG-2	SM 2540C	778990		
60396338004	S-DG-3	SM 2540C	780233		
60396338005	S-DG-4	SM 2540C	780233		
60396338006	S-SCPC-DUP-1	SM 2540C	780233		
60396338007	S-SCPC-FB-1	SM 2540C	780233		
60396338008	S-UG-2	SM 2540C	780462		
60396337002	S-BMW-1S	EPA 300.0	779018		
60396337003	S-BMW-3S	EPA 300.0	779018		
60396338001	S-UG-1A	EPA 300.0	779018		
60396338002	S-DG-1	EPA 300.0	779018		
60396338003	S-DG-2	EPA 300.0	779018		
60396338004	S-DG-3	EPA 300.0	780287		
60396338005	S-DG-4	EPA 300.0	780287		

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPC
Pace Project No.: 60396338

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60396338006	**S-SCPC-DUP-1**	EPA 300.0	780287		
60396338007	**S-SCPC-FB-1**	EPA 300.0	780287		
60396338008	**S-UG-2**	EPA 300.0	779776		

WO# : 60396338

60396338

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

Client Name: Golder

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

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

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

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

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

Cooler Temperature (°C): **As-read** 1.1 **Corr. Factor** -0.2 **Corrected** 0.9

Date and initials of person examining contents: JN 3/30/22

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
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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:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #10
Project Name:	Ameren Sioux Energy Center SCPC
Project Number:	153140604. 0003

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, 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.
																		Requested Analysis Filtered (Y/N)	N	N	N	N		60396338
1	S-UG-1A	WT	G			3/28/22	1015		2	1		1							/	/	/	/		B1BN BP1U
2	S-UG-2	WT	G			"																		
3	S-DG-1	WT	G			3/28/22	1055												X	X	X	X		
4	S-DG-2	WT	G			"	1142		2	1		1							/	/	/	/		
5	S-DG-3	WT	G																					
6	S-DG-4	WT	G																					
7	S-SCPC-DUP-1	WT	G																					
8	S-SCPC-FB-1	WT	G																					
9	S-BMW-1S	WT	G			3/29/22	1420		2	1		1							/	/	/	/		
10	S-BMW-3S	WT	G			"	1220		"	"		"							"	"	"	"		
11	S-SCPC-MS-1	WT	G																					
12	S-SCPC-MSD-1	WT	G																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*EPA 200.7: B, Ca, Fe, Mn, Mg, K, Na		3/29/22	1630	Angela McMan	3/29	1630
	Angela McMan	3/29	1630		3/30	0423

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/29/2022

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

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Cor	WO# : 60396338
	Revision: 2	Effective Date: 01/12/2022

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

Cooler Temperature (°C): **As-read** 2.2 **Corr. Factor** -0.2 **Corrected** 2.0

Date and initials of person examining contents: VRB 4/2/22

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? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 55192	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Golder Associates
Address:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #10
Project Name:	Ameren Sioux Energy Center SCPC
Project Number:	153140604. 0003

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, 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

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		60396338
1	S-UG-1A	WT	G																				
2	S-UG-2	WT	G																				
3	S-DG-1	WT	G																				
4	S-DG-2	WT	G																				
5	S-DG-3	WT	G			4/1/22	1556		2	1		1						X	X	X	X		3BP1U, 3BP3N
6	S-DG-4	WT	G			"	1422		1	1		1						1	1	1	1		BP1U BP3N
7	S-SCPC-DUP-1	WT	G			"	—		1	1		1						1	1	1	1		
8	S-SCPC-FB-1	WT	G			"	1435		1	1		1						1	1	1	1		
9	S-BMW-1S	WT	G																				
10	S-BMW-3S	WT	G																				
11	S-SCPC-MS-1	WT	G			4/1/22	1556		2	1		1						X	X	X	X		BP1U WRB 4.2.22
12	S-SCPC-MSD-1	WT	G			"	1556		1	1		1						1	1	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: B, Ca, Fe, Mn, Mg, K, Na	[signature] / Golder	4/1/22	1640	[signature] Pace	4/2/22	0300	2.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 04/01/22

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

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample C	WO# : 60396338
	Revision: 2	Effective Date: 01/12/2022

60396338

Client Name: Golder

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

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

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

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

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

Cooler Temperature (°C): **As-read** 2.2 **Corr. Factor** -.02 **Corrected** 2.0

Date and initials of person examining contents: AV 4/15/22

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Golder Associates
Address:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #10
Project Name:	Ameren Sioux Energy Center SCPC
Project Number:	153140604. 0003

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, 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

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	App III and Cat/An Metals (N)	Chloride/Fluoride/Sulfate (N)	TDS (N)	Alkalinity (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	S-UG-1A	WT	G																					
2	S-UG-2	WT	G			4/4/22	1406		2	1		1							X	X	X	X		BP3N BP1U
3	S-DG-1	WT	G																					
4	S-DG-2	WT	G																					
5	S-DG-3	WT	G																					
6	S-DG-4	WT	G																					
7	S-SCPC-DUP-1	WT	G																					
8	S-SCPC-FB-1	WT	G																					
9	S-BMW-1S	WT	G																					
10	S-BMW-3S	WT	G																					
11	S-SCPC-MS-1	WT	G																					
12	S-SCPC-MSD-1	WT	G																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*EPA 200.7: B, Ca, Fe, Mn, Mg, K, Na	Golder	4/4/22	1545	Angela McMann	4/4	1545				
	Angela Mann	4/4	1545	Pace	4/5	0432	2.0	Y	Y	Y

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:	Eric Schneider				
SIGNATURE of SAMPLER:					
DATE Signed (MM/DD/YY):	04/04/2022				

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

MEMORANDUM

DATE June 21, 2022 **Project No.** 153140604.0003

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth **EMAIL ann.muehlfarth@wsp.com**

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPC – DETECTION MONITORING - DATA PACKAGE 60396338

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).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder / WSP
Project Manager: J. Ingram
Project Name: Ameren SEC - SCPC
Project Number: 153140604.0003
Reviewer: A. Muehlfarth
Validation Date: 6/21/2022

Laboratory: Pace Analytical Services
SDG #: 60396338
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names S-UG-1A, S-DG-1, S-DG-2, S-DG-3, S-DG-4, S-SCPC-DUP-1, S-SCPC-FB-1, S-UG-2, 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			3/28/2022 - 4/4/2022
b) Sampling team indicated?	x			BTT/EMS/GTM
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?	x			
b) Were hold times met for sample analysis?	x			
c) Were the correct preservatives used?	x			
d) Was the correct method used?	x			
e) Were appropriate reporting limits achieved?	x			
f) Were any sample dilutions noted?	x			See Notes
g) Were any matrix problems noted?	x			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			S-SCPC-DUP-1 @ S-DG-4
b) Were field dup. precision criteria met (note RPD)?	x			
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See notes

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

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

Comments/Notes:

Calcium, sodium, sulfate, and chloride analyzed at a dilution. No qualification necessary.

Blanks:

2403505: Radium-228 (0.670 ± 0.346), associated with sample -37002. Result in associated sample ND, no qualification necessary.

S-SCPC-FB-1 @ S-DG-4: Calcium (152J), magnesium (42.2J), TDS (7.0). Results in associated sample >RL and 10x blank result, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Duplicates:

Sample duplicate 3112986: RPD exceeds limit (10%) for TDS (12%). Performed on unrelated sample, no qualification necessary.

MS/MSD:

3108938/3108939: MSD % recovery low for calcium. MS/MSD performed on unrelated sample, no qualification necessary.

3111913: MS % recovery high for calcium and sodium, associated with sample -38008. Only 1 QC indicator outside of control limits, no qualification necessary.

