

REPORT

# 2025 Annual Groundwater Monitoring and Corrective Action Report

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

January 31, 2026

Project Number: 23009-25

**Submitted to:**



Ameren Missouri  
1901 Chouteau Avenue  
St. Louis, Missouri 63103

**Submitted by:**



Rocksmith Geoengineering, LLC  
2320 Creve Coeur Mill Rd  
Maryland Heights, MO 63043



## 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, 2025 through December 31, 2025 including verification results related to late 2024 sampling.

Throughout 2025, 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. SSIs were determined during each sampling event and a summary of the SSIs for the past year is provided in **Table 1**.

**Table 1 - Summary of 2025 SCPC Sampling Events, Previous Year Verification, and Statistical Evaluations**

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSI Determination Date	ASD Completion Date
November 2024 Sampling Event	Detection Monitoring, November 14-20, 2024	December 23, 2024	Appendix III, Major Cations and Anions	<u>Sulfate</u> : DG-3 <u>TDS</u> : DG-3	March 23, 2025	June 20, 2025
	Verification Sampling, February 6-7, 2025	February 21, 2025	Detected Appendix III parameters (See Note 1)			
May 2025 Sampling Event	Detection Monitoring, May 7-9, 2025	June 27, 2025	Appendix III, Major Cations and Anions	<u>Boron</u> : DG-3 <u>Chloride</u> : DG-3 <u>TDS</u> : DG-2, DG-3	September 25, 2025	December 24, 2025
	Verification Sampling, July 10, 2025	July 25, 2025	Detected Appendix III parameters			
October 2025 Sampling Event	Detection Monitoring, October 6-8, 2025	November 12, 2025	Appendix III, Major Cations and Anions	None	January 31, 2026	Not Applicable
	Verification Sampling, December 3, 2025	December 22, 2025	Detected Appendix III parameters			

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) TDS – Total Dissolved Solids.

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

There were no changes made to the monitoring system in 2025 with no new wells being installed or decommissioned. CCR placement within the SCPC has ceased as of December 14, 2022 and CCR has since been routed to the newly constructed cell east of the SCPC called the SCPD. More information on the SCPD Cell is provided in the SCPD Annual Report. Closure of the SCPC was substantially completed in 2024, with a closure completion date of October 23, 2024. The unit is closed; therefore, the SCPC has transitioned into the post-closure care requirements of the CCR Rule. As outlined in §257.104 of the CCR Rule, the monitoring system and programs must be maintained for at least 30 years after the completion of closure.

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- Appendix D** - 2025 Potentiometric Surface Maps

## 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 network consists of 8 groundwater monitoring wells screened in the uppermost aquifer. Monitoring well locations are displayed in **Figure 1**. No new monitoring wells were installed or decommissioned in 2025 as a part of the CCR Rule monitoring program for the SCPC. For more information on the groundwater monitoring well network, details are provided in the previous Annual Groundwater Monitoring Reports for the SCPC. The SCPC was certified as closed on October 24, 2024; therefore, the unit is subject to the post-closure requirements of the CCR Rule (§257.104).

## 2.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the SCPC CCR unit in 2025. **Table 2** below provides a summary of the groundwater samples collected in 2025 including the number of samples collected at each monitoring well, dates of sample collection, and the monitoring program for which the samples were collected. Throughout 2025, the SCPC was monitored under a Detection 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 2025 Verification Sampling	-	-	-	-	-	2/7/2025	2/7/2025	2/6/2025	Detection
May 2025 Sampling Event	5/7/2025	5/7/2025	5/8/2025	5/8/2025	5/9/2025	5/9/2025	5/9/2025	5/9/2025	Detection
July 2025 Verification Sampling	-	-	-	-	-	7/10/2025	7/10/2025	-	Detection
October 2025 Sampling Event	10/6/2025	10/6/2025	10/7/2025	10/7/2025	10/8/2025	10/8/2025	10/8/2025	10/8/2025	Detection
December 2025 Verification Sampling	-	-	12/3/2025	-	-	-	12/3/2025	12/3/2025	Detection
Total Number of Samples Collected	2	2	3	2	2	4	5	4	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 groundwater sampling event was completed November 14-20, 2024. Verification sampling and the statistical analysis to evaluate for SSIs for this event were not completed until 2025 and are included in this report. Detections above respective prediction limits for some Appendix III analytes triggered a verification sampling event, which was completed February 6-7, 2025, and resulted in two SSIs. **Table 3** summarizes the results and statistical analysis of the November 2024 Detection Monitoring event. Laboratory analytical data from the February 2025 verification sampling event and other sampling events conducted in 2025 are provided in **Appendix A**. Laboratory analytical data for the November 2024 Detection Monitoring event are provided in the 2024 Groundwater Monitoring and Corrective Action Annual Report for the SCPC.

As outlined in section 257.94(e)(2) of the CCR Rule, the owner or operator may demonstrate that a source other than the CCR unit has caused an SSI and that the apparent SSI was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. An ASD was completed for the November 2024 SSIs and is provided in **Appendix B**. This ASD demonstrates that the SSIs at monitoring well DG-3 are not caused by the SCPC CCR unit, and therefore, the SCPC remains in Detection Monitoring.

Detection Monitoring groundwater samples were collected between May 7-9, 2025, and testing was completed for all Appendix III analytes, as well as major cations and anions. Detections above respective prediction limits for some Appendix III analytes triggered a verification sampling event, which was completed on July 10, 2025 and verified four SSIs. **Table 4** summarizes the results and statistical analysis of the May 2025 Detection Monitoring event. Similar to previous results, it was determined that the SSIs are not caused by the SCPC CCR unit, as demonstrated by the ASD provided in **Appendix C**.

A Detection Monitoring sampling event was completed between October 6-8, 2025, and testing was completed for all Appendix III analytes, as well as major cations and anions. As outlined in the Statistical Analysis Plan for the site, updates to the statistical limits should be completed once four to eight new sample results are available. During the statistical analysis of the October 2025 sampling event, the statistical limits used to determine an SSI were updated according to the Statistical Analysis Plan using data through the May 2025 sampling event. Verification sampling associated with this event was completed December 3, 2025, and there were no initial exceedances verified as SSIs. **Table 5** summarizes the results and statistical analysis of the October 2025 Detection Monitoring event.

## 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 D**. As shown on the potentiometric surface maps, groundwater flow direction within the uppermost aquifer is dynamic and influenced by seasonal changes in the water level in the adjacent Mississippi and Missouri Rivers, which affect water levels, gradients and flow directions in the alluvial aquifer. 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 manually collected water level data since 2016. Results indicate that groundwater flow direction at the SEC is variable due to fluctuating river levels but generally flows to the south. The overall net groundwater flow direction in the alluvial aquifer at the SEC was south-southeast in 2025 because of river level differences between the Missouri and Mississippi Rivers. From 2016 through 2025, horizontal gradients have ranged from 0.00006 to 0.001 feet/foot with an estimated net annual groundwater movement of approximately 10 feet per year in the prevailing downgradient direction. Based on water level data collected in 2025, net annual groundwater movement across the site during the year was approximately 8 feet to the south-southeast. Using 2025 water level data from monitoring wells UG-1A, UG-2, DG-1, DG-2, DG-3, and DG-4, overall net groundwater movement near the SCPC has been southward.

## 2.3 Sampling Issues

No notable sampling issues were encountered at the SCPC in 2025.

## 3.0 ACTIVITIES PLANNED FOR 2026

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Detection Monitoring is scheduled to continue on a semi-annual basis in the second and fourth quarters of 2026.

# Tables

**Table 3**  
**November 2024 Detection Monitoring Results**  
**SCPC Surface Impoundment**  
**Sioux Energy Center, St. Charles County, MO**

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS											
		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
<b>November 2024 Detection Monitoring Event</b>															
DATE	NA	11/20/2024	11/20/2024	NA	11/15/2024	NA	11/14/2024	NA	11/15/2024	NA	11/15/2024	NA	11/15/2024	NA	11/15/2024
pH	SU	6.57	6.72	6.433 - 7.279	6.75	6.29 - 7.5	7.08	6.565 - 7.38	7.12	6.725 - 7.268	6.96	6.66 - 7.227	6.90	6.638 - 7.221	6.75
BORON, TOTAL	µg/L	61.9 J	57.3 J	453.4	307	277.7	112	118.3	101	113.2	103	103.2	105	114.1	109
CALCIUM, TOTAL	µg/L	175,000	113,000	203,439	160,000	143,772	90,800	174,000	144,000	166,000	141,000	169,490	172,000	166,717	168,000
CHLORIDE, TOTAL	mg/L	14.2	13.1	147.8	116	93.74	26.5	10.0	7.5	10.93	4.5	17.26	14.7	155.7	13.0
FLUORIDE, TOTAL	mg/L	ND	ND	0.47	0.27	0.34	0.29	0.41	0.31	0.49	0.51	0.49	0.39 J	0.48	0.38
SULFATE, TOTAL	mg/L	37.1	17.1	113.4	60.0	93.63	29.4	69.58	50.5 J	68	41.5	74.45	85.5	79.91	70.4
TOTAL DISSOLVED SOLIDS	mg/L	613	413	819.5	711	657.3	409	552.3	541	537	522	617.9	627	680.5	665
<b>February 2025 Verification Sampling Event</b>															
DATE	NA										2/7/2025		2/7/2025		2/6/2025
pH	SU														
BORON, TOTAL	µg/L												94.9 J		
CALCIUM, TOTAL	µg/L												159,000 J		131,000
CHLORIDE, TOTAL	mg/L														
FLUORIDE, TOTAL	mg/L										0.36				
SULFATE, TOTAL	mg/L												75.7		
TOTAL DISSOLVED SOLIDS	mg/L												644		

**NOTES:**

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

Prepared By: GTM  
Checked By: JDQ  
Reviewed By: JSI

**Table 4**  
**May 2025 Detection Monitoring Results**  
**SCPC Surface Impoundment**  
**Sioux Energy Center, St. Charles County, MO**

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS											
		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
<b>May 2025 Detection Monitoring Event</b>															
DATE	NA	5/7/2025	5/7/2025	NA	5/8/2025	NA	5/8/2025	NA	5/9/2025	NA	5/9/2025	NA	5/9/2025	NA	5/9/2025
pH	SU	6.82	6.85	6.433 - 7.279	6.76	6.29 - 7.5	6.98	6.565 - 7.38	6.85	6.725 - 7.268	6.88	6.66 - 7.227	6.88	6.638 - 7.221	6.72
BORON, TOTAL	µg/L	56.5 J	55.1 J	453.4	365	277.7	137	118.3	97.1 J	113.2	105	103.2	105	114.1	108
CALCIUM, TOTAL	µg/L	177,000 J	129,000	203,439	131,000	143,772	84,900	174,000	141,000	166,000	140,000	169,490	155,000	166,717	159,000
CHLORIDE, TOTAL	mg/L	11.4	10.6	147.8	110 J	93.74	5.5	10.0	8.7	10.93	5.7	17.26	25.1	155.70	16.8 J
FLUORIDE, TOTAL	mg/L	0.26	0.30	0.47	0.23	0.34	0.30	0.41	0.16 J	0.49	0.22	0.49	0.18 J	0.48	ND
SULFATE, TOTAL	mg/L	35.1	24.5	113.4	70.6 J	93.63	38.2 J	69.58	66.2	68	51.1	74.45	74.8	79.91	75.9 J
TOTAL DISSOLVED SOLIDS	mg/L	615	449	819.5	653	657.3	327	552.3	549	537	547	617.9	619	680.5	663
<b>July 2025 Verification Sampling Event</b>															
DATE	NA										7/10/2025		7/10/2025		
pH	SU														
BORON, TOTAL	µg/L												115		
CALCIUM, TOTAL	µg/L														
CHLORIDE, TOTAL	mg/L												22.6		
FLUORIDE, TOTAL	mg/L														
SULFATE, TOTAL	mg/L												69.9		
TOTAL DISSOLVED SOLIDS	mg/L										550		619		

**NOTES:**

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

Prepared By: GTM  
Checked By: JDQ  
Reviewed By: JSI

**Table 5**  
**October 2025 Detection Monitoring Results**  
**SCPC Surface Impoundment**  
**Sioux Energy Center, St. Charles County, MO**

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS											
		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
<b>October 2025 Detection Monitoring Event</b>															
DATE	NA	10/6/2025	10/6/2025	NA	10/7/2025	NA	10/7/2025	NA	10/8/2025	NA	10/8/2025	NA	10/8/2025	NA	10/8/2025
pH	SU	6.68	6.85	6.487 - 7.243	6.77	6.4 - 7.36	7.32	6.565 - 7.38	6.98	6.742 - 7.263	6.93	6.705 - 7.205	6.90	6.641 - 7.213	6.93
BORON, TOTAL	µg/L	68.5 J	62.1 J	479.07	223	322.0	94.8 J	117.28	100 J	115.51	80.3 J	107.74	101	115.96	103
CALCIUM, TOTAL	µg/L	168,000	129,000	201,432	179,000	143,314	102,000	174,000	138,000	170,000	128,000	172,000	176,000	170,335	169,000 J
CHLORIDE, TOTAL	mg/L	11.4	9.6	149.44	149	113	37.3	11.2	4.7	10.677	3.6	23.125	9.4	149.74	52.3
FLUORIDE, TOTAL	mg/L	0.27	0.30	0.47	0.26	0.32745	0.23	0.41	0.30	0.51	0.32	0.49	0.35	0.44823	0.30
SULFATE, TOTAL	mg/L	39.2	35.6	112.15	41.7	92.069	22.8	70.648	41.6	77	39.7	79.29	98.4	82.621	80.6
TOTAL DISSOLVED SOLIDS	mg/L	596	477	810.94	804	661.74	428	556.67	446	551.26	503	639.23	651	696.27	703
<b>December 2025 Verification Sampling Event</b>															
DATE	NA												12/3/2025		12/3/2025
pH	SU														
BORON, TOTAL	µg/L														
CALCIUM, TOTAL	µg/L												167,000		
CHLORIDE, TOTAL	mg/L														
FLUORIDE, TOTAL	mg/L														
SULFATE, TOTAL	mg/L												72.7		
TOTAL DISSOLVED SOLIDS	mg/L												626		655 J

**NOTES:**

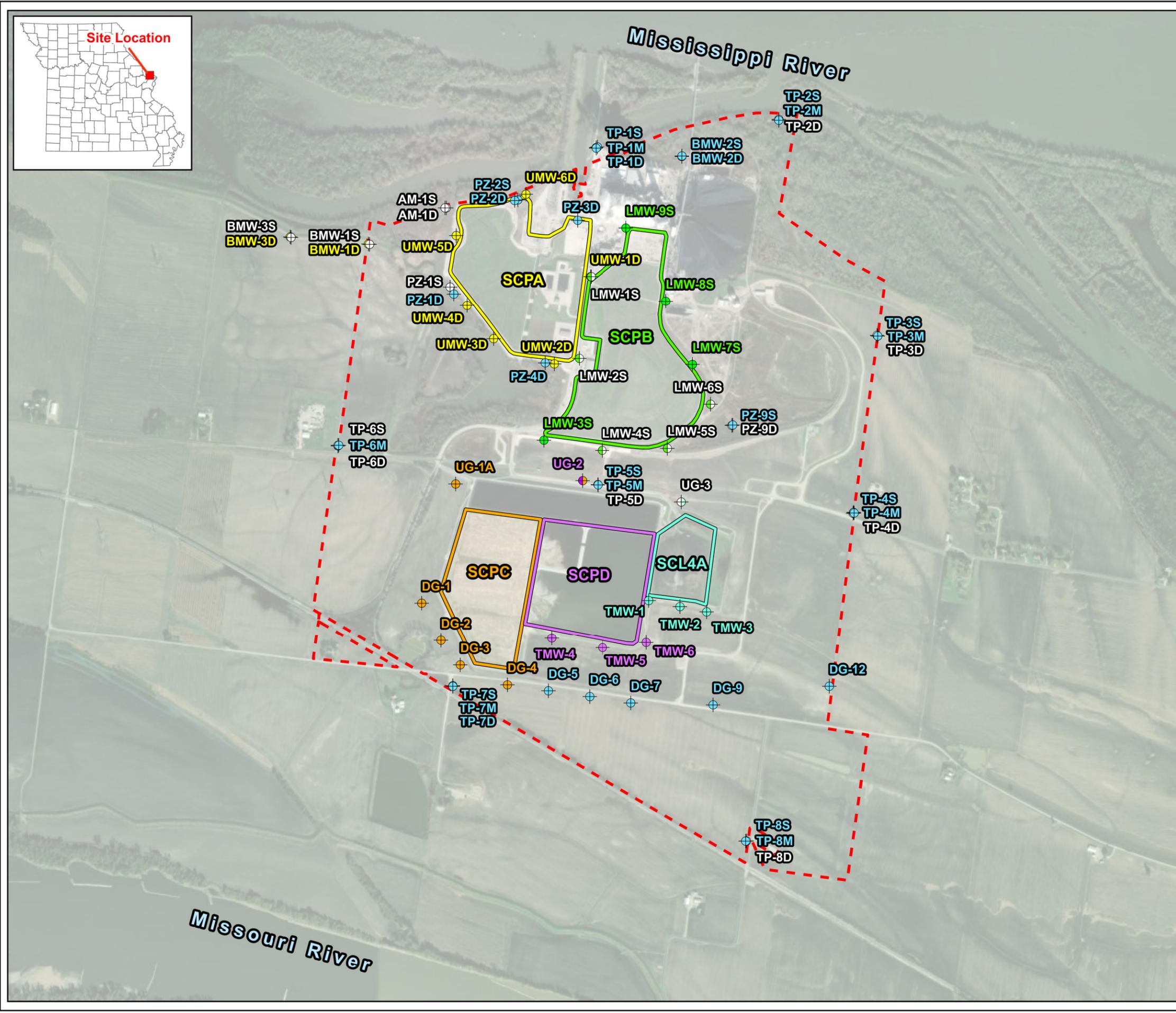
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units.
2. J - Result is an estimated value.
3. NA - Not applicable.
4. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit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

Prepared By: GTM  
Checked By: JDQ  
Reviewed By: JSI

# Figures



TITLE  
**SIoux ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND SAMPLE LOCATION MAP**



- Legend**
- Sioux Energy Center Property Boundary
  - CCR Units**
  - SCPA - Bottom Ash Surface Impoundment (Closed)
  - SCPB - Fly Ash Surface Impoundment (Closed)
  - Utility Waste Landfill Cells**
  - SCPC - FGD Surface Impoundment (Closed)
  - SCL4A - Dry CCR Disposal Area
  - SCPD - FGD 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

- NOTES**
1. All boundaries and locations are approximate.
  2. FGD - Flue Gas Desulfurization.
  3. CCR - Coal Combustion Residuals.

- REFERENCES**
1. St Charles County, Missouri Geo-Data & Mapping Hub, Parcel Dataset, Updated April 2025.



PROJECT  
 CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT  
 AMEREN MISSOURI  
 SIOUX ENERGY CENTER

	DESIGN	JSI	YYYY-MM-DD	2025-12-04
	PREPARED	JSI	PROJECT No.	23009-25
	REVIEW	GTM	<b>FIGURE 1</b>	
	APPROVED	MNH		

Path: C:\Users\CramMosey\RockSmith Geoenvironmenting LLC\202007 - Ameren GW - Documents\400 - Drawings - Figures\4.3-SECC\4.3.2 - Production\Other Maps\Figure 1 - SEC Well Locations.aprx

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

# Appendix A

## Laboratory Analytical Data



February 21, 2025

Mark Haddock  
Rocksmith Geoengineering, LLC.  
2320 Creve Coeur Mill Road  
Maryland Heights, MO 63043

RE: Project: AMEREN SCPC-VERIFICATION  
Pace Project No.: 60469215

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2025. 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: Jeffrey Ingram, Rocksmith Geoengineering, LLC.  
Lisa Meyer, Ameren  
Grant Morey, Rocksmith Geoengineering, LLC.  
Austin Nieman, Ameren



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

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### **Pace Analytical Services Kansas**

9608 Loiret Boulevard, Lenexa, KS 66219

Arkansas Certification #: 88-00679

Illinois Certification #: 2000302023-6

Colorado Division of Oil and Public Safety

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60469215001	S-DG-4	Water	02/06/25 14:40	02/08/25 05:44
60469215002	S-DG-3	Water	02/07/25 09:14	02/08/25 05:44
60469215003	S-DG-2	Water	02/07/25 10:05	02/08/25 05:44
60469215004	S-SCPC-DUP-1	Water	02/07/25 08:00	02/08/25 05:44
60469215005	S-SCPC-FB-1	Water	02/06/25 14:53	02/08/25 05:44

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60469215001	S-DG-4	EPA 200.7	ARMN	2	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	2	PASI-K
60469215002	S-DG-3	EPA 200.7	ARMN	2	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	2	PASI-K
60469215003	S-DG-2	EPA 200.7	ARMN	2	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	2	PASI-K
60469215004	S-SCPC-DUP-1	EPA 200.7	ARMN	2	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	2	PASI-K
60469215005	S-SCPC-FB-1	EPA 200.7	ARMN	2	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Sample: S-DG-4 Lab ID: 60469215001 Collected: 02/06/25 14:40 Received: 02/08/25 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>88.4J</b>	ug/L	100	6.4	1	02/10/25 08:27	02/11/25 21:10	7440-42-8	
Calcium	<b>131000</b>	ug/L	200	26.9	1	02/10/25 08:27	02/11/25 21:10	7440-70-2	
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>690</b>	mg/L	20.0	20.0	1		02/14/25 14:43		H1
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	<b>0.31</b>	mg/L	0.20	0.12	1		02/13/25 13:30	16984-48-8	
Sulfate	<b>74.9</b>	mg/L	10.0	5.5	10		02/13/25 13:45	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Sample: S-DG-3 Lab ID: 60469215002 Collected: 02/07/25 09:14 Received: 02/08/25 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>94.9J</b>	ug/L	100	6.4	1	02/10/25 08:27	02/11/25 21:12	7440-42-8	
Calcium	<b>159000</b>	ug/L	200	26.9	1	02/10/25 08:27	02/11/25 21:12	7440-70-2	M1,P6
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>644</b>	mg/L	13.3	13.3	1		02/14/25 14:45		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	<b>0.32</b>	mg/L	0.20	0.12	1		02/13/25 15:29	16984-48-8	
Sulfate	<b>75.7</b>	mg/L	5.0	2.8	5		02/13/25 15:44	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Sample: S-DG-2 Lab ID: 60469215003 Collected: 02/07/25 10:05 Received: 02/08/25 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>86.5J</b>	ug/L	100	6.4	1	02/10/25 08:27	02/11/25 21:23	7440-42-8	
Calcium	<b>129000</b>	ug/L	200	26.9	1	02/10/25 08:27	02/11/25 21:23	7440-70-2	
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>543</b>	mg/L	13.3	13.3	1		02/14/25 14:46		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	<b>0.36</b>	mg/L	0.20	0.12	1		02/13/25 14:29	16984-48-8	
Sulfate	<b>44.8</b>	mg/L	10.0	5.5	10		02/13/25 14:44	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Sample: S-SCPC-DUP-1 Lab ID: 60469215004 Collected: 02/07/25 08:00 Received: 02/08/25 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>88.2J</b>	ug/L	100	6.4	1	02/10/25 08:27	02/11/25 21:25	7440-42-8	
Calcium	<b>130000</b>	ug/L	200	26.9	1	02/10/25 08:27	02/11/25 21:25	7440-70-2	
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>540</b>	mg/L	13.3	13.3	1		02/14/25 14:46		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	<b>0.35</b>	mg/L	0.20	0.12	1		02/13/25 14:59	16984-48-8	
Sulfate	<b>44.4</b>	mg/L	10.0	5.5	10		02/13/25 15:14	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Sample: S-SCPC-FB-1 Lab ID: 60469215005 Collected: 02/06/25 14:53 Received: 02/08/25 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<6.4	ug/L	100	6.4	1	02/10/25 08:27	02/11/25 21:27	7440-42-8	
Calcium	49.4J	ug/L	200	26.9	1	02/10/25 08:27	02/11/25 21:27	7440-70-2	B
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	22.0	mg/L	5.0	5.0	1		02/14/25 14:43		H1
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	<0.12	mg/L	0.20	0.12	1		02/13/25 17:57	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		02/13/25 17:57	14808-79-8	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

QC Batch: 924484 Analysis Method: EPA 200.7  
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total  
 Laboratory: Pace Analytical Services - Kansas City  
 Associated Lab Samples: 60469215001, 60469215002, 60469215003, 60469215004, 60469215005

METHOD BLANK: 3661264 Matrix: Water  
 Associated Lab Samples: 60469215001, 60469215002, 60469215003, 60469215004, 60469215005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<6.4	100	6.4	02/11/25 21:00	
Calcium	ug/L	28.8J	200	26.9	02/11/25 21:00	

LABORATORY CONTROL SAMPLE: 3661265

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	929	93	85-115	
Calcium	ug/L	10000	9740	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3661266 3661267

Parameter	Units	60469039001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	117	1000	1000	1040	1030	92	91	70-130	1	20	
Calcium	ug/L	192000	10000	10000	197000	196000	51	35	70-130	1	20 M1	

MATRIX SPIKE SAMPLE: 3661268

Parameter	Units	60469213006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	86.8J	1000	987	90	70-130	
Calcium	ug/L	122000	10000	128000	59	70-130 M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3661291 3661292

Parameter	Units	60469215002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	94.9J	1000	1000	1000	1110	91	101	70-130	10	20	
Calcium	ug/L	159000	10000	10000	160000	182000	4	233	70-130	13	20 M1	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3661293 3661294													
Parameter	Units	60469213004 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Boron	ug/L	532	1000	1000	1430	1410	90	87	70-130	2	20		
Calcium	ug/L	112000	10000	10000	120000	118000	82	62	70-130	2	20	M1	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

QC Batch:	925074	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60469215001, 60469215005

METHOD BLANK: 3663710 Matrix: Water

Associated Lab Samples: 60469215001, 60469215005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	02/14/25 14:41	

LABORATORY CONTROL SAMPLE: 3663711

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

SAMPLE DUPLICATE: 3663712

Parameter	Units	60469032001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	654	672	3	10	H1

SAMPLE DUPLICATE: 3663713

Parameter	Units	60469213004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	497	503	1	10	H1

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

QC Batch:	925077	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60469215002, 60469215003, 60469215004

METHOD BLANK: 3663721 Matrix: Water

Associated Lab Samples: 60469215002, 60469215003, 60469215004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	02/14/25 14:45	

LABORATORY CONTROL SAMPLE: 3663722

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

SAMPLE DUPLICATE: 3663723

Parameter	Units	60469215002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	644	655	2	10	

SAMPLE DUPLICATE: 3663724

Parameter	Units	60469216001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	674	744	10	10	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

QC Batch:	924822	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60469215001, 60469215002, 60469215003, 60469215004, 60469215005

METHOD BLANK: 3662520 Matrix: Water  
 Associated Lab Samples: 60469215001, 60469215002, 60469215003, 60469215004, 60469215005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/13/25 04:37	
Sulfate	mg/L	<0.55	1.0	0.55	02/13/25 04:37	

LABORATORY CONTROL SAMPLE: 3662521

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3662522 3662523

Parameter	Units	60469213004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.39	2.5	2.5	3.6	3.2	130	113	80-120	13	15	M1
Sulfate	mg/L	77.7	50	50	133	150	110	144	80-120	12	15	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3662525 3662526

Parameter	Units	60469215002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.32	2.5	2.5	2.8	3.1	101	110	80-120	8	15	
Sulfate	mg/L	75.7	25	25	99.1	97.9	94	89	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3662528 3662529

Parameter	Units	60469216001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.24	2.5	2.5	2.6	2.7	95	98	80-120	2	15	
Sulfate	mg/L	78.9	5	5	79.5	83.9	14	101	80-120	5	15	E,M1

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### QUALITY CONTROL DATA

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

SAMPLE DUPLICATE: 3662524

Parameter	Units	60469213004 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.39	0.37	5	15	
Sulfate	mg/L	77.7	73.5	5	15	

SAMPLE DUPLICATE: 3662527

Parameter	Units	60469215002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.32	0.31	3	15	
Sulfate	mg/L	75.7	74.1	2	15	

SAMPLE DUPLICATE: 3662530

Parameter	Units	60469216001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.24	0.23	3	15	
Sulfate	mg/L	78.9	78.8	0	15 E	

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## QUALIFIERS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

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### 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.

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.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60469215

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60469215001	S-DG-4	EPA 200.7	924484	EPA 200.7	924512
60469215002	S-DG-3	EPA 200.7	924484	EPA 200.7	924512
60469215003	S-DG-2	EPA 200.7	924484	EPA 200.7	924512
60469215004	S-SCPC-DUP-1	EPA 200.7	924484	EPA 200.7	924512
60469215005	S-SCPC-FB-1	EPA 200.7	924484	EPA 200.7	924512
60469215001	S-DG-4	SM 2540C	925074		
60469215002	S-DG-3	SM 2540C	925077		
60469215003	S-DG-2	SM 2540C	925077		
60469215004	S-SCPC-DUP-1	SM 2540C	925077		
60469215005	S-SCPC-FB-1	SM 2540C	925074		
60469215001	S-DG-4	EPA 300.0	924822		
60469215002	S-DG-3	EPA 300.0	924822		
60469215003	S-DG-2	EPA 300.0	924822		
60469215004	S-SCPC-DUP-1	EPA 300.0	924822		
60469215005	S-SCPC-FB-1	EPA 300.0	924822		

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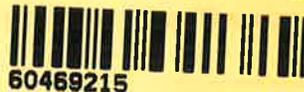


DC#\_Title: ENV-FRM-LENE-0009\_Sample

Revision: 2

Effective Date: 01/12/2021

WO#: 60469215



Client Name: Rocksmith Geoenvironment, LLC

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  PEPE

Thermometer Used: T301 Type of Ice: Wet Blue  None

Cooler Temperature (°C): As-read 1.9 Corr. Factor +0.1 Corrected 2.0

Date and initials of person examining contents: 2/8/25 JA

Temperature should be above freezing to 6°C 1.8, 1.2

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: <u>88727</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_  
\_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: \_\_\_\_\_





# Memorandum

February 26, 2025

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**To:** Project File  
Rocksmith Geoengineering, LLC

**Project Number:** 23009-25

**CC:** Mark Haddock, Jeffrey Ingram

**From:** Grant Morey

**Email:** grant.morey@rocksmithgeo.com

**RE:** **Data Validation Summary, Sioux Energy Center – SCPB Verification – Data Package 60469215**

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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 duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a compound was analyzed outside of hold time controls, the sample result was qualified as an estimate (J for detects, UJ for non-detects).

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering  
 Project Name: Ameren SCPC Verification  
 Reviewer: G. Morey

Project Manager: J. Ingram  
 Project Number: 23009-24  
 Validation Date: 2/26/2025

Laboratory: Pace Analytical SDG #: 6049215  
 Analytical Method (type and no.): EPA 200.7 (Boron,/Calcium); EPA 300.0 (Fluoride/Sulfate); SM 2540C (TDS)  
 Matrix:  Air  Soil/Sed.  Water  Waste  \_\_\_\_\_  
 Sample Names S-DG-4, S-DG-3, S-DG-2, 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2/6/2025 - 2/7/2025</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>GTM/JTR</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>_____</u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>No lab narrative.</u>

Note Deficiencies: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

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

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

<b>Duplicates</b>	<b>YES</b>	<b>NO</b>	<b>NA</b>	<b>COMMENTS</b>
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S-SCPC-DUP-1 collected @ S-DG-2
b) Were field dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Notes

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

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

**Comments/Notes:**

General:

TDS analyzed outside of hold time controls in several samples, results qualified as estimate.

Sulfate diluted in several samples, no qualification necessary.







July 01, 2025

Mark Haddock  
Rocksmith Geoengineering, LLC.  
2320 Creve Coeur Mill Road  
Maryland Heights, MO 63043

RE: Project: AMEREN SCPC  
Pace Project No.: 60474941

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between May 09, 2025 and May 10, 2025. 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: Jeffrey Ingram, Rocksmith Geoengineering, LLC.  
Lisa Meyer, Ameren  
Grant Morey, Rocksmith Geoengineering, LLC.  
Austin Nieman, Ameren



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: AMEREN SCPC

Pace Project No.: 60474941

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### **Pace Analytical Services Kansas**

9608 Loiret Boulevard, Lenexa, KS 66219

Arkansas Certification #: 88-00679

Illinois Certification #: 2000302023-6

Colorado Division of Oil and Public Safety

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

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### SAMPLE SUMMARY

Project: AMEREN SCPC

Pace Project No.: 60474941

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60474941001	S-UG-1A	Water	05/08/25 15:10	05/10/25 06:51
60474941002	S-DG-1	Water	05/09/25 09:16	05/10/25 06:51
60474941003	S-DG-2	Water	05/09/25 10:09	05/10/25 06:51
60474941004	S-DG-3	Water	05/09/25 10:56	05/10/25 06:51
60474941005	S-DG-4	Water	05/09/25 11:47	05/10/25 06:51
60474941006	S-SCPC-DUP-1	Water	05/08/25 08:00	05/10/25 06:51
60474941007	S-SCPC-FB-1	Water	05/09/25 12:00	05/10/25 06:51
60474941008	S-UG-2	Water	05/08/25 13:10	05/10/25 06:51
60474805001	S-BMW-1S	Water	05/07/25 15:05	05/09/25 02:07
60474805002	S-BMW-3S	Water	05/07/25 14:10	05/09/25 02:07

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### SAMPLE ANALYTE COUNT

Project: AMEREN SCPC

Pace Project No.: 60474941

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60474941001	S-UG-1A	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474941002	S-DG-1	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474941003	S-DG-2	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474941004	S-DG-3	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474941005	S-DG-4	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474941006	S-SCPC-DUP-1	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474941007	S-SCPC-FB-1	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474941008	S-UG-2	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474805001	S-BMW-1S	EPA 200.7	ARMN	7	PASI-K
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K
60474805002	S-BMW-3S	EPA 200.7	ARMN	7	PASI-K

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### SAMPLE ANALYTE COUNT

Project: AMEREN SCPC  
Pace Project No.: 60474941

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Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	EFM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	3	PASI-K

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PASI-K = Pace Analytical Services - Kansas City

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

Sample: S-UG-1A Lab ID: 60474941001 Collected: 05/08/25 15:10 Received: 05/10/25 06:51 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	365	ug/L	100	6.4	1	05/14/25 15:57	05/29/25 11:05	7440-42-8	
Calcium	131000	ug/L	200	26.9	1	05/14/25 15:57	05/29/25 11:05	7440-70-2	
Iron	<9.1	ug/L	50.0	9.1	1	05/14/25 15:57	05/29/25 11:05	7439-89-6	
Magnesium	31400	ug/L	50.0	20.1	1	05/14/25 15:57	05/29/25 11:05	7439-95-4	
Manganese	248	ug/L	5.0	0.39	1	05/14/25 15:57	05/29/25 11:05	7439-96-5	
Potassium	8270	ug/L	500	69.7	1	05/14/25 15:57	05/29/25 11:05	7440-09-7	
Sodium	49000	ug/L	500	115	1	05/14/25 15:57	05/29/25 11:05	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	376	mg/L	20.0	10.5	1		05/16/25 23:11		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	653	mg/L	13.3	13.3	1		05/14/25 16:08		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	110	mg/L	10.0	5.3	10		06/11/25 04:25	16887-00-6	H1
Fluoride	0.23	mg/L	0.20	0.12	1		06/05/25 20:54	16984-48-8	
Sulfate	70.6	mg/L	10.0	5.5	10		06/11/25 04:25	14808-79-8	H1

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

Sample: S-DG-1 Lab ID: 60474941002 Collected: 05/09/25 09:16 Received: 05/10/25 06:51 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	97.1J	ug/L	100	6.4	1	05/16/25 07:20	05/30/25 15:27	7440-42-8	
Calcium	141000	ug/L	200	26.9	1	05/16/25 07:20	05/30/25 15:27	7440-70-2	
Iron	9400	ug/L	50.0	9.1	1	05/16/25 07:20	05/30/25 15:27	7439-89-6	
Magnesium	31400	ug/L	50.0	20.1	1	05/16/25 07:20	05/30/25 15:27	7439-95-4	
Manganese	383	ug/L	5.0	0.39	1	05/16/25 07:20	05/30/25 15:27	7439-96-5	
Potassium	5890	ug/L	500	69.7	1	05/16/25 07:20	05/30/25 15:27	7440-09-7	
Sodium	5260	ug/L	500	115	1	05/16/25 07:20	05/30/25 15:27	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	430	mg/L	20.0	10.5	1		05/16/25 23:17		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	549	mg/L	10.0	10.0	1		05/15/25 16:54		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	8.7	mg/L	1.0	0.53	1		06/06/25 16:26	16887-00-6	
Fluoride	0.16J	mg/L	0.20	0.12	1		06/06/25 16:26	16984-48-8	
Sulfate	66.2	mg/L	10.0	5.5	10		06/06/25 17:01	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

Sample: S-DG-2 Lab ID: 60474941003 Collected: 05/09/25 10:09 Received: 05/10/25 06:51 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	105	ug/L	100	6.4	1	05/16/25 07:20	05/30/25 15:29	7440-42-8	
Calcium	140000	ug/L	200	26.9	1	05/16/25 07:20	05/30/25 15:29	7440-70-2	
Iron	1900	ug/L	50.0	9.1	1	05/16/25 07:20	05/30/25 15:29	7439-89-6	
Magnesium	33300	ug/L	50.0	20.1	1	05/16/25 07:20	05/30/25 15:29	7439-95-4	
Manganese	486	ug/L	5.0	0.39	1	05/16/25 07:20	05/30/25 15:29	7439-96-5	
Potassium	5790	ug/L	500	69.7	1	05/16/25 07:20	05/30/25 15:29	7440-09-7	
Sodium	4900	ug/L	500	115	1	05/16/25 07:20	05/30/25 15:29	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	462	mg/L	20.0	10.5	1		05/16/25 23:24		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	547	mg/L	10.0	10.0	1		05/15/25 16:54		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	5.7	mg/L	1.0	0.53	1		06/06/25 17:13	16887-00-6	
Fluoride	0.22	mg/L	0.20	0.12	1		06/06/25 17:13	16984-48-8	
Sulfate	51.1	mg/L	10.0	5.5	10		06/06/25 17:25	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

**Sample: S-DG-3**      **Lab ID: 60474941004**      Collected: 05/09/25 10:56      Received: 05/10/25 06:51      Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7    Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>105</b>	ug/L	100	6.4	1	05/16/25 11:44	05/23/25 16:28	7440-42-8	
Calcium	<b>155000</b>	ug/L	200	26.9	1	05/16/25 11:44	05/23/25 16:28	7440-70-2	
Iron	<b>4070</b>	ug/L	50.0	9.1	1	05/16/25 11:44	05/23/25 16:28	7439-89-6	
Magnesium	<b>31500</b>	ug/L	50.0	20.1	1	05/16/25 11:44	05/23/25 16:28	7439-95-4	
Manganese	<b>756</b>	ug/L	5.0	0.39	1	05/16/25 11:44	05/23/25 16:28	7439-96-5	
Potassium	<b>5420</b>	ug/L	500	69.7	1	05/16/25 11:44	05/23/25 16:28	7440-09-7	
Sodium	<b>5880</b>	ug/L	500	115	1	05/16/25 11:44	05/23/25 16:28	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	<b>465</b>	mg/L	20.0	10.5	1		05/16/25 23:31		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>619</b>	mg/L	13.3	13.3	1		05/15/25 16:56		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	<b>25.1</b>	mg/L	10.0	5.3	10		06/06/25 18:24	16887-00-6	
Fluoride	<b>0.18J</b>	mg/L	0.20	0.12	1		06/06/25 17:37	16984-48-8	M1
Sulfate	<b>74.8</b>	mg/L	10.0	5.5	10		06/06/25 18:24	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

Sample: S-DG-4 Lab ID: 60474941005 Collected: 05/09/25 11:47 Received: 05/10/25 06:51 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	108	ug/L	100	6.4	1	05/16/25 07:20	05/30/25 15:31	7440-42-8	
Calcium	159000	ug/L	200	26.9	1	05/16/25 07:20	05/30/25 15:31	7440-70-2	
Iron	44.1J	ug/L	50.0	9.1	1	05/16/25 07:20	05/30/25 15:31	7439-89-6	
Magnesium	46700	ug/L	50.0	20.1	1	05/16/25 07:20	05/30/25 15:31	7439-95-4	
Manganese	361	ug/L	5.0	0.39	1	05/16/25 07:20	05/30/25 15:31	7439-96-5	
Potassium	6590	ug/L	500	69.7	1	05/16/25 07:20	05/30/25 15:31	7440-09-7	
Sodium	7130	ug/L	500	115	1	05/16/25 07:20	05/30/25 15:31	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	530	mg/L	20.0	10.5	1		05/16/25 23:45		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	663	mg/L	13.3	13.3	1		05/15/25 16:56		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	16.8	mg/L	1.0	0.53	1		06/11/25 09:16	16887-00-6	H1
Fluoride	<0.12	mg/L	0.20	0.12	1		06/11/25 09:16	16984-48-8	H1
Sulfate	75.9	mg/L	10.0	5.5	10		06/11/25 09:30	14808-79-8	H1

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

Sample: S-SCPC-DUP-1 Lab ID: 60474941006 Collected: 05/08/25 08:00 Received: 05/10/25 06:51 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	374	ug/L	100	6.4	1	05/16/25 07:20	05/30/25 15:33	7440-42-8	
Calcium	133000	ug/L	200	26.9	1	05/16/25 07:20	05/30/25 15:33	7440-70-2	
Iron	<9.1	ug/L	50.0	9.1	1	05/16/25 07:20	05/30/25 15:33	7439-89-6	
Magnesium	32000	ug/L	50.0	20.1	1	05/16/25 07:20	05/30/25 15:33	7439-95-4	
Manganese	221	ug/L	5.0	0.39	1	05/16/25 07:20	05/30/25 15:33	7439-96-5	
Potassium	8550	ug/L	500	69.7	1	05/16/25 07:20	05/30/25 15:33	7440-09-7	
Sodium	50100	ug/L	500	115	1	05/16/25 07:20	05/30/25 15:33	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	370	mg/L	20.0	10.5	1		05/16/25 23:52		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	660	mg/L	13.3	13.3	1		05/14/25 16:08		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	110	mg/L	10.0	5.3	10		06/11/25 04:38	16887-00-6	H1
Fluoride	0.19J	mg/L	0.20	0.12	1		06/05/25 21:06	16984-48-8	
Sulfate	71.2	mg/L	10.0	5.5	10		06/11/25 04:38	14808-79-8	H1

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**ANALYTICAL RESULTS**

Project: AMEREN SCPC

Pace Project No.: 60474941

**Sample: S-SCPC-FB-1**      **Lab ID: 60474941007**      Collected: 05/09/25 12:00      Received: 05/10/25 06:51      Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7    Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<6.4	ug/L	100	6.4	1	05/16/25 11:44	05/23/25 16:33	7440-42-8	
Calcium	<26.9	ug/L	200	26.9	1	05/16/25 11:44	05/23/25 16:33	7440-70-2	
Iron	<9.1	ug/L	50.0	9.1	1	05/16/25 11:44	05/23/25 16:33	7439-89-6	
Magnesium	<20.1	ug/L	50.0	20.1	1	05/16/25 11:44	05/23/25 16:33	7439-95-4	
Manganese	<0.39	ug/L	5.0	0.39	1	05/16/25 11:44	05/23/25 16:33	7439-96-5	
Potassium	<69.7	ug/L	500	69.7	1	05/16/25 11:44	05/23/25 16:33	7440-09-7	
Sodium	<115	ug/L	500	115	1	05/16/25 11:44	05/23/25 16:33	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	<10.5	mg/L	20.0	10.5	1		05/16/25 23:55		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		05/15/25 16:58		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	<0.53	mg/L	1.0	0.53	1		06/11/25 07:39	16887-00-6	H1
Fluoride	<0.12	mg/L	0.20	0.12	1		06/11/25 07:39	16984-48-8	H1
Sulfate	<0.55	mg/L	1.0	0.55	1		06/11/25 07:39	14808-79-8	H1

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

**Sample: S-UG-2**      **Lab ID: 60474941008**      Collected: 05/08/25 13:10      Received: 05/10/25 06:51      Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7    Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>137</b>	ug/L	100	6.4	1	05/16/25 11:44	05/23/25 16:35	7440-42-8	
Calcium	<b>84900</b>	ug/L	200	26.9	1	05/16/25 11:44	05/23/25 16:35	7440-70-2	
Iron	<b>&lt;9.1</b>	ug/L	50.0	9.1	1	05/16/25 11:44	05/23/25 16:35	7439-89-6	
Magnesium	<b>18600</b>	ug/L	50.0	20.1	1	05/16/25 11:44	05/23/25 16:35	7439-95-4	
Manganese	<b>10.2</b>	ug/L	5.0	0.39	1	05/16/25 11:44	05/23/25 16:35	7439-96-5	
Potassium	<b>3810</b>	ug/L	500	69.7	1	05/16/25 11:44	05/23/25 16:35	7440-09-7	
Sodium	<b>7610</b>	ug/L	500	115	1	05/16/25 11:44	05/23/25 16:35	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	<b>289</b>	mg/L	20.0	10.5	1		05/17/25 00:01		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>327</b>	mg/L	10.0	10.0	1		05/14/25 16:08		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	<b>5.5</b>	mg/L	1.0	0.53	1		06/05/25 21:18	16887-00-6	
Fluoride	<b>0.30</b>	mg/L	0.20	0.12	1		06/05/25 21:18	16984-48-8	
Sulfate	<b>38.2</b>	mg/L	5.0	2.8	5		06/11/25 05:17	14808-79-8	H1

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

Sample: S-BMW-1S Lab ID: 60474805001 Collected: 05/07/25 15:05 Received: 05/09/25 02:07 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	56.5J	ug/L	100	6.4	1	05/21/25 10:30	06/03/25 17:57	7440-42-8	
Calcium	177000	ug/L	200	26.9	1	05/21/25 10:30	06/03/25 17:57	7440-70-2	M1,P6
Iron	38.1J	ug/L	50.0	9.1	1	05/21/25 10:30	06/03/25 17:57	7439-89-6	
Magnesium	35100	ug/L	50.0	20.1	1	05/21/25 10:30	06/03/25 17:57	7439-95-4	
Manganese	749	ug/L	5.0	0.39	1	05/21/25 10:30	06/03/25 17:57	7439-96-5	
Potassium	479J	ug/L	500	69.7	1	05/21/25 10:30	06/03/25 17:57	7440-09-7	
Sodium	5540	ug/L	500	115	1	05/21/25 10:30	06/03/25 17:57	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	555	mg/L	20.0	10.5	1		05/16/25 16:37		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	615	mg/L	13.3	13.3	1		05/13/25 15:27		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	11.4	mg/L	1.0	0.53	1		06/02/25 23:31	16887-00-6	
Fluoride	0.26	mg/L	0.20	0.12	1		06/02/25 23:31	16984-48-8	
Sulfate	35.1	mg/L	10.0	5.5	10		06/02/25 23:43	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60474941

Sample: S-BMW-3S Lab ID: 60474805002 Collected: 05/07/25 14:10 Received: 05/09/25 02:07 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	55.1J	ug/L	100	6.4	1	05/21/25 10:30	06/03/25 18:03	7440-42-8	
Calcium	129000	ug/L	200	26.9	1	05/21/25 10:30	06/03/25 18:03	7440-70-2	
Iron	<9.1	ug/L	50.0	9.1	1	05/21/25 10:30	06/03/25 18:03	7439-89-6	
Magnesium	22700	ug/L	50.0	20.1	1	05/21/25 10:30	06/03/25 18:03	7439-95-4	
Manganese	249	ug/L	5.0	0.39	1	05/21/25 10:30	06/03/25 18:03	7439-96-5	
Potassium	436J	ug/L	500	69.7	1	05/21/25 10:30	06/03/25 18:03	7440-09-7	
Sodium	6420	ug/L	500	115	1	05/21/25 10:30	06/03/25 18:03	7440-23-5	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	375	mg/L	20.0	10.5	1		05/16/25 17:04		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	449	mg/L	10.0	10.0	1		05/13/25 15:28		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	10.6	mg/L	1.0	0.53	1		06/02/25 23:55	16887-00-6	
Fluoride	0.30	mg/L	0.20	0.12	1		06/02/25 23:55	16984-48-8	
Sulfate	24.5	mg/L	10.0	5.5	10		06/03/25 00:07	14808-79-8	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch: 935106

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 Metals, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60474941001

METHOD BLANK: 3706085

Matrix: Water

Associated Lab Samples: 60474941001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<6.4	100	6.4	05/29/25 11:13	
Calcium	ug/L	<26.9	200	26.9	05/29/25 11:13	
Iron	ug/L	<9.1	50.0	9.1	05/29/25 11:13	
Magnesium	ug/L	<20.1	50.0	20.1	05/29/25 11:13	
Manganese	ug/L	<0.39	5.0	0.39	05/29/25 11:13	
Potassium	ug/L	<69.7	500	69.7	05/29/25 11:13	
Sodium	ug/L	<115	500	115	05/29/25 11:13	

LABORATORY CONTROL SAMPLE: 3706086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	953	95	85-115	
Calcium	ug/L	10000	10100	101	85-115	
Iron	ug/L	10000	9860	99	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3706087 3706088

Parameter	Units	60474875003		3706087		3706088		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Boron	ug/L	110	1000	1000	1060	1010	95	90	70-130	5	20		
Calcium	ug/L	61700	10000	10000	69900	68800	82	71	70-130	2	20		
Iron	ug/L	ND	10000	10000	9960	9400	99	94	70-130	6	20		
Magnesium	ug/L	9560	10000	10000	19100	18500	95	89	70-130	3	20		
Manganese	ug/L	15.8	1000	1000	1020	946	101	93	70-130	8	20		
Potassium	ug/L	10900	10000	10000	20700	19800	98	90	70-130	4	20		
Sodium	ug/L	69200	10000	10000	77000	75800	78	66	70-130	2	20 M1		

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	935319	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60474941002, 60474941003, 60474941005, 60474941006

METHOD BLANK: 3707156 Matrix: Water

Associated Lab Samples: 60474941002, 60474941003, 60474941005, 60474941006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<6.4	100	6.4	05/30/25 14:41	
Calcium	ug/L	<26.9	200	26.9	05/30/25 14:41	
Iron	ug/L	<9.1	50.0	9.1	05/30/25 14:41	
Magnesium	ug/L	<20.1	50.0	20.1	05/30/25 14:41	
Manganese	ug/L	1.8J	5.0	0.39	05/30/25 14:41	
Potassium	ug/L	<69.7	500	69.7	05/30/25 14:41	
Sodium	ug/L	<115	500	115	05/30/25 14:41	

LABORATORY CONTROL SAMPLE: 3707157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	929	93	85-115	
Calcium	ug/L	10000	10000	100	85-115	
Iron	ug/L	10000	9880	99	85-115	
Magnesium	ug/L	10000	9920	99	85-115	
Manganese	ug/L	1000	980	98	85-115	
Potassium	ug/L	10000	9770	98	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE SAMPLE: 3707158

Parameter	Units	60474364019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	482	1000	1380	89	70-130	
Calcium	ug/L	175000	10000	183000	76	70-130	
Iron	ug/L	418	10000	9860	94	70-130	
Magnesium	ug/L	39900	10000	48900	90	70-130	
Manganese	ug/L	343	1000	1240	90	70-130	
Potassium	ug/L	6710	10000	16000	93	70-130	
Sodium	ug/L	51100	10000	59700	87	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3707159 3707160

Parameter	Units	60474364021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	735	1000	2000	2560	1600	182	43	70-130	46	20	R1
Calcium	ug/L	155000	10000	20000	168000	157000	129	7	70-130	7	20	M1

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60474941

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3707159 3707160														
Parameter	Units	60474364021		MS	MSD	3707160		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	MS Result	MSD Result							
Iron	ug/L	1220	10000	20000	20400	10600	191	47	70-130	63	20	R1		
Magnesium	ug/L	25800	10000	20000	43800	34000	180	41	70-130	25	20	R1		
Manganese	ug/L	338	1000	2000	2190	1260	185	46	70-130	54	20	R1		
Potassium	ug/L	6820	10000	20000	26100	15900	193	46	70-130	48	20	R1		
Sodium	ug/L	58800	10000	20000	76000	64900	173	31	70-130	16	20	M1		

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch: 935320 Analysis Method: EPA 200.7  
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total  
 Laboratory: Pace Analytical Services - Kansas City  
 Associated Lab Samples: 60474941004, 60474941007, 60474941008

METHOD BLANK: 3707170 Matrix: Water  
 Associated Lab Samples: 60474941004, 60474941007, 60474941008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<6.4	100	6.4	05/23/25 16:24	
Calcium	ug/L	<26.9	200	26.9	05/23/25 16:24	
Iron	ug/L	<9.1	50.0	9.1	05/23/25 16:24	
Magnesium	ug/L	<20.1	50.0	20.1	05/23/25 16:24	
Manganese	ug/L	<0.39	5.0	0.39	05/23/25 16:24	
Potassium	ug/L	<69.7	500	69.7	05/23/25 16:24	
Sodium	ug/L	<115	500	115	05/23/25 16:24	

LABORATORY CONTROL SAMPLE: 3707171

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	892	89	85-115	
Calcium	ug/L	10000	10000	100	85-115	
Iron	ug/L	10000	9830	98	85-115	
Magnesium	ug/L	10000	9670	97	85-115	
Manganese	ug/L	1000	983	98	85-115	
Potassium	ug/L	10000	9690	97	85-115	
Sodium	ug/L	10000	9600	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3707172 3707173

Parameter	Units	60474941004		3707172		3707173		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result						
Boron	ug/L	105	1000	1000	986	997	88	89	70-130	1	20		
Calcium	ug/L	155000	10000	10000	163000	165000	74	99	70-130	2	20		
Iron	ug/L	4070	10000	10000	13600	13600	95	95	70-130	0	20		
Magnesium	ug/L	31500	10000	10000	40300	40900	88	94	70-130	2	20		
Manganese	ug/L	756	1000	1000	1670	1720	92	96	70-130	3	20		
Potassium	ug/L	5420	10000	10000	14900	15200	95	98	70-130	2	20		
Sodium	ug/L	5880	10000	10000	15000	15300	91	95	70-130	2	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3707174 3707175

Parameter	Units	60474942001		3707174		3707175		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result						
Boron	ug/L	75.3J	1000	1000	942	927	87	85	70-130	2	20		

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3707174												3707175	
Parameter	Units	60474942001		MS	MSD	MS	MSD	% Rec	MSD	% Rec	Max	Qual	
		Result	Conc.	Spike	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		
Calcium	ug/L	118000	10000	10000	125000	124000	71	61	70-130	1	20	M1	
Iron	ug/L	16.4J	10000	10000	9240	9190	92	92	70-130	1	20		
Magnesium	ug/L	22200	10000	10000	30600	30500	84	83	70-130	0	20		
Manganese	ug/L	371	1000	1000	1290	1270	92	90	70-130	1	20		
Potassium	ug/L	4560	10000	10000	14100	13900	95	93	70-130	1	20		
Sodium	ug/L	4050	10000	10000	13100	13000	91	89	70-130	2	20		

MATRIX SPIKE SAMPLE: 3707176									
Parameter	Units	60474940002		Spike	MS	MS	% Rec	Qualifiers	
		Result	Conc.		Result	% Rec	Limits		
Boron	ug/L		853	1000	1720		86	70-130	
Calcium	ug/L		140000	10000	145000		54	70-130 M1	
Iron	ug/L		<9.1	10000	9520		95	70-130	
Magnesium	ug/L		45900	10000	54000		81	70-130	
Manganese	ug/L		47.6	1000	998		95	70-130	
Potassium	ug/L		4090	10000	13500		94	70-130	
Sodium	ug/L		28800	10000	37300		85	70-130	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch: 935894

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 Metals, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60474805001, 60474805002

METHOD BLANK: 3709607

Matrix: Water

Associated Lab Samples: 60474805001, 60474805002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<6.4	100	6.4	06/03/25 17:53	
Calcium	ug/L	<26.9	200	26.9	06/03/25 17:53	
Iron	ug/L	<9.1	50.0	9.1	06/03/25 17:53	
Magnesium	ug/L	<20.1	50.0	20.1	06/03/25 17:53	
Manganese	ug/L	<0.39	5.0	0.39	06/03/25 17:53	
Potassium	ug/L	<69.7	500	69.7	06/03/25 17:53	
Sodium	ug/L	<115	500	115	06/03/25 17:53	

LABORATORY CONTROL SAMPLE: 3709608

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	915	92	85-115	
Calcium	ug/L	10000	10000	100	85-115	
Iron	ug/L	10000	10100	101	85-115	
Magnesium	ug/L	10000	9660	97	85-115	
Manganese	ug/L	1000	954	95	85-115	
Potassium	ug/L	10000	9540	95	85-115	
Sodium	ug/L	10000	9900	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3709609 3709610

Parameter	Units	60474805001		60474805002		3709609		3709610		% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Boron	ug/L	56.5J	1000	1000	1030	980	97	92	70-130	5	20	
Calcium	ug/L	177000	10000	10000	186000	176000	93	-8	70-130	6	20	M1
Iron	ug/L	38.1J	10000	10000	10700	9930	106	99	70-130	7	20	
Magnesium	ug/L	35100	10000	10000	44900	42400	98	73	70-130	6	20	
Manganese	ug/L	749	1000	1000	1720	1680	97	93	70-130	2	20	
Potassium	ug/L	479J	10000	10000	10600	10300	102	98	70-130	3	20	
Sodium	ug/L	5540	10000	10000	15900	15100	104	96	70-130	5	20	

MATRIX SPIKE SAMPLE: 3709611

Parameter	Units	60475280007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	126	1000	1090	96	70-130	
Calcium	ug/L	128000	10000	143000	152	70-130	M1

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60474941

MATRIX SPIKE SAMPLE:		3709611					
Parameter	Units	60475280007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	777	10000	11400	106	70-130	
Magnesium	ug/L	15900	10000	26200	103	70-130	
Manganese	ug/L	13.0	1000	995	98	70-130	
Potassium	ug/L	6090	10000	16200	101	70-130	
Sodium	ug/L	61300	10000	72800	114	70-130	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	935400	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60474805001, 60474805002

METHOD BLANK: 3707605 Matrix: Water

Associated Lab Samples: 60474805001, 60474805002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	05/16/25 14:53	

LABORATORY CONTROL SAMPLE: 3707606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	540	108	90-110	

SAMPLE DUPLICATE: 3707607

Parameter	Units	60474665010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	468	456	3	10	

SAMPLE DUPLICATE: 3707608

Parameter	Units	60474796004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	293	301	3	10	

SAMPLE DUPLICATE: 3707609

Parameter	Units	60474805001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	555	538	3	10	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	935488	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60474941001, 60474941002, 60474941003, 60474941004, 60474941005, 60474941006, 60474941007, 60474941008		

METHOD BLANK:	3708147	Matrix:	Water
Associated Lab Samples:	60474941001, 60474941002, 60474941003, 60474941004, 60474941005, 60474941006, 60474941007, 60474941008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	05/16/25 22:17	

LABORATORY CONTROL SAMPLE: 3708148						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	538	108	90-110	

SAMPLE DUPLICATE: 3708149						
Parameter	Units	60474882003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	328	322	2	10	

SAMPLE DUPLICATE: 3708150						
Parameter	Units	60474941004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	465	460	1	10	

SAMPLE DUPLICATE: 3708151						
Parameter	Units	60474941008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	289	299	3	10	

SAMPLE DUPLICATE: 3708152						
Parameter	Units	60474802006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	319	309	3	10	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	934870	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60474805001, 60474805002

METHOD BLANK: 3704941 Matrix: Water

Associated Lab Samples: 60474805001, 60474805002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/13/25 15:26	

LABORATORY CONTROL SAMPLE: 3704942

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

SAMPLE DUPLICATE: 3704943

Parameter	Units	60474796004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3330	3320	0	10	

SAMPLE DUPLICATE: 3704944

Parameter	Units	60474832004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	443	449	1	10	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	935019	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60474941001, 60474941006, 60474941008		

METHOD BLANK: 3705708 Matrix: Water

Associated Lab Samples: 60474941001, 60474941006, 60474941008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/14/25 16:07	

LABORATORY CONTROL SAMPLE: 3705709

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

SAMPLE DUPLICATE: 3705710

Parameter	Units	60474942001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	466	477	2	10	

SAMPLE DUPLICATE: 3705711

Parameter	Units	60474802006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	431	423	2	10	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	935176	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60474941002, 60474941003, 60474941004, 60474941005, 60474941007

METHOD BLANK: 3706328 Matrix: Water

Associated Lab Samples: 60474941002, 60474941003, 60474941004, 60474941005, 60474941007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/15/25 16:54	

LABORATORY CONTROL SAMPLE: 3706329

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

SAMPLE DUPLICATE: 3706330

Parameter	Units	60474940002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	747	737	1	10	

SAMPLE DUPLICATE: 3706331

Parameter	Units	60474941004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	619	623	1	10	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	937191	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60474805001, 60474805002

METHOD BLANK: 3715440 Matrix: Water

Associated Lab Samples: 60474805001, 60474805002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/02/25 17:48	
Fluoride	mg/L	<0.12	0.20	0.12	06/02/25 17:48	
Sulfate	mg/L	<0.55	1.0	0.55	06/02/25 17:48	

LABORATORY CONTROL SAMPLE: 3715441

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	94	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3715442 3715443

Parameter	Units	60474796004		3715443		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	50.1	50	96.0	89.8	92	79	80-120	7	15	M1
Fluoride	mg/L	ND	25	21.9	20.4	85	79	80-120	7	15	M1
Sulfate	mg/L	1780	1000	3010	2870	123	109	80-120	5	15	M1

SAMPLE DUPLICATE: 3715470

Parameter	Units	60474796004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	50.1	43.6	14	15	
Fluoride	mg/L	ND	<1.2		15	
Sulfate	mg/L	1780	1880	6	15	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	937354	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60474941001, 60474941005, 60474941006, 60474941008

METHOD BLANK: 3716100 Matrix: Water  
 Associated Lab Samples: 60474941001, 60474941005, 60474941006, 60474941008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.54J	1.0	0.53	06/11/25 00:29	
Fluoride	mg/L	<0.12	0.20	0.12	06/11/25 00:29	
Sulfate	mg/L	<0.55	1.0	0.55	06/11/25 00:29	

LABORATORY CONTROL SAMPLE: 3716101

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3716102 3716103

Parameter	Units	60474802006		3716102		3716103		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	46.6	25	25	68.6	68.0	88	86	80-120	1	15	H1	
Fluoride	mg/L	0.56	2.5	2.5	2.7	2.7	85	85	80-120	0	15	H1	
Sulfate	mg/L	8.0	5	5	13.2	13.2	103	103	80-120	0	15	H1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3716105 3716106

Parameter	Units	60474942001		3716105		3716106		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	10.8	5	5	15.9	16.0	103	105	80-120	1	15	H1	
Fluoride	mg/L	0.34	2.5	2.5	2.5	2.6	87	90	80-120	3	15	H1	
Sulfate	mg/L	57.3	50	50	106	105	98	96	80-120	1	15	H1	

SAMPLE DUPLICATE: 3716104

Parameter	Units	60474802006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	46.6	45.6	2	15	H1
Fluoride	mg/L	0.56	0.26	72	15	D6,H1
Sulfate	mg/L	8.0	8.1	1	15	H1

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60474941

SAMPLE DUPLICATE: 3716107

Parameter	Units	60474942001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	10.8	11.5	6	15	H1
Fluoride	mg/L	0.34	0.14J		15	H1
Sulfate	mg/L	57.3	56.3	2	15	H1

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60474941

QC Batch:	937359	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60474941002, 60474941003, 60474941004, 60474941007

METHOD BLANK: 3716114 Matrix: Water  
 Associated Lab Samples: 60474941002, 60474941003, 60474941004, 60474941007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/06/25 15:12	
Fluoride	mg/L	<0.12	0.20	0.12	06/06/25 15:12	
Sulfate	mg/L	<0.55	1.0	0.55	06/06/25 15:12	

LABORATORY CONTROL SAMPLE: 3716115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3716116 3716117

Parameter	Units	60474941004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	25.1	50	50	69.1	69.3	88	88	80-120	0	15	H1
Fluoride	mg/L	0.18J	2.5	2.5	1.8	1.8	63	67	80-120	4	15	H1,M1
Sulfate	mg/L	74.8	50	50	122	122	95	94	80-120	0	15	H1

SAMPLE DUPLICATE: 3716118

Parameter	Units	60474941004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	25.1	25.6	2	15	
Fluoride	mg/L	0.18J	0.17J		15	
Sulfate	mg/L	74.8	75.3	1	15	

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## QUALIFIERS

Project: AMEREN SCPC

Pace Project No.: 60474941

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### 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

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPC

Pace Project No.: 60474941

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60474805001	S-BMW-1S	EPA 200.7	935894	EPA 200.7	935991
60474805002	S-BMW-3S	EPA 200.7	935894	EPA 200.7	935991
60474941001	S-UG-1A	EPA 200.7	935106	EPA 200.7	935133
60474941002	S-DG-1	EPA 200.7	935319	EPA 200.7	935342
60474941003	S-DG-2	EPA 200.7	935319	EPA 200.7	935342
60474941004	S-DG-3	EPA 200.7	935320	EPA 200.7	935524
60474941005	S-DG-4	EPA 200.7	935319	EPA 200.7	935342
60474941006	S-SCPC-DUP-1	EPA 200.7	935319	EPA 200.7	935342
60474941007	S-SCPC-FB-1	EPA 200.7	935320	EPA 200.7	935524
60474941008	S-UG-2	EPA 200.7	935320	EPA 200.7	935524
60474805001	S-BMW-1S	SM 2320B	935400		
60474805002	S-BMW-3S	SM 2320B	935400		
60474941001	S-UG-1A	SM 2320B	935488		
60474941002	S-DG-1	SM 2320B	935488		
60474941003	S-DG-2	SM 2320B	935488		
60474941004	S-DG-3	SM 2320B	935488		
60474941005	S-DG-4	SM 2320B	935488		
60474941006	S-SCPC-DUP-1	SM 2320B	935488		
60474941007	S-SCPC-FB-1	SM 2320B	935488		
60474941008	S-UG-2	SM 2320B	935488		
60474805001	S-BMW-1S	SM 2540C	934870		
60474805002	S-BMW-3S	SM 2540C	934870		
60474941001	S-UG-1A	SM 2540C	935019		
60474941002	S-DG-1	SM 2540C	935176		
60474941003	S-DG-2	SM 2540C	935176		
60474941004	S-DG-3	SM 2540C	935176		
60474941005	S-DG-4	SM 2540C	935176		
60474941006	S-SCPC-DUP-1	SM 2540C	935019		
60474941007	S-SCPC-FB-1	SM 2540C	935176		
60474941008	S-UG-2	SM 2540C	935019		
60474805001	S-BMW-1S	EPA 300.0	937191		
60474805002	S-BMW-3S	EPA 300.0	937191		
60474941001	S-UG-1A	EPA 300.0	937354		
60474941002	S-DG-1	EPA 300.0	937359		
60474941003	S-DG-2	EPA 300.0	937359		
60474941004	S-DG-3	EPA 300.0	937359		
60474941005	S-DG-4	EPA 300.0	937354		
60474941006	S-SCPC-DUP-1	EPA 300.0	937354		
60474941007	S-SCPC-FB-1	EPA 300.0	937359		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPC  
Pace Project No.: 60474941

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Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60474941008	S-UG-2	EPA 300.0	937354		

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### REPORT OF LABORATORY ANALYSIS

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WO#: 60474941



60474941



DC#\_Title: ENV-FRM-LENE-0009\_Sample Co

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Rocksmitz Geoen9

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-301 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.6/0.3 Corr. Factor to .1 Corrected 1.7/0.4

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 0.1/1.1 0.2/1.2

W 5/12/25

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

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

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: \_\_\_\_\_



Client: Rocks with Geoenig

Profile # 3244563

Site: \_\_\_\_\_ 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	BP3B	BP3Z	WPDU	ZPLC	Other
1	WT																		1				1							
2																			3				3							
3																			3				3							
4																			1				1							
5																			1				1							
6																			3				3							
7																			1				1							
8																			1				1							
9																														
10	WT																													
11																														
12																														

(MS/WSD)

Container Codes

Glass		Plastic		Misc.	
DG9B	40mL bisulfate clear vial	BP1B	1L NaOH plastic	I	Wipe/Swab
DG9H	40mL HCl amber vial	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	BP2B	500mL NaOH plastic	R	Terracore Kit
DG9U	40mL amber unpreserved	BP2N	500mL HNO3 plastic	U	Summa Can
VG9H	40mL HCl clear vial	BP2S	500mL H2SO4 plastic		
VG9T	40mL Na Thio. clear vial	BP2U	500mL unpreserved plastic		
VG9U	40mL unpreserved clear vial	BP2Z	500mL NaOH, Zn Acetate		
BG1S	1liter H2SO4 clear glass	BP3B	250mL NaOH plastic		
BG1U	1liter unpres glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3H	250mL HCL Clear glass	BP3N	250mL HNO3 plastic	SL	Solid
BG3U	250mL Unpres Clear glass	BP3U	250mL unpreserved plastic	NAL	Non-aqueous Liquid
WGDU	16oz clear soil jar	BP3S	250mL H2SO4 plastic	OL	OIL
		BP3Z	250mL NaOH, Zn Acetate	WP	Wipe
		BP4U	125mL unpreserved plastic	DW	Drinking Water
		BP4N	125mL HNO3 plastic		
		BP4S	125mL H2SO4 plastic		
		WPDU	16oz unpreserved plastic		

60074941

Work Order Number:





# Memorandum

July 31, 2025

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**To:** Project File  
Rocksmith Geoengineering, LLC

**Project Number:** 23009-25

**CC:** Mark Haddock, Jeffrey Ingram

**From:** Jack Rasmussen

**Email:** Jack.Rasmussen@Rocksmithgeo.com

**RE:** **Data Validation Summary, Sioux Energy Center – SCPC – Data Package 60474941**

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

- When a compound was analyzed outside of hold time, the sample result was qualified as an estimate (J! for detects, UJ for non-detects).
- When a compound was detected in a sample result between the Method Detection Limit (MDL) and Practical Quantification Limit (PQL), the results were recorded at the detection value and qualified as estimates (J).
- When a matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J, J+ for estimates based high, and J- for estimates based low).

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering  
 Project Name: Ameren SPCPC  
 Reviewer: J. Rasmussen

Project Manager: J. Ingram  
 Project Number: 23009-25  
 Validation Date: 7/31/2025

Laboratory: Pace Analytical SDG #: 60474941  
 Analytical Method (type and no.): EPA 200.7 (Total Metals); SM 2320B (Alkalinity); SM 2540C (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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>05/07/2025 - 05/09/2025</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>JTR/GTM</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				

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

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

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

**Comments/Notes:**

General:

Chloride, sulfate and/or fluoride analyzed outside of holding times for multiple samples. Results qualified as estimates.

Chloride and/or sulfate diluted in several samples, no qualifications necessary.







July 25, 2025

Mark Haddock  
Rocksmith Geoengineering, LLC.  
2320 Creve Coeur Mill Road  
Maryland Heights, MO 63043

RE: Project: AMEREN SCPC-VERIFICATION  
Pace Project No.: 60478805

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2025. 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: Jeffrey Ingram, Rocksmith Geoengineering, LLC.  
Lisa Meyer, Ameren  
Grant Morey, Rocksmith Geoengineering, LLC.  
Austin Nieman, Ameren



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

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### **Pace Analytical Services Kansas**

9608 Loiret Boulevard, Lenexa, KS 66219

Arkansas Certification #: 88-00679

Illinois Certification #: 2000302023-6

Colorado Division of Oil and Public Safety

Iowa Certification #: 118

Kansas Field Laboratory Certification #: E-92587

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Missouri Inorganic Drinking Water Certification

Nevada Certification #: KS000212024-1

Oklahoma Certification #: 2023-073

Texas Certification #: T104704407-23-17

Utah Certification #: KS000212022-13

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### SAMPLE SUMMARY

Project: AMEREN SCPC-VERIFICATION  
Pace Project No.: 60478805

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60478805001	S-DG-2	Water	07/10/25 11:33	07/11/25 07:09
60478805002	S-DG-3	Water	07/10/25 12:52	07/11/25 07:09
60478805003	S-SCPC-DUP-1	Water	07/10/25 00:00	07/11/25 07:09
60478805004	S-SCPC-FB-1	Water	07/10/25 13:17	07/11/25 07:09

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### SAMPLE ANALYTE COUNT

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60478805001	S-DG-2	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	2	PASI-K
60478805002	S-DG-3	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	2	PASI-K
60478805003	S-SCPC-DUP-1	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	2	PASI-K
60478805004	S-SCPC-FB-1	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	CAR	1	PASI-K
		EPA 300.0	MLD	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

Sample: S-DG-2 Lab ID: 60478805001 Collected: 07/10/25 11:33 Received: 07/11/25 07:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	<b>96.8J</b>	ug/L	100	33.2	1	07/11/25 14:16	07/16/25 15:28	7440-42-8	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	<b>550</b>	mg/L	10.0	10.0	1		07/15/25 14:44		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	<b>6.3</b>	mg/L	1.0	0.53	1		07/20/25 02:04	16887-00-6	
Sulfate	<b>49.4</b>	mg/L	10.0	5.5	10		07/20/25 02:49	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

Sample: S-DG-3 Lab ID: 60478805002 Collected: 07/10/25 12:52 Received: 07/11/25 07:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	115	ug/L	100	33.2	1	07/11/25 14:16	07/16/25 15:57	7440-42-8	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	619	mg/L	13.3	13.3	1		07/15/25 14:44		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	22.6	mg/L	10.0	5.3	10		07/21/25 22:00	16887-00-6	
Sulfate	69.9	mg/L	10.0	5.5	10		07/21/25 22:00	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

Sample: S-SCPC-DUP-1 Lab ID: 60478805003 Collected: 07/10/25 00:00 Received: 07/11/25 07:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	110	ug/L	100	33.2	1	07/11/25 14:16	07/16/25 15:59	7440-42-8	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	615	mg/L	13.3	13.3	1		07/15/25 14:45		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	21.7	mg/L	10.0	5.3	10		07/21/25 22:11	16887-00-6	
Sulfate	71.2	mg/L	10.0	5.5	10		07/21/25 22:11	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

Sample: S-SCPC-FB-1 Lab ID: 60478805004 Collected: 07/10/25 13:17 Received: 07/11/25 07:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	<33.2	ug/L	100	33.2	1	07/11/25 14:16	07/16/25 16:00	7440-42-8	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		07/15/25 14:45		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	<0.53	mg/L	1.0	0.53	1		07/21/25 22:22	16887-00-6	
Sulfate	<0.55	mg/L	1.0	0.55	1		07/21/25 22:22	14808-79-8	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

QC Batch:	941485	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60478805001, 60478805002, 60478805003, 60478805004		

METHOD BLANK: 3732484 Matrix: Water  
 Associated Lab Samples: 60478805001, 60478805002, 60478805003, 60478805004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<33.2	100	33.2	07/16/25 15:24	

LABORATORY CONTROL SAMPLE: 3732485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	859	86	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3732486 3732487

Parameter	Units	60478805001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	96.8J	1000	1000	987	1000	89	91	70-130	2	20	

MATRIX SPIKE SAMPLE: 3732488

Parameter	Units	60478785002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	ND	1000	984	92	70-130	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

QC Batch:	941730	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60478805001, 60478805002, 60478805003, 60478805004		

METHOD BLANK: 3733377 Matrix: Water  
 Associated Lab Samples: 60478805001, 60478805002, 60478805003, 60478805004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	07/15/25 14:44	

LABORATORY CONTROL SAMPLE: 3733378

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

SAMPLE DUPLICATE: 3733379

Parameter	Units	60478805001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	550	553	1	10	

SAMPLE DUPLICATE: 3733380

Parameter	Units	60478820004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	792	784	1	10	

SAMPLE DUPLICATE: 3733381

Parameter	Units	60478826001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	487	493	1	10	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

QC Batch: 942249

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60478805001

METHOD BLANK: 3735306

Matrix: Water

Associated Lab Samples: 60478805001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/19/25 19:05	
Sulfate	mg/L	<0.55	1.0	0.55	07/19/25 19:05	

LABORATORY CONTROL SAMPLE: 3735307

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3735308 3735309

Parameter	Units	60478698001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.1	5	5	6.6	6.6	89	90	80-120	1	15	
Sulfate	mg/L	14.2	5	5	19.3	19.3	103	103	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3735311 3735312

Parameter	Units	60478803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	29.0	50	50	69.9	70.3	82	83	80-120	0	15	
Sulfate	mg/L	273	50	50	331	332	117	118	80-120	0	15 E	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3735314 3735315

Parameter	Units	60478805001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.3	5	5	10.5	10.9	85	92	80-120	3	15	
Sulfate	mg/L	49.4	50	50	99.2	96.6	100	95	80-120	3	15	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

SAMPLE DUPLICATE: 3735310

Parameter	Units	60478698001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	2.1	2.1	0	15	
Sulfate	mg/L	14.2	14.1	0	15	

SAMPLE DUPLICATE: 3735313

Parameter	Units	60478803001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	29.0	25.3	14	15	
Sulfate	mg/L	273	277	2	15 E	

SAMPLE DUPLICATE: 3735316

Parameter	Units	60478805001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	6.3	6.2	2	15	
Sulfate	mg/L	49.4	48.4	2	15	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

QC Batch:	942433	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60478805002, 60478805003, 60478805004

METHOD BLANK: 3735893 Matrix: Water  
 Associated Lab Samples: 60478805002, 60478805003, 60478805004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	07/21/25 19:08	
Sulfate	mg/L	<0.55	1.0	0.55	07/21/25 19:08	

LABORATORY CONTROL SAMPLE: 3735894

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3735895 3735896

Parameter	Units	60478806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	8.6	5	5	12.4	12.3	75	73	80-120	1	15	M1
Sulfate	mg/L	40.0	5	5	45.1	45.0	102	101	80-120	0	15	E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3735898 3735899

Parameter	Units	60478810001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.5	5	5	5.6	5.7	83	84	80-120	1	15	
Sulfate	mg/L	89.4	50	50	139	137	100	94	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3735904 3735905

Parameter	Units	60478826001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11.8	5	5	15.5	15.5	74	73	80-120	0	15	M1
Sulfate	mg/L	68.7	5	5	73.7	73.6	101	99	80-120	0	15	E

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### QUALITY CONTROL DATA

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

SAMPLE DUPLICATE: 3735897

Parameter	Units	60478806001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	8.6	8.6	0	15	
Sulfate	mg/L	40.0	39.6	1	15	E

SAMPLE DUPLICATE: 3735906

Parameter	Units	60478826001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	11.8	11.8	0	15	
Sulfate	mg/L	68.7	68.4	0	15	E

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## QUALIFIERS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

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### 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

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

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60478805

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60478805001	S-DG-2	EPA 200.7	941485	EPA 200.7	941516
60478805002	S-DG-3	EPA 200.7	941485	EPA 200.7	941516
60478805003	S-SCPC-DUP-1	EPA 200.7	941485	EPA 200.7	941516
60478805004	S-SCPC-FB-1	EPA 200.7	941485	EPA 200.7	941516
60478805001	S-DG-2	SM 2540C	941730		
60478805002	S-DG-3	SM 2540C	941730		
60478805003	S-SCPC-DUP-1	SM 2540C	941730		
60478805004	S-SCPC-FB-1	SM 2540C	941730		
60478805001	S-DG-2	EPA 300.0	942249		
60478805002	S-DG-3	EPA 300.0	942433		
60478805003	S-SCPC-DUP-1	EPA 300.0	942433		
60478805004	S-SCPC-FB-1	EPA 300.0	942433		

### REPORT OF LABORATORY ANALYSIS

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WO# : 60478805



DC#\_ Title: ENV-FRM-LENE-0009\_Sample C

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Rocksmith Geoeng

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-301 Type of Ice: Wet Blue  None

Cooler Temperature (°C): As-read 1.9 Corr. Factor 0.0 Corrected 1.9

Date and initials of person examining contents:

R 2/11/25

Temperature should be above freezing to 6°C

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

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

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: \_\_\_\_\_







# Memorandum

August 12, 2025

---

**To:** Project File  
Rocksmith Geoengineering, LLC

**Project Number:** 23009-25

**CC:** Mark Haddock, Jeffrey Ingram

**From:** Emy Ludwig

**Email:** emy.ludwig@rocksmithgeo.com

**RE:** **Data Validation Summary, Sioux Energy Center – SCPC – Data Package 60478805**

---

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

- None identified.



## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

**Comments/Notes:**

QAQC Samples:

S-SCPC-DUP-1 and S-SCPC-FB-1 are associated with sample S-DG-3

S-SCPC-MS/MSD-1 is associated with sample S-DG-2

Dilution:

Sample S-DG-2 (Sulfate) was diluted at a factor of 10. No qualification applied.

Sample S-DG-3 and S-SCPC-DUP-1 (Sulfate and Chloride) was diluted at a factor of 10. No qualification applied.

## QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

### Comments/Notes:

MS/MSD:

3735895/3735896: MS and MSD recovery low for chloride, RPD within control limit. Associated with unrelated sample, no qualification necessary.

3735904/3735905: MS and MSD recovery low for chloride, RPD within control limit. Associated with unrelated sample, no qualification necessary.