3110389/3110390: MSD % recovery high for 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

Signature: Ann Muehlfarth

Date: 6/21/2022

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

June 17, 2022

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

RE: Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on June 08, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

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

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

SAMPLE SUMMARY

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60402315001	**S-DG-4**	Water	06/07/22 09:13	06/08/22 05:26
60402315002	**S-SCPC-DUP-1**	Water	06/07/22 00:00	06/08/22 05:26
60402315003	**S-SCPC-FB-1**	Water	06/07/22 09:28	06/08/22 05:26

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

SAMPLE ANALYTE COUNT

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60402315001	**S-DG-4**	EPA 200.7	MA1	1	PASI-K
60402315002	**S-SCPC-DUP-1**	EPA 200.7	MA1	1	PASI-K
60402315003	**S-SCPC-FB-1**	EPA 200.7	MA1	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 VERIFICATION SCPC
Pace Project No.: 60402315

Sample: S-DG-4 **Lab ID: 60402315001** Collected: 06/07/22 09:13 Received: 06/08/22 05:26 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	**77.5J**	ug/L	100	7.6	1	06/09/22 09:15	06/10/22 14:27	7440-42-8	
Boron	**77.9J**	ug/L	100	7.6	1	06/09/22 09:00	06/10/22 14:49	7440-42-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

Sample: S-SCPC-DUP-1 **Lab ID: 60402315002** Collected: 06/07/22 00:00 Received: 06/08/22 05:26 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	**79.2J**	ug/L	100	7.6	1	06/09/22 09:15	06/10/22 14:33	7440-42-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

Sample: S-SCPC-FB-1 **Lab ID: 60402315003** Collected: 06/07/22 09:28 Received: 06/08/22 05:26 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	**<7.6**	ug/L	100	7.6	1	06/09/22 09:15	06/10/22 14:36	7440-42-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

QC Batch: 791365
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: 60402315001, 60402315002, 60402315003

METHOD BLANK: 3153703 Matrix: Water
Associated Lab Samples: 60402315001, 60402315002, 60402315003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<7.6	100	7.6	06/10/22 14:22	

LABORATORY CONTROL SAMPLE: 3153438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	974	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3153439 3153440

Parameter	Units	60402315001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	77.9J	1000	1000	999	1050	92	98	70-130	5	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

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

QUALITY CONTROL DATA

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

QC Batch: 791413
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: 60402315001

METHOD BLANK: 3153596 Matrix: Water
Associated Lab Samples: 60402315001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<7.6	100	7.6	06/10/22 14:40	

LABORATORY CONTROL SAMPLE: 3153597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	955	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3153598 3153599

Parameter	Units	60402315001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	77.9J	1000	1000	1040	1020	96	94	70-130	1	20	

MATRIX SPIKE SAMPLE: 3153600

Parameter	Units	60402251001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	15.6 mg/L	1000	15900	35	70-130	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

QUALIFIERS

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN VERIFICATION SCPC
Pace Project No.: 60402315

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60402315001	**S-DG-4**	EPA 200.7	791365	EPA 200.7	791607
60402315001	**S-DG-4**	EPA 200.7	791413	EPA 200.7	791627
60402315002	**S-SCPC-DUP-1**	EPA 200.7	791365	EPA 200.7	791607
60402315003	**S-SCPC-FB-1**	EPA 200.7	791365	EPA 200.7	791607

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Samp	WO#: 60402315
	Revision: 2	Effective Date: 01/12/2(

60402315

Client Name: Golder

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

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

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

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

Thermometer Used: T201 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 2.1 **Corr. Factor** -1.0 **Corrected** 1.1

Date and initials of person examining contents: 06-08-2023

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — Required Client Information:

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

Section B — Required Project Information:

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

Section C — Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D — Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Boron	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	S-DG-4	WT	G			6-7-22	0913		1			1						N	/				60402315
2	S-SCPC-MS-1	WT	G				0913		1			1						N	/				
3	S-SCPC-MSD-1	WT	G				0913		1			1						N	/				
4	S-SCPC-DUP-1	WT	G				—		1			1						N	/				
5	S-SCPC-FB-1	WT	G			1	0928		1			1						N	/				
6		WT	G															N					
7		WT	G															N					
8		WT	G															N					
9		WT	G															N					
10		WT	G															N					
11		WT	G															N					
12		WT	G															N					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Grant Morey / Golder	06-07-22	1151	Angela McMan	6-7	1151	
	Angela McMan	6-7	1151				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Grant Morey

SIGNATURE of SAMPLER: Grant Morey

DATE Signed (MM/DD/YY): 06/07/22

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

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

MEMORANDUM

DATE June 21, 2022 **Project No.** 153140604.0003

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth **EMAIL ann.muehlfarth@wsp.com**

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPC – VERIFICATION SAMPLING - DATA PACKAGE 60402315

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).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder / WSP
Project Manager: J. Ingram
Project Name: Ameren SEC - SCPC VS
Project Number: 153140604.003
Reviewer: A. Muehlfarth
Validation Date: 6/21/2022

Laboratory: Pace Analytical Services
SDG #: 60402315
Analytical Method (type and no.): EPA 200.7 (total metals)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names S-DG-4, S-SCPC-DUP-1, S-SCPC-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			6/7/2022
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?	x			
b) Were hold times met for sample analysis?	x			
c) Were the correct preservatives used?	x			
d) Was the correct method used?	x			
e) Were appropriate reporting limits achieved?	x			
f) Were any sample dilutions noted?		x		
g) Were any matrix problems noted?	x			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-SCPC-FB-1 @ S-DG-4
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-SCPC-DUP-1 @ S-DG-4
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD: 2.2% [<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:

3153600: MS % recovery low for boron. MS 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: 6/21/2022

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

November 22, 2022

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

RE: Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between October 20, 2022 and October 21, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

cc: Mark Haddock, Golder Associates
Lisa Meyer, Ameren
Grant Morey, WSP Golder
Ann Muehlfarth, WSP Golder
Eric Schneider, WSP Golder

Pace Analytical Services, LLC
9608 Loiret Blvd.
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CERTIFICATIONS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 22-031-0
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60413638001	**S-UG-1A**	Water	10/21/22 09:21	10/21/22 17:48
60413638002	**S-UG-2**	Water	10/21/22 11:56	10/21/22 17:48
60413638003	**S-DG-1**	Water	10/20/22 12:35	10/21/22 17:48
60413638004	**S-DG-2**	Water	10/21/22 09:40	10/21/22 17:48
60413638005	**S-DG-3**	Water	10/21/22 11:13	10/21/22 17:48
60413638006	**S-DG-4**	Water	10/21/22 12:07	10/21/22 17:48
60413638007	**S-SCPC-DUP-1**	Water	10/21/22 00:00	10/21/22 17:48
60413638008	**S-SCPC-FB-1**	Water	10/21/22 12:22	10/21/22 17:48
60413477005	**S-BMW-1S**	Water	10/18/22 15:35	10/20/22 04:13
60413477004	**S-BMW-3S**	Water	10/18/22 14:06	10/20/22 04:13

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413638001	**S-UG-1A**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413638002	**S-UG-2**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413638003	**S-DG-1**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413638004	**S-DG-2**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413638005	**S-DG-3**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413638006	**S-DG-4**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413638007	**S-SCPC-DUP-1**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413638008	**S-SCPC-FB-1**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413477005	**S-BMW-1S**	EPA 200.7	MA1	7	PASI-K
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413477004	**S-BMW-3S**	EPA 200.7	MA1	7	PASI-K

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-UG-1A **Lab ID: 60413638001** Collected: 10/21/22 09:21 Received: 10/21/22 17:48 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	**72.0J**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:17	7440-42-8	B
Calcium	**109000**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:17	7440-70-2	
Iron	**<5.6**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:17	7439-89-6	
Magnesium	**25100**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:17	7439-95-4	
Manganese	**368**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:17	7439-96-5	
Potassium	**8190**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:17	7440-09-7	
Sodium	**9260**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:17	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**297**	mg/L	20.0	4.6	1		10/28/22 16:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**279**	mg/L	10.0	10.0	1		10/28/22 12:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**6.4**	mg/L	1.0	0.53	1		11/07/22 17:46	16887-00-6	
Fluoride	**0.47**	mg/L	0.20	0.12	1		11/07/22 17:46	16984-48-8	
Sulfate	**72.2**	mg/L	10.0	5.5	10		11/07/22 18:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-UG-2 **Lab ID: 60413638002** Collected: 10/21/22 11:56 Received: 10/21/22 17:48 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	**184**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:25	7440-42-8	
Calcium	**122000**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:25	7440-70-2	M1
Iron	**19.9J**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:25	7439-89-6	
Magnesium	**25300**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:25	7439-95-4	
Manganese	**150**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:25	7439-96-5	
Potassium	**5290**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:25	7440-09-7	
Sodium	**62200**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:25	7440-23-5	M1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**360**	mg/L	20.0	4.6	1		11/01/22 14:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**649**	mg/L	10.0	10.0	1		10/28/22 12:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**59.2**	mg/L	5.0	2.6	5		11/08/22 14:43	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/08/22 13:40	16984-48-8	
Sulfate	**47.3**	mg/L	5.0	2.8	5		11/08/22 14:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-DG-1 **Lab ID: 60413638003** Collected: 10/20/22 12:35 Received: 10/21/22 17:48 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	**94.8J**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:31	7440-42-8	B
Calcium	**131000**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:31	7440-70-2	
Iron	**236**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:31	7439-89-6	
Magnesium	**30700**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:31	7439-95-4	
Manganese	**45.9**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:31	7439-96-5	
Potassium	**4210**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:31	7440-09-7	
Sodium	**4090**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:31	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**426**	mg/L	20.0	4.6	1		10/27/22 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**517**	mg/L	10.0	10.0	1		10/27/22 16:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.4**	mg/L	1.0	0.53	1		11/07/22 18:17	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/07/22 18:17	16984-48-8	
Sulfate	**28.1**	mg/L	5.0	2.8	5		11/07/22 18:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-DG-2 **Lab ID: 60413638004** Collected: 10/21/22 09:40 Received: 10/21/22 17:48 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	**80.2J**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:33	7440-42-8	B
Calcium	**130000**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:33	7440-70-2	
Iron	**201**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:33	7439-89-6	
Magnesium	**27300**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:33	7439-95-4	
Manganese	**402**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:33	7439-96-5	
Potassium	**6180**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:33	7440-09-7	
Sodium	**4020**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:33	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**399**	mg/L	20.0	4.6	1		11/01/22 14:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1320**	mg/L	10.0	10.0	1		10/28/22 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.8**	mg/L	1.0	0.53	1		11/07/22 19:21	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/07/22 19:21	16984-48-8	
Sulfate	**32.3**	mg/L	5.0	2.8	5		11/07/22 19:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-DG-3 **Lab ID: 60413638005** Collected: 10/21/22 11:13 Received: 10/21/22 17:48 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	**83.7J**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:35	7440-42-8	B
Calcium	**162000**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:35	7440-70-2	
Iron	**313**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:35	7439-89-6	
Magnesium	**36800**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:35	7439-95-4	
Manganese	**849**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:35	7439-96-5	
Potassium	**6050**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:35	7440-09-7	
Sodium	**5290**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:35	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**455**	mg/L	20.0	4.6	1		11/01/22 14:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**622**	mg/L	10.0	10.0	1		10/28/22 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.3**	mg/L	1.0	0.53	1		11/07/22 19:52	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/07/22 19:52	16984-48-8	
Sulfate	**63.8**	mg/L	5.0	2.8	5		11/07/22 20:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-DG-4 **Lab ID: 60413638006** Collected: 10/21/22 12:07 Received: 10/21/22 17:48 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	**72.9J**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:37	7440-42-8	B
Calcium	**136000**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:37	7440-70-2	
Iron	**24.2J**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:37	7439-89-6	
Magnesium	**39300**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:37	7439-95-4	
Manganese	**487**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:37	7439-96-5	
Potassium	**7260**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:37	7440-09-7	
Sodium	**35000**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:37	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**456**	mg/L	20.0	4.6	1		11/01/22 14:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**636**	mg/L	10.0	10.0	1		10/28/22 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**54.0**	mg/L	5.0	2.6	5		11/07/22 20:40	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/07/22 20:24	16984-48-8	
Sulfate	**52.0**	mg/L	5.0	2.8	5		11/07/22 20:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-SCPC-DUP-1 **Lab ID: 60413638007** Collected: 10/21/22 00:00 Received: 10/21/22 17:48 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	**76.7J**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:39	7440-42-8	B
Calcium	**127000**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:39	7440-70-2	
Iron	**196**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:39	7439-89-6	
Magnesium	**27100**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:39	7439-95-4	
Manganese	**389**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:39	7439-96-5	
Potassium	**6060**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:39	7440-09-7	
Sodium	**4080**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:39	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**405**	mg/L	20.0	4.6	1		11/01/22 14:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**502**	mg/L	10.0	10.0	1		10/28/22 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.9**	mg/L	1.0	0.53	1		11/07/22 20:56	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.12	1		11/07/22 20:56	16984-48-8	
Sulfate	**32.1**	mg/L	5.0	2.8	5		11/07/22 21:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-SCPC-FB-1 **Lab ID: 60413638008** Collected: 10/21/22 12:22 Received: 10/21/22 17:48 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	**<4.2**	ug/L	100	4.2	1	11/01/22 10:08	11/10/22 14:41	7440-42-8	
Calcium	**<33.7**	ug/L	200	33.7	1	11/01/22 10:08	11/10/22 14:41	7440-70-2	
Iron	**<5.6**	ug/L	50.0	5.6	1	11/01/22 10:08	11/10/22 14:41	7439-89-6	
Magnesium	**<27.1**	ug/L	50.0	27.1	1	11/01/22 10:08	11/10/22 14:41	7439-95-4	
Manganese	**<0.24**	ug/L	5.0	0.24	1	11/01/22 10:08	11/10/22 14:41	7439-96-5	
Potassium	**<87.6**	ug/L	500	87.6	1	11/01/22 10:08	11/10/22 14:41	7440-09-7	
Sodium	**<73.2**	ug/L	500	73.2	1	11/01/22 10:08	11/10/22 14:41	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<4.6**	mg/L	20.0	4.6	1		11/01/22 15:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**10.0**	mg/L	5.0	5.0	1		10/28/22 12:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/07/22 21:28	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/07/22 21:28	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/07/22 21:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-BMW-1S **Lab ID: 60413477005** Collected: 10/18/22 15:35 Received: 10/20/22 04:13 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	**73.0J**	ug/L	100	4.2	1	10/28/22 16:57	11/10/22 13:03	7440-42-8	
Calcium	**168000**	ug/L	200	33.7	1	10/28/22 16:57	11/10/22 13:03	7440-70-2	
Iron	**32.9J**	ug/L	50.0	5.6	1	10/28/22 16:57	11/10/22 13:03	7439-89-6	
Magnesium	**33400**	ug/L	50.0	27.1	1	10/28/22 16:57	11/10/22 13:03	7439-95-4	
Manganese	**1550**	ug/L	5.0	0.24	1	10/28/22 16:57	11/10/22 13:03	7439-96-5	
Potassium	**431J**	ug/L	500	87.6	1	10/28/22 16:57	11/10/22 13:03	7440-09-7	
Sodium	**5020**	ug/L	500	73.2	1	10/28/22 16:57	11/10/22 13:03	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**479**	mg/L	20.0	4.6	1		10/26/22 15:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**711**	mg/L	10.0	10.0	1		10/25/22 10:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**9.2**	mg/L	1.0	0.53	1		11/04/22 12:42	16887-00-6	
Fluoride	**0.20J**	mg/L	0.20	0.12	1		11/04/22 12:42	16984-48-8	
Sulfate	**61.1**	mg/L	5.0	2.8	5		11/04/22 12:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Sample: S-BMW-3S **Lab ID: 60413477004** Collected: 10/18/22 14:06 Received: 10/20/22 04:13 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	**84.2J**	ug/L	100	4.2	1	10/28/22 16:57	11/10/22 13:01	7440-42-8	
Calcium	**131000**	ug/L	200	33.7	1	10/28/22 16:57	11/10/22 13:01	7440-70-2	
Iron	**20.0J**	ug/L	50.0	5.6	1	10/28/22 16:57	11/10/22 13:01	7439-89-6	
Magnesium	**23900**	ug/L	50.0	27.1	1	10/28/22 16:57	11/10/22 13:01	7439-95-4	
Manganese	**210**	ug/L	5.0	0.24	1	10/28/22 16:57	11/10/22 13:01	7439-96-5	
Potassium	**525**	ug/L	500	87.6	1	10/28/22 16:57	11/10/22 13:01	7440-09-7	
Sodium	**5490**	ug/L	500	73.2	1	10/28/22 16:57	11/10/22 13:01	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**390**	mg/L	20.0	4.6	1		10/26/22 15:32		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**467**	mg/L	10.0	10.0	1		10/25/22 10:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**11.7**	mg/L	1.0	0.53	1		11/04/22 12:13	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.12	1		11/04/22 12:13	16984-48-8	
Sulfate	**27.8**	mg/L	5.0	2.8	5		11/04/22 12:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 815417
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: 60413477004, 60413477005