November 12, 2025

Mark Haddock  
Rocksmith Geoengineering, LLC.  
2320 Creve Coeur Mill Road  
Maryland Heights, MO 63043

RE: Project: AMEREN SCPC  
Pace Project No.: 60483728

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between October 08, 2025 and October 10, 2025. 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 - Salina

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: Jeffrey Ingram, Rocksmith Geoengineering, LLC.  
Lisa Meyer, Ameren  
Grant Morey, Rocksmith Geoengineering, LLC.  
Austin Nieman, Ameren



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: AMEREN SCPC

Pace Project No.: 60483728

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### Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

EPA Lab Code: KS00021

Arkansas Certification #: 88-00679

Colorado Division of Oil and Public Safety

Illinois Certification #: 200030

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Oklahoma Certification #: 9205

Texas Certification #: T104704407

Utah Certification #: KS0002125-15

UDSA\_CA : #KS-SC-DOM-25-01

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### Pace Analytical Services Salina

528 N 9th Street, Salina, KS 67401

EPA Lab Code: KS00013

Kansas/NELAP Certification: # E-10146

Oklahoma Certification: #2405

Texas Certification: T104704246-23-15

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: AMEREN SCPC

Pace Project No.: 60483728

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60483728001	S-UG-1A	Water	10/07/25 14:51	10/08/25 08:20
60483728002	S-SCPC-DUP-1	Water	10/07/25 08:00	10/08/25 08:20
60483728003	S-UG-2	Water	10/07/25 13:43	10/08/25 08:20
60483728004	S-DG-1	Water	10/08/25 10:30	10/10/25 07:30
60483728005	S-DG-2	Water	10/08/25 09:10	10/10/25 07:30
60483728006	S-DG-3	Water	10/08/25 11:53	10/10/25 07:30
60483728007	S-DG-4	Water	10/08/25 12:58	10/10/25 07:30
60483728008	S-SCPC-FB-1	Water	10/08/25 12:50	10/10/25 07:30
60483592004	S-BMW-1S	Water	10/06/25 10:16	10/08/25 08:20
60483592005	S-BMW-3S	Water	10/06/25 11:57	10/08/25 08:20

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### SAMPLE ANALYTE COUNT

Project: AMEREN SCPC

Pace Project No.: 60483728

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60483728001	S-UG-1A	EPA 200.7	JGP	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	AJWM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
60483728002	S-SCPC-DUP-1	EPA 200.7	JGP	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	AJWM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
60483728003	S-UG-2	EPA 200.7	JGP	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	AJWM	1	PASI-K
		SM 2540C	CAR	1	PASI-K
60483728004	S-DG-1	EPA 200.7	ARMN	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	AJWM	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
60483728005	S-DG-2	EPA 200.7	ARMN	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	AJWM	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
60483728006	S-DG-3	EPA 200.7	ARMN	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	EMB	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
60483728007	S-DG-4	EPA 200.7	ARMN	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	AJWM	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
60483728008	S-SCPC-FB-1	EPA 200.7	ARMN	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	AJWM	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
60483592004	S-BMW-1S	EPA 200.7	JGP	7	PASI-K
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	EMB	1	PASI-K
		SM 2540C	CAR	1	PASI-K
60483592005	S-BMW-3S	EPA 200.7	JGP	7	PASI-K

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### SAMPLE ANALYTE COUNT

Project: AMEREN SCPC

Pace Project No.: 60483728

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Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	MLL	3	PASI-SA
		SM 2320B	EMB	1	PASI-K
		SM 2540C	CAR	1	PASI-K

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PASI-K = Pace Analytical Services - Kansas City

PASI-SA = Pace Analytical Services - Salina

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-UG-1A Lab ID: 60483728001 Collected: 10/07/25 14:51 Received: 10/08/25 08:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Boron	223	ug/L	100	7.3	1	10/09/25 14:57	10/20/25 11:11	7440-42-8	
Calcium	179000	ug/L	200	12.1	1	10/09/25 14:57	10/20/25 11:11	7440-70-2	
Iron	12.8J	ug/L	50.0	8.7	1	10/09/25 14:57	10/20/25 11:11	7439-89-6	
Magnesium	41700	ug/L	50.0	16.0	1	10/09/25 14:57	10/20/25 11:11	7439-95-4	
Manganese	339	ug/L	5.0	0.52	1	10/09/25 14:57	10/20/25 11:11	7439-96-5	
Potassium	11400	ug/L	500	66.6	1	10/09/25 14:57	10/20/25 11:11	7440-09-7	
Sodium	51100	ug/L	500	46.9	1	10/09/25 14:57	10/20/25 11:11	7440-23-5	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0									
Pace Analytical Services - Salina									
Chloride	149	mg/L	20.0	3.6	20		10/28/25 20:09	16887-00-6	
Fluoride	0.26	mg/L	0.10	0.040	1		10/28/25 13:23	16984-48-8	
Sulfate	41.7	mg/L	5.0	0.48	5		10/28/25 19:57	14808-79-8	
<b>2320B Alkalinity</b>									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	522	mg/L	20.0	10.5	1		10/21/25 17:33		L1
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	804	mg/L	13.3	13.3	1		10/14/25 09:10		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-SCPC-DUP-1 Lab ID: 60483728002 Collected: 10/07/25 08:00 Received: 10/08/25 08:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	232	ug/L	100	7.3	1	10/09/25 14:57	10/20/25 11:13	7440-42-8	
Calcium	186000	ug/L	200	12.1	1	10/09/25 14:57	10/20/25 11:13	7440-70-2	
Iron	<8.7	ug/L	50.0	8.7	1	10/09/25 14:57	10/20/25 11:13	7439-89-6	
Magnesium	43200	ug/L	50.0	16.0	1	10/09/25 14:57	10/20/25 11:13	7439-95-4	
Manganese	364	ug/L	5.0	0.52	1	10/09/25 14:57	10/20/25 11:13	7439-96-5	
Potassium	11600	ug/L	500	66.6	1	10/09/25 14:57	10/20/25 11:13	7440-09-7	
Sodium	52200	ug/L	500	46.9	1	10/09/25 14:57	10/20/25 11:13	7440-23-5	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	147	mg/L	20.0	3.6	20		10/28/25 20:34	16887-00-6	
Fluoride	0.27	mg/L	0.10	0.040	1		10/28/25 14:00	16984-48-8	
Sulfate	42.0	mg/L	5.0	0.48	5		10/28/25 20:22	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	506	mg/L	20.0	10.5	1		10/21/25 17:33		L1
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	809	mg/L	13.3	13.3	1		10/14/25 09:10		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-UG-2 Lab ID: 60483728003 Collected: 10/07/25 13:43 Received: 10/08/25 08:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>94.8J</b>	ug/L	100	7.3	1	10/09/25 14:57	10/20/25 11:20	7440-42-8	
Calcium	<b>102000</b>	ug/L	200	12.1	1	10/09/25 14:57	10/20/25 11:20	7440-70-2	
Iron	<b>47.3J</b>	ug/L	50.0	8.7	1	10/09/25 14:57	10/20/25 11:20	7439-89-6	
Magnesium	<b>21600</b>	ug/L	50.0	16.0	1	10/09/25 14:57	10/20/25 11:20	7439-95-4	
Manganese	<b>56.3</b>	ug/L	5.0	0.52	1	10/09/25 14:57	10/20/25 11:20	7439-96-5	
Potassium	<b>4160</b>	ug/L	500	66.6	1	10/09/25 14:57	10/20/25 11:20	7440-09-7	
Sodium	<b>29500</b>	ug/L	500	46.9	1	10/09/25 14:57	10/20/25 11:20	7440-23-5	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	<b>37.3</b>	mg/L	2.0	0.36	2		10/28/25 20:46	16887-00-6	
Fluoride	<b>0.23</b>	mg/L	0.10	0.040	1		10/28/25 14:12	16984-48-8	
Sulfate	<b>22.8</b>	mg/L	2.0	0.19	2		10/28/25 20:46	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	<b>326</b>	mg/L	20.0	10.5	1		10/21/25 17:34		L1
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>428</b>	mg/L	10.0	10.0	1		10/14/25 09:10		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-DG-1 Lab ID: 60483728004 Collected: 10/08/25 10:30 Received: 10/10/25 07:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>100J</b>	ug/L	100	33.2	1	10/15/25 09:48	10/16/25 17:01	7440-42-8	
Calcium	<b>138000</b>	ug/L	200	45.3	1	10/15/25 09:48	10/16/25 17:01	7440-70-2	
Iron	<b>122</b>	ug/L	50.0	15.4	1	10/15/25 09:48	10/16/25 17:01	7439-89-6	
Magnesium	<b>32000</b>	ug/L	50.0	21.1	1	10/15/25 09:48	10/16/25 17:01	7439-95-4	
Manganese	<b>123</b>	ug/L	5.0	0.42	1	10/15/25 09:48	10/16/25 17:01	7439-96-5	
Potassium	<b>4820</b>	ug/L	500	45.2	1	10/15/25 09:48	10/16/25 17:01	7440-09-7	
Sodium	<b>4870</b>	ug/L	500	31.8	1	10/15/25 09:48	10/16/25 17:01	7440-23-5	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	<b>4.7</b>	mg/L	1.0	0.18	1		10/30/25 10:44	16887-00-6	
Fluoride	<b>0.30</b>	mg/L	0.10	0.040	1		10/30/25 10:44	16984-48-8	
Sulfate	<b>41.6</b>	mg/L	5.0	0.48	5		10/30/25 18:56	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	<b>442</b>	mg/L	20.0	10.5	1		10/22/25 18:20		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>446</b>	mg/L	10.0	10.0	1		10/15/25 13:02		

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**ANALYTICAL RESULTS**

Project: AMEREN SCPC

Pace Project No.: 60483728

**Sample: S-DG-2**      **Lab ID: 60483728005**      Collected: 10/08/25 09:10      Received: 10/10/25 07:30      Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	<b>80.3J</b>	ug/L	100	33.2	1	10/15/25 09:48	10/16/25 17:03	7440-42-8	
Calcium	<b>128000</b>	ug/L	200	45.3	1	10/15/25 09:48	10/16/25 17:03	7440-70-2	
Iron	<b>280</b>	ug/L	50.0	15.4	1	10/15/25 09:48	10/16/25 17:03	7439-89-6	
Magnesium	<b>25900</b>	ug/L	50.0	21.1	1	10/15/25 09:48	10/16/25 17:03	7439-95-4	
Manganese	<b>364</b>	ug/L	5.0	0.42	1	10/15/25 09:48	10/16/25 17:03	7439-96-5	
Potassium	<b>6380</b>	ug/L	500	45.2	1	10/15/25 09:48	10/16/25 17:03	7440-09-7	
Sodium	<b>4050</b>	ug/L	500	31.8	1	10/15/25 09:48	10/16/25 17:03	7440-23-5	B
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	<b>3.6</b>	mg/L	1.0	0.18	1		10/30/25 11:21	16887-00-6	
Fluoride	<b>0.32</b>	mg/L	0.10	0.040	1		10/30/25 11:21	16984-48-8	
Sulfate	<b>39.7</b>	mg/L	5.0	0.48	5		10/30/25 19:08	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	<b>444</b>	mg/L	20.0	10.5	1		10/22/25 18:20		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	<b>503</b>	mg/L	10.0	10.0	1		10/15/25 13:02		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-DG-3 Lab ID: 60483728006 Collected: 10/08/25 11:53 Received: 10/10/25 07:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	101	ug/L	100	33.2	1	10/16/25 07:48	10/21/25 13:12	7440-42-8	
Calcium	176000	ug/L	200	45.3	1	10/16/25 07:48	10/21/25 13:12	7440-70-2	M1,P6
Iron	209	ug/L	50.0	15.4	1	10/16/25 07:48	10/21/25 13:12	7439-89-6	
Magnesium	37000	ug/L	50.0	21.1	1	10/16/25 07:48	10/21/25 13:12	7439-95-4	
Manganese	964	ug/L	5.0	0.42	1	10/16/25 07:48	10/21/25 13:12	7439-96-5	
Potassium	5530	ug/L	500	45.2	1	10/16/25 07:48	10/21/25 13:12	7440-09-7	
Sodium	5330	ug/L	500	31.8	1	10/16/25 07:48	10/21/25 13:12	7440-23-5	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	9.4	mg/L	1.0	0.18	1		10/30/25 11:34	16887-00-6	
Fluoride	0.35	mg/L	0.10	0.040	1		10/30/25 11:34	16984-48-8	
Sulfate	98.4	mg/L	10.0	0.96	10		10/30/25 19:21	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	482	mg/L	20.0	10.5	1		10/24/25 03:42		H1
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	651	mg/L	13.3	13.3	1		10/15/25 13:03		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-DG-4 Lab ID: 60483728007 Collected: 10/08/25 12:58 Received: 10/10/25 07:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	103	ug/L	100	33.2	1	10/15/25 09:48	10/16/25 17:04	7440-42-8	
Calcium	169000	ug/L	200	45.3	1	10/15/25 09:48	10/16/25 17:04	7440-70-2	M1
Iron	<15.4	ug/L	50.0	15.4	1	10/15/25 09:48	10/16/25 17:04	7439-89-6	
Magnesium	43500	ug/L	50.0	21.1	1	10/15/25 09:48	10/16/25 17:04	7439-95-4	
Manganese	330	ug/L	5.0	0.42	1	10/15/25 09:48	10/16/25 17:04	7439-96-5	
Potassium	6010	ug/L	500	45.2	1	10/15/25 09:48	10/16/25 17:04	7440-09-7	
Sodium	9730	ug/L	500	31.8	1	10/15/25 09:48	10/16/25 17:04	7440-23-5	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	52.3	mg/L	5.0	0.90	5		10/30/25 19:58	16887-00-6	
Fluoride	0.30	mg/L	0.10	0.040	1		10/30/25 12:11	16984-48-8	
Sulfate	80.6	mg/L	5.0	0.48	5		10/30/25 19:58	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	488	mg/L	20.0	10.5	1		10/22/25 18:20		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	703	mg/L	13.3	13.3	1		10/15/25 13:03		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-SCPC-FB-1 Lab ID: 60483728008 Collected: 10/08/25 12:50 Received: 10/10/25 07:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Boron	<33.2	ug/L	100	33.2	1	10/15/25 09:48	10/16/25 17:08	7440-42-8	
Calcium	<45.3	ug/L	200	45.3	1	10/15/25 09:48	10/16/25 17:08	7440-70-2	
Iron	<15.4	ug/L	50.0	15.4	1	10/15/25 09:48	10/16/25 17:08	7439-89-6	
Magnesium	<21.1	ug/L	50.0	21.1	1	10/15/25 09:48	10/16/25 17:08	7439-95-4	
Manganese	<0.42	ug/L	5.0	0.42	1	10/15/25 09:48	10/16/25 17:08	7439-96-5	
Potassium	<45.2	ug/L	500	45.2	1	10/15/25 09:48	10/16/25 17:08	7440-09-7	
Sodium	211J	ug/L	500	31.8	1	10/15/25 09:48	10/16/25 17:08	7440-23-5	B
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0									
Pace Analytical Services - Salina									
Chloride	<0.18	mg/L	1.0	0.18	1		10/30/25 12:23	16887-00-6	
Fluoride	<0.040	mg/L	0.10	0.040	1		10/30/25 12:23	16984-48-8	
Sulfate	<0.096	mg/L	1.0	0.096	1		10/30/25 12:23	14808-79-8	
<b>2320B Alkalinity</b>									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<10.5	mg/L	20.0	10.5	1		10/22/25 18:20		
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		10/15/25 13:03		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-BMW-1S Lab ID: 60483592004 Collected: 10/06/25 10:16 Received: 10/08/25 08:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	68.5J	ug/L	100	33.2	1	10/08/25 15:11	10/17/25 15:59	7440-42-8	
Calcium	168000	ug/L	200	45.3	1	10/08/25 15:11	10/17/25 15:59	7440-70-2	
Iron	35.5J	ug/L	50.0	15.4	1	10/08/25 15:11	10/17/25 15:59	7439-89-6	
Magnesium	34000	ug/L	50.0	21.1	1	10/08/25 15:11	10/17/25 15:59	7439-95-4	
Manganese	825	ug/L	5.0	0.42	1	10/08/25 15:11	10/17/25 15:59	7439-96-5	
Potassium	516	ug/L	500	45.2	1	10/08/25 15:11	10/17/25 15:59	7440-09-7	B
Sodium	5400	ug/L	500	31.8	1	10/08/25 15:11	10/17/25 15:59	7440-23-5	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	11.4	mg/L	1.0	0.18	1		10/26/25 10:20	16887-00-6	
Fluoride	0.27	mg/L	0.10	0.040	1		10/26/25 10:20	16984-48-8	
Sulfate	39.2	mg/L	5.0	0.48	5		10/26/25 17:12	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	514	mg/L	20.0	10.5	1		10/20/25 15:57		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	596	mg/L	13.3	13.3	1		10/09/25 15:29		

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### ANALYTICAL RESULTS

Project: AMEREN SCPC

Pace Project No.: 60483728

Sample: S-BMW-3S Lab ID: 60483592005 Collected: 10/06/25 11:57 Received: 10/08/25 08:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Boron	62.1J	ug/L	100	33.2	1	10/08/25 15:11	10/17/25 15:22	7440-42-8	
Calcium	129000	ug/L	200	45.3	1	10/08/25 15:11	10/17/25 15:22	7440-70-2	
Iron	<15.4	ug/L	50.0	15.4	1	10/08/25 15:11	10/17/25 15:22	7439-89-6	
Magnesium	22900	ug/L	50.0	21.1	1	10/08/25 15:11	10/17/25 15:22	7439-95-4	
Manganese	423	ug/L	5.0	0.42	1	10/08/25 15:11	10/17/25 15:22	7439-96-5	
Potassium	516	ug/L	500	45.2	1	10/08/25 15:11	10/17/25 15:22	7440-09-7	B
Sodium	6200	ug/L	500	31.8	1	10/08/25 15:11	10/17/25 15:22	7440-23-5	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Chloride	9.6	mg/L	1.0	0.18	1		10/26/25 10:32	16887-00-6	
Fluoride	0.30	mg/L	0.10	0.040	1		10/26/25 10:32	16984-48-8	
Sulfate	35.6	mg/L	2.0	0.19	2		10/26/25 17:25	14808-79-8	
<b>2320B Alkalinity</b>		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	380	mg/L	20.0	10.5	1		10/20/25 15:57		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	477	mg/L	10.0	10.0	1		10/09/25 15:30		

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 950940

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 Metals, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60483592004, 60483592005

METHOD BLANK: 3768607

Matrix: Water

Associated Lab Samples: 60483592004, 60483592005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<33.2	100	33.2	10/17/25 15:00	
Calcium	ug/L	<45.3	200	45.3	10/17/25 15:00	
Iron	ug/L	<15.4	50.0	15.4	10/17/25 15:00	
Magnesium	ug/L	<21.1	50.0	21.1	10/17/25 15:00	
Manganese	ug/L	<0.42	5.0	0.42	10/17/25 15:00	
Potassium	ug/L	60.5J	500	45.2	10/17/25 15:00	
Sodium	ug/L	<31.8	500	31.8	10/17/25 15:00	

LABORATORY CONTROL SAMPLE: 3768608

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	985	98	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Iron	ug/L	10000	10300	103	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3768609 3768610

Parameter	Units	60483592010		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Boron	ug/L	7210	1000	1000	8410	8400	119	119	70-130	0	20		
Calcium	ug/L	142000	10000	10000	155000	155000	131	130	70-130	0	20	M1	
Iron	ug/L	9710	10000	10000	20100	20100	104	104	70-130	0	20		
Magnesium	ug/L	35900	10000	10000	46700	46700	108	108	70-130	0	20		
Manganese	ug/L	1110	1000	1000	2150	2150	104	104	70-130	0	20		
Potassium	ug/L	5170	10000	10000	15700	15500	105	104	70-130	1	20		
Sodium	ug/L	33700	10000	10000	44700	44700	110	110	70-130	0	20		

MATRIX SPIKE SAMPLE: 3768611

Parameter	Units	60483592009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	5610	1000	6520	92	70-130	
Calcium	ug/L	112000	10000	121000	83	70-130	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

MATRIX SPIKE SAMPLE:		3768611					
Parameter	Units	60483592009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	9370	10000	19700	103	70-130	
Magnesium	ug/L	24000	10000	33500	94	70-130	
Manganese	ug/L	833	1000	1840	101	70-130	
Potassium	ug/L	2260	10000	12300	101	70-130	
Sodium	ug/L	29300	10000	38900	96	70-130	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch:	951101	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60483728001, 60483728002, 60483728003

METHOD BLANK: 3769392 Matrix: Water

Associated Lab Samples: 60483728001, 60483728002, 60483728003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<7.3	100	7.3	10/20/25 10:59	
Calcium	ug/L	<12.1	200	12.1	10/20/25 10:59	
Iron	ug/L	<8.7	50.0	8.7	10/20/25 10:59	
Magnesium	ug/L	<16.0	50.0	16.0	10/20/25 10:59	
Manganese	ug/L	<0.52	5.0	0.52	10/20/25 10:59	
Potassium	ug/L	<66.6	500	66.6	10/20/25 10:59	
Sodium	ug/L	<46.9	500	46.9	10/20/25 10:59	

LABORATORY CONTROL SAMPLE: 3769393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	1040	104	85-115	
Calcium	ug/L	10000	11000	110	85-115	
Iron	ug/L	10000	11200	112	85-115	
Magnesium	ug/L	10000	10600	106	85-115	
Manganese	ug/L	1000	1100	110	85-115	
Potassium	ug/L	10000	10500	105	85-115	
Sodium	ug/L	10000	10700	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3769394 3769395

Parameter	Units	60483730001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Boron	ug/L	115	1000	1000	1140	1120	103	101	70-130	2	20		
Calcium	ug/L	131000	10000	10000	141000	133000	95	15	70-130	6	20	M1	
Iron	ug/L	<8.7	10000	10000	10700	10400	107	104	70-130	3	20		
Magnesium	ug/L	36000	10000	10000	45800	43400	98	74	70-130	5	20		
Manganese	ug/L	790	1000	1000	1790	1750	100	96	70-130	2	20		
Potassium	ug/L	7440	10000	10000	18000	17400	106	100	70-130	3	20		
Sodium	ug/L	8040	10000	10000	18600	17700	105	97	70-130	5	20		

MATRIX SPIKE SAMPLE: 3769396

Parameter	Units	60483730005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	<7.3	1000	1010	101	70-130	
Calcium	ug/L	<12.1	10000	10300	103	70-130	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

MATRIX SPIKE SAMPLE:		3769396					
Parameter	Units	60483730005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	<8.7	10000	10700	107	70-130	
Magnesium	ug/L	<16.0	10000	9920	99	70-130	
Manganese	ug/L	<0.52	1000	1080	108	70-130	
Potassium	ug/L	<66.6	10000	10100	101	70-130	
Sodium	ug/L	<46.9	10000	10200	102	70-130	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 951640 Analysis Method: EPA 200.7  
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total  
 Laboratory: Pace Analytical Services - Kansas City  
 Associated Lab Samples: 60483728004, 60483728005, 60483728007, 60483728008

METHOD BLANK: 3771453 Matrix: Water  
 Associated Lab Samples: 60483728004, 60483728005, 60483728007, 60483728008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<33.2	100	33.2	10/16/25 16:37	
Calcium	ug/L	<45.3	200	45.3	10/16/25 16:37	
Iron	ug/L	<15.4	50.0	15.4	10/16/25 16:37	
Magnesium	ug/L	<21.1	50.0	21.1	10/16/25 16:37	
Manganese	ug/L	<0.42	5.0	0.42	10/16/25 16:37	
Potassium	ug/L	<45.2	500	45.2	10/16/25 16:37	
Sodium	ug/L	410J	500	31.8	10/16/25 16:37	

LABORATORY CONTROL SAMPLE: 3771454

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	948	95	85-115	
Calcium	ug/L	10000	9910	99	85-115	
Iron	ug/L	10000	9920	99	85-115	
Magnesium	ug/L	10000	9580	96	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9850	98	85-115	
Sodium	ug/L	10000	10000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3771455 3771456

Parameter	Units	60483727006		3771456		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Boron	ug/L	6420	1000	1000	7310	7350	89	92	70-130	0	20
Calcium	ug/L	301000	10000	10000	305000	308000	42	64	70-130	1	20 M1
Iron	ug/L	<15.4	10000	10000	9790	9980	98	100	70-130	2	20
Magnesium	ug/L	67000	10000	10000	75400	76000	84	90	70-130	1	20
Manganese	ug/L	1120	1000	1000	2080	2060	96	94	70-130	1	20
Potassium	ug/L	5270	10000	10000	15200	15200	99	99	70-130	0	20
Sodium	ug/L	72100	10000	10000	80500	80700	84	86	70-130	0	20

MATRIX SPIKE SAMPLE: 3771457

Parameter	Units	60483728007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L		103	1000	1020	92	70-130
Calcium	ug/L		169000	10000	174000	47	70-130 M1

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

MATRIX SPIKE SAMPLE:		3771457					
Parameter	Units	60483728007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	<15.4	10000	9620	96	70-130	
Magnesium	ug/L	43500	10000	51700	81	70-130	
Manganese	ug/L	330	1000	1260	93	70-130	
Potassium	ug/L	6010	10000	15400	94	70-130	
Sodium	ug/L	9730	10000	18700	90	70-130	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC  
Pace Project No.: 60483728

QC Batch: 951721 Analysis Method: EPA 200.7  
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total  
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60483728006

METHOD BLANK: 3771810 Matrix: Water  
Associated Lab Samples: 60483728006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<33.2	100	33.2	10/21/25 13:08	
Calcium	ug/L	<45.3	200	45.3	10/21/25 13:08	
Iron	ug/L	<15.4	50.0	15.4	10/21/25 13:08	
Magnesium	ug/L	<21.1	50.0	21.1	10/21/25 13:08	
Manganese	ug/L	<0.42	5.0	0.42	10/21/25 13:08	
Potassium	ug/L	<45.2	500	45.2	10/21/25 13:08	
Sodium	ug/L	<31.8	500	31.8	10/21/25 13:08	

LABORATORY CONTROL SAMPLE: 3771811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	922	92	85-115	
Calcium	ug/L	10000	9820	98	85-115	
Iron	ug/L	10000	9720	97	85-115	
Magnesium	ug/L	10000	9570	96	85-115	
Manganese	ug/L	1000	972	97	85-115	
Potassium	ug/L	10000	9460	95	85-115	
Sodium	ug/L	10000	9500	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3771812 3771813

Parameter	Units	60483728006		3771813		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Boron	ug/L	101	1000	1030	1070	93	97	70-130	4	20	
Calcium	ug/L	176000	10000	179000	185000	38	93	70-130	3	20 M1	
Iron	ug/L	209	10000	9840	10200	96	100	70-130	4	20	
Magnesium	ug/L	37000	10000	45600	47100	86	101	70-130	3	20	
Manganese	ug/L	964	1000	1910	1960	94	99	70-130	3	20	
Potassium	ug/L	5530	10000	15200	15600	97	101	70-130	2	20	
Sodium	ug/L	5330	10000	14800	15300	94	100	70-130	4	20	

MATRIX SPIKE SAMPLE: 3771814

Parameter	Units	60484084002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L		210	1000	1160	95	70-130
Calcium	ug/L		63500	10000	71500	80	70-130

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

MATRIX SPIKE SAMPLE:		3771814					
Parameter	Units	60484084002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	457	10000	10300	98	70-130	
Magnesium	ug/L	18700	10000	27700	91	70-130	
Manganese	ug/L	76.5	1000	1060	98	70-130	
Potassium	ug/L	17500	10000	27200	96	70-130	
Sodium	ug/L	148000	10000	154000	56	70-130	M1

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 952778

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Salina

Associated Lab Samples: 60483592004, 60483592005

METHOD BLANK: 3776285

Matrix: Water

Associated Lab Samples: 60483592004, 60483592005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.18	1.0	0.18	10/26/25 09:18	
Fluoride	mg/L	<0.040	0.10	0.040	10/26/25 09:18	
Sulfate	mg/L	<0.096	1.0	0.096	10/26/25 09:18	

LABORATORY CONTROL SAMPLE: 3776286

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	4.9	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3776287 3776288

Parameter	Units	60483592010		3776287		3776288		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	35.9	25	25	60.6	58.6	99	91	80-120	3	15		
Fluoride	mg/L	0.31	2.5	2.5	2.7	2.7	96	95	80-120	1	15		
Sulfate	mg/L	243	250	250	473	469	92	90	80-120	1	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3776289 3776290

Parameter	Units	60483592021		3776289		3776290		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	14.6	5	5	19.4	19.3	95	93	80-120	0	15		
Fluoride	mg/L	0.24	2.5	2.5	2.7	2.7	99	97	80-120	1	15		
Sulfate	mg/L	60.2	50	50	111	109	102	97	80-120	2	15		

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch:	953128	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Salina
Associated Lab Samples:	60483728001, 60483728002, 60483728003		

METHOD BLANK: 3777712 Matrix: Water  
 Associated Lab Samples: 60483728001, 60483728002, 60483728003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.18	1.0	0.18	10/28/25 08:56	
Fluoride	mg/L	<0.040	0.10	0.040	10/28/25 08:56	
Sulfate	mg/L	<0.096	1.0	0.096	10/28/25 08:56	

LABORATORY CONTROL SAMPLE: 3777713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3777714 3777715

Parameter	Units	60483723002		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result							
Chloride	mg/L	16.4	10	10	10	25.6	25.8	91	94	94	80-120	1	15	
Fluoride	mg/L	0.30	2.5	2.5	2.5	2.8	2.8	101	99	99	80-120	2	15	
Sulfate	mg/L	44.9	25	25	25	69.1	69.8	97	100	100	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3777716 3777717

Parameter	Units	60484583002		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result							
Chloride	mg/L	8.8	5	5	5	12.5	12.5	75	75	75	80-120	0	15	M1
Fluoride	mg/L	0.16	2.5	2.5	2.5	2.4	2.6	88	98	98	80-120	11	15	
Sulfate	mg/L	110	50	50	50	162	159	104	99	99	80-120	2	15	

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**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 953363 Analysis Method: EPA 300.0  
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
 Laboratory: Pace Analytical Services - Salina  
 Associated Lab Samples: 60483728004, 60483728005, 60483728006, 60483728007, 60483728008

METHOD BLANK: 3778569 Matrix: Water  
 Associated Lab Samples: 60483728004, 60483728005, 60483728006, 60483728007, 60483728008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.18	1.0	0.18	10/30/25 10:20	
Fluoride	mg/L	<0.040	0.10	0.040	10/30/25 10:20	
Sulfate	mg/L	<0.096	1.0	0.096	10/30/25 10:20	

LABORATORY CONTROL SAMPLE: 3778570

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3778571 3778572

Parameter	Units	60483728006		3778571		3778572		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	9.4	9.4	5	5	14.4	14.4	101	101	80-120	0	15	
Fluoride	mg/L	0.35	0.35	2.5	2.5	2.9	2.9	101	101	80-120	0	15	
Sulfate	mg/L	98.4	98.4	50	50	149	151	100	105	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3778573 3778574

Parameter	Units	60484250006		3778573		3778574		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	19.8	19.8	10	10	29.7	29.6	99	98	80-120	0	15	
Fluoride	mg/L	0.24	0.24	2.5	2.5	2.8	2.8	101	102	80-120	1	15	
Sulfate	mg/L	110	110	50	50	162	162	104	105	80-120	0	15	

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QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 952195

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60483592004, 60483592005

METHOD BLANK: 3773924

Matrix: Water

Associated Lab Samples: 60483592004, 60483592005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	10/20/25 15:57	

LABORATORY CONTROL SAMPLE: 3773925

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

SAMPLE DUPLICATE: 3773926

Parameter	Units	60483723002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	362	368	2	10	

SAMPLE DUPLICATE: 3773927

Parameter	Units	60483723004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	<10.5		10	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 952197

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60483728001, 60483728002, 60483728003

METHOD BLANK: 3773930

Matrix: Water

Associated Lab Samples: 60483728001, 60483728002, 60483728003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	10/21/25 17:31	

LABORATORY CONTROL SAMPLE: 3773931

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	492	98	90-110	L1

SAMPLE DUPLICATE: 3773932

Parameter	Units	60483730001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	368	368	0	10	

SAMPLE DUPLICATE: 3773933

Parameter	Units	60483592010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	306	376	21	10	D6

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 952482

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60483728004, 60483728005, 60483728007, 60483728008

METHOD BLANK: 3774885

Matrix: Water

Associated Lab Samples: 60483728004, 60483728005, 60483728007, 60483728008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	10/22/25 18:19	

LABORATORY CONTROL SAMPLE: 3774886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	508	102	90-110	

SAMPLE DUPLICATE: 3774887

Parameter	Units	60483727006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	358	368	3	10	

SAMPLE DUPLICATE: 3774888

Parameter	Units	60483711012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	324	330	2	10	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 952787

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60483728006

METHOD BLANK: 3776316

Matrix: Water

Associated Lab Samples: 60483728006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	10/24/25 03:42	

LABORATORY CONTROL SAMPLE: 3776317

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

SAMPLE DUPLICATE: 3776318

Parameter	Units	60483728006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	482	466	3	10	H1

SAMPLE DUPLICATE: 3776319

Parameter	Units	60484183015 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	396	386	3	10	

SAMPLE DUPLICATE: 3776320

Parameter	Units	60484246012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	486	494	2	10	

SAMPLE DUPLICATE: 3776321

Parameter	Units	60484250006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	162	196	19	10	D6

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch: 951058

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60483592004, 60483592005

METHOD BLANK: 3769111

Matrix: Water

Associated Lab Samples: 60483592004, 60483592005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/09/25 15:28	

LABORATORY CONTROL SAMPLE: 3769112

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

SAMPLE DUPLICATE: 3769113

Parameter	Units	60483638001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	12200	10600	15	10	D6

SAMPLE DUPLICATE: 3769114

Parameter	Units	60483592004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	596	601	1	10	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch:	951459	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60483728001, 60483728002, 60483728003

METHOD BLANK: 3770733 Matrix: Water

Associated Lab Samples: 60483728001, 60483728002, 60483728003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/14/25 09:10	

LABORATORY CONTROL SAMPLE: 3770734

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	997	100	80-120	

SAMPLE DUPLICATE: 3770735

Parameter	Units	60483728001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	804	803	0	10	

SAMPLE DUPLICATE: 3770736

Parameter	Units	60483930008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	392	393	0	10	

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### QUALITY CONTROL DATA

Project: AMEREN SCPC

Pace Project No.: 60483728

QC Batch:	951634	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60483728004, 60483728005, 60483728006, 60483728007, 60483728008

METHOD BLANK: 3771424 Matrix: Water  
 Associated Lab Samples: 60483728004, 60483728005, 60483728006, 60483728007, 60483728008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/15/25 13:00	

LABORATORY CONTROL SAMPLE: 3771425

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

SAMPLE DUPLICATE: 3771426

Parameter	Units	60483711012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	451	534	17	10	D6

SAMPLE DUPLICATE: 3771427

Parameter	Units	60483728006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	651	647	1	10	

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## QUALIFIERS

Project: AMEREN SCPC

Pace Project No.: 60483728

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### 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.

H1 Analysis conducted outside the EPA method holding time.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPC

Pace Project No.: 60483728

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60483592004	S-BMW-1S	EPA 200.7	950940	EPA 200.7	950995
60483592005	S-BMW-3S	EPA 200.7	950940	EPA 200.7	950995
60483728001	S-UG-1A	EPA 200.7	951101	EPA 200.7	951114
60483728002	S-SCPC-DUP-1	EPA 200.7	951101	EPA 200.7	951114
60483728003	S-UG-2	EPA 200.7	951101	EPA 200.7	951114
60483728004	S-DG-1	EPA 200.7	951640	EPA 200.7	951666
60483728005	S-DG-2	EPA 200.7	951640	EPA 200.7	951666
60483728006	S-DG-3	EPA 200.7	951721	EPA 200.7	951883
60483728007	S-DG-4	EPA 200.7	951640	EPA 200.7	951666
60483728008	S-SCPC-FB-1	EPA 200.7	951640	EPA 200.7	951666
60483592004	S-BMW-1S	EPA 300.0	952778		
60483592005	S-BMW-3S	EPA 300.0	952778		
60483728001	S-UG-1A	EPA 300.0	953128		
60483728002	S-SCPC-DUP-1	EPA 300.0	953128		
60483728003	S-UG-2	EPA 300.0	953128		
60483728004	S-DG-1	EPA 300.0	953363		
60483728005	S-DG-2	EPA 300.0	953363		
60483728006	S-DG-3	EPA 300.0	953363		
60483728007	S-DG-4	EPA 300.0	953363		
60483728008	S-SCPC-FB-1	EPA 300.0	953363		
60483592004	S-BMW-1S	SM 2320B	952195		
60483592005	S-BMW-3S	SM 2320B	952195		
60483728001	S-UG-1A	SM 2320B	952197		
60483728002	S-SCPC-DUP-1	SM 2320B	952197		
60483728003	S-UG-2	SM 2320B	952197		
60483728004	S-DG-1	SM 2320B	952482		
60483728005	S-DG-2	SM 2320B	952482		
60483728006	S-DG-3	SM 2320B	952787		
60483728007	S-DG-4	SM 2320B	952482		
60483728008	S-SCPC-FB-1	SM 2320B	952482		
60483592004	S-BMW-1S	SM 2540C	951058		
60483592005	S-BMW-3S	SM 2540C	951058		
60483728001	S-UG-1A	SM 2540C	951459		
60483728002	S-SCPC-DUP-1	SM 2540C	951459		
60483728003	S-UG-2	SM 2540C	951459		
60483728004	S-DG-1	SM 2540C	951634		
60483728005	S-DG-2	SM 2540C	951634		
60483728006	S-DG-3	SM 2540C	951634		
60483728007	S-DG-4	SM 2540C	951634		
60483728008	S-SCPC-FB-1	SM 2540C	951634		

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WO#: 60483728



	DC#_Title: ENV-FRM-LENE-0009_Sample Con	
	Revision: 3	Effective Date: 09/22/2025 Issued By: Lenexa

Client Name: Rocksmitn Geoeny

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  Cooling process has begun

Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other

Thermometer Used: T-361 Type of Ice: Wet Blue None

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

Date and initials of person examining contents:  
10/8/25

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>EXtra samples not</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>mark on col.</u>
Sufficient volume:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>S-UG-1A 10/7/25 14:51</u>
Correct containers used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>S-SPC-SSC</u>
Pace containers used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>S-SCPC-DUP-1 10/7/25 08:00</u>
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, Radium) LOT#: <u>9689C</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Headspace in VOA vials ( >6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: \_\_\_\_\_

**CHAIN-OF-CUSTODY Analytical Request Document**  
 Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: Rocksmith Geoeengineering, LLC.  
 Street Address: 2320 Creve Coeur Mill Road  
 Maryland Heights, MO 63043  
 Contact/Report To: Mark Haddock  
 Phone #: 314-974-6578  
 E-Mail: mark.haddock@rocksmithgeo.com  
 Cc E-Mail:

Customer Project #: AMEREN SPC  
 Project Name: AMEREN SPC  
 Invoice To: Mark Haddock  
 Invoice E-Mail: mark.haddock@rocksmithgeo.com  
 Purchase Order # (if applicable):  
 Quote #:

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET  
 Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No  
 County / State origin of sample(s): Missouri  
 Rush (Pre-approval required):  
 [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other  
 DW PMSID # or WW Permit # as applicable:  
 Date Results Requested:  
 Field Filtered (if applicable): [ ] Yes [ ] No  
 Analysis:

\* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine Results	Units
		Date	Time	Date	Time			
S-UG-1A	WT							
S-DG-1	WT							
S-DG-2	WT							
S-DG-3	WT							
S-DG-4	WT							
S-SCPC-DUP-1	WT							
S-SCPC-FB-1	WT							
S-SCPC-MS-1	WT							
S-SCPC-MSD-1	WT							
S-UG-2	WT			10/17/25	1343	2		

Additional Instructions from Pace®:  
 \* - App III and Cat/An Metals\* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B

Collected By: (Printed Name) John Rasmussen  
 Signature: *[Signature]*  
 Date/Time: 10/17/25 1540  
 Received by/Company (Signature) *[Signature]*  
 Received by/Company (Signature)  
 Received by/Company (Signature)  
 Received by/Company (Signature)

LAB USE ONLY - Affix Workorder/Login Label Here  
  
 Scan QR Code for instructions

Specify Container Size \*\*  
 Identify Container Preservative Type\*\*\*  
 Analysis Requested

Proj. Mgr: Jamie Church  
 AcctNum / Client ID:  
 Table #: 15856  
 Profile / Template:  
 Prelog / Bottle Ord. ID: EZ 3303603  
 Sample Comment

App III and Cat/An Metals	C/F/SO4/TDS/Alkalinity	Preservation non-conformance identified for sample
✓	✓	

Customer Remarks / Special Conditions / Possible Hazards:  
 # Coolers: 1  
 Thermometer ID: T-301  
 Correction Factor (°C): 0.0  
 Obs. Temp. (°C): 1.3  
 Corrected Temp. (°C): 1.3  
 On Ice:  
 Tracking Number: 10/18/25 0820  
 Delivered by: [ ] In-Person [ ] Courier  
 [ ] FedEx [ ] UPS [ ] Other  
 Page: / of /

Client: Rocksmitz Geong

Profile # 3303603

Site: \_\_\_\_\_ 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	BP3B	BP3Z	WPDU	ZPLC	Other			
1	WT																		1				1										
2																																	
3																																	
4																																	
5																																	
6	WT																		1				1										
7																																	
8																																	
9																																	
10	WT																		1				1										
11																																	
12																																	

Container Codes

Glass		Plastic		Misc.	
DG9B	40mL bisulfate clear vial	BP1B	1L NaOH plastic	I	Wipe/Swab
DG9H	40mL HCl amber vial	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	BP2B	500mL NaOH plastic	R	Terracore Kit
DG9U	40mL amber unpreserved	BP2N	500mL HNO3 plastic	U	Summa Can
VG9H	40mL HCl clear vial	BP2S	500mL H2SO4 plastic		
VG9T	40mL Na Thio. clear vial	BP2U	500mL unpreserved plastic		
VG9U	40mL unpreserved clear vial	BP2Z	500mL NaOH, Zn Acetate		
BG1S	1liter H2SO4 clear glass	BP3B	250mL NaOH plastic		
BG1U	1liter unpres glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3H	250mL HCL Clear glass	BP3N	250mL HNO3 plastic	SL	Solid
BG3U	250mL Unpres Clear glass	BP3U	250mL unpreserved plastic	NAL	Non-aqueous Liquid
WGDU	16oz clear soil jar	BP3S	250mL H2SO4 plastic	OL	OIL
		BP3Z	250mL NaOH, Zn Acetate	WP	Wipe
		BP4U	125mL unpreserved plastic	DW	Drinking Water
		BP4N	125mL HNO3 plastic		
		BP4S	125mL H2SO4 plastic		
		WPDU	16oz unpreserved plastic		

Work Order Number: 6013728

Qualtrax ID: 30422

**CHAIN-OF-CUSTODY Analytical Request Document**  
 Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here



Scan QR Code for instructions  
*Boyer's MS*

Company Name: **Rocksmit Geoengineering, LLC.**  
 Street Address: **2320 Creve Coeur Mill Road**  
**Maryland Heights, MO 63043**

Contact/Report To: **Mark Haddock**  
 Phone #: **314-974-6578**  
 E-Mail: **mark.haddock@rocksmitgeo.com**  
 CC E-Mail:

Customer Project #: **AMEREN SCPC**

Invoice To: **Mark Haddock**  
 Invoice E-Mail: **mark.haddock@rocksmitgeo.com**  
 Purchase Order # (if applicable):  
 Quote #:

Site Collection Info/Facility ID (as applicable):

Time Zone Collected:  AK  PT  MT  CT  ET  
 Regulatory Program (DW, RCRA, etc.) as applicable:  Reportable  Yes  No

Data Deliverables:  
 Level II  Level III  Level IV  
 ECUS

Rush (Pre-approval required):  
 Same Day  1 Day  2 Day  3 Day  Other \_\_\_\_\_  
 DW PWSID # or WW Permit # as applicable:  
 Field filtered (if applicable):  Yes  No  
 Analysis:

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Biossary (B), Vapor (V), Surface Water (SW), Sediment (SD), Sludge (SL), Cask (CK), Leachate (L), Biosolid (BS), Other (O)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start		Collected or Composite End		# Cont.	Res. Chlorine Results	Units
			Date	Time	Date	Time			
S-UG-1A	WT	G			10/7/25	1451	2		
S-DG-1	WT								
S-DG-2	WT								
S-DG-3	WT								
S-DG-4	WT								
S-SCPC-DUP-1	WT	G			10/7/25	—	2		
S-SCPC-FB-1	WT								
S-SCPC-MS-1	WT								
S-SCPC-MSD-1	WT								
S-DG-2	WT	G			10/7/25	1343	2		

Additional Instructions from Pace®:  
 - App III and Cat/An Metals\* - EPA 200.7; Fe, Mg, Mn, K, Na, Ca, B

Collected By: **John Rogerson**  
 Signature: *John Rogerson*

Customer Remarks / Special Conditions / Possible Hazards:  
 App III and Cat/An Metals\*  
 Cl/F/SO4/TDS/Alkalinity

Relinquished by/Company (Signature): *Boyer's MS* Date/Time: 10/7/25 1540  
 Relinquished by/Company (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by/Company (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by/Company (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by/Company (Signature): *John Rogerson* Date/Time: 10/7/25 1343  
 Received by/Company (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by/Company (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by/Company (Signature): \_\_\_\_\_ Date/Time: \_\_\_\_\_

Thermometer ID: T-301 Correction Factor (C): 0.0 Obs. Temp. (C): 1.3 Corrected Temp. (C): 1.3  
 Date/Time: 10/8/25 0820  
 Tracking Number: \_\_\_\_\_  
 Delivered by:  In-Person  Courier  
 FedEx  UPS  Other

Page: 1 of 1

WO#: 60483728



	DC#_Title: ENV-FRM-LENE-0009_Sample C...	
	Revision: 3	Effective Date: 09/22/2025 Issued By: Lenexa

Client Name: Rocksmith, Gerson

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  Cooling process has begun

Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other

Thermometer Used: T-301 Type of Ice: Yes Blue None

Cooler Temperature (°C): As-read 2.0/2.5/2.1 Corr. Factor 0.0 Corrected 2.0/2.5/2.1

Date and initials of person examining contents: <u>W 10/10/25</u>
--

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>2/12/0hrs</u>
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, Radium) LOT#: <u>96888</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials ( >6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: \_\_\_\_\_

**Pace®** Location Requested (City/State):  
 Pace Analytical Kansas  
 9608 Loiret Blvd., Lenexa, KS 66219

Company Name: Rocksmith Geoenvironment, LLC.  
 Street Address: 2320 Creve Coeur Mill Road  
 Maryland Heights, MO 63043

Customer Project #: AMEREN SPCP

Project Name:

Site Collection Info/Facility ID (as applicable):

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET  
 Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Data Deliverables:

[ ] Level II [ ] Level III [ ] Level IV

[ ] EQUIS

[ ] Other

\* Matrix Codes (insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

( ) Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other

**Rush (Pre-approval required):**

DW PWSID # or WW Permit # as applicable:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

Requested:

Customer Sample ID

Matrix \* Comp / Grab

Date Time

Collected or Composite End Time

# Cont.

Res. Chlorine Results Units

S-UG-1A WT

S-DG-1 WT G 10/8/25 1030 2

S-DG-2 WT G 10/10/25 0910 2

S-DG-3 WT G 11/5/3 1153 2

S-DG-4 WT G 12/5/8 1258 2

S-SCPC-DUP-1 WT

S-SCPC-FB-1 WT G 10/8/25 1250 2

S-SCPC-MS-1 WT G 11/5/3 1153 2

S-SCPC-MSD-1 WT G 11/5/3 1153 2

Customer Remarks / Special Conditions / Possible Hazards:

Additional Instructions from Pace\*:

\* - App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B

Collected By: David Cavell

Signature: David Cavell

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Date/Time: 1/35 10-9-15

Date/Time:

Date/Time:

Date/Time:

Page 4 of 4

Relinquished by/Company: (Signature)

**CHAIN-OF-CUSTODY Analytical Request Document**  
 Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Contact/Report To: Mark Haddock  
 Phone #: 314-974-6578  
 E-Mail: mark.haddock@rocksmithgeo.com  
 Cc E-Mail:

Invoice To: Mark Haddock  
 Invoice E-Mail: mark.haddock@rocksmithgeo.com  
 Purchase Order # (if applicable):  
 Quote #:

County / State origin of sample(s): Missouri  
 Reportable [ ] Yes [ ] No

DW PWSID # or WW Permit # as applicable:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

Requested:

Customer Sample ID

Matrix \* Comp / Grab

Date Time

Collected or Composite End Time

# Cont.

Res. Chlorine Results Units

S-UG-1A WT

S-DG-1 WT G 10/8/25 1030 2

S-DG-2 WT G 10/10/25 0910 2

S-DG-3 WT G 11/5/3 1153 2

S-DG-4 WT G 12/5/8 1258 2

S-SCPC-DUP-1 WT

S-SCPC-FB-1 WT G 10/8/25 1250 2

S-SCPC-MS-1 WT G 11/5/3 1153 2

S-SCPC-MSD-1 WT G 11/5/3 1153 2

Customer Remarks / Special Conditions / Possible Hazards:

Additional Instructions from Pace\*:

\* - App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B

Collected By: David Cavell

Signature: David Cavell

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Date/Time: 1/35 10-9-15

Date/Time:

Date/Time:

Date/Time:

Page 4 of 4

Relinquished by/Company: (Signature)

LAB USE ONLY - Affix Workorder/Login Label Here



60483728

Scan QR Code for instructions

Specify Container Size \*\*

Identify Container Preservative Type \*\*\*

Analysis Requested

\*\* Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) Encore, (8) TerraCore, (9) 90mL, (10) Other  
 \*\*\* Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other  
 Proj. Migr: Jamie Church  
 AcctNum / Client ID:  
 Table #:  
 Profile / Template: 15856  
 Prelog / Bottle Ord. ID: EZ 3303603  
 Sample Comment

Preservation non-conformance identified for

App III and Cat/An Metals

C/F/SO4/TDS/Alkalinity

Lab Use Only

Profile / Template: 15856

Prelog / Bottle Ord. ID: EZ 3303603

Sample Comment

Customer Remarks / Special Conditions / Possible Hazards:

Additional Instructions from Pace\*:

\* - App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B

Collected By: David Cavell

Signature: David Cavell

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Received by/Company: (Signature)

Date/Time: 2-06-15/2-1

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Correction Factor (°C): 0.0

Obs. Temp. (°C): 2-06-15/2-1

Corrected Temp. (°C): 2-06-15/2-1

On Ice:

Tracking Number:

Date/Time: 10/10/25 07:30

Date/Time:

Date/Time:

Date/Time:

Page: 1 of 1

Delivered by: [ ] In-Person [ ] Courier

[ ] FedEx [ ] UPS [ ] Other

Thermometer ID: T-301

Client: RocksSmith Geology Profile/EZ # only print what you log.  
 Site: \_\_\_\_\_ Notes Append to 60483728

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	BP3B	BP3Z	WPDU	ZPLC	Other
1																														
2	WT																		1											
3	↘																		1											
4																			3											
5																			1											
6																														
7	↘																		1											
8																														
9																														
10																														
11																														
12																														

(NAS/NASD)

Container Codes

Glass		Plastic		Misc.	
DG9B	40mL bisulfate clear vial	BP1B	1L NaOH plastic	I	Wipe/Swab
DG9H	40mL HCl amber vial	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	BP2B	500mL NaOH plastic	R	Terracore Kit
VG9H	40mL HCl clear vial	BP2N	500mL HNO3 plastic	U	Summa Can
VG9T	40mL Na Thio. clear vial	BP2S	500mL H2SO4 plastic		
VG9U	40mL unpreserved clear vial	BP2U	500mL unpreserved plastic		
BG1S	1liter H2SO4 clear glass	BP2Z	500mL NaOH, Zn Acetate		
BG1U	1liter unpres glass	BP3B	250mL NaOH plastic		
BG3H	250mL HCL Clear glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3U	250mL Unpres Clear glass	BP3N	250mL HNO3 plastic	SL	Solid
WGDU	16oz clear soil jar	BP3S	250mL unpreserved plastic	NAL	Non-aqueous Liquid
		BP3Z	250mL H2SO4 plastic	OL	OIL
		BP4U	250mL NaOH, Zn Acetate	WP	Wipe
		BP4N	125mL unpreserved plastic	DW	Drinking Water
		BP4S	125mL HNO3 plastic		
		WPDU	16oz unpreserved plastic		

Work Order Number: 60483728



# Memorandum

November 18, 2025

---

**To:** Project File  
Rocksmith Geoengineering, LLC

**Project Number:** 23009-25

**CC:** Mark Haddock, Jeffrey Ingram

**From:** Jack Rasmussen

**Email:** Jack.Rasmussen@rocksmithgeo.com

**RE:** **Data Validation Summary, Sioux Energy Center – SCPC – Data Package 60483728**

---

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

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

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering  
 Project Name: Ameren SPCPC  
 Reviewer: J. Rasmussen

Project Manager: J. Ingram  
 Project Number: 23009-25  
 Validation Date: 11/18/2025

Laboratory: Pace Analytical SDG #: 60483728  
 Analytical Method (type and no.): EPA 200.7 (Total Metals); SM 2320B (Alkalinity); SM 2540C (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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>10/07/2025 - 10/08/2025</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>JTR/JDQ/LES</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>No lab narrative.</u>
Note Deficiencies: <u></u>				

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

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

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

**Comments/Notes:**

General:

Sample -006 alkalinity analyzed outside of hold time, result qualified as an estimate.

Chloride and/or sulfate diluted in several samples, no qualifications necessary.

## QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

### Comments/Notes:

#### Method Blanks:

3768607: Potassium (60.5 J), associated with samples -92004, -005. Results > RL and < 10x blank, qualified as estimates.

3771453: Sodium (410 J), associated with samples -7280004 through -008. Samples -004, -006 and -007 results > RL and 10x blank, no qualification necessary. Samples -005 > RL and < 10x blank, result qualified as estimate. -008 < RL, qualified as non-detect at RL.

#### Field blank:

S-SCPC-FB-1 @ S-DG-4: Sodium (211 J), result > RL and 10x blank, no qualification necessary.

#### Duplicate:

S-SCPC-DUP-1 @ S-UG-1A: Iron is non-detect in duplicate sample and detected in parent sample, results qualified as estimates.

#### Lab duplicates:

3773933: Lab RPD exceeds limits for alkalinity, associated with unrelated sample.

3776321: Lab RPD exceeds limits for alkalinity, associated with unrelated sample.

3769113: Lab RPD exceeds limits for TDS, associated with unrelated sample.

3771426: Lab RPD exceeds limits for TDS, associated with unrelated sample.

#### MS/MSD:

3768609/3768610: MS recovery high for calcium, MSD and RPD within limits. No qualification necessary.

3769394/3769395: MSD recovery low for calcium, MS and RPD within limits. No qualification necessary.

3771455/3771456: MS and MSD recovery low for calcium, RPD within limits, associated with unrelated sample.

3771457: MS recovery low for calcium, associated with sample -728007. Result qualified as an estimate.

3771812/3771813: MS recovery low for calcium, MSD and RPD within limits. No qualification necessary.

3771814: MS recovery low for sodium, associated with unrelated sample.

3777716/3777717: MS and MSD recovery low for chloride, RPD within limits. Associated with unrelated sample.





December 22, 2025

Mark Haddock  
Rocksmith Geoengineering, LLC.  
2320 Creve Coeur Mill Road  
Maryland Heights, MO 63043

RE: Project: AMEREN SCPC-VERIFICATION  
Pace Project No.: 60487099

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on December 05, 2025. 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: Jeffrey Ingram, Rocksmith Geoengineering, LLC.  
Lisa Meyer, Ameren  
Grant Morey, Rocksmith Geoengineering, LLC.  
Austin Nieman, Ameren



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## CERTIFICATIONS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

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### **Pace Analytical Services Kansas**

9608 Loiret Boulevard, Lenexa, KS 66219

EPA Lab Code: KS00021

Arkansas Certification #: 88-00679

Illinois Certification #: 200030

Colorado Division of Oil and Public Safety

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Oklahoma Certification #: 9205

Texas Certification #: T104704407

Utah Certification #: KS0002125-15

UDSA\_CA : #KS-SC-DOM-25-01

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### SAMPLE SUMMARY

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60487099001	S-UG-1A	Water	12/03/25 11:31	12/05/25 07:39
60487099002	S-DG-3	Water	12/03/25 09:27	12/05/25 07:39
60487099003	S-DG-4	Water	12/03/25 10:13	12/05/25 07:39
60487099004	S-SCPC-DUP-1	Water	12/03/25 00:00	12/05/25 07:39
60487099005	S-SCPC-FB-1	Water	12/03/25 11:43	12/05/25 07:39

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### SAMPLE ANALYTE COUNT

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60487099001	S-UG-1A	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
		EPA 300.0	GTS	2	PASI-K
60487099002	S-DG-3	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
		EPA 300.0	GTS	2	PASI-K
60487099003	S-DG-4	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
		EPA 300.0	GTS	2	PASI-K
60487099004	S-SCPC-DUP-1	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
		EPA 300.0	GTS	2	PASI-K
60487099005	S-SCPC-FB-1	EPA 200.7	ARMN	1	PASI-K
		SM 2540C	DLJ	1	PASI-K
		EPA 300.0	GTS	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Sample: S-UG-1A Lab ID: 60487099001 Collected: 12/03/25 11:31 Received: 12/05/25 07:39 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	<b>160000</b>	ug/L	200	45.3	1	12/08/25 12:50	12/10/25 10:52	7440-70-2	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	<b>713</b>	mg/L	13.3	13.3	1		12/10/25 10:19		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<b>&lt;0.16</b>	mg/L	0.20	0.16	1		12/18/25 17:10	16984-48-8	
Sulfate	<b>42.3</b>	mg/L	10.0	4.3	10		12/18/25 17:22	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Sample: S-DG-3 Lab ID: 60487099002 Collected: 12/03/25 09:27 Received: 12/05/25 07:39 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	<b>167000</b>	ug/L	200	45.3	1	12/08/25 12:50	12/10/25 11:00	7440-70-2	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	<b>626</b>	mg/L	10.0	10.0	1		12/10/25 10:19		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<b>0.19J</b>	mg/L	0.20	0.16	1		12/18/25 17:34	16984-48-8	
Sulfate	<b>72.7</b>	mg/L	10.0	4.3	10		12/18/25 18:10	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Sample: S-DG-4 Lab ID: 60487099003 Collected: 12/03/25 10:13 Received: 12/05/25 07:39 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	<b>169000</b>	ug/L	200	45.3	1	12/08/25 12:50	12/10/25 11:05	7440-70-2	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	<b>655</b>	mg/L	13.3	13.3	1		12/10/25 10:19		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<b>0.17J</b>	mg/L	0.20	0.16	1		12/18/25 19:11	16984-48-8	
Sulfate	<b>69.8</b>	mg/L	10.0	4.3	10		12/18/25 19:23	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Sample: S-SCPC-DUP-1 Lab ID: 60487099004 Collected: 12/03/25 00:00 Received: 12/05/25 07:39 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	<b>116000</b>	ug/L	200	45.3	1	12/08/25 12:50	12/10/25 11:07	7440-70-2	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	<b>481</b>	mg/L	10.0	10.0	1		12/10/25 10:20		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<b>0.26</b>	mg/L	0.20	0.16	1		12/18/25 19:35	16984-48-8	
Sulfate	<b>84.7</b>	mg/L	10.0	4.3	10		12/18/25 19:47	14808-79-8	

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### ANALYTICAL RESULTS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Sample: S-SCPC-FB-1 Lab ID: 60487099005 Collected: 12/03/25 11:43 Received: 12/05/25 07:39 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 Metals, Total</b>	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	<45.3	ug/L	200	45.3	1	12/08/25 12:50	12/10/25 11:09	7440-70-2	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		12/10/25 10:20		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<0.16	mg/L	0.20	0.16	1		12/18/25 19:59	16984-48-8	
Sulfate	<0.43	mg/L	1.0	0.43	1		12/18/25 19:59	14808-79-8	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

QC Batch:	957766	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60487099001, 60487099002, 60487099003, 60487099004, 60487099005		

METHOD BLANK: 3795980 Matrix: Water  
 Associated Lab Samples: 60487099001, 60487099002, 60487099003, 60487099004, 60487099005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<45.3	200	45.3	12/10/25 10:38	

LABORATORY CONTROL SAMPLE: 3795981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	10600	106	85-115	

MATRIX SPIKE SAMPLE: 3795982

Parameter	Units	60487051001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	ND	10000	27300J	58	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795983 3795984

Parameter	Units	60487099002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	167000	10000	10000	177000	175000	98	79	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795985 3795986

Parameter	Units	60487100002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	141000	10000	10000	144000	146000	37	50	70-130	1	20	M1

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### QUALITY CONTROL DATA

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

QC Batch:	958050	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60487099001, 60487099002, 60487099003, 60487099004, 60487099005

METHOD BLANK: 3796883 Matrix: Water  
 Associated Lab Samples: 60487099001, 60487099002, 60487099003, 60487099004, 60487099005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	12/10/25 10:18	

LABORATORY CONTROL SAMPLE: 3796884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1070	107	80-120	

SAMPLE DUPLICATE: 3796885

Parameter	Units	60487098001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1230	1220	1	10	

SAMPLE DUPLICATE: 3796886

Parameter	Units	60487099002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	626	618	1	10	

SAMPLE DUPLICATE: 3796887

Parameter	Units	60487100002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	529	526	1	10	

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**QUALITY CONTROL DATA**

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

QC Batch:	958952	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60487099001, 60487099002, 60487099003, 60487099004, 60487099005

METHOD BLANK: 3800460 Matrix: Water  
 Associated Lab Samples: 60487099001, 60487099002, 60487099003, 60487099004, 60487099005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.16	0.20	0.16	12/18/25 16:46	
Sulfate	mg/L	<0.43	1.0	0.43	12/18/25 16:46	

LABORATORY CONTROL SAMPLE: 3800461

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	5	4.6	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3800462 3800463

Parameter	Units	60487099002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.19J	2.5	2.5	2.9	2.9	108	108	80-120	1	15	
Sulfate	mg/L	72.7	50	50	124	124	103	102	80-120	1	15	

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## QUALIFIERS

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN SCPC-VERIFICATION

Pace Project No.: 60487099

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60487099001	S-UG-1A	EPA 200.7	957766	EPA 200.7	957819
60487099002	S-DG-3	EPA 200.7	957766	EPA 200.7	957819
60487099003	S-DG-4	EPA 200.7	957766	EPA 200.7	957819
60487099004	S-SCPC-DUP-1	EPA 200.7	957766	EPA 200.7	957819
60487099005	S-SCPC-FB-1	EPA 200.7	957766	EPA 200.7	957819
60487099001	S-UG-1A	SM 2540C	958050		
60487099002	S-DG-3	SM 2540C	958050		
60487099003	S-DG-4	SM 2540C	958050		
60487099004	S-SCPC-DUP-1	SM 2540C	958050		
60487099005	S-SCPC-FB-1	SM 2540C	958050		
60487099001	S-UG-1A	EPA 300.0	958952		
60487099002	S-DG-3	EPA 300.0	958952		
60487099003	S-DG-4	EPA 300.0	958952		
60487099004	S-SCPC-DUP-1	EPA 300.0	958952		
60487099005	S-SCPC-FB-1	EPA 300.0	958952		

### REPORT OF LABORATORY ANALYSIS

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DC#\_Title: ENV-FRM-LENE-0009\_Sample C

Revision: 3

Effective Date: 09/22/2025

WO#: 60487099



Client Name: Ra K Smith besengineering

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  Cooling process has begun

Packing Material: Bubble Wrap  Bubble Bags  Foam  None  Other  ziploc

Thermometer Used: T301 Type of Ice:  Wet  Blue  None

Cooler Temperature (°C): As-read 1.1 Corr. Factor 0.0 Corrected 1.1

Date and initials of person examining contents: 12-5  
DP

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>wt</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, Radium) LOT#: <u>96888</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_ Date: \_\_\_\_\_



Client:

Rock Smith Geoenvironmental

Profile#

15856,1

Site:

Ameron SPC Verification Sampling

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	BP3B	BP3Z	WPDU	ZPLC	Other
1	Matrix																			1	1	1	1	1						
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

Container Codes

	Glass	Plastic	Misc.
DG9B	40mL bisulfate clear vial	BP1B 1L NaOH plastic	Wipe/Swab
DG9H	40mL HCl amber vial	BP1N 1L HNO3 plastic	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	BP1S 1L H2SO4 plastic	Ziploc Bag
DG9Q	40mL TSP amber vial	BP1U 1L unpreserved plastic	Air Filter
DG9S	40mL H2SO4 amber vial	BP1Z 1L NaOH, Zn Acetate	Air Cassettes
DG9T	40mL Na Thio amber vial	BP2B 500mL NaOH plastic	Terracore Kit
DG9U	40mL amber unpreserved	BP2N 500mL HNO3 plastic	Summa Can
VG9H	40mL HCl clear vial	BP2S 500mL H2SO4 plastic	
VG9T	40mL Na Thio clear vial	BP2U 500mL unpreserved plastic	
VG9U	40mL unpreserved clear vial	BP2Z 500mL NaOH, Zn Acetate	
BG1S	1liter H2SO4 clear glass	BP3B 250mL NaOH plastic	
BG1U	1liter unpres glass	BP3N 250mL HNO3 plastic - field filtered	Water
BG3H	250mL HCl Clear glass	BP3U 250mL HNO3 plastic	Solid
BG3U	250mL Unpres Clear glass	BP3S 250mL unpreserved plastic	Non-aqueous Liquid
WGDU	16oz clear soil jar	BP3Z 250mL H2SO4 plastic	OIL
		BP4U 250mL NaOH, Zn Acetate	Wipe
		BP4N 125mL unpreserved plastic	Drinking Water
		BP4S 125mL H2SO4 plastic	
		WPDU 16oz unpreserved plastic	

Work Order Number:

**WO#: 60487099**

PM: JLS  
 CLIENT: Rocksmith  
 Due Date: 12/19/25



# Memorandum

December 23, 2025

---

**To:** Project File  
Rocksmith Geoengineering, LLC

**Project Number:** 23009-25

**CC:** Mark Haddock, Jeffrey Ingram

**From:** Valerie Hurt

**Email:** Valerie.Hurt@Rocksmithgeo.com

**RE:** **Data Validation Summary, Sioux Energy Center – SCPC – Data Package 60487099**

---

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 duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering  
 Project Name: Ameren SCPC-Verification  
 Reviewer: V. Hurt

Project Manager: J. Ingram  
 Project Number: 23009-25  
 Validation Date: 12/23/2025

Laboratory: Pace Analytical

SDG #: 60487099

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

Matrix:  Air  Soil/Sed.  Water  Waste  \_\_\_\_\_

Sample Names S-UG-1A, S-DG-3, 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>12/3/2025</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>JTR &amp; JDQ</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>_____</u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Spec Cond, Turb, Temp, DO, ORP</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>_____</u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>No lab narrative.</u>

Note Deficiencies: \_\_\_\_\_

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

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

## QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

**Comments/Notes:**

General:

Sulfate diluted in several samples, no qualification necessary.

## QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

### Comments/Notes:

Field Blanks:

S-SCPC-FB-1 @ S-UG-4: No detections.

Field duplicate:

S-SCPC-DUP-1 @ S-DG-4: RPD exceeds 20% for total dissolved solids (30%), results qualified as estimates.

MS/MSD:

3795985/3795986: Calcium MS/MSD recovery low, RPD OK. Associated with unrelated sample, no qualification necessary.



# Appendix B

## Alternative Source Demonstration – November 2024 Sampling Event

REPORT

# SCPC – Alternative Source Demonstration

## Sioux Energy Center, St. Charles County, Missouri, USA

June 20, 2025

Project Number: 23009-25

**Submitted to:**



Ameren Missouri  
1901 Chouteau Ave  
St. Louis, MO 63103

**Submitted by:**



Rocksmith Geoengineering, LLC  
2320 Creve Coeur Mill Rd  
Maryland Heights, MO 63043



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## 1.0 CERTIFICATION STATEMENT

---

This SCPC – *Alternative Source Demonstration, Sioux Energy Center, St. Charles County, Missouri, USA* has been prepared to comply with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule) under the direction of a licensed professional engineer with Rocksmith Geoengineering, LLC.

I hereby certify that this SCPC – *Alternative Source Demonstration, Sioux Energy Center, St. Charles County, Missouri, USA* located at 8501 Missouri 94, West Alton, Missouri 63386 has been prepared to meet the requirements of 40 CFR §257.94(e)(2).

**Rocksmith Geoengineering, LLC.,**



---

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

Principal Engineer, Senior Partner

## 2.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), this SCPC – Alternative Source Demonstration has been prepared to document an Alternative Source Demonstration (ASD) for two Statistically Significant Increases (SSIs) identified for Ameren Missouri's (Ameren's) Sioux Energy Center (SEC), Utility Waste Landfill (UWL) SCPC (Cell 1). This document satisfies the requirements of §257.94(e)(2), which allows the owner or operator to demonstrate that a source other than the CCR Unit has caused an SSI and that the apparent SSI was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

## 3.0 SITE DESCRIPTION AND BACKGROUND

Ameren owns and operates the SEC in St. Charles County, Missouri located approximately 12 miles west-northwest of the confluence of the Mississippi and Missouri Rivers. **Figure 1** depicts the site location and layout, including the location of SCPC. The SEC is approximately 1,025 acres and is located in the floodplain between the Mississippi and Missouri Rivers. The SEC is bounded to the north by wooded areas associated with the Mississippi River; to the south by a railroad; and to the east and west by agricultural fields.

### 3.1 Geological and Hydrogeological Setting

Hydrogeologically, the SCPC lies between the Mississippi River to the north and the Missouri River to the south. Flow and deposition from these rivers have resulted in thick alluvial deposits that lie unconformably on top of bedrock. These alluvial deposits range from approximately 100 to 130 feet in thickness and comprise the uppermost aquifer, called the alluvial aquifer. Overall, this aquifer is described as a fining upwards sequence of stratified sands and gravels with varying amounts of silts and clays. Drilling in the alluvial aquifer identified different sub-units, including floodplain deposits, natural levee deposits, and channel deposits along with volumetrically less important loess deposits. Grain sizes of these alluvial deposits are variable.

Beneath the alluvial aquifer lies the bedrock aquifer. Bedrock in this region includes Mississippian-aged rocks of the Meramecian Series. Formations include primarily limestone, dolomite, and shale and are comprised of the Salem Formation overlying the Warsaw Formation and the Burlington-Keokuk Formation.

### 3.2 Utility Waste Landfill – SCPC

UWL Cell 1 is referred to by Ameren as the SCPC, or “Gypsum Pond” Cell 1. The SCPC is approximately 37.5 acres in size and is located south of the generating plant on the south side of Highway 94 (Figure 1). The CCR Unit managed CCR from the SEC Wet Flue-Gas Desulfurization System (WFGD), which began operation in 2010. The unit ceased receiving CCR waste on December 14, 2022, and closure of the unit was recently completed on October 23, 2024. Since then, the WFGD has been sent to the adjacent SCPC CCR Unit.

The WFGD process occurs after the removal of slag and fly ash. A crushed limestone ( $\text{CaCO}_3$ ) mix is introduced into the boiler flue gas flow. The limestone reacts with sulfur dioxide ( $\text{SO}_2$ ) in the flue gas and produces ‘synthetic’ gypsum (calcium sulfate dihydrate ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ )). The resultant gypsum material was wet sluiced from the plant across the highway to the SCPC. Once there, the gypsum material is dewatered by gravity with the sluice conveying recycled water back to the WFGD for reuse. The primary soluble constituents of the gypsum CCR are sulfate, calcium, chloride, and sodium (Gredell and Reitz & Jens, 2014).

The SCPC was constructed with a composite liner system consisting of two feet of compacted clay soil with a hydraulic conductivity of less than  $1 \times 10^{-7}$  centimeters per second (cm/sec) overlain by a 60-mil high density polyethylene (HDPE) geomembrane liner. Information on the design of the UWL is available in the 2014 Proposed Construction Permit Modification, Construction Permit Number 0918301 (Gredell and Reitz & Jens, 2014).

A groundwater monitoring well network was installed in 2007 and 2008 to permit the UWL construction. This monitoring well network was approved by the Missouri Department of Natural Resources (MDNR) and consists of



16 monitoring wells ringing the current and proposed future extents of the UWL (Figure 1). These monitoring wells are installed in the uppermost portions of the alluvial aquifer, just below the seasonally low elevation for groundwater. Quarterly groundwater samples have been collected in these monitoring wells since June 2008 for the Missouri UWL parameters.

The permit for the SCPC was issued July 30, 2010 (permit #0918301). Nine sampling events were performed prior to July 30, 2010 and represent groundwater quality prior to WFGD placement in the UWL. The results from these pre-disposal monitoring events are used in conjunction with other site information in the sections presented below.

### 3.3 CCR Rule Groundwater Monitoring

As required by the CCR Rule, the following were completed prior to the October 17, 2017 deadline: (1) a groundwater monitoring well system was installed and certified by a Professional Engineer, (2) a Statistical Method Certification was prepared and certified by a Professional Engineer, (3) a Groundwater Monitoring Plan (GMP) was prepared recording the design, installation, development, sampling procedures, as well as statistical methods, and placed in the owner's operating record, and (4) eight baseline groundwater sampling events were completed for all Appendix III and Appendix IV parameters of CCR Rule.

The groundwater monitoring system for the SCPC consists of eight monitoring wells screened in the uppermost aquifer (alluvial aquifer) as shown on **Figure 1**. Six existing monitoring wells (UG-1A, UG-2, DG-1, DG-2, DG-3, and DG-4) were installed by Gredell Engineering Resources, Inc. in December 2007 and June 2008 as a part of the Missouri UWL state monitoring program. The remaining monitoring wells (BMW-1S and BMW-3S) were installed by Golder Associates Inc. (Golder) in 2016 for CCR Rule groundwater monitoring purposes. More information on the design and installation of the monitoring wells is provided in the SCPC GMP (Golder, 2017) and the SCPC 2017 Annual Report (Golder, 2018).

Between May 2016 and June 2017, eight baseline sampling events were completed for the SCPC. After baseline sampling, the first Detection Monitoring event was completed in November of 2017. The following Appendix III constituents were analyzed during Detection Monitoring:

- Boron
- Calcium
- Chloride
- pH
- Sulfate
- Total Dissolved Solids (TDS)
- Fluoride

In January 2018, background results from the eight baseline sampling events were used to calculate statistical upper prediction limits (UPLs). These UPLs were then compared to the Detection Monitoring results from the November 2017 samples and subsequent semi-annual Detection Monitoring sampling events. If results were higher than the calculated UPL, this was considered to be an initial exceedance, and a verification sample was then collected and tested in accordance with the SCPC Statistical Analysis Plan (SAP). In August 2019, the background dataset used to calculate statistical limits was expanded to include the first four Detection Monitoring events, per the SAP. The updated UPLs were then used for the November 2019 and subsequent Detection Monitoring events. UPLs for the SCPC Detection Monitoring network were updated again using data collected through June 2021, and most recently, using data collected through July 2023 (Rocksmith 2024). The following provides a summary of the Detection Monitoring results to date.

Since November 2017, several ASDs have been prepared for DG-2, DG-3, DG-4, UG-1A, and UG-2. These previous ASDs are available in the Annual Reports for the SCPC and are available on Ameren's publicly available CCR Compliance website (<https://www.ameren.com/company/environment-and-sustainability/managing-coal-combustion/ccr-compliance-reports>). These ASDs have demonstrated that previous SSIs at the site were not caused by the SCPC, but rather the result of relatively low calculated UPLs that were not representative of the full, natural geochemical variability within the alluvial aquifer or caused by the SCPC being downgradient from the SCPA, which is currently in Corrective Action.

The November 2024 Detection Monitoring event at the SCPC identified the following initial exceedances: fluoride at DG-2; boron, calcium, total dissolved solids (TDS), and sulfate at DG-3; and calcium at DG-4. Verification sampling completed in February 2025 confirmed SSIs of sulfate and TDS at DG-3, but the other initial exceedances were not confirmed. Results from the November 2024 Detection Monitoring event and associated verification sampling are provided in **Table 1**.

## 4.0 REVIEW OF THE STATISTICALLY SIGNIFICANT INCREASES

Monitoring well DG-3 is screened in the upper portion of the alluvial aquifer, just below the average seasonal low elevation for groundwater. As shown in **Figure 1**, DG-3 is located along the southwestern perimeter of the SCPC. DG-3 is located south of the generating plant, Highway 94, and the two surface impoundments near the plant (SCPA and SCPB), and north of Dwiggins Road.

Based on Rocksmith's review of the pre-disposal data (discussed in Section 3.2 above), as well as our comparison of the pre-disposal data with the results from the eight CCR-rule baseline events, it was concluded that the groundwater in some areas around the SCPC contained low-level pre-existing impacts from CCR that pre-dated SCPC construction and operation. As a result of these pre-existing impacts, the SCPC statistical analysis plan uses intrawell upper prediction limits (UPLs) to determine SSIs. Intrawell UPLs are calculated from historical data within a particular well, and not by pooling data from the background wells, such that individual limits are calculated for each constituent in each well in the monitoring program. Intrawell prediction limits for the SCPC monitoring network were updated in March 2024 using data collected through July 2023. A summary table of the November 2024 SSIs is provided in **Table 2**.

**Table 2 – Review of Statistically Significant Increases**

Constituent	Well ID	UPL Based on Baseline Events	Current UPL (Updated March 2024)	Baseline Sampling Event Range	Range of Values Prior to November 2024 Sampling Event (CCR Rule and State UWL Sampling)	November 2024 Result	February 2025 Result
Total Dissolved Solids (mg/L)	DG-3	580	617.9	528 – 580	356 – 665	627	644
Sulfate (mg/L)	DG-3	61.41	74.45	49.1 – 59.4	29.7 – 83.3	85.5	75.7

Notes:

- 1) mg/L – milligrams per liter.
- 2) UPL – Upper Prediction Limit. UPLs calculated using Sanitas™ software.

## 5.0 EVIDENCE OF SSI FROM ALTERNATIVE SOURCE

Several different lines of evidence indicate that the SSIs are not the result of a release from the SCPC and the SSI originates from an alternative source. The following bullets summarize the different lines of evidence that support this ASD:

- Lack of elevated key FGD Indicators (boron and fluoride) above pre-CCR placement levels at monitoring well DG-3.
- Documentation of pre-existing, low-level concentrations of CCR indicators and other parameters in groundwater that pre-date the SCPC operation, particularly in monitoring wells just south of DG-3 along Dwiggins Road.
- Sulfate concentrations in the Missouri River immediately south of the site exceed concentrations observed in monitoring well DG-3.

- Elevated TDS at DG-3 is primarily driven by above-average alkalinity, which is not a key indicator of CCR or FGD impacts.
- Construction documents of the SCPC indicating the 60-mil high-density polyethylene (HDPE) geomembrane liner and a 2-foot thick clay barrier met quality assurance testing during construction.

## 5.1 CCR Indicators

Several types of CCR byproducts are generated by coal-fired power plants. The different types of CCR typically display distinct geochemical signatures and indicator parameters. **Table 3** below describes the different types of CCRs and their typical indicator parameters (USEPA 2018, EPRI 2011, EPRI 2012, and EPRI 2017).

**Table 3 – Types of CCR and Typical Indicator Parameters**

Type of CCR	Description of CCR (USEPA 2018)	Key Indicators (EPRI 2011, 2012, 2017)
<b>Fly Ash</b>	Fine grained, powdery material composed mostly of silica made from the burning of finely ground coal in the boiler.	<ul style="list-style-type: none"> <li>• Boron</li> <li>• Molybdenum</li> <li>• Lithium</li> <li>• Sulfate</li> </ul>
<b>Boiler Slag / Bottom Ash</b>	Molten bottom ash from the slag tap and cyclone type furnaces that turns into pellets that have a smooth glassy appearance after quenching with water.	<ul style="list-style-type: none"> <li>• Bromide</li> <li>• Potassium</li> <li>• Sodium</li> <li>• Fluoride</li> </ul>
<b>Flue Gas Desulfurization Material (FGD)</b>	A material leftover from the process of reducing sulfur dioxide emissions from a coal-fired boiler that can be a wet sludge consisting of calcium sulfite or calcium sulfate or a dry powdered material that is a mixture of sulfites and sulfates.	<ul style="list-style-type: none"> <li>• Sulfate</li> <li>• Fluoride</li> <li>• Calcium</li> <li>• Boron</li> <li>• Bromide</li> <li>• Chloride</li> </ul>

Notes:

- 1) Fly ash and boiler slag/bottom ash typically have the same indicator parameters.
- 2) Definitions from USEPA website, available at <https://www.epa.gov/coalash/coal-ash-basics>.
- 3) Key indicators from EPRI 2011, 2012, and 2017 as well as Gredell and Reitz & Jens, 2014.

## 5.2 Site Specific Key CCR Indicators

To be a key CCR indicator parameter for a specific site, a constituent should be present in relatively high concentrations in the leachate (CCR pore-water) when compared to background or other sources (nearby rivers, etc.), not be a common anthropogenic contaminant, and be mostly non-reactive and mobile in the site hydrogeological environment (EPRI 2012). In 2012, EPRI investigated which constituents are the best indicator parameters for coal ash impacts as outlined in **Table 1**. Of the key indicators listed in **Table 1** for flue gas desulfurization material, sulfate, fluoride, calcium, boron, and chloride are regularly sampled as part of the CCR Rule. Testing for bromide has not been completed at this site.

**Table 2** provides a snapshot of the concentrations present onsite in background groundwater, Mississippi River, Missouri River, SCPA pore-water, and SCPD leachate for the constituents sampled on the key indicator list for FGD material.

**Table 4 – Summary of FGD Impact Indicator Parameters at the Sioux Energy Center**

Constituent (Units)		Back-ground	Mississippi River <sup>1</sup>	Missouri River <sup>1</sup>	SCPA Porewater	SCPD Leachate	Advantages and Caveats as Key Indicator (from EPRI 2012)
Boron (µg/L)	Minimum	42.4	27.1	110	348	239,000	Mobile indicator constituent for unwashed FGD gypsum. Concentrations for washed gypsum may be too low to be useful.
	Average	93.27	36.4	112.3	53,266		
	Maximum	240	59.9	117	111,000		
Sulfate (mg/L)	Minimum	12.3	29.9	188	48.5	5,820	High concentrations expected in both washed and unwashed FGD gypsum. Commonly analyzed. Very mobile in all hydrogeologic environments. Less useful in strongly reducing environments where sulfate can be reduced to hydrogen-sulfide gas.
	Average	30.60	34.08	192.1	1,088		
	Maximum	61.1	40.5	196	2,080		
Fluoride (mg/L)	Minimum	ND (<0.086)	0.16	0.43	0.22	68.0	Mobile and non-reactive in common hydrogeologic environments. Assure that leachate concentration is higher than background, particularly for washed gypsum.
	Average	0.266	0.196	0.4435	1.142		
	Maximum	0.46	0.24	0.46	2.9		
Calcium (µg/L)	Minimum	97,100	42,500	63,000	73,400	911,000	High concentrations expected in both washed and unwashed FGD gypsum. Understanding of carbonate chemistry necessary to assure that precipitation or dissolution does not affect downgradient concentrations.
	Average	129,503	50,255	64,385	409,680		
	Maximum	184,000	58,500	65,400	825,000		
Chloride (mg/L)	Minimum	1.9	22.2	23.3	20.5	7,390	Mobile indicator constituent for unwashed FGD gypsum. Concentrations may be very high if transport water is recirculated. Concentrations for washed gypsum may be too low to be useful.
	Average	8.8	27.06	23.48	24.34		
	Maximum	16.8	41.0	23.9	27.1		

## Notes:

- 1) Unit abbreviations - mg/L – milligrams per liter, µg/L – micrograms per liter.
- 2) 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.
- 3) SCPA porewater samples collected by Golder Associates in January 2018.
- 4) A single leachate sample was collected directly from the SCPD by Gredell Engineering Resources, Inc. in December 2023. The SCPD currently collects WFGD material that was once sluiced to the SCPC until December 2022.

Boron has previously been attributed as a primary indicator for CCR impacts at the site, particularly for bottom and fly ash impacts. As shown in **Table 4**, the FGD leachate material contained in the SCPC (as well as the adjacent SCPD) contains significantly higher concentrations of key indicator parameters than other potential sources at the SEC. The following describes the practicality of each of the key FGD indicators for determining CCR impacts from the SCPC:

- Boron, which is typically the most mobile of CCR-related constituents, would be expected to have the most significant increase if there were impacts from the SCPC (or adjacent SCPD). Of the key FGD indicators listed above, the boron concentration in SCPD leachate is greatest relative to background groundwater at the site (2,541 times higher concentration in SCPD leachate than average background groundwater). Other key FGD indicators are lower in terms of their relative concentrations in leachate compared to background

<sup>1</sup> Mississippi and Missouri River samples collected September 21 & 22, 2017 and May 8, 2018. Results are available on Ameren's public website at <https://www.ameren.com/company/environment-and-sustainability/managing-coal-combustion/ccr-compliance-reports/sioux-energy-center>.

groundwater. Additionally, boron has low concentrations in the adjacent Missouri and Mississippi Rivers; therefore, elevated boron in groundwater is likely derived from a CCR source.

- Fluoride may be a very good FDG indicator parameter because it is typically mobile in most geological environments and is present in SCPD leachate at a level 248 times greater than average background groundwater concentrations. Background fluoride concentrations are also similar to Mississippi and Missouri River concentrations; therefore, an apparent source of increased fluoride could be from FGD impacts. Fluoride concentrations are also much higher in FGD leachate than SCPA porewater, indicating that if increased fluoride is present, it would be suspected that the impacts may be from FGD materials and not fly ash or bottom ash as managed by the SCPA.
- Chloride can be a good FGD indicator parameter because it is mobile in most geological environments and is present in SCPD leachate at a level 856 times greater than average background groundwater concentrations. However, chloride concentrations in shallow groundwater can be greatly affected by the use of road salt (NaCl) for road deicing. Chloride concentrations for the DG-xx wells installed south of the UWL were measured as high as 125 mg/L prior to any placement of CCR materials in the UWL (prior to June 30, 2010). Additionally, surface water samples collected from the Mississippi and Missouri Rivers near the SEC average approximately 27 and 23 mg/L of chloride, respectively. Therefore, if chloride concentrations are significantly greater than those other alternative sources (greater than approximately 125 mg/L), then chloride can be a good indicator parameter for FGD impacts. At concentrations lower than this, chloride is less effective as a FGD indicator at the SEC.
- Sulfate can be a good FGD indicator parameter as well because it is mobile in most geological environments and is present at a level 187 times greater than average background groundwater concentrations. However, based on surface water sampling near the SEC, sulfate concentrations in the Mississippi and Missouri Rivers reach up to approximately 196 mg/L. Therefore, if sulfate concentrations are significantly greater than concentrations in the nearby rivers and background groundwater (greater than approximately 200 mg/L), then it may be a good indicator for CCR indicator for fly ash, bottom ash, or FGD impacts. At concentrations lower than this, sulfate is less effective as an FGD indicator at the SEC.
- Calcium may be a useful FDG Indicator parameter; however, it is not always mobile in all geological environments and an understanding of carbonate chemistry is necessary to assure that precipitation or dissolution does not affect downgradient concentrations. Additionally, calcium concentrations are only 7 times greater in the FGD leachate than average background groundwater at the site. Significant increases in calcium may indicate an FGD impact; however, increases would be expected to be less definitive than other key indicators, such as boron and fluoride.

### 5.3 Concentrations of Key Indicators at DG-3

**Figures 2-6** display historical concentrations of each of the key indicator parameters of FGD impacts at monitoring well DG-3. The SCPC was permitted to receive WFGD material beginning in July 2010, and its receipt of WFGD material ceased in December 2022. During that period, there are no distinct increasing trends for any of these parameters that would be expected if impacts were from the SCPC. Boron, calcium, and fluoride concentrations have all remained relatively stable. Stable concentrations of boron and fluoride, the most effective indicator parameters of FGD impacts, provide strong evidence that FGD impacts are not causing the SSIs at DG-3. Out of the key indicator parameters described above, chloride and sulfate concentrations exhibit the most historical variability, with transitory increases and decreases not indicative of CCR impacts. This variability is attributed to natural variability in the aquifer, and for chloride, variability may also be enhanced by sporadic applications of road salt along roadways near the well.

**Table 5**, below, displays concentration ranges of key FGD indicator parameters before, during, and after CCR placement in the SCPC in relation to recently collected data. Pre-CCR placement, sulfate concentrations at DG-3 have been measured as high as 75.0 mg/L, which exceeds the current UPL of 74.45 mg/L and is similar to recent concentrations. Chloride concentrations have displayed significant variability before, during, and after CCR placement in the SCPC, but results from November 2024 and February 2025 are slightly elevated compared to previous results.