METHOD BLANK: 3242907 Matrix: Water
Associated Lab Samples: 60413477004, 60413477005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<4.2	100	4.2	11/10/22 12:46	
Calcium	ug/L	<33.7	200	33.7	11/10/22 12:46	
Iron	ug/L	<5.6	50.0	5.6	11/10/22 12:46	
Magnesium	ug/L	<27.1	50.0	27.1	11/10/22 12:46	
Manganese	ug/L	<0.24	5.0	0.24	11/10/22 12:46	
Potassium	ug/L	<87.6	500	87.6	11/10/22 12:46	
Sodium	ug/L	<73.2	500	73.2	11/10/22 12:46	

LABORATORY CONTROL SAMPLE: 3242908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	967	97	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Iron	ug/L	10000	10100	101	85-115	
Magnesium	ug/L	10000	10400	104	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242909 3242910

Parameter	Units	60413477002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	7150	1000	1000	8000	8170	85	102	70-130	2	20	
Calcium	ug/L	73500	10000	10000	82500	83700	90	101	70-130	1	20	
Iron	ug/L	2640	10000	10000	12700	12700	100	100	70-130	0	20	
Magnesium	ug/L	15600	10000	10000	25500	25600	99	100	70-130	0	20	
Manganese	ug/L	340	1000	1000	1340	1350	100	101	70-130	1	20	
Potassium	ug/L	6740	10000	10000	16800	17000	101	103	70-130	1	20	
Sodium	ug/L	22600	10000	10000	32200	32200	97	96	70-130	0	20	

MATRIX SPIKE SAMPLE: 3242911

Parameter	Units	60413477013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	65.7J	1000	1030	96	70-130	
Calcium	ug/L	124000	10000	128000	41	70-130	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

MATRIX SPIKE SAMPLE: 3242911

Parameter	Units	60413477013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	7820	10000	17400	96	70-130	
Magnesium	ug/L	31500	10000	40000	85	70-130	
Manganese	ug/L	523	1000	1500	97	70-130	
Potassium	ug/L	3910	10000	13900	100	70-130	
Sodium	ug/L	5600	10000	15800	102	70-130	

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

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 815804
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: 60413638001, 60413638002, 60413638003, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

METHOD BLANK: 3244375 Matrix: Water
Associated Lab Samples: 60413638001, 60413638002, 60413638003, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	11.1J	100	4.2	11/10/22 14:11	
Calcium	ug/L	<33.7	200	33.7	11/10/22 14:11	
Iron	ug/L	<5.6	50.0	5.6	11/10/22 14:11	
Magnesium	ug/L	<27.1	50.0	27.1	11/10/22 14:11	
Manganese	ug/L	<0.24	5.0	0.24	11/10/22 14:11	
Potassium	ug/L	<87.6	500	87.6	11/10/22 14:11	
Sodium	ug/L	<73.2	500	73.2	11/10/22 14:11	

LABORATORY CONTROL SAMPLE: 3244376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	967	97	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Iron	ug/L	10000	9950	99	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9980	100	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3244377 3244378

Parameter	Units	60413638002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	184	1000	1000	1150	1140	97	95	70-130	1	20	
Calcium	ug/L	122000	10000	10000	122000	121000	-7	-12	70-130	0	20	M1
Iron	ug/L	19.9J	10000	10000	10100	9930	100	99	70-130	1	20	
Magnesium	ug/L	25300	10000	10000	33300	33000	80	77	70-130	1	20	
Manganese	ug/L	150	1000	1000	1150	1140	100	99	70-130	1	20	
Potassium	ug/L	5290	10000	10000	15300	15100	100	98	70-130	2	20	
Sodium	ug/L	62200	10000	10000	67500	68600	53	64	70-130	2	20	M1

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

MATRIX SPIKE SAMPLE: 3244379

Parameter	Units	60413641001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	72.7J	1000	1040	96	70-130	
Calcium	ug/L	95000	10000	103000	77	70-130	
Iron	ug/L	12.0J	10000	10000	100	70-130	
Magnesium	ug/L	16600	10000	26300	98	70-130	
Manganese	ug/L	395	1000	1380	99	70-130	
Potassium	ug/L	4400	10000	14400	100	70-130	
Sodium	ug/L	2820	10000	13100	102	70-130	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 814616
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60413477004, 60413477005

METHOD BLANK: 3239748 Matrix: Water
Associated Lab Samples: 60413477004, 60413477005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	10/26/22 14:59	

LABORATORY CONTROL SAMPLE: 3239749

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	495	99	90-110	

SAMPLE DUPLICATE: 3239750

Parameter	Units	60413477001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	241	234	3	10	

SAMPLE DUPLICATE: 3239751

Parameter	Units	60413480006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	393	398	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 815002
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413638003

METHOD BLANK: 3241292 Matrix: Water
Associated Lab Samples: 60413638003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	10/27/22 14:32	

LABORATORY CONTROL SAMPLE: 3241293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	486	97	90-110	

SAMPLE DUPLICATE: 3241294

Parameter	Units	60413477006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	372	371	0	10	

SAMPLE DUPLICATE: 3241295

Parameter	Units	60413480003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	610	613	0	10	

SAMPLE DUPLICATE: 3241296

Parameter	Units	60413797001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	4.7J		10	

SAMPLE DUPLICATE: 3241297

Parameter	Units	60413477016 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	462	476	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 815255
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413638001

METHOD BLANK: 3242335 Matrix: Water
Associated Lab Samples: 60413638001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	10/28/22 13:56	

LABORATORY CONTROL SAMPLE: 3242336

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	489	98	90-110	

SAMPLE DUPLICATE: 3242337

Parameter	Units	60414043001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	501	507	1	10	

SAMPLE DUPLICATE: 3242338

Parameter	Units	60413641002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	365	371	1	10	

SAMPLE DUPLICATE: 3242339

Parameter	Units	60413642002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	453	454	0	10	

SAMPLE DUPLICATE: 3242340

Parameter	Units	60413642005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	<4.6		10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 815834 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60413638002, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

METHOD BLANK: 3244497 — Matrix: Water
Associated Lab Samples: 60413638002, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/01/22 13:12	

LABORATORY CONTROL SAMPLE: 3244498

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	493	99	90-110	

SAMPLE DUPLICATE: 3244499

Parameter	Units	60414219001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	438	442	1	10	

SAMPLE DUPLICATE: 3244500

Parameter	Units	60414219004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	439	445	1	10	

SAMPLE DUPLICATE: 3244501

Parameter	Units	60413638002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	360	359	0	10	

SAMPLE DUPLICATE: 3244502

Parameter	Units	60413638007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	405	400	1	10	

SAMPLE DUPLICATE: 3244503

Parameter	Units	60413645003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	152	151	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 814499
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60413477004, 60413477005

METHOD BLANK: 3239207 Matrix: Water
Associated Lab Samples: 60413477004, 60413477005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/25/22 10:47	

LABORATORY CONTROL SAMPLE: 3239208

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	884	88	80-120	

SAMPLE DUPLICATE: 3239209

Parameter	Units	60413307001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2630	2720	3	10	

SAMPLE DUPLICATE: 3239210

Parameter	Units	60413477004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	467	467	0	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 814996
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60413638003

METHOD BLANK: 3241273 Matrix: Water
Associated Lab Samples: 60413638003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/27/22 16:14	

LABORATORY CONTROL SAMPLE: 3241274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	985	98	80-120	

SAMPLE DUPLICATE: 3241275

Parameter	Units	60413477016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1330	1310	2	10	

SAMPLE DUPLICATE: 3241276

Parameter	Units	60413641002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	<10.0	503		10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 815260 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60413638001, 60413638002, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

METHOD BLANK: 3242365 Matrix: Water
Associated Lab Samples: 60413638001, 60413638002, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/28/22 12:15	

LABORATORY CONTROL SAMPLE: 3242366

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	984	98	80-120	

SAMPLE DUPLICATE: 3242367

Parameter	Units	60411568006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	876	879	0	10	H1

SAMPLE DUPLICATE: 3242368

Parameter	Units	60413638002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	649	638	2	10	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 816402
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: 60413477004, 60413477005

METHOD BLANK: 3246987 Matrix: Water
Associated Lab Samples: 60413477004, 60413477005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/04/22 08:54	
Fluoride	mg/L	<0.12	0.20	0.12	11/04/22 08:54	
Sulfate	mg/L	<0.55	1.0	0.55	11/04/22 08:54	