**Table 5 – Ranges of Key FGD Indicators Before, During, and After CCR Placement at SCPC**

Constituent	Range of Values Prior to SCPC Permit (before 7/30/2010)	Range of Values during Active Conditions of SCPC (7/30/2010 – 12/14/2022)	Range of Values following final receipt of CCR, prior to November 2024	November 2024 Result	February 2025 Result
Sulfate (mg/L)	57.0 – 75.0	29.7 – 82.0	47.0 – 83.3	85.5	75.7
Fluoride (mg/L)	0.28 – 0.41	ND (<0.12) – 0.49	ND (<0.12) – 0.42	0.39 J	NS
Calcium (µg/L)	134,000 – 172,000	113,000 – 163,000	159,000 – 170,000	172,000	159,000 J
Boron (µg/L)	80.8 – 95.5	62.1 – 108	78.2 – 102	105	94.9 J
Chloride (mg/L)	5.0 – 9.0	2.7 – 23.0	6.9 – 34.0 J	14.7	NS

## Notes:

- 1) Unit abbreviations - mg/L – milligrams per liter, µg/L – micrograms per liter.
- 2) 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.
- 3) NS - Not sampled.
- 4) J - Result is an estimated value.

Boron, calcium, sulfate, and fluoride results pre-CCR placement are at similar ranges to concentrations observed during and after active conditions of the SCPC. Chloride, which is often affected by the use of road salt on nearby roads, has similar concentrations during active conditions and after final receipt of CCR from the SCPC. With each of these key indicator parameters of FGD impacts not showing elevated concentrations when compared to previous sampling, there is strong evidence that the elevated sulfate and TDS in November 2024 and February 2025 are not caused by SCPC impacts.

## 5.4 Sulfate Concentrations at DG-3

Sulfate can be key indicator of potential FGD impacts because high concentrations of sulfate are found ubiquitously in FGD materials with the exception of strongly reducing conditions, and sulfate is relatively mobile in most hydrogeological environments. The groundwater around the SCPC does not demonstrate strongly reducing conditions, such as dissolved oxygen values below 0.5 mg/L, negative oxidation reduction potential (ORP), dissolved iron concentrations above 1 mg/L, nor are hydrogen sulfide odors reported at the SCPC.

**Figure 6** displays the full historical set of sulfate concentrations at DG-3 including the period prior to the receipt of CCR. Significant sulfate variability at DG-3 is observed. If the SSI was caused by impacts from the SCPC, sulfate concentrations would be expected to increase following the placement of CCR materials; however, placement of CCR in the SCPC does not appear to correspond with increased sulfate. **Figure 6** demonstrates that current sulfate concentrations remain at levels similar to those from pre-CCR placement.

Based on these data, the variability in sulfate concentrations over time is not a result of SCPC CCR impact to the groundwater. The SSI for sulfate at DG-3 is likely a result of natural geochemical variability of the aquifer that has not been captured by groundwater sampling to-date. The lack of elevated key FGD indicators such as boron and fluoride is strong evidence that this SSI is not caused by impacts from the SCPC.

Additionally, sulfate concentrations within the Missouri River to the south of the SEC averaged approximately 192 mg/L, as shown in **Table 2**, which is significantly greater than concentrations measured at DG-3. The Missouri River is an alternative source of sulfate in the groundwater at the SEC and contributes to the sulfate variability at the site.

## 5.5 Total Dissolved Solids (TDS) Concentrations at DG-3

TDS alone is not a key indicator of CCR or FGD (EPRI 2017, EPRI 2012). As displayed on **Figure 7**, TDS concentrations observed in November 2024 and February 2025 verification sampling event were 627 and 644 mg/L, respectively. These values are just above the original calculated UPL used for TDS concentrations at DG-3 of 580 mg/L and the current UPL of 617.9 mg/L.

To further investigate the geochemical variability of TDS in the UWL area, the historical data from the state UWL wells (located on the south side of the SCPC, outside of the interpreted zone of impact from the SCPA) were reviewed. These UWL wells (labeled “DG-xx”) were installed and sampled at least 9 times prior to the receipt of FGD in the SCPC. The DG-xx monitoring wells are screened at approximately the same depth as DG-3 in the shallow zone of the alluvial aquifer. **Figure 8** displays a box and whisker plot of the TDS concentrations for the DG-xx wells prior to the receipt of FGD in the SCPC, which represents natural variability in local groundwater chemistry. Using all pre-disposal data from the twelve DG-xx wells, the non-parametric UPL for TDS is 678 mg/L. The November 2024 and February 2025 TDS results at DG-3 are within the pre-FGD historical range (290 – 678 mg/L) for wells in its vicinity.

As discussed above, the majority of TDS is made up of calcium, magnesium, sodium, potassium, chloride, sulfate, and alkalinity concentrations. **Table 6** displays the concentrations of each of these constituents collected during semi-annual detection monitoring sampling events at DG-3 since November 2018.

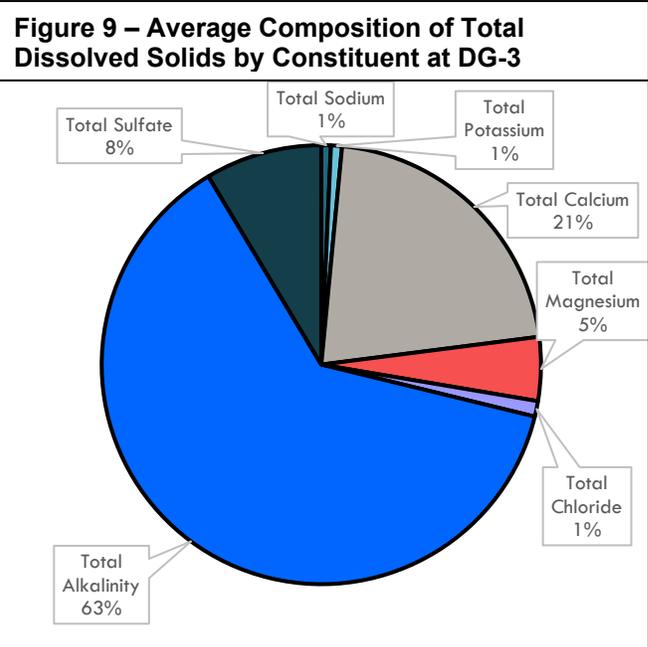
**Table 6 – Total Dissolved Solids Major Constituent Concentrations over Time at DG-3**

Sample Date	Total Sodium (mg/L)	Total Potassium (mg/L)	Total Calcium (mg/L)	Total Magnesium (mg/L)	Total Chloride (mg/L)	Total Alkalinity (mg/L)	Total Sulfate (mg/L)
11/13/2018	4.42	5.12	137	29.5	9.1	432	64.7
8/19/2019	4.68	6.47	148	39.1	4.8	450	49.5
11/14/2019	4.78	6.70	144	38.1	5.4	447	51.1
4/28/2020	4.60	5.22	134	28.5	5.5	412	52.8
11/17/2020	5.54	6.58	160	38.4	3.8	451	41.0
4/14/2021	4.47	5.03	143	29.1	5.9	405	60.9
11/10/2021	5.18	5.76	146	32.5	2.7 J	419	46.8
4/1/2022	5.15	6.15	163	28.3	8.5	460	63.9
10/21/2022	5.29	6.05	162	36.8	3.3	455	63.8
5/3/2023	4.83	5.63	159	35.6	6.9	480	76.3
11/13/2023	4.90	5.07	160	33.3	8.2 J	463	65.1 J
5/30/2024	5.82	5.55	164	33.1	26.6	464	75.8
11/15/2024	5.81	5.67	172	33.4	14.7	474	85.5
<b>Average Concentration</b>	<b>5.04</b>	<b>5.77</b>	<b>153</b>	<b>33.5</b>	<b>8.1</b>	<b>447</b>	<b>61.3</b>
<b>November 2024 Ranking</b>	<b>2nd</b>	<b>7th</b>	<b>1st</b>	<b>6th</b>	<b>2nd</b>	<b>2nd</b>	<b>1st</b>

As displayed in **Figure 9**, based on average concentrations in **Table 4**, alkalinity and calcium concentrations make up approximately 84% of the total TDS value at DG-3. In November 2024, the alkalinity result was the 2<sup>nd</sup> highest, and the calcium result was the highest of the 13 results at the well since November 2018. Alkalinity is not considered a key indicator of FGD CCR impacts and accounts for 63% of TDS at DG-3, on average. The high alkalinity concentration at DG-3 in November 2024 relative to previous samples is the primary contributor to the elevated TDS observed, with a value 27 mg/L greater than average. Additionally, the November 2024 calcium result is 19 mg/L greater than the average calcium result at the well. As described in Section 5.2, calcium is not as useful as an FGD indicator at the site when compared to boron and fluoride, and calcium results at DG-3 are within the range of shallow background groundwater concentrations west of the SEC (up to 184 mg/L)

Together, in November 2024, combined alkalinity and calcium contributed 46 mg/L greater than average to TDS at DG-3. This increased contribution from alkalinity and calcium is more than sufficient to place the November 2024 TDS result (627 mg/L) in exceedance of the DG-3 UPL (617.9 mg/L).

Furthermore, the lack of increased concentrations of FGD indicators such as boron and fluoride (**Figures 2 and 5**) indicate the TDS SSI at DG-3 is not caused by FGD impacts from the SCPC and is primarily driven by natural geochemical variability in the aquifer.



## 6.0 DEMONSTRATION THAT STATISTICALLY SIGNIFICANT INCREASES WERE NOT CAUSED BY SCPC IMPACTS

Based on the information presented in Section 5.0 above, the SSIs of sulfate and TDS at monitoring well DG-3 from the November detection monitoring event are not a result of impacts from the SCPC. The following lines of evidence support this claim:

- Lack of elevated key FGD Indicators (boron and fluoride) above pre-CCR placement levels at monitoring well DG-3.
- Documentation of pre-existing, low-level concentrations of CCR indicators and other parameters in groundwater that pre-date the SCPC operation, particularly in monitoring wells just south of DG-3 along Dwiggins Road.
- Sulfate concentrations in the Missouri River immediately south of the site exceed concentrations observed in monitoring well DG-3 and the river is a source of recharge to the shallow alluvial aquifer.
- Elevated TDS at DG-3 is primarily driven by above-average alkalinity, which is not a key indicator of CCR or FGD impacts.

Along with these lines of evidence listed above, the SCPC is documented to be properly constructed with an engineered compacted clay liner overlain by a 60-mil HDPE geomembrane liner system, which was designed and constructed to properly contain CCR and prevent groundwater impacts.

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## 7.0 REFERENCES

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- Ameren Missouri. 2016. Structural Integrity Criteria & Hydrologic/Hydraulic Capacity Assessment, Sioux Energy Center.
- Electric Power Research Institute (EPRI). 1998, Field Evaluation of the Comanagement of Utility Low-Volume Wastes With High-Volume Coal Combustion By-Products: SX Site. Report TRACE-108409. September 1998.
- Electric Power Research Institute (EPRI). 2011, Composition and Leaching of FGD Gypsum and Mined Gypsum, Report 1022146. November 2011.
- Electric Power Research Institute (EPRI). 2012, Groundwater Quality Signatures for Assessing Potential Impacts from Coal Combustion Product Leachate, Report 1017923. October 2012.
- Electric Power Research Institute (EPRI). 2017, Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites, Report 3002010920, October 2017.
- Golder Associates Inc., 2017, 40 CFR Part 257 Groundwater Monitoring Plan, SCPC – Sioux Energy Center – St. Charles County, Missouri, USA.
- Golder Associates Inc., 2018, 2017 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates Inc., 2019a, 2018 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates Inc., 2019b, Updated Statistical Limits With Additional Background Data – SCPC.
- Golder Associates Inc., 2020, 2019 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates Inc., 2021, 2020 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates USA Inc., 2022a, 2021 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.
- Golder Associates USA Inc., 2022b, Updated Statistical Limits With Additional Background Data, Surface Impoundment (SCPC), Sioux Energy Center – St. Charles County, Missouri, USA.
- GREDELL Engineering Resources, Inc. 2006. Detailed Geologic and Hydrologic Site Investigation Report. AmerenUE Sioux Power Plant Proposed Utility Waste Disposal Area. St. Charles County, Missouri. August 2006.
- GREDELL Engineering Resources, Inc. 2009. Background Groundwater Monitoring Report. AmerenUE Sioux Power Plant. St. Charles County, Missouri. June 2009.
- Johnson, A.I. 1967. Specific Yield – Compilation of Specific Yields for Various Materials: U.S. Geological Survey Water-Supply Paper 1662-D. Available at: <https://pubs.er.usgs.gov/publication/wsp1662D>.
- MDNR. 2011. Missouri Well Construction Rules. Missouri Department of Natural Resources Division of Geology and Land Survey. Rolla, MO. August 2011.

Reitz & Jens, Inc., and GREDELL Engineering Resources, Inc. 2014. Ameren Missouri Sioux Power Plant – Utility Waste Landfill – Proposed Construction Permit Modification – Construction Permit Number 0918301 – St. Charles County, Missouri, revised August 2014.

Rocksmith Geoengineering, LLC, 2024a, 2023 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.

Rocksmith Geoengineering LLC, 2024b, Updated Statistical Limits with Additional Background Data, SCPC CCR Unit, Sioux Energy Center, St. Charles, Missouri.

Rocksmith Geoengineering, LLC, 2025, 2024 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery – Program Implementation and Information Division. March 2009.

USEPA. 2015. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule/ [EPA-HQ-RCRA-2009-0640; FRL-9919-44-OSWER].

WSP USA Inc., 2023, 2022 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.

# Tables

**Table 1**  
**November 2024 Detection Monitoring Results**  
**SCPC Surface Impoundment**  
**Sioux Energy Center, St. Charles County, MO**

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS												
		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	
<b>November 2024 Detection Monitoring Event</b>																
DATE	NA	11/20/2024	11/20/2024	NA	11/15/2024	NA	11/14/2024	NA	11/15/2024	NA	11/15/2024	NA	11/15/2024	NA	11/15/2024	
pH	SU	6.57	6.72	6.433 - 7.279	6.75	6.29 - 7.5	7.08	6.565 - 7.38	7.12	6.725 - 7.268	6.96	6.66 - 7.227	6.90	6.638 - 7.221	6.75	
BORON, TOTAL	µg/L	61.9 J	57.3 J	453.4	307	277.7	112	118.3	101	113.2	103	103.2	105	114.1	109	
CALCIUM, TOTAL	µg/L	175,000	113,000	203,439	160,000	143,772	90,800	174,000	144,000	166,000	141,000	169,490	172,000	166,717	168,000	
CHLORIDE, TOTAL	mg/L	14.2	13.1	147.8	116	93.74	26.5	10.0	7.5	10.93	4.5	17.26	14.7	155.7	13.0	
FLUORIDE, TOTAL	mg/L	ND	ND	0.47	0.27	0.34	0.29	0.41	0.31	0.49	0.51	0.49	0.39 J	0.48	0.38	
SULFATE, TOTAL	mg/L	37.1	17.1	113.4	60.0	93.63	29.4	69.58	50.5 J	68	41.5	74.45	85.5	79.91	70.4	
TOTAL DISSOLVED SOLIDS	mg/L	613	413	819.5	711	657.3	409	552.3	541	537	522	617.9	627	680.5	665	
<b>Febuary 2025 Verification Sampling Event</b>																
DATE	NA											2/7/2025		2/7/2025		2/6/2025
pH	SU															
BORON, TOTAL	µg/L													94.9 J		
CALCIUM, TOTAL	µg/L													159,000 J		131,000
CHLORIDE, TOTAL	mg/L															
FLUORIDE, TOTAL	mg/L										0.36					
SULFATE, TOTAL	mg/L													75.7		
TOTAL DISSOLVED SOLIDS	mg/L													644		

**NOTES:**

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

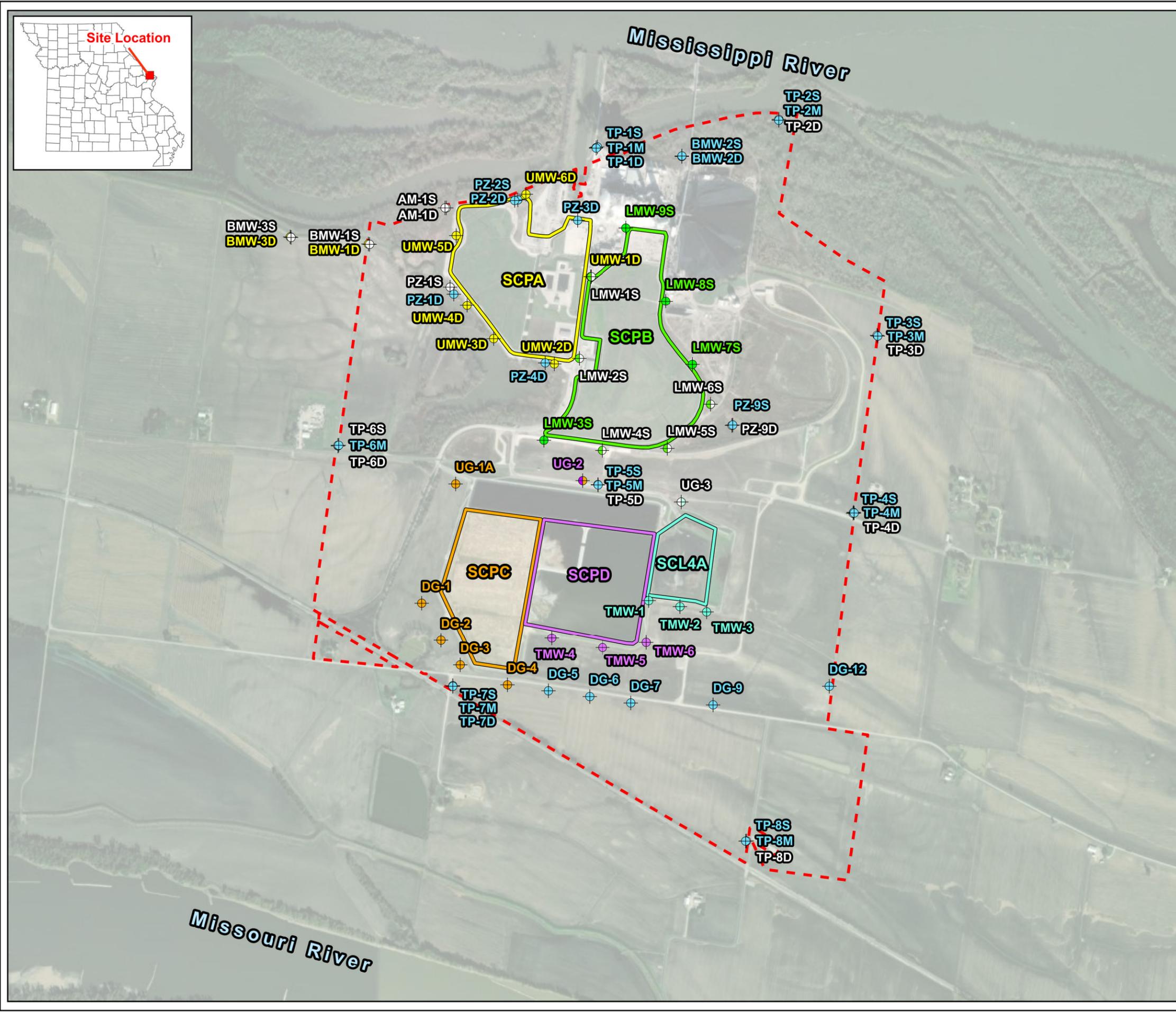
Prepared By: GTM  
Checked By: JDQ  
Reviewed By: JSI

# Figures



TITLE  
**SIoux ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND SAMPLE LOCATION MAP**

- Legend**
- Sioux Energy Center Property Boundary
  - CCR Units**
  - SCPA - Unlined Bottom Ash Surface Impoundment (Closed)
  - SCPB - Lined Fly Ash Surface Impoundment (Closed)
  - Utility Waste Landfill Cells**
  - SCL4A - Dry CCR Disposal Area
  - SCPC - FGD Surface Impoundment (Closed)
  - SCPD - FGD 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



- NOTES**
- All boundaries and locations are approximate.
  - FGD - Flue Gas Desulfurization.
  - CCR - Coal Combustion Residuals.

- REFERENCES**
- St Charles County, Missouri Geo-Data & Mapping Hub, Parcel Dataset, Updated April 2025.



PROJECT  
 CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT  
 AMEREN MISSOURI  
 SIOUX ENERGY CENTER

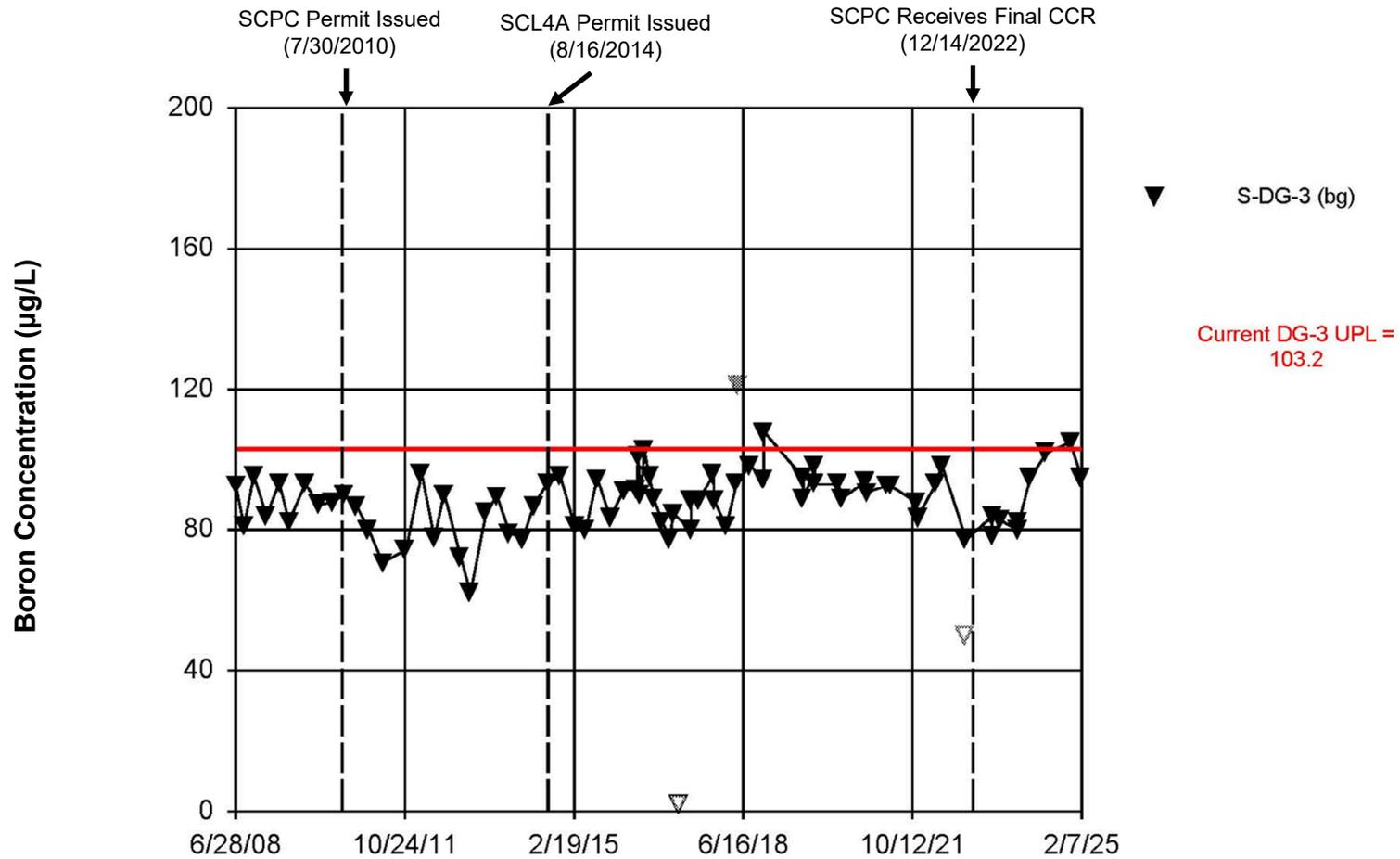


DESIGN	JSI	YYYY-MM-DD	2025-06-02
PREPARED	GTM	PROJECT No.	23009-25
REVIEW	JSI		
APPROVED	MNH		

**FIGURE 1**

Path: C:\Users\CramMosey\Rocksmith Geoenvironmenting LLC\202007 - Ameren GMT - Documents\400 - Drawings - Figures\4.3-SECC\4.3.2 - Production\2025\CD\Figure 1 - Well Locations - No Extrusion Locations.aprx

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



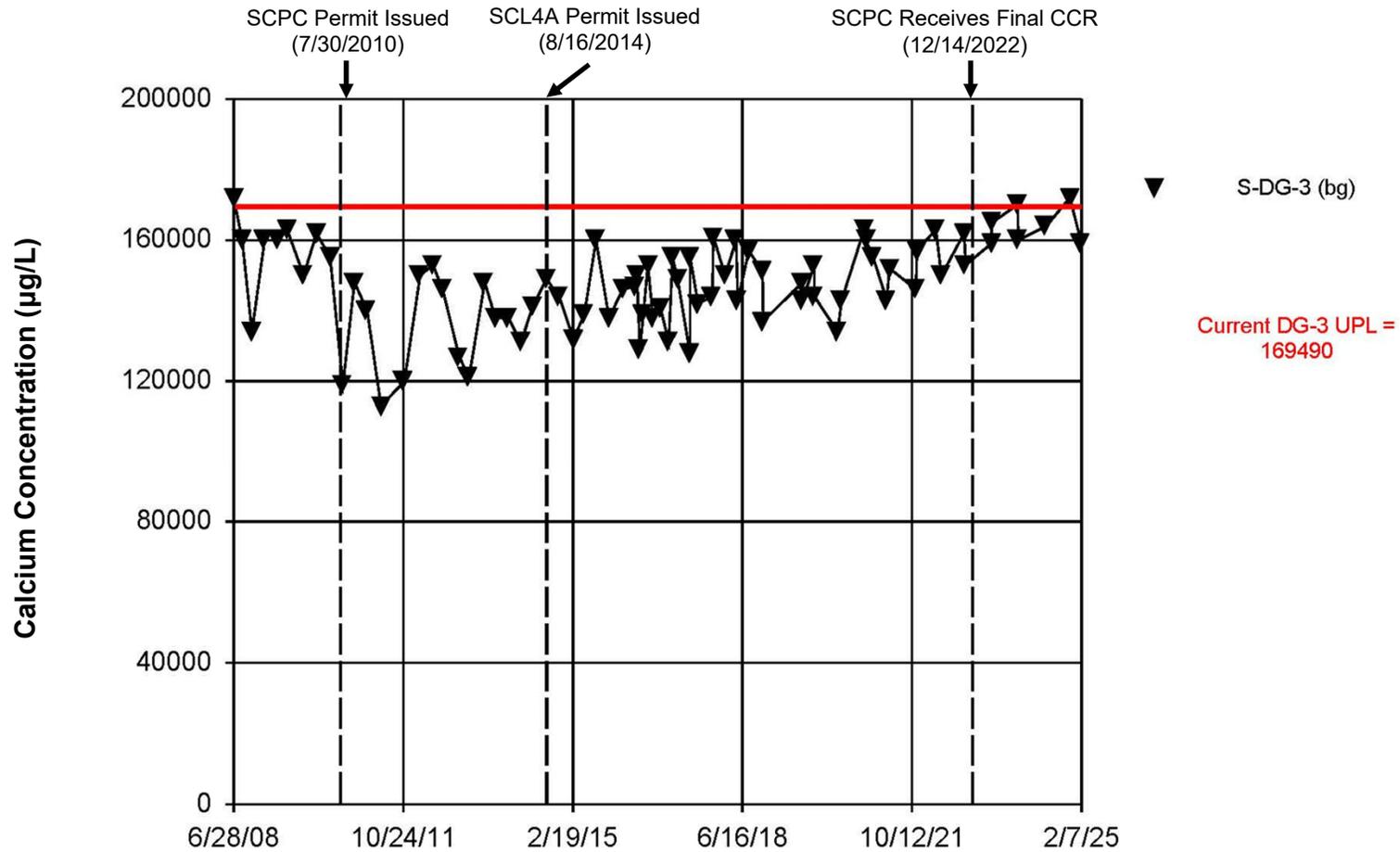
Notes

- 1) µg/L – Micrograms per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.
- 4) Hollow symbols indicate non-detect values. Non-detects plotted as ½ the Method Detection Limit.
- 5) Symbols disconnected from trend line are flagged as outliers.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2025-04-11	



TITLE <b>Timeseries Plot of Boron Concentrations at DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>2</b>



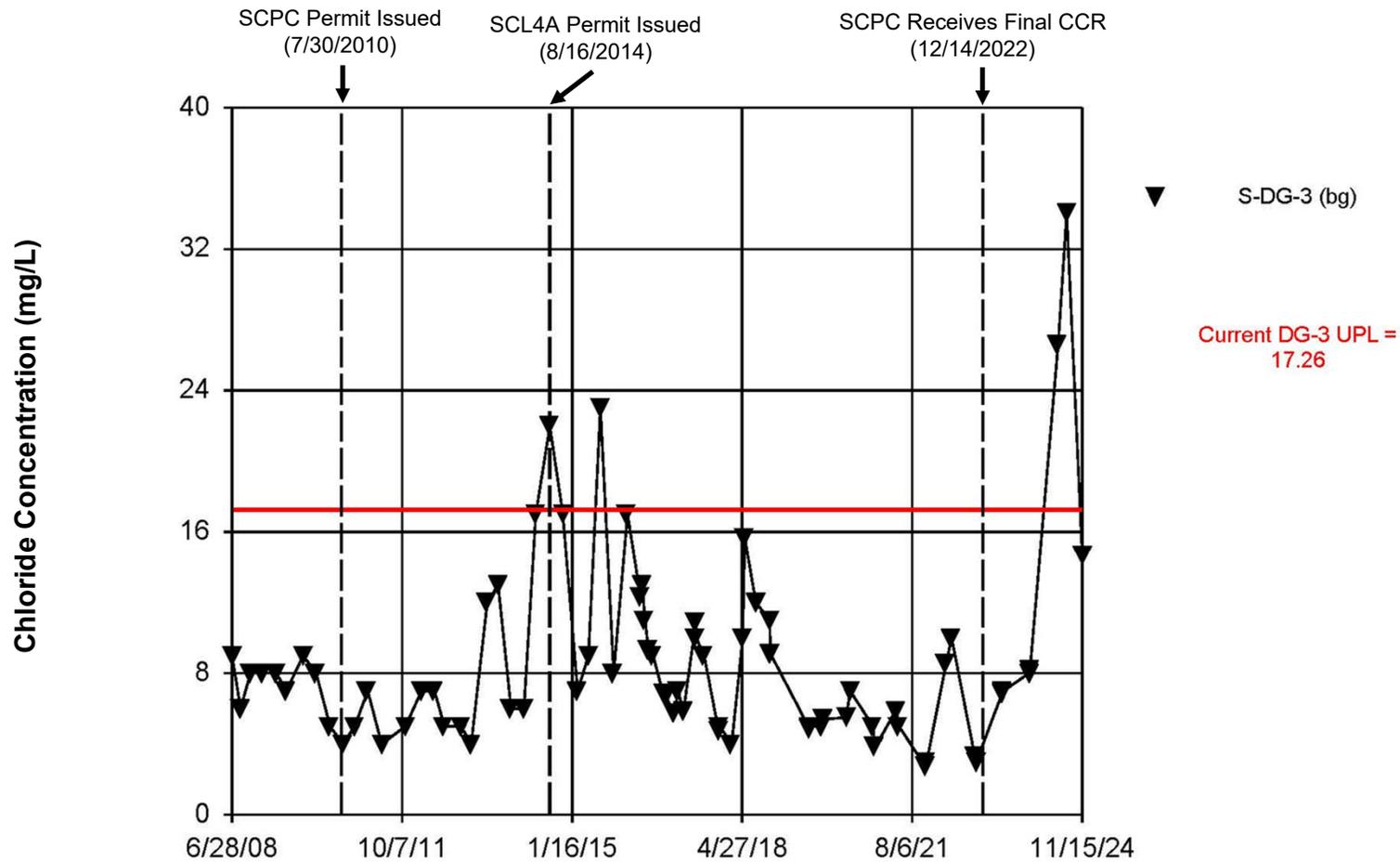
Notes

- 1) µg/L – Micrograms per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2025-04-11	



TITLE <b>Timeseries Plot of Calcium Concentrations at DG-3</b>		
Rev No. NA	JOB NO. 23009-24	FIGURE <b>3</b>



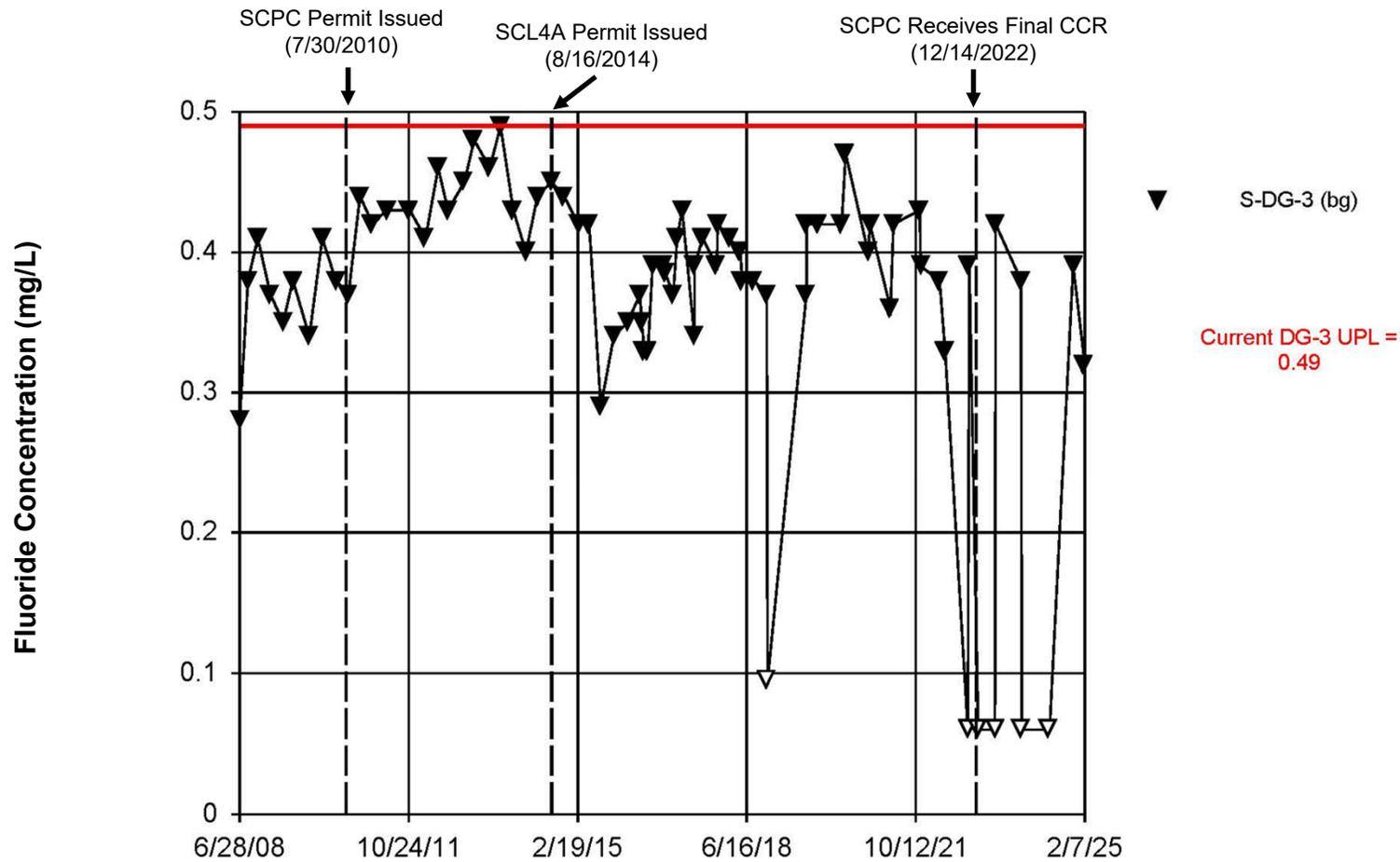
Notes

- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2025-04-11	



TITLE <b>Timeseries Plot of Chloride Concentrations at DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>4</b>



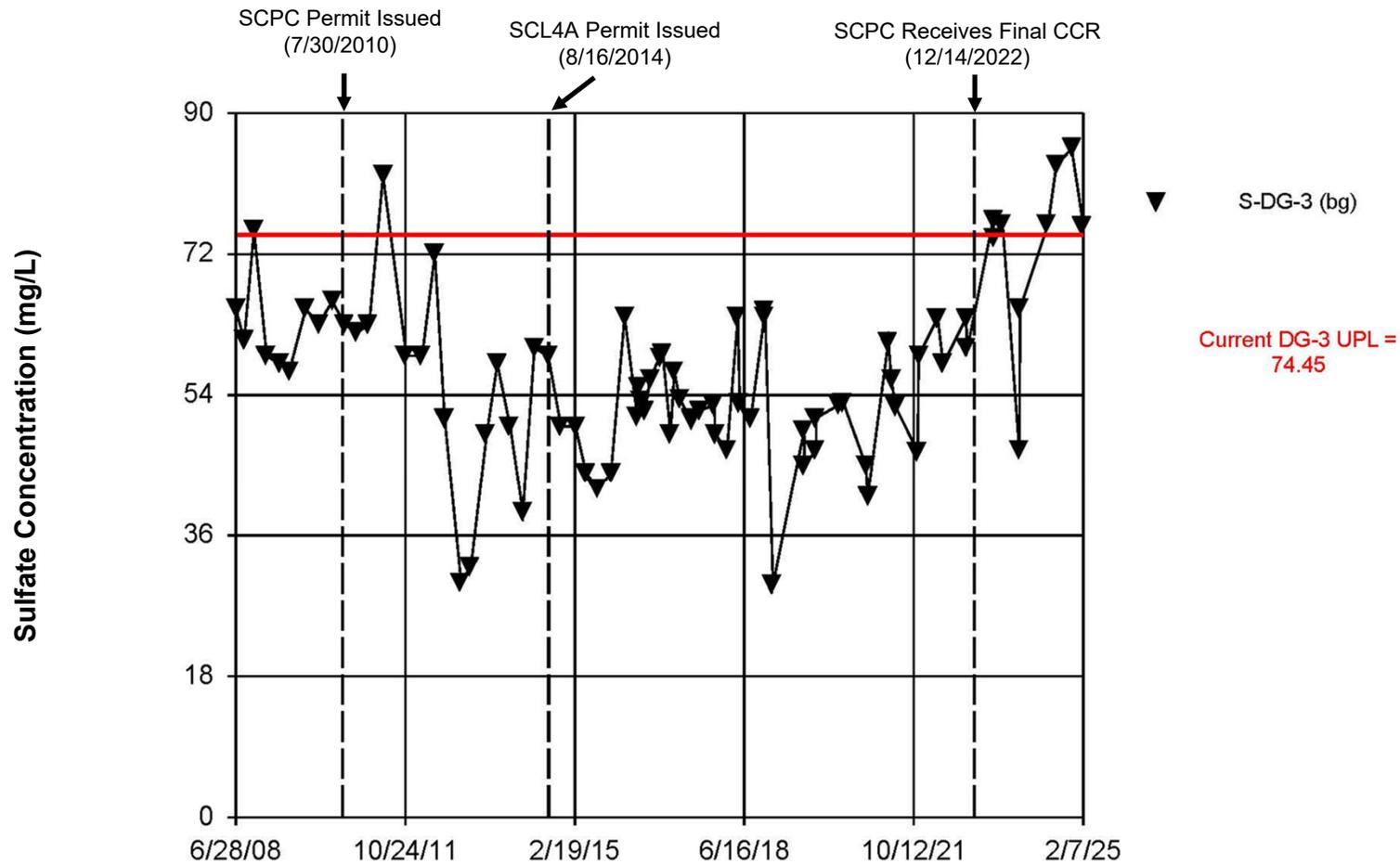
Notes

- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.
- 4) Hollow symbols indicate non-detect values.  
Non-detects plotted as ½ the Method Detection Limit.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2025-04-11	



TITLE <b>Timeseries Plot of Fluoride Concentrations at DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>5</b>



Notes

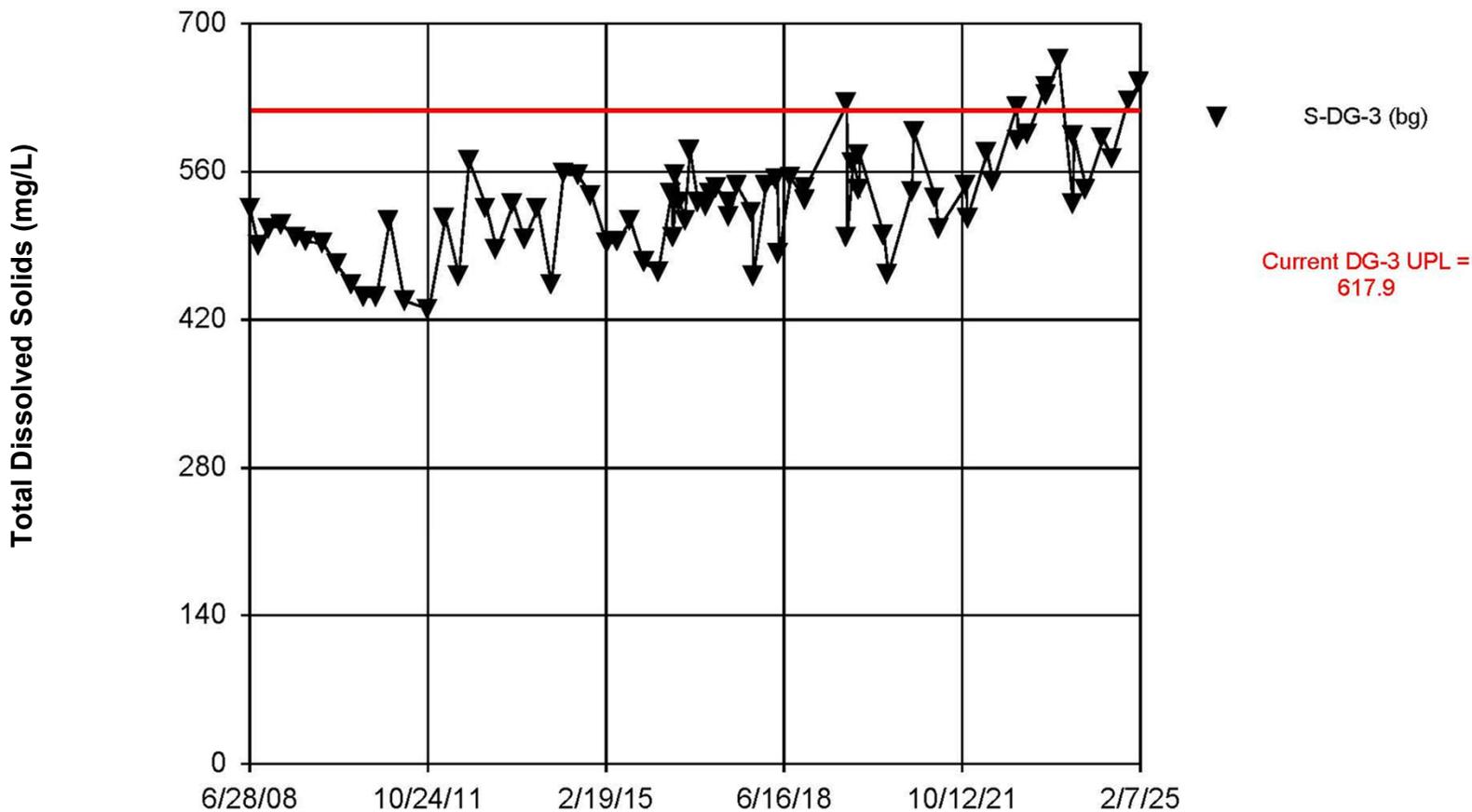
- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI</b> <b>SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2025-04-11	



TITLE <b>Timeseries Plot of Sulfate Concentrations at DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>6</b>

### Time Series

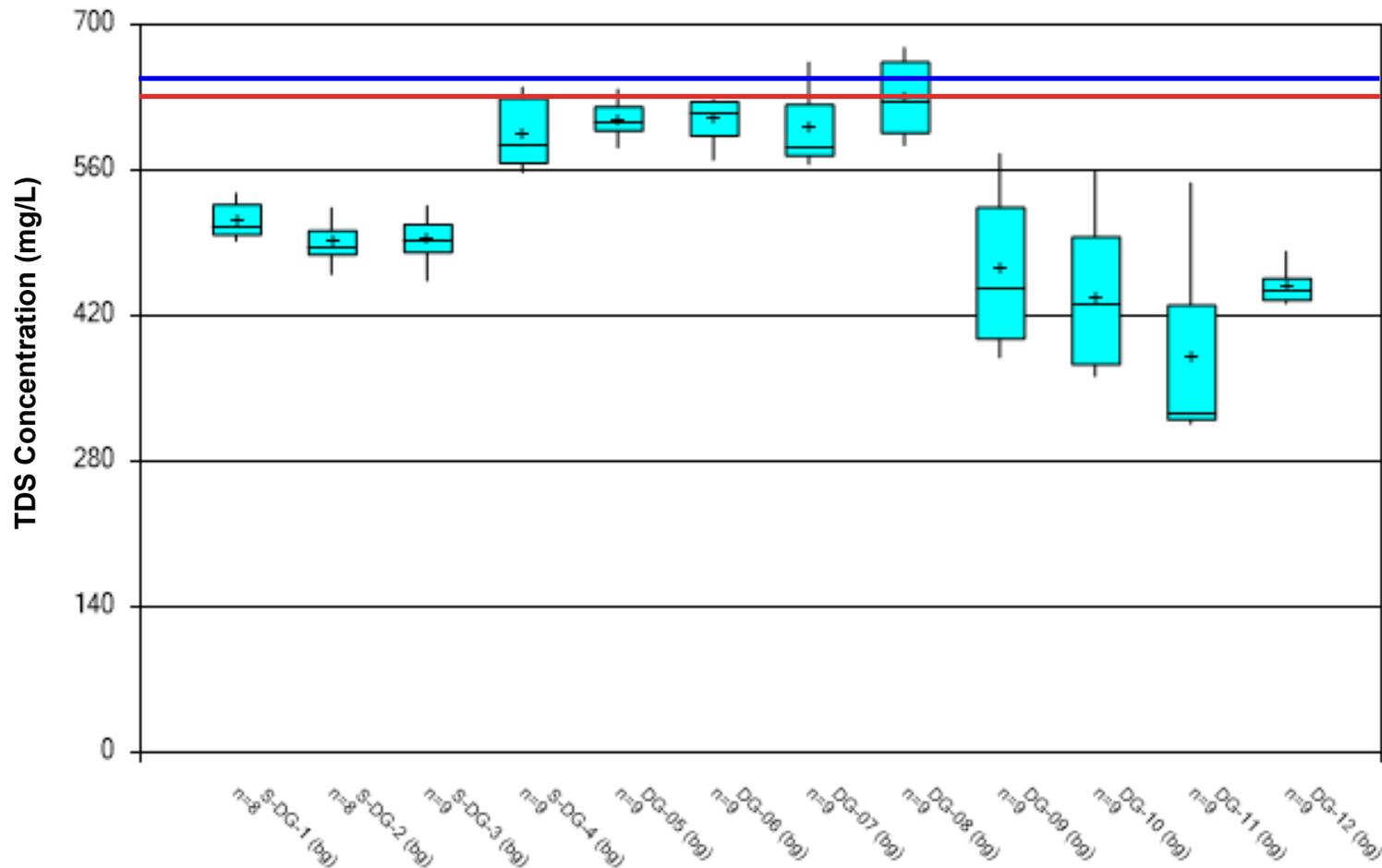


**Notes**

- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI                  SIOUX ENERGY CENTER</b>					TITLE <b>Timeseries Plot of Total Dissolved Solids                  Concentrations at DG-3</b>		
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2025-05-22		Rev No. NA	JOB NO. 23009-25	FIGURE <b>7</b>

### Box & Whiskers Plot



DG-3 February 2025  
 TDS Result (644 mg/L)  
 DG-3 November 2024  
 TDS Result (627 mg/L)

**Notes**

- 1) mg/L – Milligrams per liter.
- 2) Sulfate results collected pre-CCR placement in the SCPC are displayed (June 2008 – May 2010).

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2025-05-21	



TITLE <b>Box and Whiskers Plot of TDS Concentrations Pre-CCR Placement at SCPC</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>8</b>

# Appendix C

## Alternative Source Demonstration – May 2025 Sampling Event

REPORT

# SCPC – Alternative Source Demonstration

## Sioux Energy Center, St. Charles County, Missouri, USA

December 24, 2025

Project Number: 23009-25

**Submitted to:**



Ameren Missouri  
1901 Chouteau Ave  
St. Louis, MO 63103

**Submitted by:**



Rocksmith Geoengineering, LLC  
2320 Creve Coeur Mill Rd  
Maryland Heights, MO 63043



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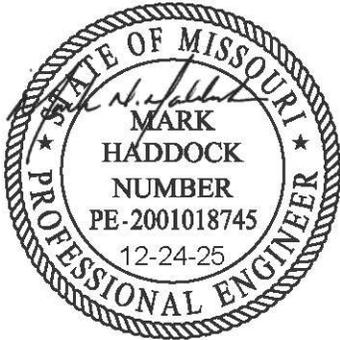
## 1.0 CERTIFICATION STATEMENT

---

This SCPC – *Alternative Source Demonstration, Sioux Energy Center, St. Charles County, Missouri, USA* has been prepared to comply with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule) under the direction of a licensed professional engineer with Rocksmith Geoengineering, LLC.

I hereby certify that this SCPC – *Alternative Source Demonstration, Sioux Energy Center, St. Charles County, Missouri, USA* located at 8501 Missouri 94, West Alton, Missouri 63386 has been prepared to meet the requirements of 40 CFR §257.94(e)(2).

**Rocksmith Geoengineering, LLC.,**



---

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

Principal Engineer, Senior Partner

## 2.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), this SCPC – Alternative Source Demonstration has been prepared to document an Alternative Source Demonstration (ASD) for two Statistically Significant Increases (SSIs) identified for Ameren Missouri's (Ameren's) Sioux Energy Center (SEC), Utility Waste Landfill (UWL) SCPC (Cell 1). This document satisfies the requirements of §257.94(e)(2), which allows the owner or operator to demonstrate that a source other than the CCR Unit has caused an SSI and that the apparent SSI was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

## 3.0 SITE DESCRIPTION AND BACKGROUND

Ameren owns and operates the SEC in St. Charles County, Missouri located approximately 12 miles west-northwest of the confluence of the Mississippi and Missouri Rivers. **Figure 1** depicts the site location and layout, including the location of SCPC. The SEC is approximately 1,025 acres and is located in the floodplain between the Mississippi and Missouri Rivers. The SEC is bounded to the north by wooded areas associated with the Mississippi River; to the south by a railroad; and to the east and west by agricultural fields.

### 3.1 Geological and Hydrogeological Setting

Hydrogeologically, the SCPC lies between the Mississippi River to the north and the Missouri River to the south. Flow and deposition from these rivers have resulted in thick alluvial deposits that lie unconformably on top of bedrock. These alluvial deposits range from approximately 100 to 130 feet in thickness and comprise the uppermost aquifer, called the alluvial aquifer. Overall, this aquifer is described as a fining upwards sequence of stratified sands and gravels with varying amounts of silts and clays. Drilling in the alluvial aquifer identified different sub-units, including floodplain deposits, natural levee deposits, and channel deposits along with volumetrically less important loess deposits. Grain sizes of these alluvial deposits are variable.

Beneath the alluvial aquifer lies the bedrock aquifer. Bedrock in this region includes Mississippian-aged rocks of the Meramecian Series. Formations include primarily limestone, dolomite, and shale and are comprised of the Salem Formation overlying the Warsaw Formation and the Burlington-Keokuk Formation.

### 3.2 Utility Waste Landfill – SCPC

UWL Cell 1 is referred to by Ameren as the SCPC, or “Gypsum Pond” Cell 1. The SCPC is approximately 37.5 acres in size and is located south of the generating plant on the south side of Highway 94 (Figure 1). The CCR Unit managed CCR from the SEC Wet Flue-Gas Desulfurization System (WFGD), which began operation in 2010. The unit ceased receiving CCR waste on December 14, 2022, and closure of the unit was recently completed on October 23, 2024. Since then, the WFGD has been sent to the adjacent SCPC CCR Unit.

The WFGD process occurs after the removal of slag and fly ash. A crushed limestone ( $\text{CaCO}_3$ ) mix is introduced into the boiler flue gas flow. The limestone reacts with sulfur dioxide ( $\text{SO}_2$ ) in the flue gas and produces ‘synthetic’ gypsum (calcium sulfate dihydrate ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ )). The resultant gypsum material was wet sluiced from the plant across the highway to the SCPC. Once there, the gypsum material is dewatered by gravity with the sluice conveying recycled water back to the WFGD for reuse. The primary soluble constituents of the gypsum CCR are sulfate, calcium, chloride, and sodium (Gredell and Reitz & Jens, 2014).

The SCPC was constructed with a composite liner system consisting of two feet of compacted clay soil with a hydraulic conductivity of less than  $1 \times 10^{-7}$  centimeters per second (cm/sec) overlain by a 60-mil high density polyethylene (HDPE) geomembrane liner. Information on the design of the UWL is available in the 2014 Proposed Construction Permit Modification, Construction Permit Number 0918301 (Gredell and Reitz & Jens, 2014).

A groundwater monitoring well network was installed in 2007 and 2008 to permit the UWL construction. This monitoring well network was approved by the Missouri Department of Natural Resources (MDNR) and consists of



16 monitoring wells ringing the current and proposed future extents of the UWL (**Figure 1**). These monitoring wells are installed in the uppermost portions of the alluvial aquifer, just below the seasonally low elevation for groundwater. Quarterly groundwater samples have been collected in these monitoring wells since June 2008 for the Missouri UWL parameters.

The permit for the SCPC was issued July 30, 2010 (permit #0918301). Nine sampling events were performed prior to July 30, 2010 and represent groundwater quality prior to WFGD placement in the UWL. The results from these pre-disposal monitoring events are used in conjunction with other site information in the sections presented below.

### 3.3 CCR Rule Groundwater Monitoring

As required by the CCR Rule, the following were completed prior to the October 17, 2017 deadline: (1) a groundwater monitoring well system was installed and certified by a Professional Engineer, (2) a Statistical Method Certification was prepared and certified by a Professional Engineer, (3) a Groundwater Monitoring Plan (GMP) was prepared recording the design, installation, development, sampling procedures, as well as statistical methods, and placed in the owner's operating record, and (4) eight baseline groundwater sampling events were completed for all Appendix III and Appendix IV parameters of CCR Rule.

The groundwater monitoring system for the SCPC consists of eight monitoring wells screened in the uppermost aquifer (alluvial aquifer) as shown on **Figure 1**. Six existing monitoring wells (UG-1A, UG-2, DG-1, DG-2, DG-3, and DG-4) were installed by Gredell Engineering Resources, Inc. in December 2007 and June 2008 as a part of the Missouri UWL state monitoring program. The remaining monitoring wells (BMW-1S and BMW-3S) were installed by Golder Associates Inc. (Golder) in 2016 for CCR Rule groundwater monitoring purposes. More information on the design and installation of the monitoring wells is provided in the SCPC GMP (Golder, 2017) and the SCPC 2017 Annual Report (Golder, 2018).

Between May 2016 and June 2017, eight baseline sampling events were completed for the SCPC. After baseline sampling, the first Detection Monitoring event was completed in November 2017. The following Appendix III constituents were analyzed during Detection Monitoring:

- Boron
- Calcium
- Chloride
- pH
- Sulfate
- Total Dissolved Solids (TDS)
- Fluoride

In January 2018, background results from the eight baseline sampling events were used to calculate statistical upper prediction limits (UPLs). These UPLs were then compared to the Detection Monitoring results from the November 2017 samples and subsequent semi-annual Detection Monitoring sampling events. If results were higher than the calculated UPL, this was considered to be an initial exceedance, and a verification sample was then collected and tested in accordance with the SCPC Statistical Analysis Plan (SAP). In August 2019, the background dataset used to calculate statistical limits was expanded to include the first four Detection Monitoring events, per the SAP. The updated UPLs were then used for the November 2019 and subsequent Detection Monitoring events. UPLs for the SCPC Detection Monitoring network were updated again using data collected through June 2021, and most recently, using data collected through July 2023 (Rocksmith 2024). The following provides a summary of the Detection Monitoring results to date.

Since November 2017, several ASDs have been prepared for DG-2, DG-3, DG-4, UG-1A, and UG-2. These previous ASDs are available in the Annual Reports for the SCPC and are available on Ameren's publicly available CCR Compliance website (<https://www.ameren.com/sustainability/waste/ccr/compliance-reports/sioux>). These ASDs have demonstrated that previous SSIs at the site were not caused by the SCPC, but rather the result of relatively low calculated UPLs that were not representative of the full, natural geochemical variability within the alluvial aquifer or caused by the SCPC being downgradient from the SCPA, which is currently in Corrective Action.

The May 2025 Detection Monitoring event at the SCPC identified the following initial exceedances: total dissolved solids (TDS) at DG-2 and boron, calcium, chloride, sulfate, and TDS at DG-3. Verification sampling completed in July 2025 confirmed SSIs of each of these initial exceedances, except for sulfate at DG-3. Results from the May 2025 Detection Monitoring event and associated verification sampling are provided in **Table 1**.

## 4.0 REVIEW OF THE STATISTICALLY SIGNIFICANT INCREASES

Monitoring wells DG-2 and DG-3 are screened in the upper portion of the alluvial aquifer, just below the average seasonal low elevation for groundwater. As shown in **Figure 1**, DG-2 and DG-3 are located along the southwestern perimeter of the SCPC. These wells are located south of the generating plant, Highway 94, and the two surface impoundments near the plant (SCPA and SCPB), and north of Dwiggins Road.

Based on Rocksmith’s review of the pre-disposal data (discussed in Section 3.2 above), as well as our comparison of the pre-disposal data with the results from the eight CCR-rule baseline events, it was concluded that the groundwater in some areas around the SCPC contained low-level pre-existing impacts from CCR that pre-dated SCPC construction and operation. As a result of these pre-existing impacts, the SCPC statistical analysis plan uses intrawell upper prediction limits (UPLs) to determine SSIs. Intrawell UPLs are calculated from historical data within a particular well, and not by pooling data from the background wells, such that individual limits are calculated for each constituent in each well in the monitoring program. Intrawell prediction limits for the SCPC monitoring network were updated in March 2024 using data collected through July 2023. A summary of the May 2025 SSIs and associated historical data is provided in **Table 2**. Data collected from the October 2025 detection monitoring event is also available as of this report and is included below.

**Table 2 – Review of Statistically Significant Increases**

Constituent	Well ID	UPL Based on Baseline Events	Current UPL (Updated March 2024)	Baseline Sampling Event Range	Range of Values Prior to May 2025 Sampling Event (CCR Rule and State UWL Sampling)	May 2025 Result	July 2025 Result	October 2025 Result
Total Dissolved Solids (mg/L)	DG-2	521.6	537	448 – 504	398 – 1320	547	550	503
Total Dissolved Solids (mg/L)	DG-3	580	617.9	528 – 580	430 – 665	619	619	651
Chloride (mg/L)	DG-3	16.08	17.26	5.7 – 13.0	2.7 – 34.0	25.1	22.6	9.4
Boron (µg/L)	DG-3	115.1	103.2	1.75 – 103	1.75 – 121	105	115	101

Notes:

- 1) mg/L – milligrams per liter.
- 2) UPL – Upper Prediction Limit. UPLs calculated using Sanitas™ software.

## 5.0 EVIDENCE OF SSIS FROM ALTERNATIVE SOURCE

Several different lines of evidence indicate that the SSIs are not the result of a release from the SCPC and the SSI originates from an alternative source. The following bullets summarize the different lines of evidence that support this ASD:

- Lack of elevated key FGD indicators (boron and fluoride) at monitoring wells DG-2 and DG-3 compared with pre-CCR placement levels and shallow background groundwater at the Site.

- Documentation of pre-existing, low-level concentrations of CCR indicators and other parameters in groundwater that pre-date the SCPC operation, particularly in monitoring wells just south of DG-2 and DG-3 along Dwiggins Road.
- An alternative source of chloride is present along Dwiggins Road from road salting, which migrates northward and southward following the site’s variable groundwater flow directions.
- Elevated TDS at DG-2 and DG-3 is primarily driven by above-average alkalinity, which is not a key indicator of CCR or FGD impacts.
- Geochemical signatures of groundwater samples collected prior to CCR disposal are very similar to May 2025 signatures at DG-2 and DG-3, and these signatures are markedly different from FGD leachate material stored in the SCPC.
- Construction documentation of the SCPC indicating the 60-mil high-density polyethylene (HDPE) geomembrane liner and a 2-foot thick clay barrier met quality assurance testing during construction.

### 5.1 CCR Indicators

Several types of CCR byproducts are generated by coal-fired power plants. The different types of CCR typically display distinct geochemical signatures and indicator parameters. **Table 3** below describes the different types of CCRs and their typical indicator parameters (USEPA 2018, EPRI 2011, EPRI 2012, and EPRI 2017).

**Table 3 – Types of CCR and Typical Indicator Parameters**

Type of CCR	Description of CCR (USEPA 2018)	Key Indicators (EPRI 2011, 2012, 2017)
<b>Fly Ash</b>	Fine grained, powdery material composed mostly of silica made from the burning of finely ground coal in the boiler.	<ul style="list-style-type: none"> <li>• Boron</li> <li>• Molybdenum</li> <li>• Lithium</li> <li>• Sulfate</li> </ul>
<b>Boiler Slag / Bottom Ash</b>	Molten bottom ash from the slag tap and cyclone type furnaces that turns into pellets that have a smooth glassy appearance after quenching with water.	<ul style="list-style-type: none"> <li>• Bromide</li> <li>• Potassium</li> <li>• Sodium</li> <li>• Fluoride</li> </ul>
<b>Flue Gas Desulfurization Material (FGD)</b>	A material leftover from the process of reducing sulfur dioxide emissions from a coal-fired boiler that can be a wet sludge consisting of calcium sulfite or calcium sulfate or a dry powdered material that is a mixture of sulfites and sulfates.	<ul style="list-style-type: none"> <li>• Sulfate</li> <li>• Fluoride</li> <li>• Calcium</li> <li>• Boron</li> <li>• Bromide</li> <li>• Chloride</li> </ul>

Notes:

- 1) Fly ash and boiler slag/bottom ash typically have the same indicator parameters.
- 2) Definitions from USEPA website, available at <https://www.epa.gov/coalash/coal-ash-basics>.
- 3) Key indicators from EPRI 2011, 2012, and 2017 as well as Gredell and Reitz & Jens, 2014.

### 5.2 Site Specific Key CCR Indicators

To be a key CCR indicator parameter for a specific site, a constituent should be present in relatively high concentrations in the leachate (CCR pore-water) when compared to background or other sources (nearby rivers, etc.), not be a common anthropogenic contaminant, and be mostly non-reactive and mobile in the site hydrogeological environment (EPRI 2012). In 2012, EPRI investigated which constituents are the best indicator parameters for coal ash impacts as outlined in **Table 1**. Of the key indicators listed in **Table 1** for flue gas

desulfurization material, sulfate, fluoride, calcium, boron, and chloride are regularly sampled as part of the CCR Rule. Testing for bromide has not been completed at this site.

**Table 4** provides a snapshot of the concentrations present onsite in background groundwater, Mississippi River, Missouri River, SCPA pore-water, and SCPD leachate for the constituents sampled on the key indicator list for FGD material.

**Table 4 – Summary of FGD Impact Indicator Parameters at the Sioux Energy Center**

Constituent (Units)		Back-ground	Mississippi River <sup>1</sup>	Missouri River <sup>1</sup>	SCPA Porewater	SCPD Leachate	Advantages and Caveats as Key Indicator (from EPRI 2012)
Boron (µg/L)	Minimum	42.4	27.1	110	348	239,000	Mobile indicator constituent for unwashed FGD gypsum. Concentrations for washed gypsum may be too low to be useful.
	Average	91.6	36.4	112.3	53,266		
	Maximum	240	59.9	117	111,000		
Sulfate (mg/L)	Minimum	12.3	29.9	188	48.5	5,820	High concentrations expected in both washed and unwashed FGD gypsum. Commonly analyzed. Very mobile in all hydrogeologic environments. Less useful in strongly reducing environments where sulfate can be reduced to hydrogen-sulfide gas.
	Average	30.4	34.08	192.1	1,088		
	Maximum	61.1	40.5	196	2,080		
Fluoride (mg/L)	Minimum	ND (<0.086)	0.16	0.43	0.22	68.0	Mobile and non-reactive in common hydrogeologic environments. Assure that leachate concentration is higher than background, particularly for washed gypsum.
	Average	0.266	0.196	0.4435	1.142		
	Maximum	0.46	0.24	0.46	2.9		
Calcium (µg/L)	Minimum	97,100	42,500	63,000	73,400	911,000	High concentrations expected in both washed and unwashed FGD gypsum. Understanding of carbonate chemistry necessary to assure that precipitation or dissolution does not affect downgradient concentrations.
	Average	129,209	50,255	64,385	409,680		
	Maximum	184,000	58,500	65,400	825,000		
Chloride (mg/L)	Minimum	1.9	22.2	23.3	20.5	7,390	Mobile indicator constituent for unwashed FGD gypsum. Concentrations may be very high if transport water is recirculated. Concentrations for washed gypsum may be too low to be useful.
	Average	8.8	27.06	23.48	24.34		
	Maximum	16.8	41.0	23.9	27.1		

Notes:

- 1) Unit abbreviations - mg/L – milligrams per liter, µg/L – micrograms per liter.
- 2) 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.
- 3) SCPA porewater samples collected by Golder Associates in January 2018.
- 4) A single leachate sample was collected directly from the SCPD by Gredell Engineering Resources, Inc. in December 2023. The SCPD currently collects WFGD material that was once sluiced to the SCPC until December 2022.

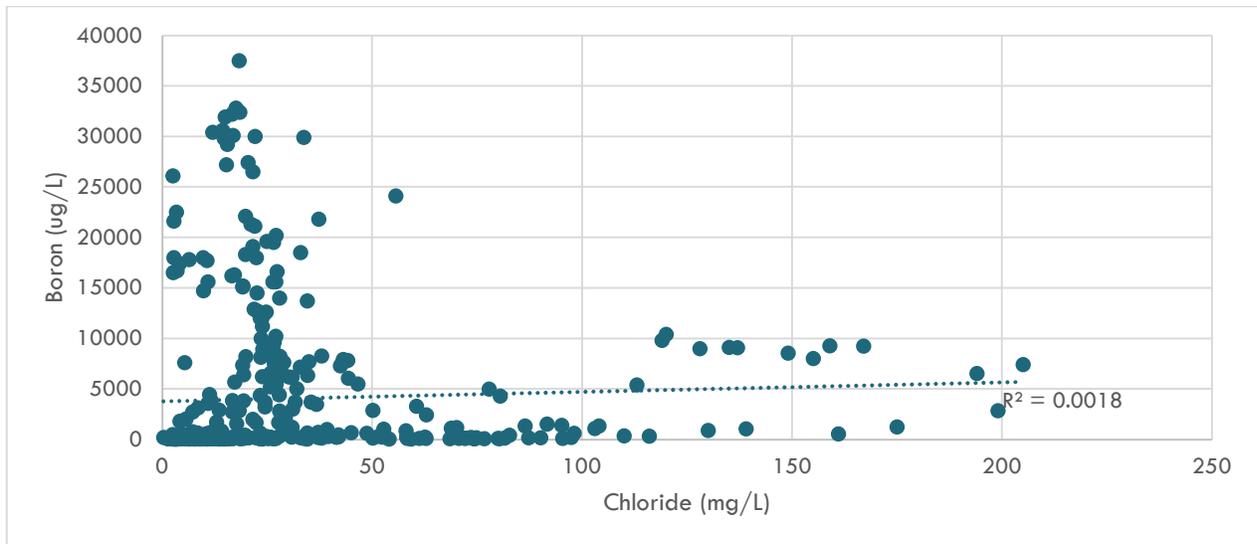
Boron has previously been attributed as a primary indicator for CCR impacts at the site, particularly for bottom and fly ash impacts. As shown in **Table 4**, the FGD leachate material contained in the SCPC (as well as the adjacent SCPD) contains significantly higher concentrations of key indicator parameters than other potential sources at the SEC. The following describes the practicality of each of the key FGD indicators for determining CCR impacts from the SCPC:

<sup>1</sup> Mississippi and Missouri River samples collected September 21 & 22, 2017 and May 8, 2018. Results are available on Ameren’s public website at <https://www.ameren.com/company/environment-and-sustainability/managing-coal-combustion/ccr-compliance-reports/sioux-energy-center>.

- Boron, which is typically the most mobile of CCR-related constituents, would be expected to have the most significant increase if there were impacts from the SCPC (or adjacent SCPD). Of the key FGD indicators listed above, the boron concentration in SCPD leachate is greatest relative to background groundwater at the site (2,541 times higher concentration in SCPD leachate than average background groundwater). Other key FGD indicators are lower in terms of their relative concentrations in leachate compared to background groundwater. Additionally, boron has low concentrations in the adjacent Missouri and Mississippi Rivers; therefore, elevated boron is likely from CCR.
- Fluoride may be a very good FGD indicator parameter because it is typically mobile in most geological environments and is present in SCPD leachate at a level 248 times greater than average background groundwater concentrations. Background fluoride concentrations are also similar to Mississippi and Missouri River concentrations; therefore, an apparent source of increased fluoride could be from FGD impacts. Fluoride concentrations are also much higher in FGD leachate than SCPA porewater, indicating that if increased fluoride is present, it would be suspected that the impacts may be from FGD materials and not fly ash or bottom ash as managed by the SCPA.
- Chloride may be a good FGD indicator parameter because it is mobile in most geological environments and is present in SCPD leachate at a level 856 times greater than average background groundwater concentrations. However, chloride concentrations in shallow groundwater can be greatly affected by the use of road salt (NaCl) for road deicing. Chloride concentrations for the DG-xx wells installed south of the UWL were measured as high as 86 mg/L prior to any placement of CCR materials in the UWL (prior to June 30, 2010). Additionally, surface water samples collected from the Mississippi and Missouri Rivers near the SEC average approximately 27 and 23 mg/L of chloride, respectively. If chloride concentrations are significantly greater than those other alternative sources (greater than 86 mg/L), then chloride may be a good indicator parameter for FGD impacts, At concentrations lower than this, chloride is less effective as a FGD indicator at the SEC.

Specific to the SEC, **Figure 2** compares boron and chloride results collected since 2020 during semiannual CCR Rule sampling events across the Site. As shown in the figure, there is very little correlation ( $R = 0.042$ ;  $R^2 = 0.0018$ ) between chloride and boron concentrations in groundwater across the SEC. This lack of correlation demonstrates that chloride is not a reliable indicator of CCR impacts across the SEC, as it behaves largely independently to boron (the primary CCR indicator) at the SEC. Therefore, the presence of elevated chloride at a well, on its own, is not indicative of CCR impacts, and its concentrations should be evaluated in conjunction with key FGD and CCR impact parameters such as boron and fluoride.

**Figure 2 - Historical Boron vs. Chloride Concentrations at SEC CCR Rule Monitoring Wells**



- Sulfate may be a good FGD indicator parameter as well because it is mobile in most geological environments and is present at a level 187 times greater than average background groundwater concentrations. However, based on surface water sampling near the SEC, sulfate concentrations in the

Mississippi and Missouri Rivers reach up to approximately 196 mg/L. Therefore, if sulfate concentrations are significantly greater than concentrations in the nearby rivers and background groundwater (greater than approximately 200 mg/L), then it may be a good indicator for CCR indicator for fly ash, bottom ash, or FGD impacts. At concentrations lower than this, sulfate is less effective as an FGD indicator at the SEC.

- Calcium may be a useful FGD Indicator parameter; however, it is not always mobile in all geological environments and an understanding of carbonate chemistry is necessary to assure that precipitation or dissolution does not affect downgradient concentrations. Additionally, calcium concentrations are only 7 times greater in the FGD leachate than average background groundwater at the site. Significant increases in calcium may indicate an FGD impact; however, increases would be expected to be less definitive than other key indicators, such as boron and fluoride.

### 5.3 Concentrations of Key Indicators at DG-2 and DG-3

Figures 3-7 display historical concentrations of each of the key indicator parameters of FGD impacts at monitoring wells DG-2 and DG-3. The SCPC was permitted to receive WFGD material beginning in July 2010, and its receipt of WFGD material ceased in December 2022. During that period, there are no distinct increasing trends for any of these parameters coinciding with the placement of FGD materials in the SCPC. Boron, calcium, and fluoride concentrations have all remained relatively stable, with only a marginal increase in boron concentrations at DG-3 in recent sampling events. There is a degree of variability observed for each of these parameters that also predates FGD material placement, evidence of the natural geochemical variability within the aquifer.

Stable concentrations of boron and fluoride, the most effective indicator parameters of FGD impacts, provide strong evidence that FGD impacts are not causing the SSIs at DG-2 and DG-3. Out of the key indicator parameters described above, chloride and sulfate concentrations exhibit the most historical variability, with transitory increases and decreases not indicative of CCR impacts. This variability is attributed to natural variability in the aquifer, and for chloride, variability may also be enhanced by sporadic applications of road salt along roadways near the wells.

Table 5, below, displays concentration ranges of key FGD indicator parameters before, during, and after CCR placement in the SCPC in relation to recently collected data at well DG-3. There is only an SSI for TDS at DG-2, which is discussed in detail in Section 5.6, so results for this well are not included in Table 5.

**Table 5 – Ranges of Key FGD Indicators Before, During, and After SCPC CCR Placement at DG-3**

Constituent	Range of Values Prior to SCPC Permit (before 7/30/2010)	Range of Values during Active Conditions of SCPC (7/30/2010 – 12/14/2022)	Range of Values following final receipt of CCR, prior to May 2025	May 2025	July 2025
Boron (µg/L)	80.8 – 95.5	62.1 – 121	78.2 – 105	105	115
Fluoride (mg/L)	0.28 – 0.41	ND (<0.12) – 0.49	ND (<0.12) – 0.42	0.18 J	NS
Chloride (mg/L)	5.0 – 9.0	2.7 – 23.0	6.9 – 34.0 J	25.1	22.6
Sulfate (mg/L)	57.0 – 75.0	29.7 – 82.0	47.0 – 85.5	74.8	69.9
Calcium (µg/L)	134,000 – 172,000	113,000 – 163,000	159,000 – 172,000	155,000	NS

Notes:

- 1) Unit abbreviations - mg/L – milligrams per liter, µg/L – micrograms per liter.
- 2) 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.
- 3) NS - Not sampled.
- 4) J - Result is an estimated value.

At DG-3, chloride concentrations have displayed significant variability before, during, and after CCR placement in the SCPC, but results from May and July 2025 are slightly elevated compared to previous results. Boron concentrations are also slightly elevated in May and July 2025 compared to pre-CCR placement results at DG-3. Concentrations of other FGD indicators measured in May and July 2025 such as fluoride, sulfate, and calcium are within pre-CCR placement ranges.

## 5.4 Boron Concentrations at DG-3

As displayed in **Table 3** and discussed in Section 5.2, boron is a primary indicator of CCR and FGD impacts to groundwater at the SEC. However, there is a substantial level of natural variability in boron levels across the Site, and slightly elevated boron may not be indicative of CCR and/or FGD impacts. **Figure 3** displays a time series plot of all boron results collected at DG-2 and DG-3. As the primary CCR impact indicator, it is expected that boron concentrations would significantly rise following a release from a CCR unit, as evidenced by several wells downgradient of the unlined SCPA bottom ash impoundment. As shown in the time series plot, there are no marked increases or notable increasing trends in boron concentrations at DG-3 following CCR placement, which would be expected to accompany a CCR release.

The May and July 2025 boron concentrations at DG-3 were measured at 105 and 115 µg/L, respectively, which are slightly greater than the current intrawell UPL of 103.2 µg/L. The initial UPL based on eight initial sampling results at the well was 115.1 µg/L, which is greater than both the May and July 2025 results.

At shallow background monitoring wells located upgradient of the SEC (BMW-1S and BMW-3S), boron results have displayed historical variability, with some results exceeding the May and July 2025 results at DG-3 (**Figure 8**). The current interwell boron UPL for shallow background groundwater, currently used for the SCPB monitoring network, is 118 µg/L, which exceeds both the May and July 2025 results at DG-3. The interwell UPL from these shallow background wells is greater than the intrawell UPL for boron at DG-3, indicating that the current UPL at DG-3 does not fully account for the range of natural boron variability in groundwater across the site.

**Table 6** summarizes historical boron results and UPLs at DG-3 and these shallow background wells.

**Table 6 – Summary of Historical Boron Results at DG-3 and Shallow Background Wells**

Well ID	UPL Based on Baseline Events (µg/L)	Current UPL (µg/L)	Baseline Sampling Event Range (µg/L)	Range of Historical Values (µg/L)
DG-3	115.1	103.2	77.4 J - 103	ND (<100) - 121
BMW-1S & BMW-3S	107.5	118	ND (<100) -165	ND (<100) - 165

Note:

- 1) 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.
- 2) J – Result is an estimated value.

To further investigate the natural geochemical variability of boron in the UWL area near DG-3, historical data from the state UWL wells (located on the south side of the UWL, outside of the interpreted zone of impact from the SCPA) were reviewed. These UWL wells (labeled "DG-xx") were installed and sampled on at least 8 occasions prior to the receipt of FGD materials in the SCPC, beginning in July 2010. Each of these DG-xx monitoring wells are screened at approximately the same depth as DG-3 in the shallow zone of the alluvial aquifer. **Figure 9** displays box and whisker plots of boron distributions at each of the DG-xx wells. As shown in the figure, there is considerable pre-CCR boron variability among these wells, with concentrations ranging from 53.1 to 122 µg/L. Both the May and July 2025 concentrations at DG-3 are within this range of pre-CCR concentrations at nearby wells, which is evidence of natural variability of preexisting impacts within the shallow alluvial aquifer as the source of this SSI. Furthermore, as of this report, data from the October 2025 detection monitoring event are available, and the boron concentration at DG-3 was measured at 101 µg/L. This result is less than the current UPL and within the range of baseline sampling results. CCR impacts from the SCPC would be expected to show marked, lasting boron increases, which are not displayed at this well. The current UPL for boron at DG-3, which is

lower than the initial baseline UPL, does not fully capture the natural geochemical variability exhibited by the aquifer.

## 5.5 Chloride Concentrations at DG-3

Chloride is not known to be a key indicator of fly ash or boiler slag/bottom ash (EPRI 2012) but can be an indicator for FGD type wastes and is commonly found in shallow groundwater systems near salt and brine treated roadways. The nearest public roadway to DG-3 is Dwiggin Road, located approximately 120 feet to the south of the well. Dwiggin Road is a paved road that receives salt treatment as needed during the winter months for ice control. During construction of the adjacent SCPD, there was also a temporary road just north of DG-3 in 2023 used for hauling water for dust suppression of the construction site.

**Figure 5** displays historical chloride concentrations at monitoring well DG-3, which have exhibited considerable variability since data collection began in 2008. As shown in the figure, prior to the May 2025 sampling event, there have been four results greater than the current UPL of 17.26 mg/L. Other results prior to May 2025 are below the current UPL but exhibit reasonable variability between 2.7 to 17.0 mg/L. Additionally, the October 2025 chloride result at DG-3 was only 9.4 mg/L, well below the current UPL. Changes in chloride concentrations do not appear to correspond with placement of CCR.

**Figure 10** displays box & whiskers distributions of chloride data collected from the DG-xx monitoring wells near DG-3, prior to CCR placement in the SCPC. The same date range and monitoring wells are included in this figure as displayed for boron in **Figure 9**. As shown, chloride concentrations before CCR placement in the SCPC were much greater in monitoring wells south of Dwiggin Road when compared with DG-3 to the north. Chloride at DG-4 during that time ranged from 9.0 to 86.0 mg/L, with an average of 44.4 mg/L. The presence of higher chloride concentrations just south of DG-3 that predate CCR placement in the SCPC displays that elevated chloride, likely from application of road salt for deicing, is present at the site and is a likely alternative source.

**Figure 11** compares historical chloride concentrations at DG-3 and DG-4, further demonstrating that chloride concentrations are typically much greater just to the south of Dwiggin Road. Chloride concentrations at DG-4 display an increased level of variability, which would be consistent with isolated applications of road salt along Dwiggin Road. DG-4 is also located closer to Dwiggin Road, approximately 40 feet to the south, so it would be expected to show a higher sensitivity to road salt applications. However, there are instances where concentrations at DG-3 exceed those at DG-4, indicating advection of chloride away from the road to the north towards DG-3, discussed in the following section. Chloride concentrations at these wells display a negative correlation, whereby increased concentrations at one well is coupled with relatively low concentrations at the other. It would be expected that chloride levels would increase in the shallow alluvial aquifer following road salt application, and concentrations would decrease over time at the application point as dispersion and advection occur according to groundwater flow patterns.

### 5.5.1 Groundwater Flow Evaluation

To further demonstrate the recent chloride SSI at DG-3 is sourced from higher chloride concentrations to the south along Dwiggin Road from road salt application, a river level evaluation was conducted similar to previous ASDs for the SCPC, included in the 2023 and 2024 Annual Reports for the SCPC (Rocksmith 2024, 2025). 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 the aquifer. 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 or south toward the Mississippi and Missouri Rivers, depending on river levels.

River level elevations for the site can be estimated using nearby United State Geological Survey (USGS) gauges. Four nearby gauges are used to calculate the approximate river level of the Mississippi and Missouri Rivers at the SEC:

- Grafton Illinois gauge on the Mississippi (USGS #05587450).
- Alton Illinois gauge on the Mississippi River (USGS # 05587500)

- St. Louis Missouri gauge on the Mississippi River (USGS #07010000)
- St. Charles Missouri gauge on the Missouri River (USGS #06935965)

Daily water gauge measurements are available for the four gauges since at least November 15, 1986. **Figure 12** summarizes the calculated Missouri and Mississippi River elevations at the plant using available historical daily gauge data. The Mississippi River level at the SEC is controlled by a series of locks and dams, with the nearest one being approximately 6 miles downriver at the Mel Price Alton Lock and Dam. This dam controls the river elevation on the Mississippi River near the SEC, minimizing impacts from flooding and drought and giving the Mississippi River a more consistent elevation, as displayed on **Figure 12**. The Missouri River does not have any dams located near the SEC, with the closest dam on the Missouri River being the Gavins Point Dam, located near Yankton, South Dakota. Therefore, the Missouri River is susceptible to larger variations in elevation caused by flooding and drought, as displayed in **Figure 12**.

**Figure 13** displays the difference between the Mississippi and Missouri Rivers for each day since 2008, when groundwater data collection began at DG-3 and DG-4. When the Mississippi River is higher than the Missouri River, groundwater flow across the site is typically southward, and vice versa. **Table 7** provides a summary comparison of the Mississippi and Missouri River elevations at the SEC. Using the data from January 1, 1987 to August 1, 2025, the Mississippi River was higher than the Missouri River on 7,890 of the 14,093 days (approximately 56% of the time). Groundwater flow patterns across the SEC have been established using monitoring well water level measurements. Prior to each quarterly sampling event, water levels are recorded at all monitoring wells to determine groundwater flow rates and direction.

**Table 7 – Summary of Mississippi and Missouri River Elevations**

Year	Days Missouri River has Higher Elevation	Days Mississippi River has Higher Elevation	Average Annual Difference between Mississippi and Missouri Rivers (Results in Feet, number displays Mississippi River Elevation minus the Missouri River Elevation. Negative results indicate higher Missouri River, positive results indicate higher Mississippi River elevation)
1987	243	122	-1.38
1988	82	284	1.48
1989	41	324	2.24
1990	162	203	0.32
1991	92	273	1.34
1992	152	214	-0.20
1993	355	10	-3.05
1994	166	199	-1.17
1995	269	96	-1.62
1996	242	124	-0.98
1997	312	53	-1.70
1998	317	48	-2.21
1999	207	158	-1.15
2000	28	338	2.30
2001	133	232	0.66
2002	63	302	2.18
2003	28	337	3.12
2004	125	241	1.08
2005	88	277	1.91
2006	11	354	4.05
2007	141	224	0.71
2008	209	157	-0.29
2009	202	163	-0.32

Year	Days Missouri River has Higher Elevation	Days Mississippi River has Higher Elevation	Average Annual Difference between Mississippi and Missouri Rivers (Results in Feet, number displays Mississippi River Elevation minus the Missouri River Elevation. Negative results indicate higher Missouri River, positive results indicate higher Mississippi River elevation)
2010	296	69	-1.79
2011	229	136	-1.58
2012	59	307	2.15
2013	51	314	2.46
2014	88	277	1.54
2015	177	188	-0.36
2016	196	170	-0.55
2017	154	211	0.46
2018	232	133	0.03
2019	349	16	-3.08
2020	234	132	-0.72
2021	160	205	0.31
2022	77	288	2.39
2023	20	345	3.38
2024	104	262	1.21
2025	109	104	0.82
<b>Total</b>	<b>6203</b>	<b>7890</b>	<b>Average Difference – 0.36 feet</b>

Under southward flow conditions, elevated chloride concentrations along Dwiggins Road would move southward, away from DG-3. However, during periods when flow is northward, elevated concentrations would move northward and potentially contribute to increased chloride concentrations at that well. In addition to higher chloride concentrations observed since May 2024, there were temporary elevated chloride concentrations at DG-3 throughout portions of 2014 through 2016 (see **Figure 5**). As shown in **Figure 13**, there were periods during which flow across the site was northward, concurrent with these increased chloride results at DG-3. Most recently, from late April to August 2024 and from April 2025 to present, flow across the site was northward. This corresponds with elevated results in May and July 2024 and 2025. Flow was largely southward in the latter half of 2024, when chloride was measured below the UPL in November 2024.