METHOD BLANK: 3250187 Matrix: Water
Associated Lab Samples: 60413477004, 60413477005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.61J	1.0	0.53	11/07/22 15:06	
Fluoride	mg/L	<0.12	0.20	0.12	11/07/22 15:06	
Sulfate	mg/L	<0.55	1.0	0.55	11/07/22 15:06	

LABORATORY CONTROL SAMPLE: 3246988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

LABORATORY CONTROL SAMPLE: 3250188

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	2.5	99	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3246989 3246990

Parameter	Units	60413480003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	86.4	100	100	177	168	91	81	80-120	6	15	
Fluoride	mg/L	0.41	2.5	2.5	3.0	2.9	102	100	80-120	1	15	
Sulfate	mg/L	285	100	100	436	386	151	100	80-120	12	15	E,M1

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

SAMPLE DUPLICATE: 3246991

Parameter	Units	60413480003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	86.4	85.8	1	15	
Fluoride	mg/L	0.41	0.48	15	15	
Sulfate	mg/L	285	279	2	15	

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 816676
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: 60413638001, 60413638003, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

METHOD BLANK: 3248347 Matrix: Water
Associated Lab Samples: 60413638001, 60413638003, 60413638004, 60413638005, 60413638006, 60413638007, 60413638008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/07/22 09:09	
Fluoride	mg/L	<0.12	0.20	0.12	11/07/22 09:09	
Sulfate	mg/L	<0.55	1.0	0.55	11/07/22 09:09	

LABORATORY CONTROL SAMPLE: 3248348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3248350 3248351

Parameter	Units	60413810035 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	33.6	50	50	79.3	78.1	92	89	80-120	2	15	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.8	108	110	80-120	2	15	
Sulfate	mg/L	50.5	50	50	102	98.8	102	97	80-120	3	15	

SAMPLE DUPLICATE: 3248349

Parameter	Units	60413810035 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	33.6	41.6	21	15	D6
Fluoride	mg/L	ND	<0.12		15	
Sulfate	mg/L	50.5	65.6	26	15	D6

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

QC Batch: 816964
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: 60413638002

METHOD BLANK: 3249328 Matrix: Water
Associated Lab Samples: 60413638002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	11/08/22 13:08	
Fluoride	mg/L	<0.12	0.20	0.12	11/08/22 13:08	
Sulfate	mg/L	<0.55	1.0	0.55	11/08/22 13:08	

METHOD BLANK: 3251681 Matrix: Water
Associated Lab Samples: 60413638002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/09/22 08:54	
Fluoride	mg/L	<0.12	0.20	0.12	11/09/22 08:54	
Sulfate	mg/L	<0.55	1.0	0.55	11/09/22 08:54	

METHOD BLANK: 3252685 Matrix: Water
Associated Lab Samples: 60413638002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/10/22 08:54	
Fluoride	mg/L	<0.12	0.20	0.12	11/10/22 08:54	
Sulfate	mg/L	<0.55	1.0	0.55	11/10/22 08:54	

LABORATORY CONTROL SAMPLE: 3249329

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3251682

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	2.7	107	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

LABORATORY CONTROL SAMPLE: 3252686

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	2.6	105	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3249331 3249332

Parameter	Units	60413638002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	59.2	25	25	86.7	87.5	110	113	80-120	1	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.8	2.9	112	115	80-120	3	15	
Sulfate	mg/L	47.3	25	25	75.9	76.2	114	116	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3249333 3249334

Parameter	Units	60413641002 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	8.1	8.3	96	101	80-120	3	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.9	3.0	112	118	80-120	5	15	
Sulfate	mg/L	35.8	25	25	63.5	63.9	111	112	80-120	1	15	

SAMPLE DUPLICATE: 3249330

Parameter	Units	60413638002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	59.2	59.6	1	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	47.3	47.6	1	15	

SAMPLE DUPLICATE: 3249335

Parameter	Units	60413641002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.3	3.2	1	15	
Fluoride	mg/L	<0.12	0.43		15	
Sulfate	mg/L	35.8	35.7	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 SCPC
Pace Project No.: 60413638

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SEC SCPC
Pace Project No.: 60413638

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413477004	S-BMW-3S	EPA 200.7	815417	EPA 200.7	815453
60413477005	S-BMW-1S	EPA 200.7	815417	EPA 200.7	815453
60413638001	S-UG-1A	EPA 200.7	815804	EPA 200.7	815888
60413638002	S-UG-2	EPA 200.7	815804	EPA 200.7	815888
60413638003	S-DG-1	EPA 200.7	815804	EPA 200.7	815888
60413638004	S-DG-2	EPA 200.7	815804	EPA 200.7	815888
60413638005	S-DG-3	EPA 200.7	815804	EPA 200.7	815888
60413638006	S-DG-4	EPA 200.7	815804	EPA 200.7	815888
60413638007	S-SCPC-DUP-1	EPA 200.7	815804	EPA 200.7	815888
60413638008	S-SCPC-FB-1	EPA 200.7	815804	EPA 200.7	815888
60413477004	S-BMW-3S	SM 2320B	814616		
60413477005	S-BMW-1S	SM 2320B	814616		
60413638001	S-UG-1A	SM 2320B	815255		
60413638002	S-UG-2	SM 2320B	815834		
60413638003	S-DG-1	SM 2320B	815002		
60413638004	S-DG-2	SM 2320B	815834		
60413638005	S-DG-3	SM 2320B	815834		
60413638006	S-DG-4	SM 2320B	815834		
60413638007	S-SCPC-DUP-1	SM 2320B	815834		
60413638008	S-SCPC-FB-1	SM 2320B	815834		
60413477004	S-BMW-3S	SM 2540C	814499		
60413477005	S-BMW-1S	SM 2540C	814499		
60413638001	S-UG-1A	SM 2540C	815260		
60413638002	S-UG-2	SM 2540C	815260		
60413638003	S-DG-1	SM 2540C	814996		
60413638004	S-DG-2	SM 2540C	815260		
60413638005	S-DG-3	SM 2540C	815260		
60413638006	S-DG-4	SM 2540C	815260		
60413638007	S-SCPC-DUP-1	SM 2540C	815260		
60413638008	S-SCPC-FB-1	SM 2540C	815260		
60413477004	S-BMW-3S	EPA 300.0	816402		
60413477005	S-BMW-1S	EPA 300.0	816402		
60413638001	S-UG-1A	EPA 300.0	816676		
60413638002	S-UG-2	EPA 300.0	816964		
60413638003	S-DG-1	EPA 300.0	816676		
60413638004	S-DG-2	EPA 300.0	816676		
60413638005	S-DG-3	EPA 300.0	816676		
60413638006	S-DG-4	EPA 300.0	816676		
60413638007	S-SCPC-DUP-1	EPA 300.0	816676		
60413638008	S-SCPC-FB-1	EPA 300.0	816676		

REPORT OF LABORATORY ANALYSIS

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Samp	WO# : 60413638
	Revision: 2	Effective Date: 01/12/2(

Client Name: WSP Golder

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

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

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

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

Thermometer Used: T-299 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.9/0.4/14.9/14.8/0.7/ **Corr. Factor** 0 **Corrected** 1.9/0.4/14.9/14.8/0.7/0.6

Date and initials of person examining contents: BC 10/22

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? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 610600	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☒No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	
Samples from USDA Regulated Area: State:	☐Yes ☒No ☐N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☒No ☐N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Page 1 of 1

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	Golder Associates
Address:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider, Ryan Feldman, Brendan Talbert
Purchase Order No.:	COC #10
Project Name:	Ameren Sioux Energy Center SCPC
Project Number:	153140604. 0003

Section C Invoice Information:

Attention:	
Company Name:	Golder Associates USA, 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 WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	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	App III and Cat/An Metals	Chloride/Fluoride/Sulfate	TDS	Alkalinity	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N		60413638
1	S-UG-1A	WT	G			10-21-22	0921		2	1		1							✓	✓	✓	✓		
2	S-UG-2	WT	G			"	1516		2	1		1							✓	✓	✓	✓		
3	S-DG-1	WT	G			10-20-22	1235		2	1		1							✓	✓	✓	✓		
4	S-DG-2	WT	G			10-21-22	0940		2	1		1							✓	✓	✓	✓		
5	S-DG-3	WT	G			"	1113		2	1		1							✓	✓	✓	✓		
6	S-DG-4	WT	G			"	1207		2	1		1							✓	✓	✓	✓		
7	S-SCPC-DUP-1	WT	G			"	—		2	1		1							✓	✓	✓	✓		
8	S-SCPC-FB-1	WT	G			"	1222		2	1		1							✓	✓	✓	✓		
9	S-BMW-1S	WT	G																					
10	S-BMW-3S	WT	G																					
11	S-SCPC-MS-1	WT	G				1156		2	1		1							✓	✓	✓	✓		Collected @ S-UG-2
12	S-SCPC-MSD-1	WT	G				1156		2	1		1							✓	✓	✓	✓		Collected @ S-UG-2

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: B, Ca, Fe, Mn, Mg, K, Na	Grant Morey/Golder	10-21-22	1500		10/21/22	1748	D-6
							D-9
							D-16
							14-9
							D-7
							14-8

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Grant Morey	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): 10-21-22				

Client: Golder Associates Profile # 9285

Site: Coc #10 SCPC Notes

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

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60413638

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	WSP Golder
Address:	701 Emerson Road, Suite 250
	Creve Coeur, Missouri, 63141
Email To:	jeffrey ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schneider
Purchase Order No.:	COC #10
Project Name:	Ameren Sioux Energy Center SCPC
Project Number:	153140604. 0003

Section C Invoice Information:

Attention:	
Company Name:	WSP Golder
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	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: 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		
1	S-UG-1A	WT	G																					
2	S-UG-2	WT	G																					
3	S-DG-1	WT	G																					
4	S-DG-2	WT	G																					
5	S-DG-3	WT	G																					
6	S-DG-4	WT	G																					
7	S-SCPC-DUP-1	WT	G																					
8	S-SCPC-FB-1	WT	G																					
9	S-BMW-1S	WT	G			10-18-22	1535		2	1		1							✓	✓	✓	✓		
10	S-BMW-3S	WT	G			10-18-22	1406		2	1		1							✓	✓	✓	✓		
11	S-SCPC-MS-1	WT	G																					
12	S-SCPC-MSD-1	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	Shaun Abrahamson	10/19/22	1529				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Grant Morey

SIGNATURE of SAMPLER: Grant Morey

DATE Signed (MM/DD/YY): 10/19/22

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

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

MEMORANDUM

DATE January 4, 2023 **Project No.** 153140604.0003

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, SIOUX ENERGY CENTER – SCPC – DETECTION MONITORING – DATA PACKAGE - 60413638

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

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
Project Manager: J. Ingram
Project Name: Ameren SEC - SCPC
Project Number: 153140604
Reviewer: R.Pommerenke
Validation Date: 1/4/2023

Laboratory: Pace Analytical Services
SDG #: 60413638
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-UG-1A, S-UG-2, S-DG-1, S-DG-2, S-DG-3, S-DG-4, S-SCPC-DUP-1, S-SCPC-FB-1, 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			10/18/2022 - 10/21/2022
b) Sampling team indicated?	x			GTM/PCS/SMA
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			S-SCPC-DUP-1 @ S-DG-2
b) Were field dup. precision criteria met (note RPD)?		x		See notes.
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See notes.

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

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?		x		See notes.
Recovery could not be calculated since sample contained high concentration of analyte?			x	
b) Was MSD accuracy criteria met?		x		See notes.
Recovery could not be calculated since sample contained high concentration of analyte?			x	
c) Were MS/MSD precision criteria met?	x			RPD Max (12%) < 15%

Comments/Notes:

Dilutions:

Chloride and Sulfate analyzed at a dilution: No qualification necessary.

Blanks:

MB3244375: Boron (11.1J). Associated with samples 60413638001 through -008.

Result > 10x blank and > RL or ND: no qualification necessary. Result < RL reported as ND at RL.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MB3250187: Chloride (0.61J). Associated with samples 60413477004 and -005.

Results > 10x blank and > RL: no qualification necessary.

MB3249328: Chloride (0.60J). Associated with sample 60413638002.

Results > 10x blank and > RL: no qualification necessary.

S-SCPC-FB-1 @ S-DG-4: Total Dissolved Solids (10.0).

Results > 10x blank and > RL: no qualification necessary.

S-SCPC-DUP-1 @ S-DG-2: RPD limit (20%) exceeded for Total Dissolved Solids (89.8%).

Fluoride detected in duplicate and ND in parent sample.

Sample Duplicate 3241296: Alkalinity detected in duplicated and ND in parent sample.

Performed on unrelated sample: no qualification necessary.

Sample Duplicate 3241276: Total Dissolved Solids detected in duplicate and ND in parent sample.

Performed on unrelated sample: no qualification necessary.

Sample Duplicate 3242367: Total Dissolved Solids analyzed outside of hold time.

Performed on unrelated sample: no qualification necessary.

Sample Duplicate 3248349: RPD limit (15%) exceeded for Chloride (21%) and Sulfate (26%).

Performed on unrelated sample: no qualification necessary.

Sample Duplicate 3249335: Fluoride detected in duplicate and ND in parent sample.

Performed on unrelated sample: no qualification necessary.

MS/MSD:

3242911: MS % recovery low for Calcium. Performed on unrelated sample: no qualification necessary.

3244377/3244378: MS/MSD % recovery low (<10%) for Calcium. Parent sample concentration for Calcium is greater than 4x the spike concentration: no qualification necessary. MS/MSD % recovery low for Sodium. Associated with S-UG-2.

3246989/3246990: MS % recovery high for Sulfate. Performed on unrelated sample: no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

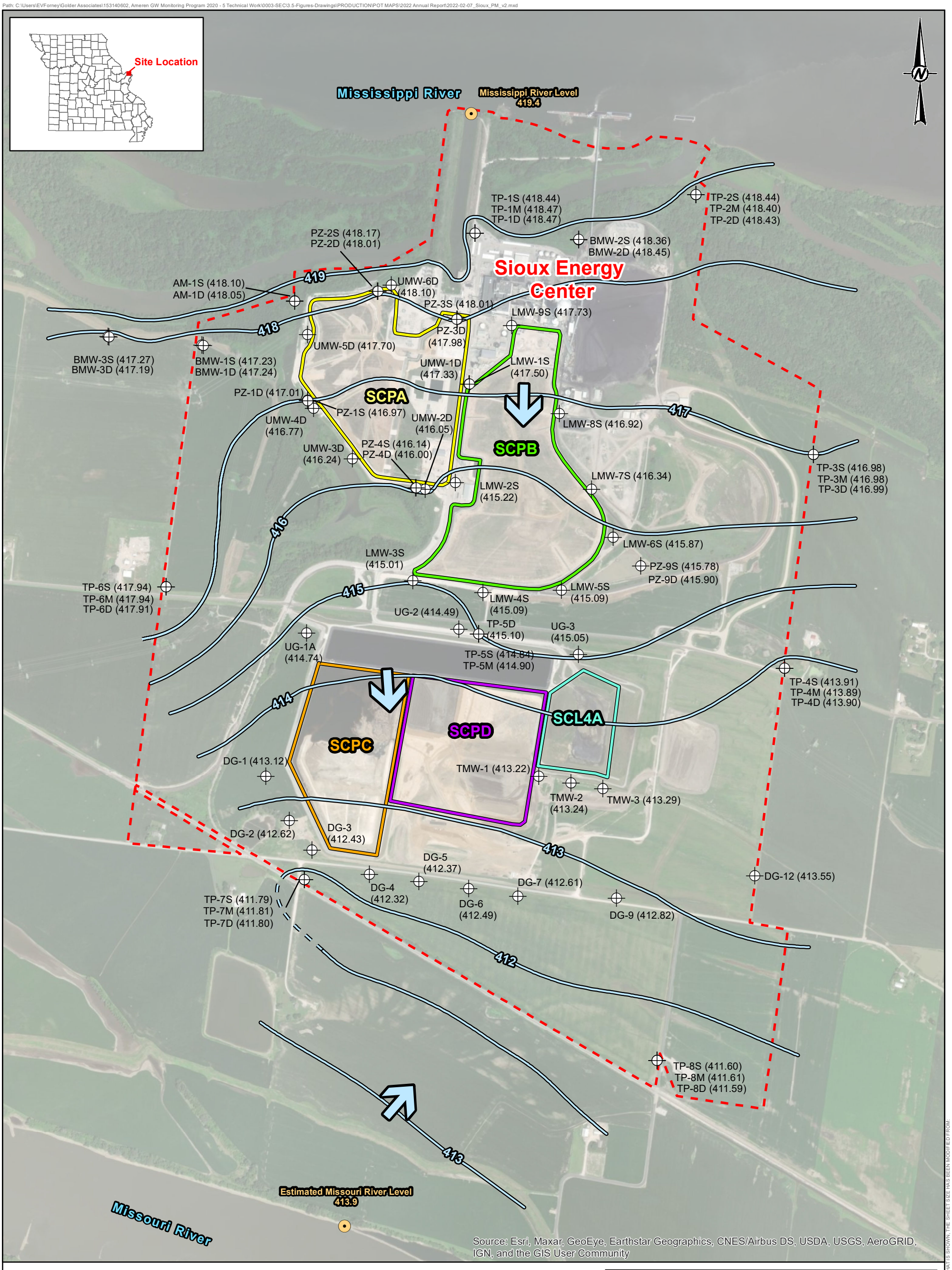
Sample Name	Constituent(s)	Result	Qualifier	Reason
S-UG-1A	Boron	100	U	Detected in MB, Result < RL
S-DG-1	"	100	U	"
S-DG-2	"	100	U	"
S-DG-3	"	100	U	"
S-DG-4	"	100	U	"
S-SCPC-DUP-1	"	100	U	"
S-DG-2	Fluoride	0.20	UJ	Detected in DUP and ND in parent sample
S-SCPC-DUP-1	"	0.39	J	"
S-DG-2	Total Dissolved Solids	1320	J	DUP RPD exceeds control limits
S-SCPC-DUP-1	"	502	J	"
S-UG-2	Sodium	62200	J-	MS/MSD % recovery outside control limits