Altogether, groundwater flow patterns across the site are variable, and would allow for increased chloride concentrations along Dwiggins Road to be temporarily advanced northward to DG-3. Variability in chloride concentrations at wells DG-3 and DG-4 can be attributed to impacts from road salt application and influenced by dynamic groundwater flow patterns.

## 5.6 Total Dissolved Solids Concentrations at DG-3

TDS alone is not a key indicator of CCR or FGD (EPRI 2017, EPRI 2012). As displayed on **Figure 14**, TDS concentrations at DG-3 in May and July 2025 were both 619 mg/L. These values are just above the original calculated UPL used for TDS concentrations at DG-3 of 580 mg/L and the current UPL of 617.9 mg/L.

To further investigate the geochemical variability of TDS in the UWL area, the historical data from the state UWL wells (located on the south side of the SCPC, outside of the interpreted zone of impact from the SCPA) were reviewed. These UWL wells (labeled “DG-xx”) were installed and sampled at least 9 times prior to the receipt of FGD in the SCPC. The DG-xx monitoring wells are screened at approximately the same depth as DG-3 in the shallow zone of the alluvial aquifer. **Figure 15** displays a box and whisker plot of the TDS concentrations for the DG-xx wells prior to the receipt of FGD in the SCPC, which represents natural variability in local groundwater chemistry. Using all pre-disposal data from the twelve DG-xx wells, the non-parametric UPL for TDS is 678 mg/L. The May and July 2025 TDS results at DG-3 are within the pre-FGD historical range (290 – 678 mg/L) for wells in its vicinity.

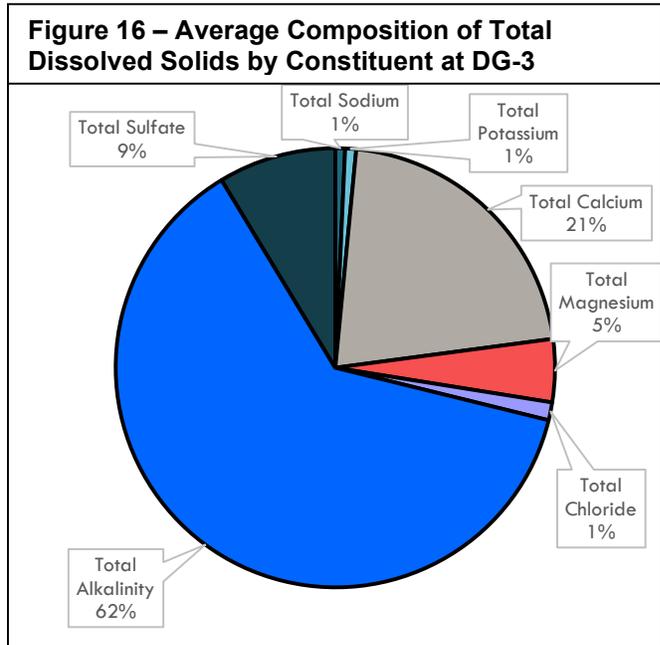
As discussed above, the majority of TDS is made up of calcium, magnesium, sodium, potassium, chloride, sulfate, and alkalinity concentrations. **Table 8** displays the concentrations of each of these constituents collected during semi-annual detection monitoring sampling events at DG-3 since November 2018.

**Table 8 – Total Dissolved Solids Major Constituent Concentrations over Time at DG-3**

Sample Date	Total Sodium (mg/L)	Total Potassium (mg/L)	Total Calcium (mg/L)	Total Magnesium (mg/L)	Total Chloride (mg/L)	Total Alkalinity (mg/L)	Total Sulfate (mg/L)
11/13/2018	4.42	5.12	137	29.5	9.1	432	64.7
8/19/2019	4.68	6.47	148	39.1	4.8	450	49.5
11/14/2019	4.78	6.70	144	38.1	5.4	447	51.1
4/28/2020	4.60	5.22	134	28.5	5.5	412	52.8
11/17/2020	5.54	6.58	160	38.4	3.8	451	41.0
4/14/2021	4.47	5.03	143	29.1	5.9	405	60.9
11/10/2021	5.18	5.76	146	32.5	2.7 J	419	46.8
4/1/2022	5.15	6.15	163	28.3	8.5	460	63.9
10/21/2022	5.29	6.05	162	36.8	3.3	455	63.8
5/3/2023	4.83	5.63	159	35.6	6.9	480	76.3
11/13/2023	4.90	5.07	160	33.3	8.2 J	463	65.1 J
5/30/2024	5.82	5.55	164	33.1	26.6	464	75.8
11/15/2024	5.81	5.67	172	33.4	14.7	474	85.5
5/8/2025	5.88	5.42	155	31.5	25.1	465	74.8
<b>Average Concentration</b>	<b>5.10</b>	<b>5.74</b>	<b>153</b>	<b>33.4</b>	<b>9.3</b>	<b>448</b>	<b>62.3</b>
<b>May 2025 Ranking</b>	<b>1st</b>	<b>10th</b>	<b>8th</b>	<b>10th</b>	<b>2nd</b>	<b>3rd</b>	<b>4th</b>

As displayed in **Figure 16**, based on average concentrations in **Table 8**, alkalinity and calcium concentrations make up approximately 83% of the total TDS value at DG-3. In May 2025, the alkalinity result was the 3<sup>rd</sup> highest, while the calcium result was the 8<sup>th</sup> highest of the 14 results at the well since November 2018. Alkalinity is not considered a key indicator of FGD CCR impacts and accounts for 62% of TDS at DG-3, on average. The high alkalinity concentration at DG-3 in May 2025 relative to previous samples is the primary contributor to the elevated TDS observed, with a value 17 mg/L greater than average. As described in Section 5.2, calcium is not as useful as an FGD indicator at the site when compared to boron and fluoride, and calcium results at DG-3 are within the range of shallow background groundwater concentrations west of the SEC (up to 184 mg/L)

Together, in May 2025, combined alkalinity and calcium contributed 19 mg/L greater than average to TDS at DG-3. This increased contribution from alkalinity and calcium is more than sufficient to place the May 2025 TDS result (619 mg/L) in exceedance of the DG-3 UPL (617.9 mg/L).



Furthermore, the lack of increased concentrations of most FGD indicators indicate the TDS SSI at DG-3 is not caused by FGD impacts from the SCPC and is primarily driven by natural geochemical variability in the aquifer.

## 5.7 Total Dissolved Solids Concentrations at DG-2

As displayed on **Figure 14**, TDS concentrations at DG-2 in May and July 2025 were 547 and 550 mg/L, respectively. These values are just above the original calculated TDS UPL at DG-3 of 521.6 mg/L and the current UPL of 537.0 mg/L. As described in Section 5.6, **Figure 15** displays a box and whisker plot of the TDS concentrations for the DG-xx wells prior to the receipt of FGD in the SCPC. As indicated on the figure, the May 2025 TDS concentration at DG-2 (547 mg/L) is less than the pre-CCR placement maximum of 616 mg/L at the same well. The May and July 2025 TDS results at are also DG-2 are within the pre-FGD historical range (290 – 678 mg/L) for wells in its vicinity.

As discussed in Section 5.6, the majority of TDS is made up of calcium, magnesium, sodium, potassium, chloride, sulfate, and alkalinity concentrations. **Table 9** displays the concentrations of each of these constituents collected during semi-annual detection monitoring sampling events at DG-2 since November 2018.

**Table 9 – Total Dissolved Solids Major Constituent Concentrations over Time at DG-2**

Sample Date	Total Sodium (mg/L)	Total Potassium (mg/L)	Total Calcium (mg/L)	Total Magnesium (mg/L)	Total Chloride (mg/L)	Total Alkalinity (mg/L)	Total Sulfate (mg/L)
11/13/2018	4.41	5.93	122	29.7	6.9	426	29
8/19/2019	4.76	5.14	133	33.3	8.2	425	37.1
11/14/2019	4.80	5.78	139	31.3	7.4	403	37.8
4/28/2020	4.86	5.39	118	25.6	7.3	360	32.2
11/17/2020	4.54	6.02	145	28.4	3.1	410	28.7
4/14/2021	5.06	6.04	135	28.8	7.5	413	35.4
11/10/2021	4.19	6.11	130	27.2	2.7 J	384	33.1
3/28/2022	4.42	5.93	130	27.3	3.6	418	45.9
10/21/2022	4.02	6.18	130	27.3	2.8	399	32.3
5/3/2023	3.92	6.36	126	25.6	2.8	428	28.4
11/13/2023	4.30	6.67	133 J	27.8	2.3 J	406	35.2 J
5/30/2024	5.36	5.73	150	35.0	5.6	475	95.4 J
11/15/2024	4.93	6.37	141	31.4	4.5	442	41.5
5/8/2025	4.90	5.79	140	33.3	5.7	462	51.1
<b>Average Concentration</b>	<b>4.61</b>	<b>5.96</b>	<b>134</b>	<b>29.4</b>	<b>5.0</b>	<b>418</b>	<b>40.2</b>
<b>May 2025 Ranking</b>	<b>4th</b>	<b>10th</b>	<b>4th</b>	<b>2nd</b>	<b>6th</b>	<b>2nd</b>	<b>2nd</b>

As displayed in **Figure 17**, based on average concentrations in **Table 9**, alkalinity and calcium concentrations make up approximately 87% of the total TDS value at DG-2. In May 2025, the alkalinity result was the 2<sup>nd</sup> highest, and the calcium result was the 4<sup>th</sup> highest of the 14 results at the well since November 2018. Alkalinity is not considered a key indicator of FGD CCR impacts and accounts for 66% of TDS at DG-2, on average. The high alkalinity concentration at DG-2 in May 2025 relative to previous samples is the primary contributor to the elevated TDS observed, with a value 44 mg/L greater than average. Additionally, the May 2025 calcium result is 6 mg/L greater than the average calcium result at the well. As discussed, calcium is not as useful as an FGD indicator at the site when compared to boron and fluoride, and calcium results at DG-2 are within the range of shallow background groundwater concentrations west of the SEC (up to 184 mg/L).

Together, combined alkalinity and calcium contributed 50 mg/L greater than average to TDS at DG-2. This increased contribution from alkalinity and calcium is more than sufficient to place the May 2025 TDS result (550 mg/L) in exceedance of the DG-2 UPL (537 mg/L).

Furthermore, the lack of increased concentrations of FGD indicators such as boron and fluoride (**Figures 3 and 6**) indicate the TDS SSI at DG-2 is not caused by FGD impacts from the SCPC and is primarily driven by natural geochemical variability in the aquifer.

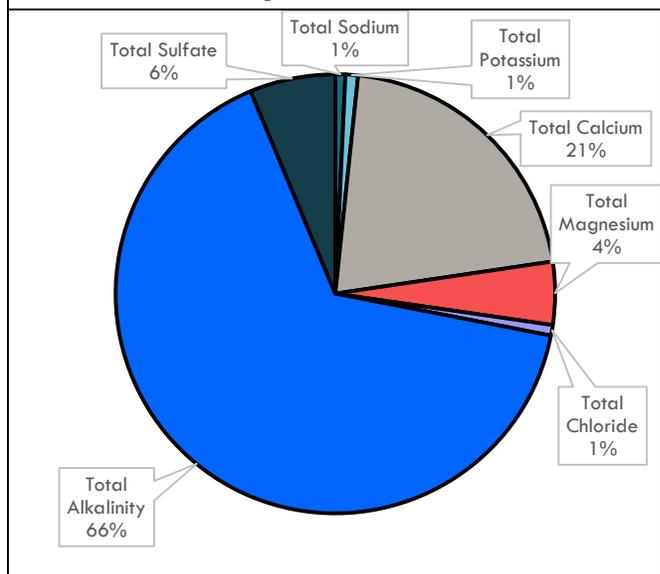
Additionally, at the time of this report, data from the October 2025 sampling event is available. The TDS result at DG-2 in October 2025 was 503 mg/L, below the prediction limit of 537 mg/L. This is further evidence of the natural geochemical variability existing at this well and surrounding wells that is not fully captured by current statistical prediction limits.

## 5.8 Geochemical Signatures

Stiff diagrams are useful for visualizing major ion chemistry as distinct shapes. When plotted on a map, Stiff diagrams are useful in understanding the spatial variability in groundwater major ion chemistry (EPRI, 2012). If a significant quantity of leachate material is released to the groundwater, Stiff diagrams for samples collected from affected wells would show a marked shift in shape from one resembling historical groundwater data to one more closely resembling the leachate (EPI, 2012). In June 2006, temporary groundwater piezometers were installed and sampled for major ion concentrations as part of the Detailed Site Investigation (DSI) for the UWL Area south of Highway 94 (Gredell, 2006). These data are provided in **Table 10** and were used to generate Stiff diagrams comparing current groundwater chemistry with groundwater chemistry from 2006, four years prior to the use of the UWL for CCR disposal. A Stiff diagram of the previously mentioned SCPD leachate sample was also produced as a point of comparison.

**Figure 18** displays Stiff diagrams of samples taken from the temporary piezometers in 2006 and of samples collected during the May 2025 sampling event. In general, Stiff diagrams associated with the May 2025 sampling event closely resemble Stiff diagrams of nearby temporary piezometer samples collected prior to CCR disposal. The stiff diagrams of DG-2 and DG-3, along with most of the wells in the UWL area, strongly resemble shallow background groundwater. Neither the Stiff diagrams constructed from historical data nor the Stiff diagrams constructed from data collected during the May 2025 sampling event resemble the SCPD leachate sample. The leachate sample has an extremely high magnesium signature, which is not reflected in any of the CCR Rule groundwater samples. Sulfate and chloride signatures of the SCPD leachate are also high compared to the groundwater samples. Additionally, while the absolute value of calcium is higher in the leachate than in the groundwater samples, the proportion of calcium relative to the other constituents of the Stiff diagrams (Na+K, Mg, SO<sub>4</sub>, HCO<sub>3</sub>, and Cl) are markedly higher in the groundwater samples. These geochemical comparisons, both with

**Figure 17 – Average Composition of Total Dissolved Solids by Constituent at DG-2**



pre-CCR disposal data and leachate data, provide further evidence that the SSIs detected in the May 2025 sampling event were caused by an alternative source other than CCR impacts from the SCPC.

## 6.0 DEMONSTRATION THAT STATISTICALLY SIGNIFICANT INCREASES WERE NOT CAUSED BY SCPC IMPACTS

Based on the information presented in Section 5.0 above, the SSIs of boron and chloride at DG-3 and TDS at DG-2 and DG-3 from the May 2025 detection monitoring event are not a result of impacts from the SCPC. The SSIs are caused by pre-existing concentrations that pre-date CCR placement in the SCLA, natural variability of these concentrations in the alluvial aquifer, and ongoing road salting practices. The following lines of evidence support this claim:

- Lack of elevated key FGD indicators (boron and fluoride) at monitoring wells DG-2 and DG-3 compared with pre-CCR placement levels and shallow background groundwater at the Site.
- Documentation of pre-existing, low-level concentrations of CCR indicators and other parameters in groundwater that pre-date the SCPC operation, particularly in monitoring wells just south of DG-3 along Dwiggins Road.
- An alternative source of chloride is present along Dwiggins Road from road salting, which migrates northward and southward following the site's variable groundwater flow directions.
- Elevated TDS at DG-2 and DG-3 is primarily driven by above-average alkalinity, which is not a key indicator of CCR or FGD impacts.
- When plotted on Stiff diagrams, the geochemical signatures of groundwater samples collected prior to CCR disposal are very similar to May 2025 signatures at DG-2 and DG-3, and these signatures are markedly different from FGD leachate material stored in the SCPC.

Along with these lines of evidence listed above, the SCPC is documented to be properly constructed with an engineered compacted clay liner overlain by a 60-mil HDPE geomembrane liner system, which was designed and constructed to properly contain CCR and prevent groundwater impacts.

## 7.0 REFERENCES

- Ameren Missouri. 2016. Structural Integrity Criteria & Hydrologic/Hydraulic Capacity Assessment, Sioux Energy Center.
- Electric Power Research Institute (EPRI). 1998, Field Evaluation of the Comanagement of Utility Low-Volume Wastes With High-Volume Coal Combustion By-Products: SX Site. Report TRACE-108409. September 1998.
- Electric Power Research Institute (EPRI). 2011, Composition and Leaching of FGD Gypsum and Mined Gypsum, Report 1022146. November 2011.
- Electric Power Research Institute (EPRI). 2012, Groundwater Quality Signatures for Assessing Potential Impacts from Coal Combustion Product Leachate, Report 1017923. October 2012.
- Electric Power Research Institute (EPRI). 2017, Guidelines for Development of Alternative Source Demonstrations at Coal Combustion Residual Sites, Report 3002010920, October 2017.
- Golder Associates Inc., 2017, 40 CFR Part 257 Groundwater Monitoring Plan, SCPC – Sioux Energy Center – St. Charles County, Missouri, USA.

- Golder Associates Inc., 2018, 2017 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates Inc., 2019a, 2018 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates Inc., 2019b, Updated Statistical Limits With Additional Background Data – SCPC.
- Golder Associates Inc., 2020, 2019 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates Inc., 2021, 2020 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center - St. Charles County, Missouri, USA.
- Golder Associates USA Inc., 2022a, 2021 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.
- Golder Associates USA Inc., 2022b, Updated Statistical Limits With Additional Background Data, Surface Impoundment (SCPC), Sioux Energy Center – St. Charles County, Missouri, USA.
- GREDELL Engineering Resources, Inc. 2006. Detailed Geologic and Hydrologic Site Investigation Report. AmerenUE Sioux Power Plant Proposed Utility Waste Disposal Area. St. Charles County, Missouri. August 2006.
- GREDELL Engineering Resources, Inc. 2009. Background Groundwater Monitoring Report. AmerenUE Sioux Power Plant. St. Charles County, Missouri. June 2009.
- Johnson, A.I. 1967. Specific Yield – Compilation of Specific Yields for Various Materials: U.S. Geological Survey Water-Supply Paper 1662-D. Available at: <https://pubs.er.usgs.gov/publication/wsp1662D>.
- MDNR. 2011. Missouri Well Construction Rules. Missouri Department of Natural Resources Division of Geology and Land Survey. Rolla, MO. August 2011.
- Reitz & Jens, Inc., and GREDELL Engineering Resources, Inc. 2014. Ameren Missouri Sioux Power Plant – Utility Waste Landfill – Proposed Construction Permit Modification – Construction Permit Number 0918301 – St. Charles County, Missouri, revised August 2014.
- Rocksmith Geoengineering, LLC, 2024a, 2023 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.
- Rocksmith Geoengineering LLC, 2024b, Updated Statistical Limits with Additional Background Data, SCPC CCR Unit, Sioux Energy Center, St. Charles, Missouri.
- Rocksmith Geoengineering, LLC, 2025, 2024 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.
- USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery – Program Implementation and Information Division. March 2009.
- USEPA. 2015. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule/ [EPA-HQ-RCRA-2009-0640; FRL-9919-44-OSWER].
- WSP USA Inc., 2023, 2022 Annual Groundwater Monitoring Report, SCPC Surface Impoundment, Sioux Energy Center – St. Charles County, Missouri, USA.

# Tables

**Table 1**  
**May 2025 Detection Monitoring Results**  
**SCPC Surface Impoundment**  
**Sioux Energy Center, St. Charles County, MO**

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS											
		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
<b>May 2025 Detection Monitoring Event</b>															
DATE	NA	5/7/2025	5/7/2025	NA	5/8/2025	NA	5/8/2025	NA	5/9/2025	NA	5/9/2025	NA	5/9/2025	NA	5/9/2025
pH	SU	6.82	6.85	6.433 - 7.279	6.76	6.29 - 7.5	6.98	6.565 - 7.38	6.85	6.725 - 7.268	6.88	6.66 - 7.227	6.88	6.638 - 7.221	6.72
BORON, TOTAL	µg/L	56.5 J	55.1 J	453.4	365	277.7	137	118.3	97.1 J	113.2	105	103.2	105	114.1	108
CALCIUM, TOTAL	µg/L	177,000 J	129,000	203,439	131,000	143,772	84,900	174,000	141,000	166,000	140,000	169,490	155,000	166,717	159,000
CHLORIDE, TOTAL	mg/L	11.4	10.6	147.8	110 J	93.74	5.5	10.0	8.7	10.93	5.7	17.26	25.1	155.70	16.8 J
FLUORIDE, TOTAL	mg/L	0.26	0.30	0.47	0.23	0.34	0.30	0.41	0.16 J	0.49	0.22	0.49	0.18 J	0.48	ND
SULFATE, TOTAL	mg/L	35.1	24.5	113.4	70.6 J	93.63	38.2 J	69.58	66.2	68	51.1	74.45	74.8	79.91	75.9 J
TOTAL DISSOLVED SOLIDS	mg/L	615	449	819.5	653	657.3	327	552.3	549	537	547	617.9	619	680.5	663
<b>July 2025 Verification Sampling Event</b>															
DATE	NA										7/10/2025		7/10/2025		
pH	SU														
BORON, TOTAL	µg/L												115		
CALCIUM, TOTAL	µg/L														
CHLORIDE, TOTAL	mg/L												22.6		
FLUORIDE, TOTAL	mg/L														
SULFATE, TOTAL	mg/L												69.9		
TOTAL DISSOLVED SOLIDS	mg/L										550		619		

**NOTES:**

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

Prepared By: GTM  
Checked By: JDQ  
Reviewed By: JSI

**Table 10**  
**Major Cation and Anion Concentrations for Stiff Diagrams**  
**Sioux Energy Center, St. Charles County, MO**

Monitoring Well ID	Total Sodium (mg/L)	Total Potassium (mg/L)	Total Calcium (mg/L)	Total Magnesium (mg/L)	Total Chloride (mg/L)	Total Sulfate (mg/L)	Total Alkalinity <sup>(2)</sup> (mg/L)
<b>Detection Monitoring - May 2025</b>							
S-BMW-1S	5.54	0.479 J	177 J	35.1	11.4	35.1	555
S-BMW-3S	6.42	0.436 J	129	22.7	10.6	24.5	375
S-DG-1	5.26	5.89	141	31.4	8.70	66.2	430
S-DG-2	4.90	5.79	140	33.3	5.70	51.1	462
S-DG-3	5.88	5.42	155	31.5	25.1	74.8	465
S-DG-4	7.13	6.59	159	46.7	16.8 J	75.9 J	530
S-TMW-1	4.05	4.56	118	22.2	10.8 J	57.3	359
S-TMW-2	3.52	4.72	112	20.4	6.4	27.2	392
S-TMW-3	4.55	5.99	121	22.2	16.8 J	45.0 J	375
S-UG-1A	49.0	8.27	131	31.4	110 J	70.6 J	376
S-UG-2	7.61	3.81	84.9	18.6	5.5	38.2 J	289
S-UG-3	18.5	4.02	137	26.6	24.8	89.7	379
S-TMW-4	4.11	5.13	106	24.4	2.40 J	11.2	297
S-TMW-5	3.73	5.03	108	19.8	1.7	81.8	295
S-TMW-6	5.51	8.11	143	27.7	19.4 J	51.5 J	424
<b>Historical Data - June 2006<sup>(1)</sup></b>							
PZ-1	5.2	4.1	140	38	11	69	480
PZ-2	3.8	2.8	120	32	6.6	36	420
PZ-3	5.4	5.2	140	27	12	53	440
PZ-4	16	4.5	140	35	13	220	320
PZ-10	3.4	3.9	99.0	31	4.6	43	370
PZ-21	8.0	2.9	130	26	25	100	350
PZ-25	4.2	4.9	120	38	19	29	470
PZ-36	7.2	4.2	110	22	21	34	310
PZ-40	3.2	4.0	120	21	1.7	33	370
PZ-50	3.4	3.8	97.0	24	18	43	290
PZ-55	3.9	4.5	120	24	6.1	52	370
PZ-56	4.4	4.5	110	22	25	49	340
PZ-57	4.8	4.4	120	24	4.0	42	370
<b>FGD Leachate Data - December 2023<sup>(5)</sup></b>							
LEACH	768	177	911	3980	7390	5820	35

Notes:

- 1) 2006 Historical Data from Appendix 13 of the Detailed Site Investigation (DSI).
- 2) Alkalinity is equal to Carbonate + Bicarbonate.
- 3) mg/L - milligrams per liter.
- 4) J - Value is an estimate.
- 5) Flue gas desulfurization (FGD) leachate sample collected in December 2023.

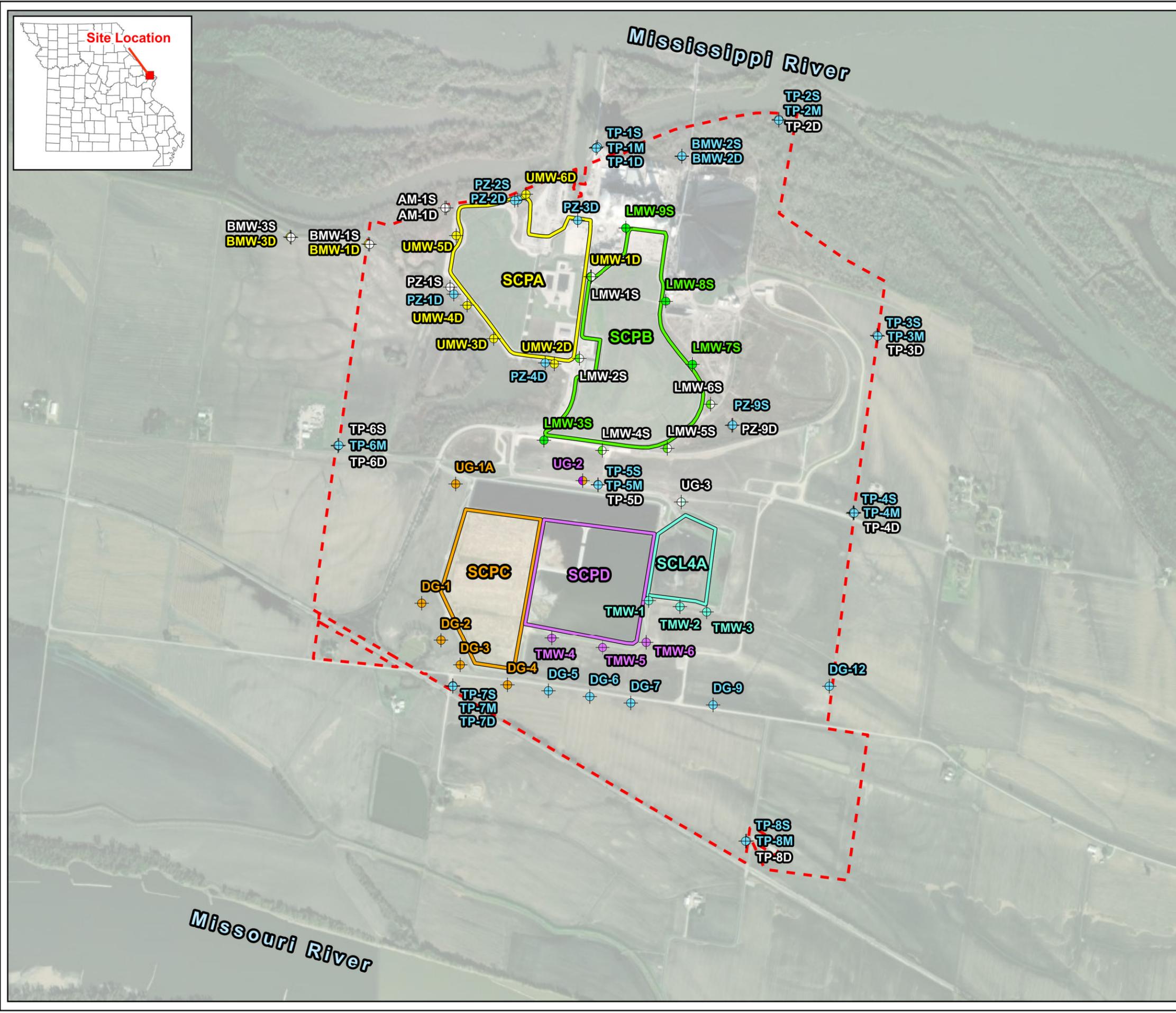
Prepared by: JDQ  
Checked by: JTR  
Reviewed by: JSI

# Figures



TITLE  
**SIoux ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND SAMPLE LOCATION MAP**

- Legend**
- Sioux Energy Center Property Boundary
  - CCR Units**
  - SCPA - Unlined Bottom Ash Surface Impoundment (Closed)
  - SCPB - Lined Fly Ash Surface Impoundment (Closed)
  - Utility Waste Landfill Cells**
  - SCL4A - Dry CCR Disposal Area
  - SCPC - FGD Surface Impoundment (Closed)
  - SCPD - FGD 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



- NOTES**
- All boundaries and locations are approximate.
  - FGD - Flue Gas Desulfurization.
  - CCR - Coal Combustion Residuals.

- REFERENCES**
- St Charles County, Missouri Geo-Data & Mapping Hub, Parcel Dataset, Updated April 2025.



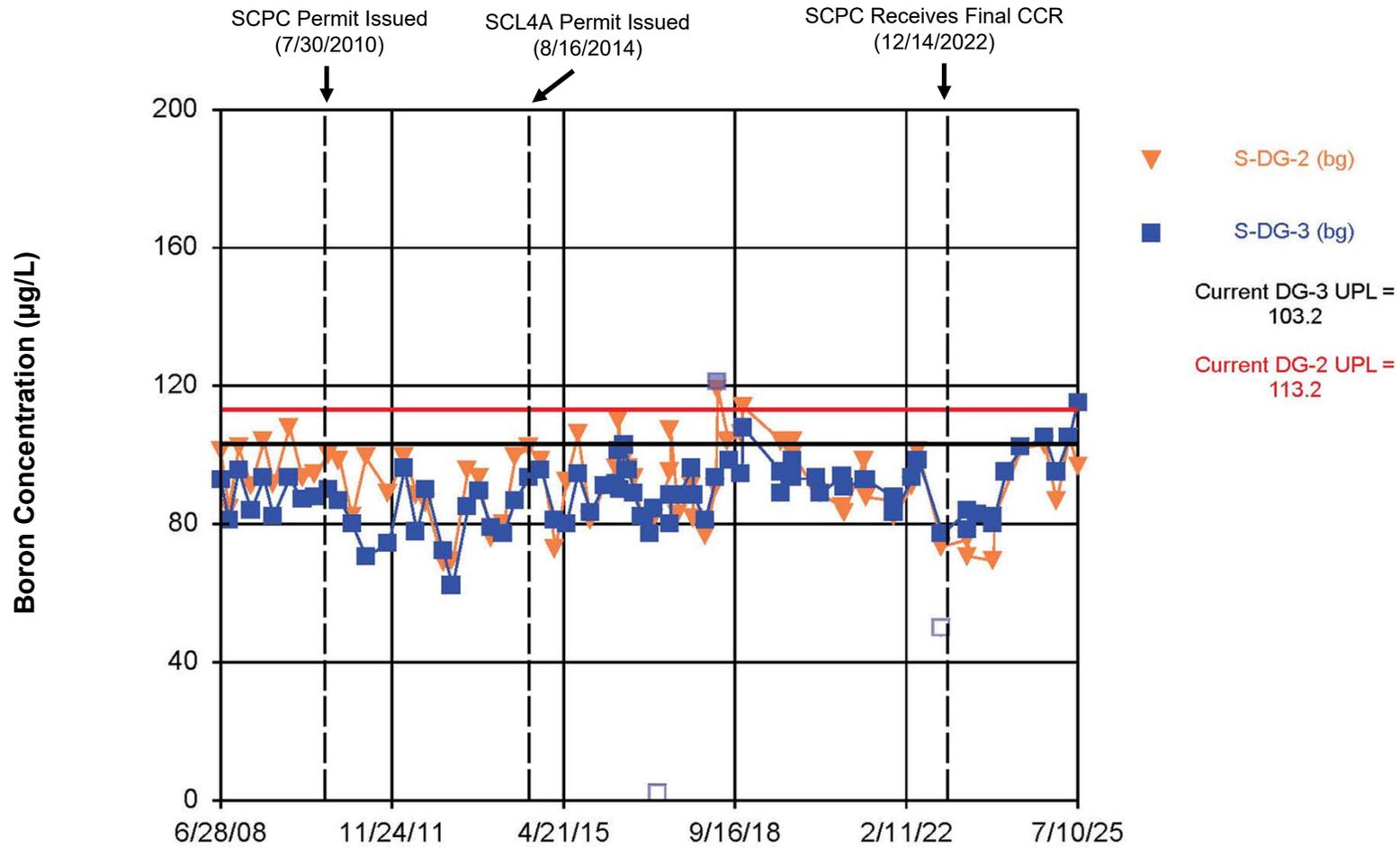
PROJECT  
 CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT  
 AMEREN MISSOURI  
 SIOUX ENERGY CENTER

	DESIGN	JSI	YYYY-MM-DD	2025-06-02
	PREPARED	GTM	PROJECT No.	23009-25
	REVIEW	JSI	<b>FIGURE 1</b>	
	APPROVED	MNH		

Path: C:\Users\CramMosey\Rocksmith Geotechnical Engineering LLC\202007 - Ameren GW - Documents\400 - Drawings - Figures\4.3-SECC\4.3.2 - Production\2025\CD\Figure 1 - Well Locations - No Extrusion Locations.aprx

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



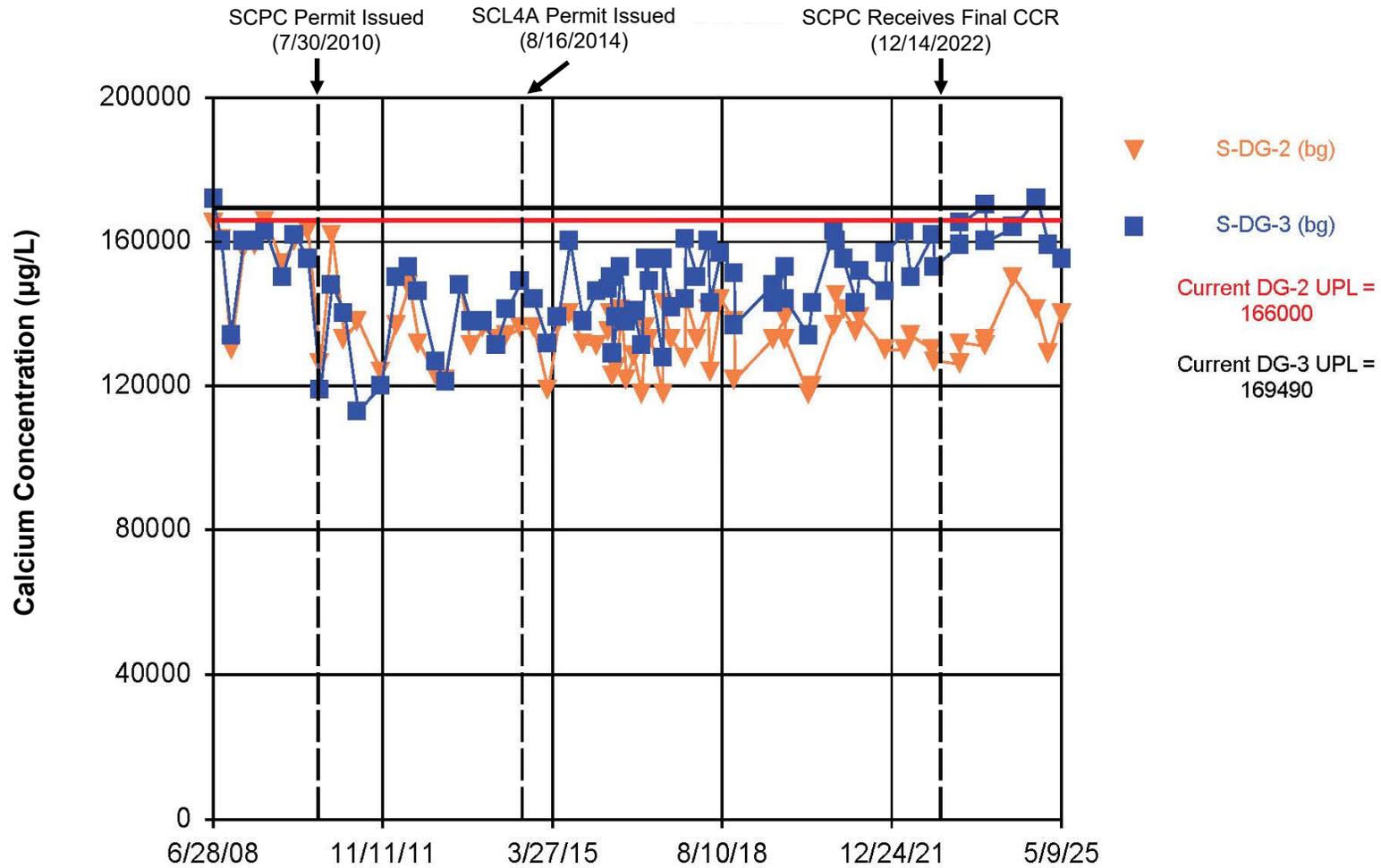
**Notes**

- 1) µg/L – Micrograms per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.
- 4) Hollow symbols indicate non-detect values. Non-detects plotted as ½ the Method Detection Limit.
- 5) Symbols disconnected from trend line are flagged as outliers.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED JTR	REVIEWED JSI	DATE 2025-09-23	



TITLE <b>Timeseries Plot of Boron Concentrations at DG-2 and DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>3</b>



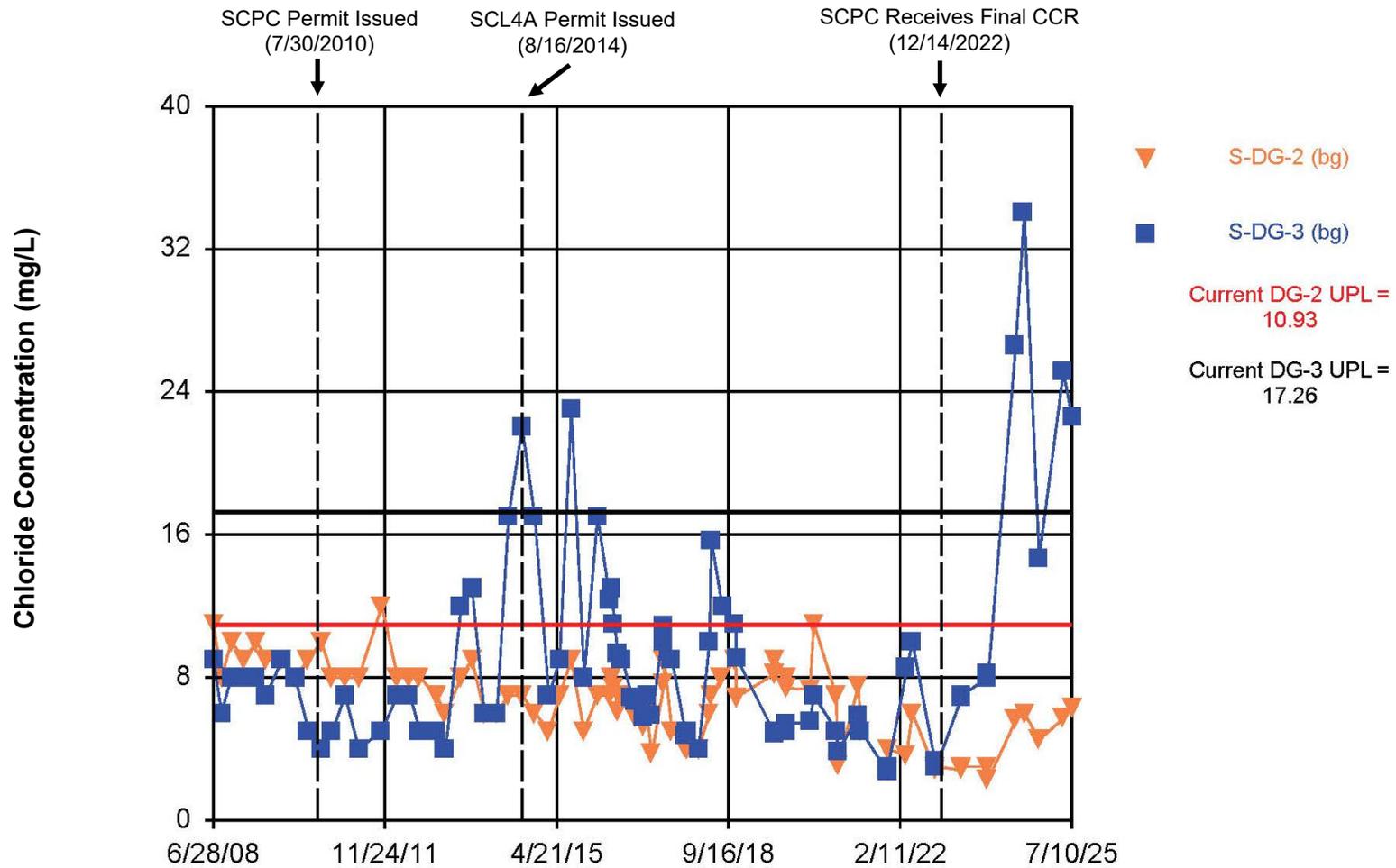
Notes

- 1) µg/L – Micrograms per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED JTR	REVIEWED JSI	DATE 2025-09-23	



TITLE <b>Timeseries Plot of Calcium Concentrations at DG-2 and DG-3</b>		
Rev No. NA	JOB NO. 23009-24	FIGURE <b>4</b>