Signature: _____ _____ Date: 1/4/2023

APPENDIX B

2022 Potentiometric Surface Maps

Path: C:\Users\EVForney\Golder Associates\153140602, Ameren GW Monitoring Program 2020 - 5 Technical Work\0003-SEC\3.5-Figures-Drawings\PRODUCTION\POT MAPS\2022 Annual Report\2022-02-07_Sioux_PM_v2.mxd



LEGEND

- Sioux Energy Center Property Boundary

CCR Units

- SCPA - Bottom Ash Surface Impoundment
- SCPB - Fly Ash Surface Impoundment
- SCPC - WFGD Surface Impoundment
- SCL4A - Dry CCR Disposal Area
- Proposed SCPD - WFGD Surface Impoundment

Groundwater Elevation Contour (FT MSL)

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

Ground/Surface Water Measurement Locations

- River Gauge Location
- Monitoring Well or Piezometer
- Groundwater Flow Direction

NOTES

1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2.) GROUNDWATER AND SURFACE WATER ELEVATIONS DISPLAYED IN FEET ABOVE MEAN SEA LEVEL (FT MSL).
3.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
4.) MISSOURI RIVER ELEVATION ESTIMATED BASED ON NEARBY UNITED STATES GEOLOGICAL SURVEY (USGS) RIVER GAUGING LOCATIONS.
5.) MISSISSIPPI RIVER ELEVATION PROVIDED BY AMEREN MISSOURI.
6.) WFGD - WET FLU GAS DESULFURIZATION.

REFERENCES

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
FEBRUARY 7, 2022 POTENTIOMETRIC SURFACE MAP

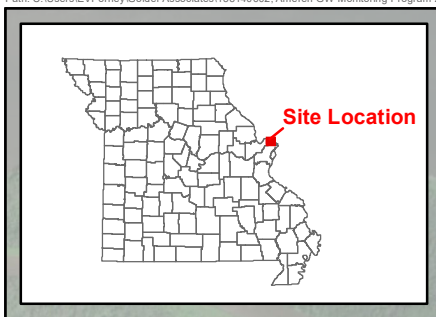
CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-27
PREPARED	GTM
DESIGN	JSI
REVIEW	SSS
APPROVED	MNH

PROJECT No. 153140604
PHASE 0003
FIGURE **B1**

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

Path: C:\Users\EVForney\Golder Associates\153140602, Ameren GW Monitoring Program 2020 - 5 Technical Work\0003-SEC\3.5-Figures-Drawings\PRODUCTION\POT MAPS\2022 Annual Report\20220328_Sioux2.mxd



Mississippi River
Mississippi River Level
416.7

Sioux Energy Center

TP-2S (416.55)
TP-2M (416.54)
TP-2D (416.54)

TP-1S (416.55)
TP-1M (416.67)
TP-1D (416.67)

BMW-2S (416.74)
BMW-2D (416.63)

PZ-2S (416.95)
PZ-2D (416.96)

AM-1S (416.94)
AM-1D (416.92)

UMW-6D (416.81)

PZ-3S (417.03)
(See Note 7)
PZ-3D (416.99)

LMW-9S (416.86)

UMW-5D
(416.82)

BMW-1S (416.87)
BMW-1D (416.78)

BMW-3S (416.81)
BMW-3D (416.82)

UMW-1D (416.90)

SCPA

LMW-1S
(416.92)

LMW-8S
(416.68)

PZ-1S (416.62)
PZ-1D (416.58)

UMW-4D (416.46)

PZ-4S (416.18)
PZ-4D (416.21)

SCPB

UMW-3D (416.13)

UMW-2D
(416.10)

LMW-2S
(416.19)

LMW-7S (416.30)

TP-3S (416.63)
TP-3M (416.63)
TP-3D (416.63)

416

LMW-6S (416.04)

LMW-3S
(415.38)

LMW-4S
(415.43)

PZ-9S (416.13)
PZ-9D (416.11)

LMW-5S (415.60)

TP-6S (415.32)
TP-6M (415.33)
TP-6D (415.32)

UG-1A (415.26)

TP-5S (415.22)
TP-5M (415.29)
TP-5D (415.27)

UG-2
(414.92)

415

UG-3
(415.48)

TP-4S (415.35)
TP-4M (415.35)
TP-4D (415.42)

SCPC

SCPD

SCL4A

TMW-1
(414.01)

TMW-2
(414.04)

DG-1 (414.12)

TP-7S (413.31)
TP-7M (413.37)
TP-7D (413.38)

DG-2
(413.81)

TMW-3
(414.05)

TMW-4
(413.72)

TMW-5
(413.69)

TMW-6
(413.81)

DG-3
(413.76)

DG-4
(413.76)

DG-5
(413.75)

DG-6
(413.76)

DG-7 (413.79)

DG-9 (413.79)

DG-12
(414.24)

414

415

416

417

418

TP-8S (413.00)
TP-8M (413.06)
TP-8D (413.07)

Estimated Missouri River Level
418.3

Missouri River

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

- Sioux Energy Center Property Boundary

CCR Units

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- Proposed SCPD - WFGD Surface Impoundment

Groundwater Elevation Contour (FT MSL)

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

Ground/Surface Water Measurement Locations

- River Gauge Location
- Monitoring Well or Piezometer
- Groundwater Flow Direction

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

NOTES

1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2.) GROUNDWATER AND SURFACE WATER ELEVATIONS DISPLAYED IN FEET ABOVE MEAN SEA LEVEL (FT MSL).
3.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
4.) MISSOURI RIVER ELEVATION ESTIMATED BASED ON NEARBY UNITED STATES GEOLOGICAL SURVEY (USGS) RIVER GAUGING LOCATIONS.
5.) MISSISSIPPI RIVER ELEVATION PROVIDED BY AMEREN MISSOURI.
6.) WFGD - WET FLUE GAS DESULFURIZATION.
7.) PZ-3S NOT USED IN POTENTIOMETRIC SURFACE MAP.

REFERENCES

1.) AMEREN MISSOURI SIOUX ENERGY CENTER, SIOUX PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2,401 FEET.
3.) USGS NATIONAL WATER INFORMATION SYSTEM, USGS GAUGES 06935965 (ST. CHARLES), 07010000 (ST. LOUIS), 05587498 (ALTON), GRAFTON (05587450).

CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
MARCH 28, 2022 POTENTIOMETRIC SURFACE MAP

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-27
PREPARED	JSI
DESIGN	JSI
REVIEW	BTT
APPROVED	MNH

PROJECT No. 153140604
PHASE 0003
FIGURE **B2**

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

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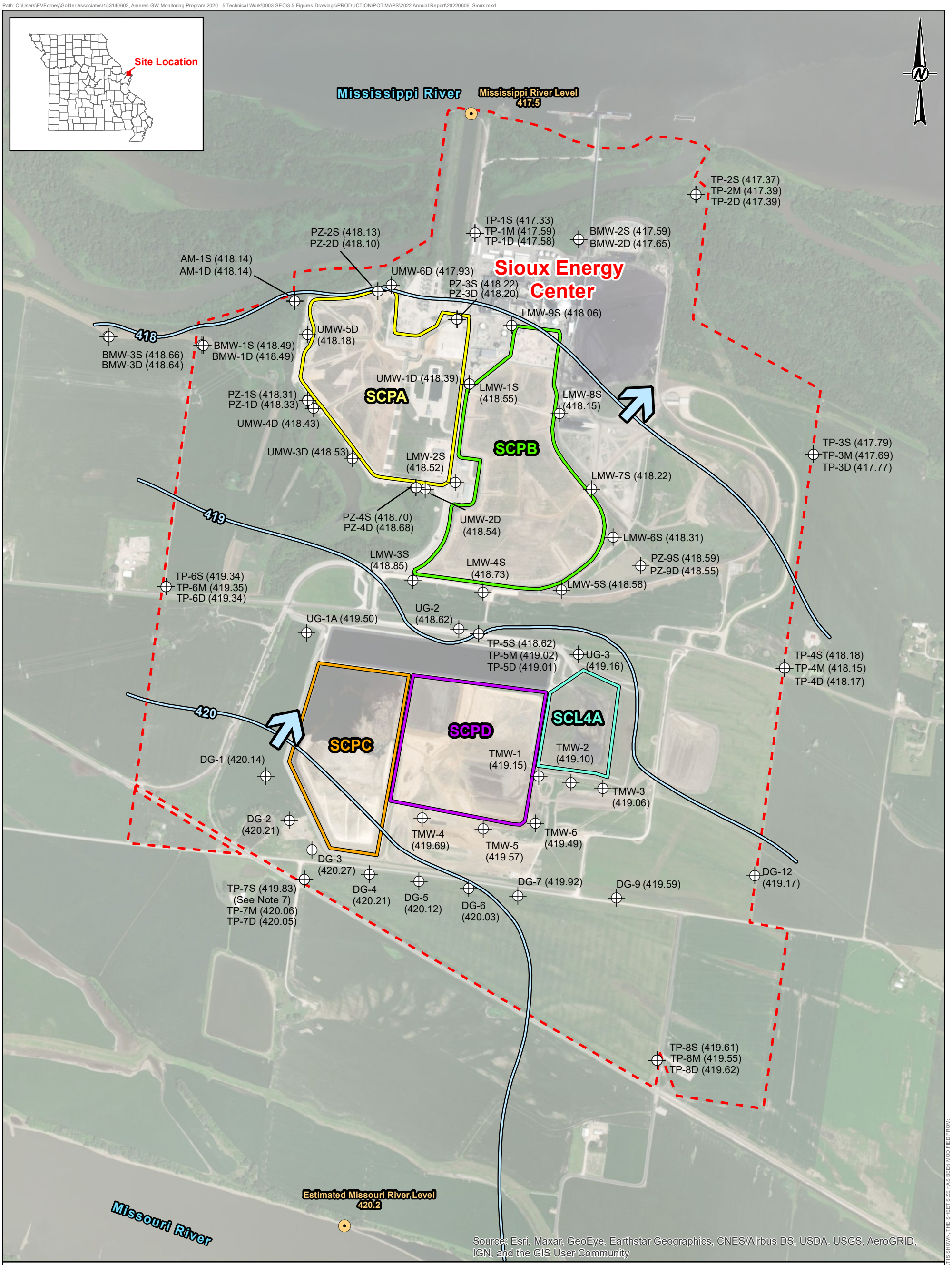

LEGEND

- Sioux Energy Center Property Boundary

CCR Units

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- SCPB - Fly Ash Surface Impoundment
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- Groundwater Elevation Contour (FT MSL)
- Inferred Groundwater Elevation Contour (FT MSL)

Ground/Surface Water Measurement Locations

- River Gauge Location
- Monitoring Well or Piezometer
- Groundwater Flow Direction

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

NOTES

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5.) MISSISSIPPI RIVER ELEVATION PROVIDED BY AMEREN MISSOURI.
6.) WFGD - WET FLUE GAS DESULFURIZATION.
7.) TP-7S NOT USED IN POTENTIOMETRIC SURFACE MAP CONTOURING.

REFERENCES

1.) AMEREN MISSOURI SIOUX ENERGY CENTER, SIOUX PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2,401 FEET.
3.) USGS NATIONAL WATER INFORMATION SYSTEM, USGS GAUGES 06935965 (ST. CHARLES), 07010000 (ST. LOUIS), 05587498 (ALTON), GRAFTON (05587450).

CLIENT
AMEREN MISSOURI
SIOUX ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
JUNE 6, 2022 POTENTIOMETRIC SURFACE MAP

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-27
PREPARED	GTM
DESIGN	JSI
REVIEW	ETF
APPROVED	MNH

PROJECT No. 153140604
PHASE 0003
FIGURE **B3**

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

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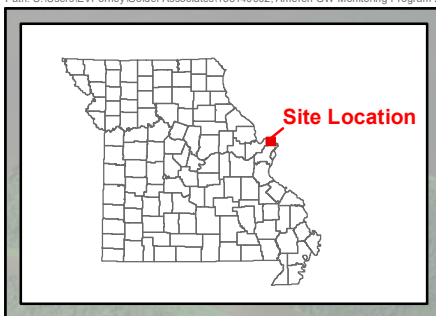

Mississippi River

Mississippi River Level
419.5

Sioux Energy Center

SCPA

SCPB

SCPC

SCPD

SCL4A

419

418

417

416

415

414

413

TP-2S (418.68)
TP-2M (418.68)
TP-2D (418.67)

TP-1S (418.97)
TP-1M (418.48)
TP-1D (418.40)

BMW-2S (418.32)
BMW-2D (418.44)

UMW-6D
(418.12)

AM-1S (418.10)
AM-1D (418.06)

PZ-2S (418.28)
PZ-2D (418.30)

PZ-3S (418.11)
PZ-3D (418.10)

LMW-9S (417.81)

UMW-5D (417.74)

BMW-3S (417.33)
BMW-3D (417.36)

BMW-1S (417.35)
BMW-1D (417.37)

PZ-1S (417.19)
PZ-1D (417.15)

UMW-4D (416.93)

UMW-1D (417.42)
LMW-1S (417.47)

LMW-8S (417.02)

TP-3S (417.15)
TP-3M (417.10)
TP-3D (417.10)

UMW-3D (416.39)

PZ-4S (416.38)
PZ-4D (416.42)

LMW-2S (416.44)

UMW-2D (416.31)

LMW-7S (416.57)

LMW-6S (416.17)

PZ-9S (416.20)

TP-6S (415.23)
TP-6M (415.24)
TP-6D (415.23)

LMW-3S (415.34)

LMW-4S (415.43)

LMW-5S (415.68)

UG-1A (415.14)

UG-2 (414.86)

TP-5S (415.22)
TP-5M (415.25)
TP-5D (415.31)

UG-3 (415.45)

TP-4S (415.50)
TP-4M (415.49)
TP-4D (415.47)

TMW-1 (413.80)

DG-1 (413.74)

TMW-2
(413.85)

TMW-3
(413.91)

DG-2 (413.26)

TMW-4
(413.32)

TMW-5
(413.42)

TMW-6 (413.59)

DG-3 (413.11)

DG-4 (412.98)

DG-5 (413.08)

DG-6 (413.18)

DG-7 (413.28)

DG-9 (413.55)

DG-12 (414.15)

TP-7S (412.52)
TP-7M (412.45)
TP-7D (412.45)

TP-8S (412.30)
TP-8M (412.32)
TP-8D (412.32)

Missouri River

Estimated Missouri River Level
413.1

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

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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
OCTOBER 17, 2022 POTENTIOMETRIC SURFACE MAP

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-27
PREPARED	ETF
DESIGN	JSI
REVIEW	RJF
APPROVED	MNH

PROJECT No. 153140604
PHASE 0003B
FIGURE **B4**

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

wsp.com