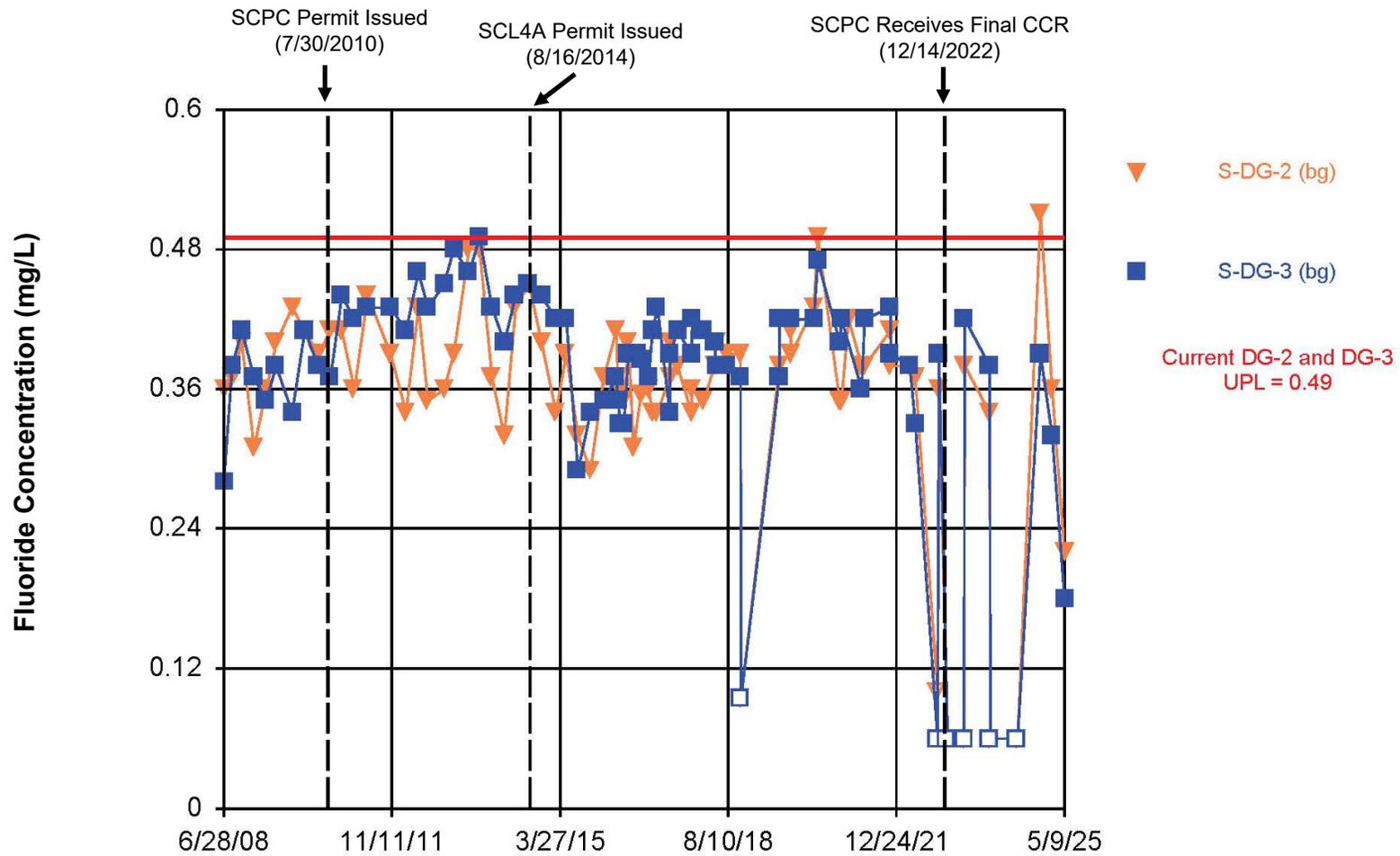
Notes

- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED JTR	REVIEWED JSI	DATE 2025-09-19	



TITLE <b>Timeseries Plot of Chloride Concentrations at DG-2 and DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>5</b>



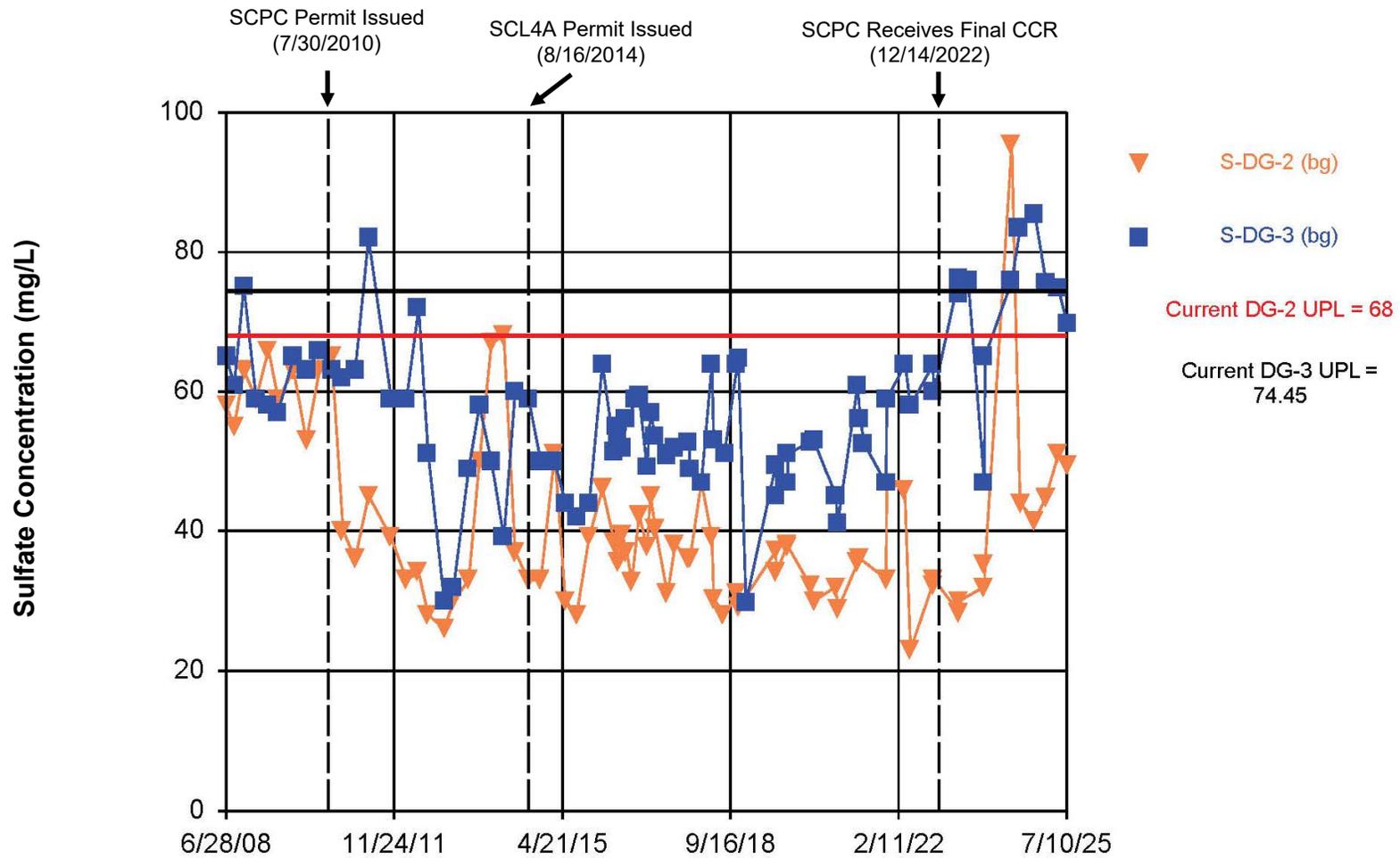
Notes

- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.
- 4) Hollow symbols indicate non-detect values.  
Non-detects plotted as ½ the Method Detection Limit.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED JTR	REVIEWED JSI	DATE 2025-09-23	



TITLE <b>Timeseries Plot of Fluoride Concentrations at DG-2 and DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>6</b>



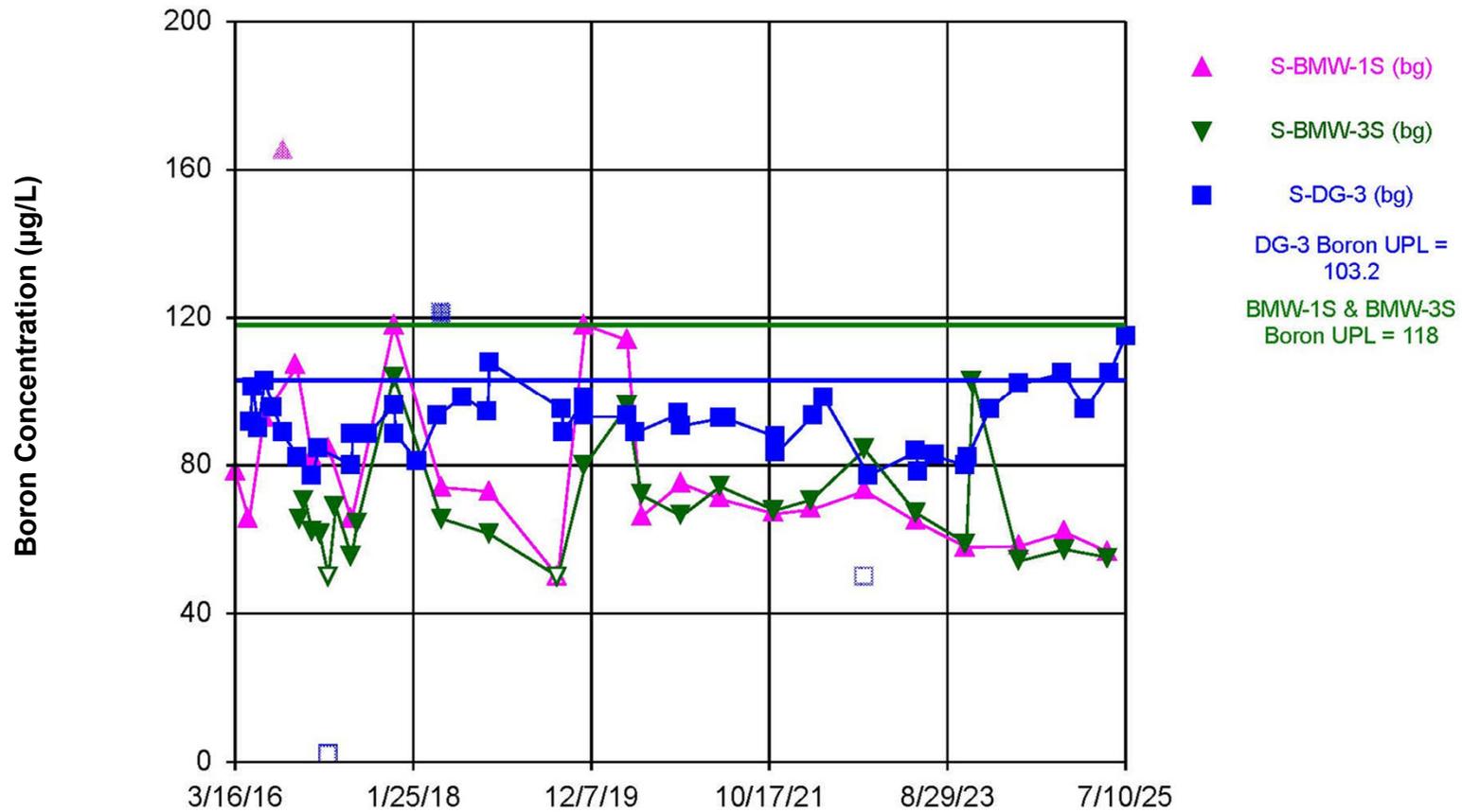
Notes

- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED JTR	REVIEWED JSI	DATE 2025-09-19	



TITLE <b>Timeseries Plot of Sulfate Concentrations at DG-2 and DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>7</b>



**Notes**

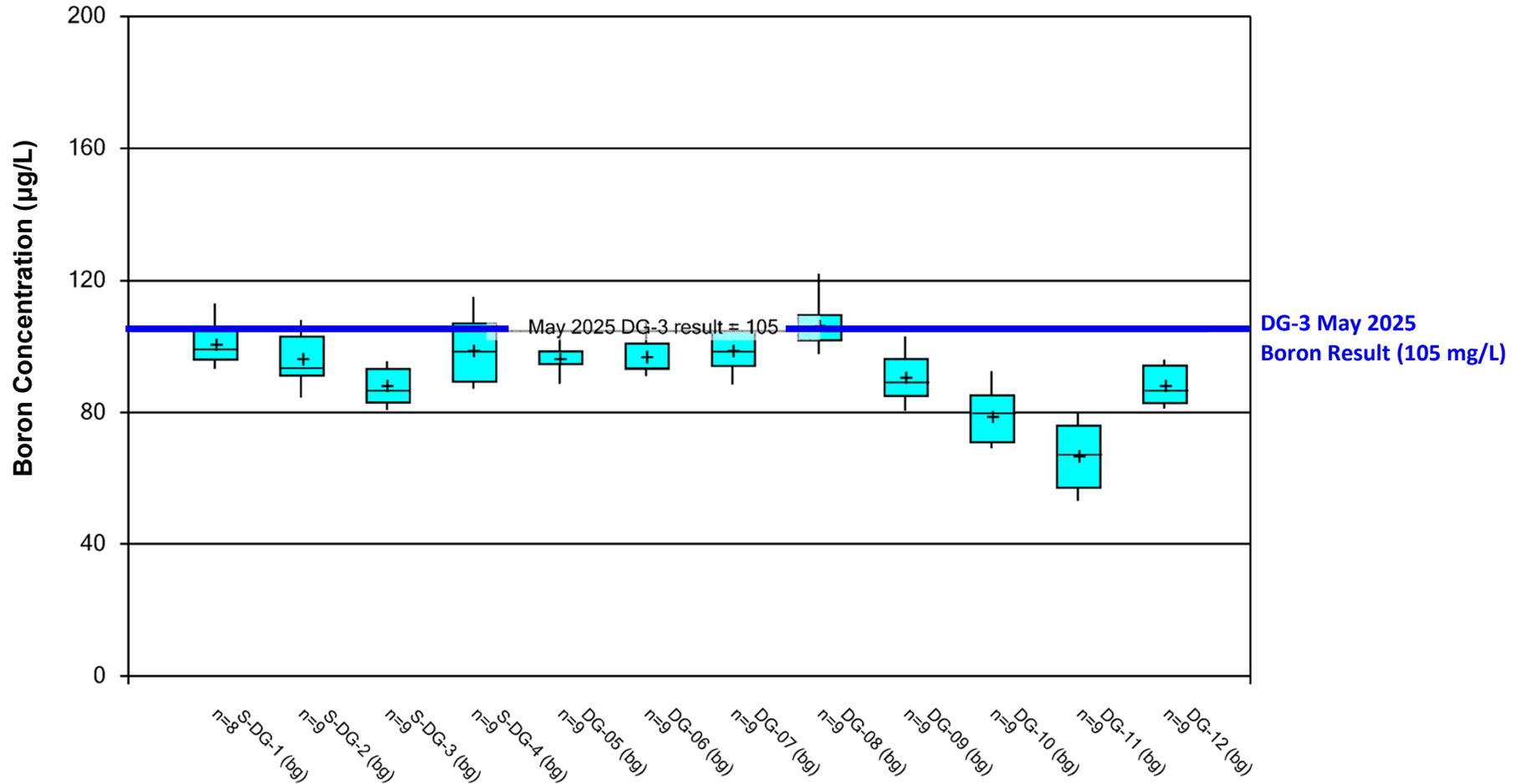
- 1) µg/L – Micrograms per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.
- 4) Hollow symbols indicate non-detect values. Non-detects plotted as ½ the Method Detection Limit.
- 5) Symbols disconnected from trend line are flagged as outliers.

CLIENT/PROJECT <b>AMEREN MISSOURI          SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JDQ	REVIEWED JSI	DATE 2025-09-23	



TITLE <b>Timeseries Plot of Boron Concentrations at BMW-1S, BMW-3S, and DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>8</b>

## Box & Whiskers Plot



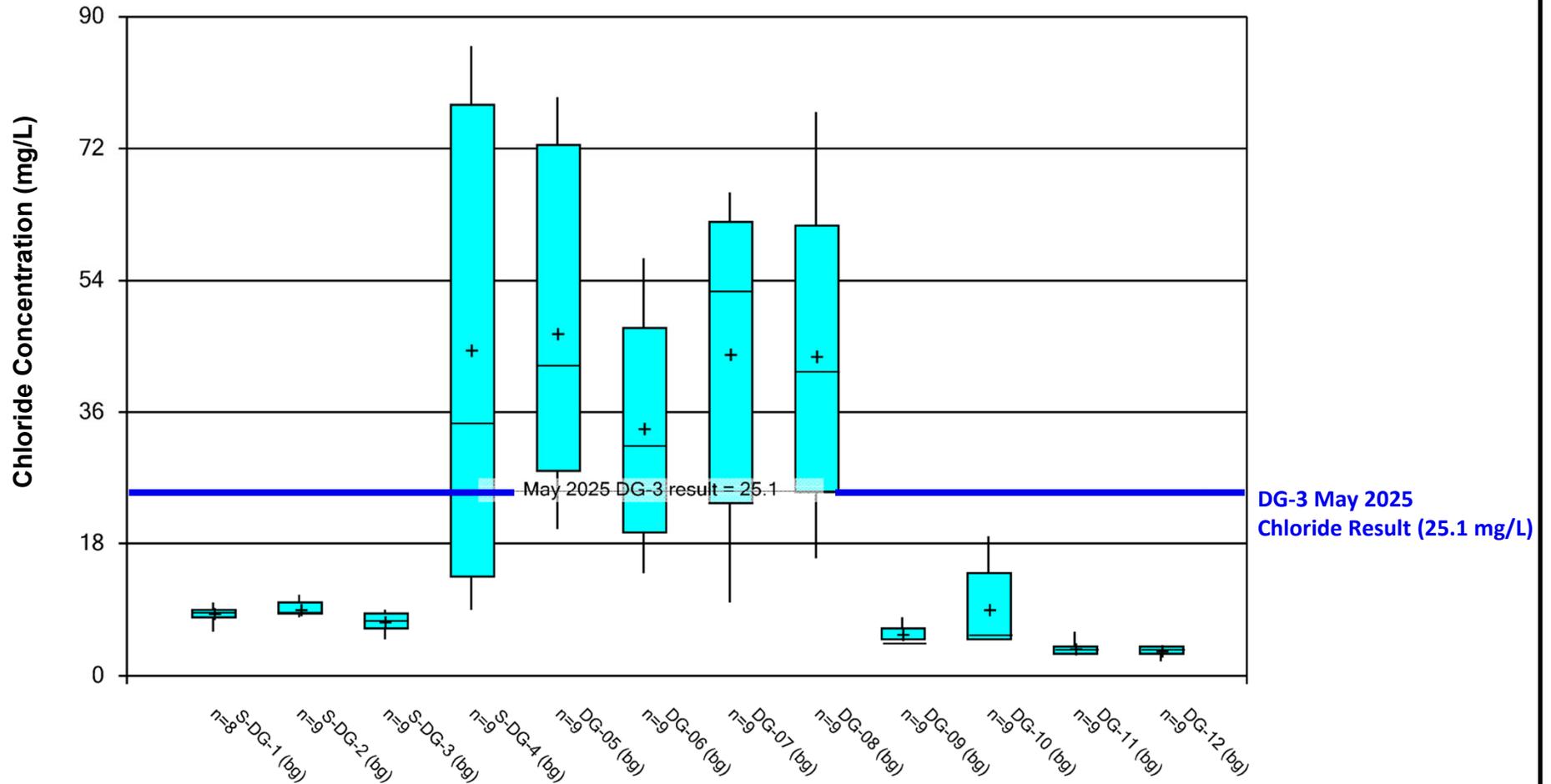
**Notes**

- 1) mg/L – Milligrams per liter.
- 2) Boron results collected pre-CCR placement in the SCPC are displayed (June 2008 – May 2010).

CLIENT/PROJECT <b>AMEREN MISSOURI                  SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED JTR	REVIEWED JSI	DATE 2025-09-24	

TITLE <b>Box and Whiskers Plot of Boron                  Concentrations Pre-CCR Placement at SCPC</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>9</b>

### Box & Whiskers Plot



DG-3 May 2025 Chloride Result (25.1 mg/L)

**Notes**

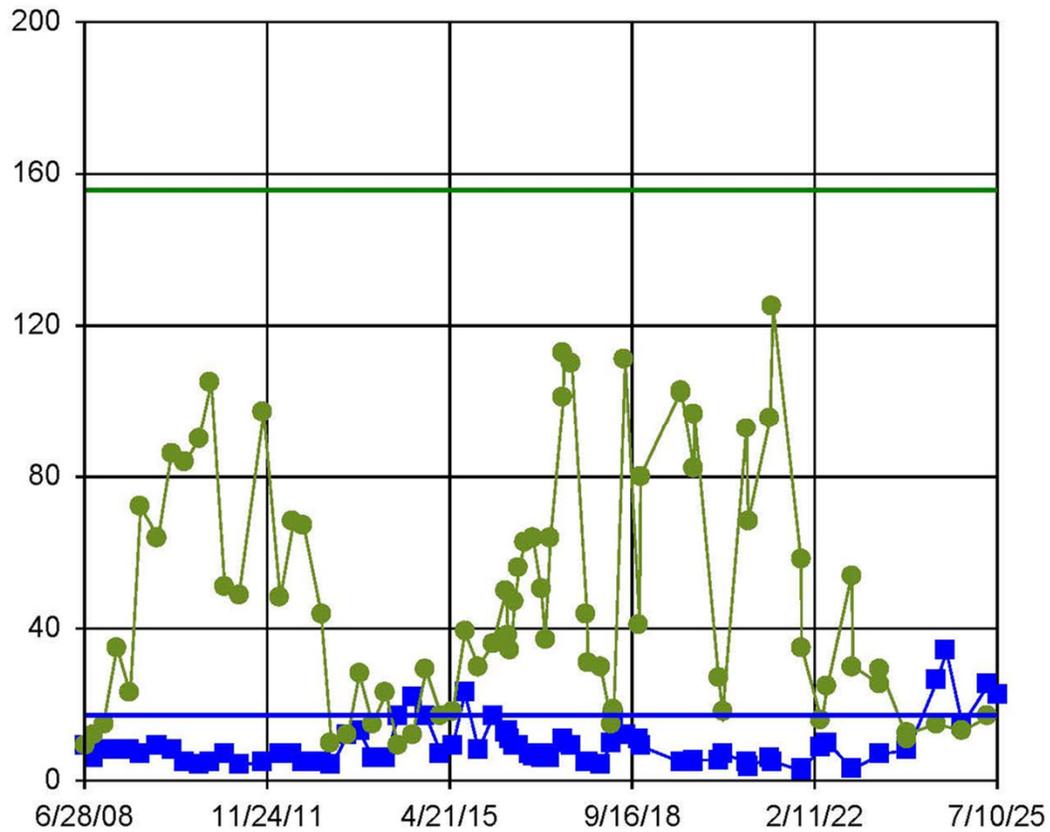
- 1) mg/L – Milligrams per liter.
- 2) Chloride results collected pre-CCR placement in the SCPC are displayed (June 2008 – May 2010).

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED GTM	REVIEWED JSI	DATE 2025-09-24	



TITLE <b>Box and Whiskers Plot of Chloride Concentrations Pre-CCR Placement at SCPC</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>10</b>

Chloride Concentration (mg/L)



■ S-DG-3 (bg)  
 ● S-DG-4 (bg)  
 Current DG-3 UPL = 17.26  
 Current DG-4 UPL = 155.7

Notes

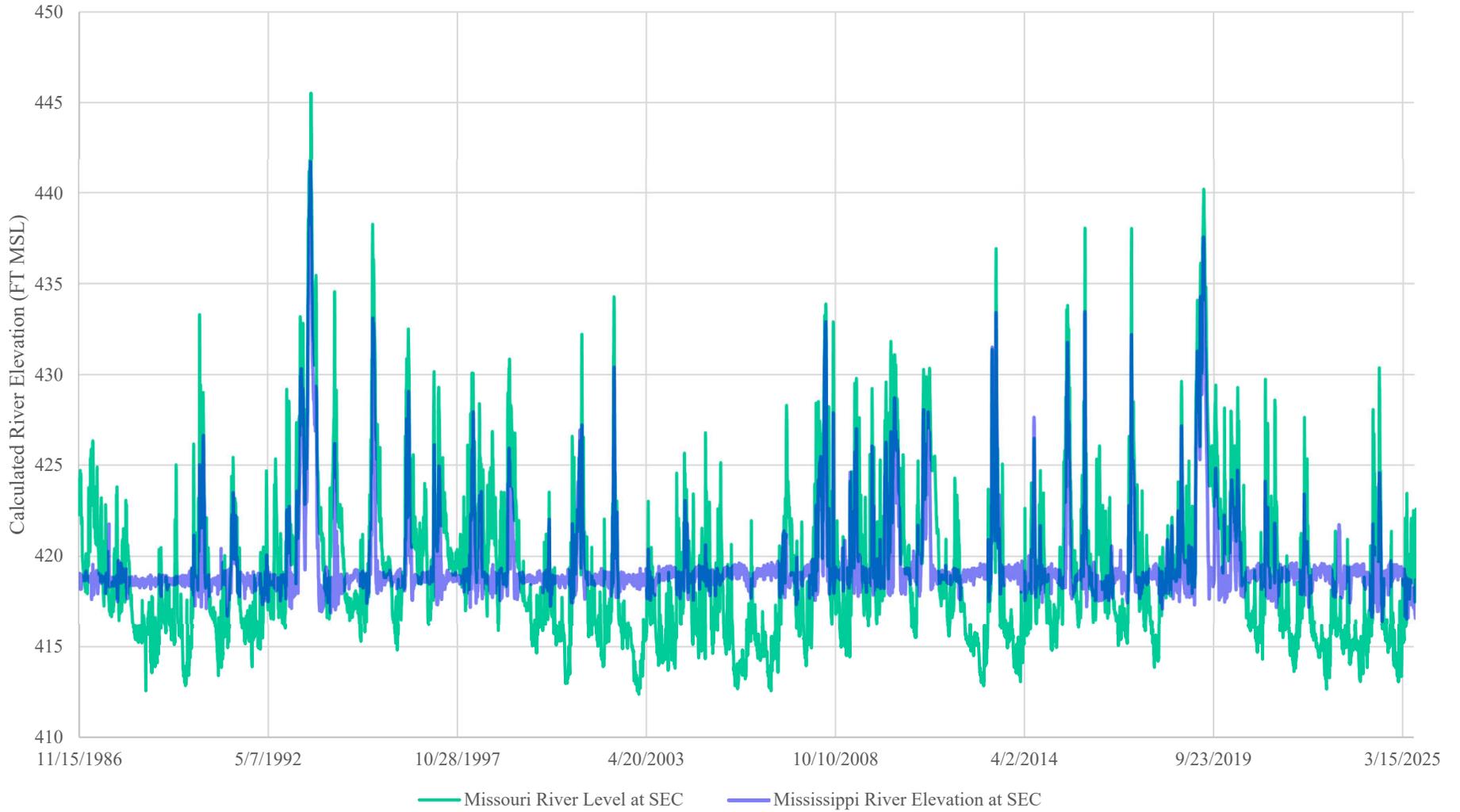
- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.

CLIENT/PROJECT <b>AMEREN MISSOURI SIOUX ENERGY CENTER</b>				
DRAWN GTM	CHECKED JDQ	REVIEWED JSI	DATE 2025-12-23	



TITLE <b>Timeseries Plot of Chloride Concentrations at DG-3 and DG-4</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>11</b>

## Calculated Mississippi and Missouri River Elevations at the SEC



**Notes**

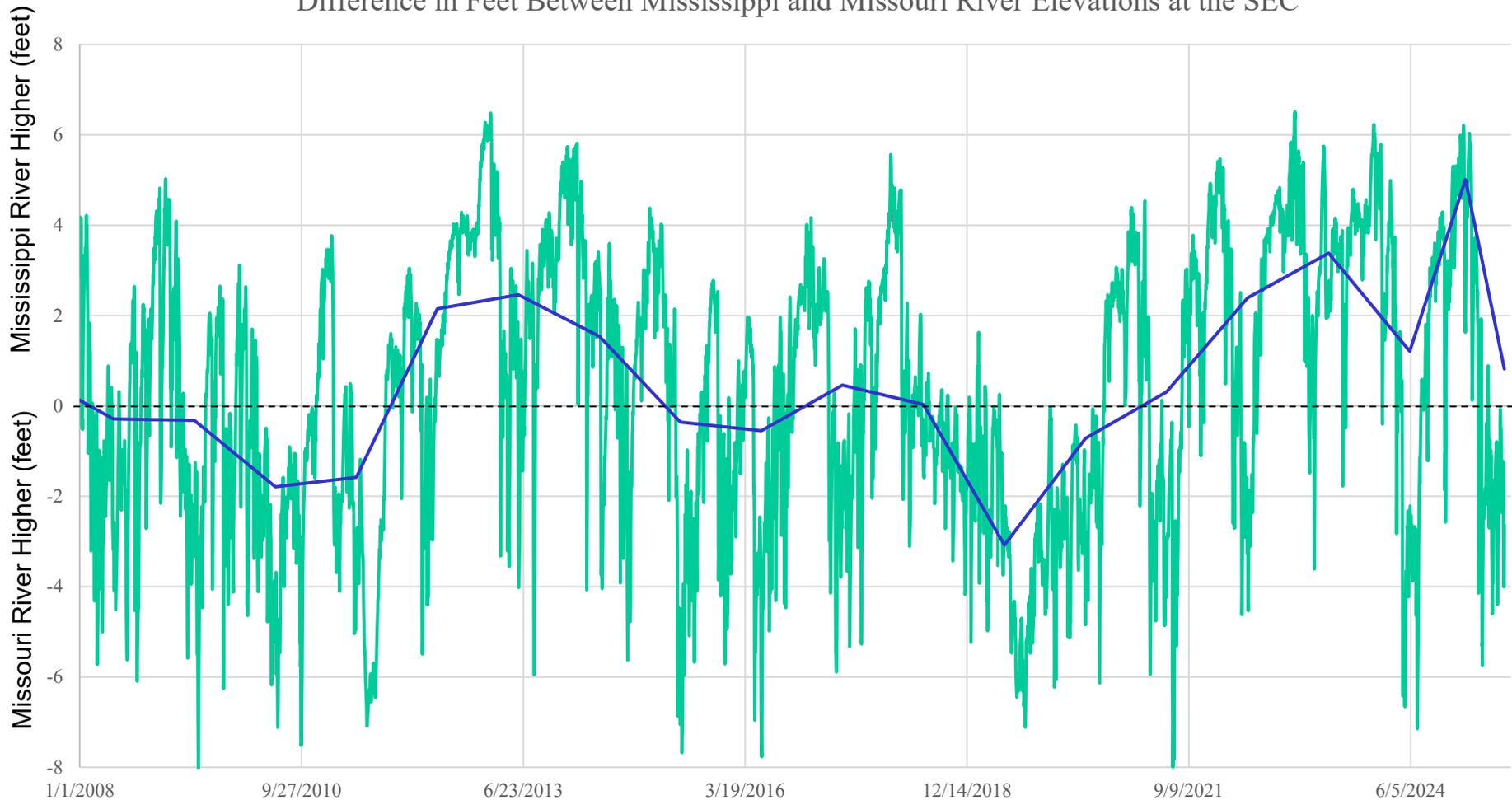
1) River levels calculated based on USGS river gauge values near the SEC.

CLIENT/PROJECT <b>AMEREN MISSOURI                  SIOUX ENERGY CENTER</b>				
DRAWN JTR	CHECKED GTM	REVIEWED JSI	DATE 2025-09-29	



TITLE <b>Calculated Mississippi and Missouri River Elevations at the SEC</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>12</b>

## Difference in Feet Between Mississippi and Missouri River Elevations at the SEC

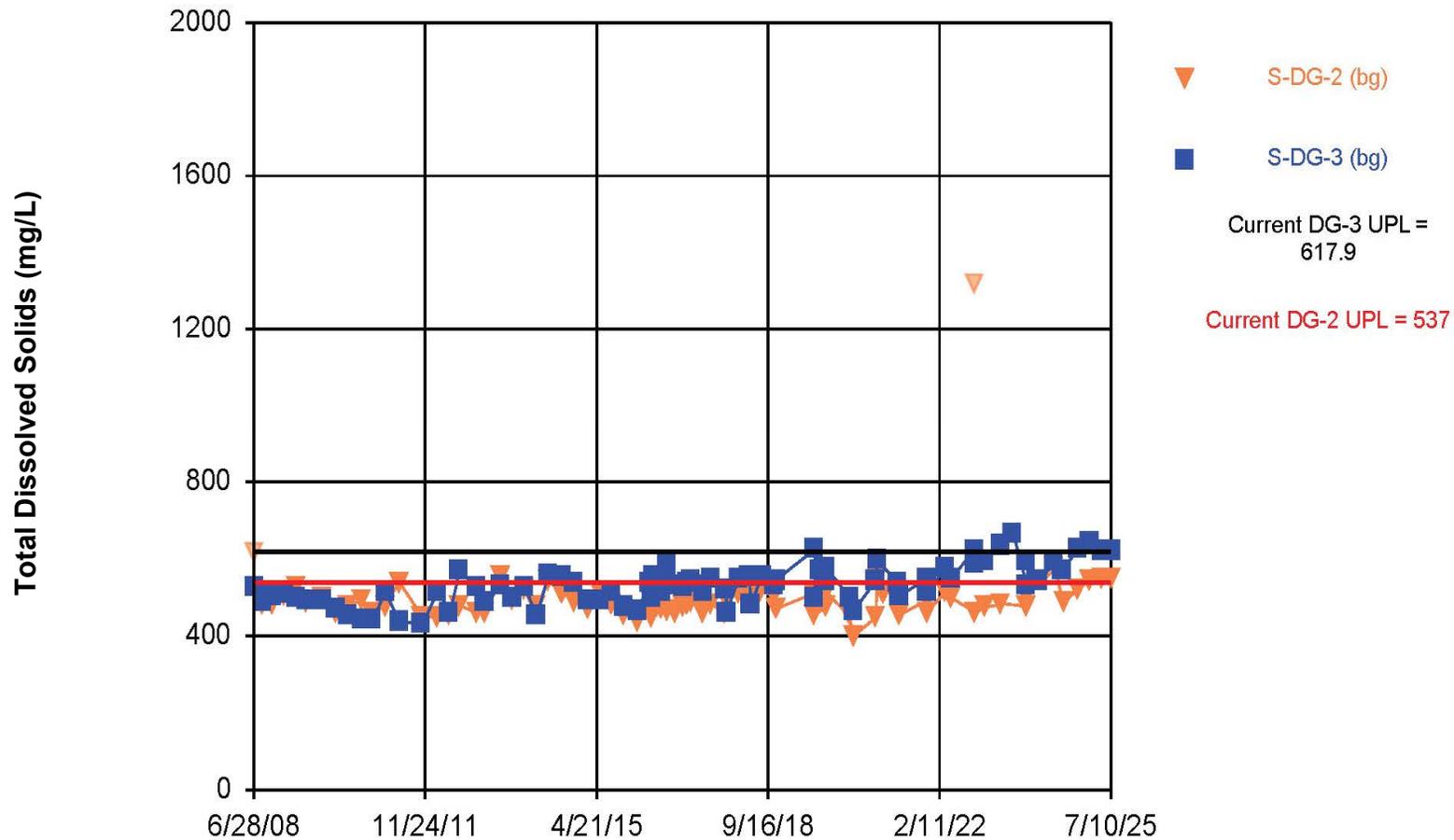


**Notes**

- 1) Results in feet, values displays Mississippi River Elevation minus the Missouri River Elevation. Negative results indicate higher Missouri River and positive results indicate higher Mississippi River elevation.
- 2) The green line represents daily differences, and the blue line represents annual average differences.

CLIENT/PROJECT <b>AMEREN MISSOURI                  SIOUX ENERGY CENTER</b>				
DRAWN JTR	CHECKED GTM	REVIEWED JSI	DATE 2025-09-29	

TITLE <b>Difference in Feet Between Mississippi and Missouri River Elevations at the SEC</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>13</b>



Notes

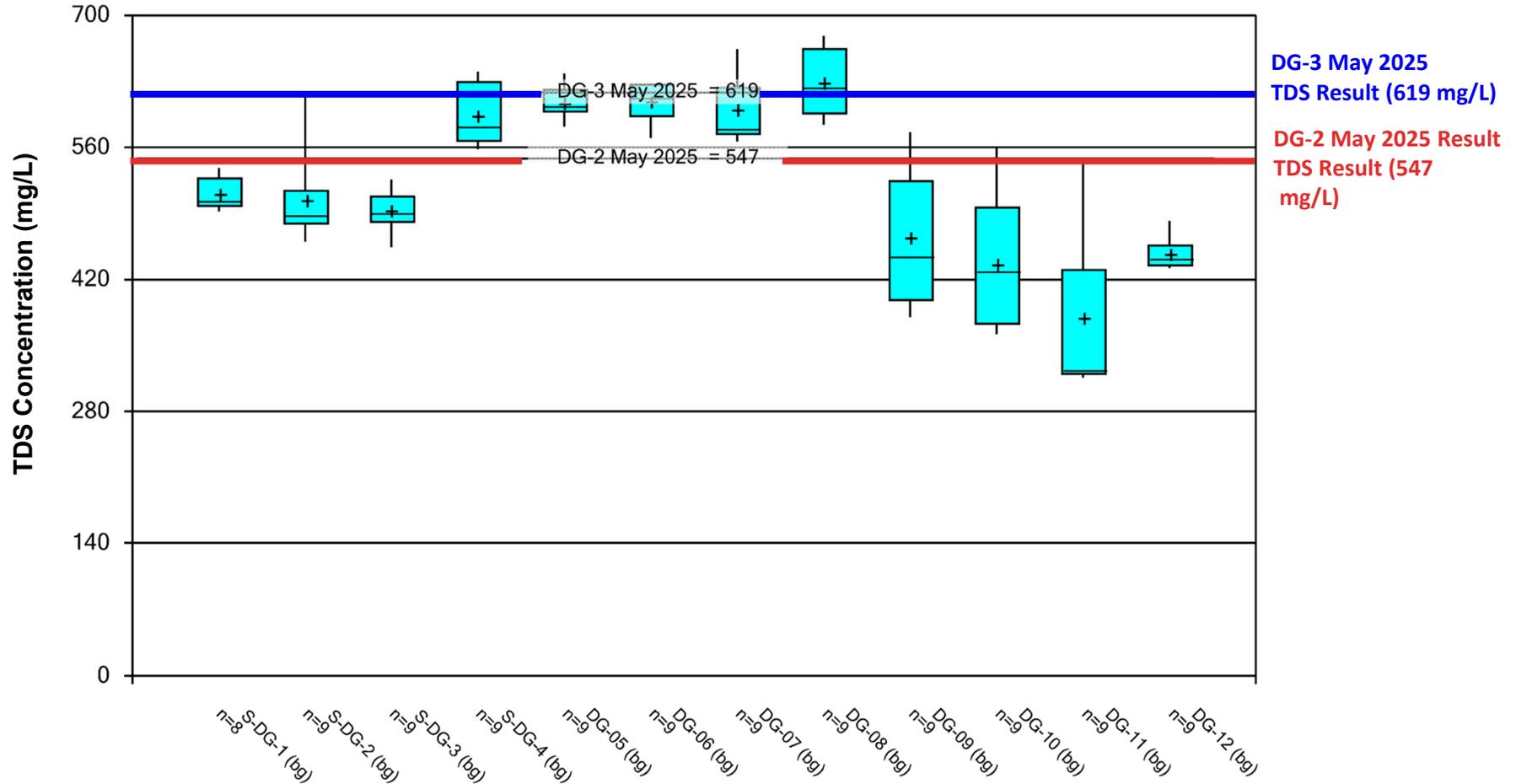
- 1) mg/L – Milligrams per liter.
- 2) UPL – Upper Prediction Limit.
- 3) CCR – Coal Combustion Residuals.
- 4) Symbols disconnected from trend line are flagged as outliers.

CLIENT/PROJECT <b>AMEREN MISSOURI          SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED JTR	REVIEWED JSI	DATE 2025-09-23	



TITLE <b>Timeseries Plot of Total Dissolved Solids Concentrations at DG-2 and DG-3</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>14</b>

### Box & Whiskers Plot



**Notes**

- 1) mg/L – Milligrams per liter.
- 2) TDS results collected pre-CCR placement in the SCPC are displayed (June 2008 – May 2010).

CLIENT/PROJECT <b>AMEREN MISSOURI</b> <b>SIOUX ENERGY CENTER</b>				
DRAWN JDQ	CHECKED GTM	REVIEWED JSI	DATE 2025-09-23	



TITLE <b>Box and Whiskers Plot of TDS Concentrations</b> <b>Pre-CCR Placement at SCPC</b>		
Rev No. NA	JOB NO. 23009-25	FIGURE <b>15</b>

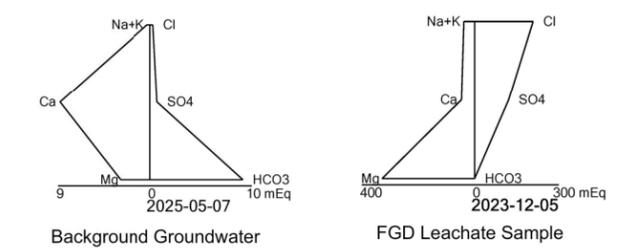
TITLE

# DISTRIBUTION OF STIFF DIAGRAMS - UWL AREA

## Legend

- Sioux Energy Center Property Boundary
- CCR Units**
- SCPB - Lined Fly Ash Surface Impoundment (Closed)
- Utility Waste Landfill Cells**
- SCL4A - Dry CCR Disposal Area
- SCPC - FGD Surface Impoundment (Closed)
- SCPD - FGD Surface Impoundment

### Stiff Diagram Examples:



- Mg - Magnesium
- Ca - Calcium
- Na+K - Sodium + Potassium
- Cl - Chloride
- SO4 - Sulfate
- HCO3 - Alkalinity
- mEq - milliequivalents

### NOTES

- All boundaries and locations are approximate.
- UWL - Utility Waste Landfill.
- FGD - Flue Gas Desulfurization.
- CCR - Coal Combustion Residuals.
- Stiff diagrams created with Sanitas using data from the May 2025 sampling event for CCR Rule monitoring wells, 2006 Detailed Site Investigation (Blue), and 2023 FGD Leachate sampling (Black).
- Stiff diagrams for all locations are presented on the same scale, with the exception of the FGD leachate sample. See diagram examples above for scales used.
- Upgradient background wells BMW-1S and BMW-3S are not depicted in true location for visual clarity purposes. See Figure 1 for true location of these wells.
- Stiff diagrams are colored based on their grouping or monitoring network: background (white), SCPC (orange), SCPD (purple), SCL4A (light blue), leachate (gray) & Detailed Site Investigation piezometers (dark blue).

### REFERENCES

- Ameren Missouri Sioux Energy Center, Sioux Property Control Map, February 2011.



PROJECT  
GROUNDWATER MONITORING PROGRAM

CLIENT  
AMEREN MISSOURI  
SIOUX ENERGY CENTER



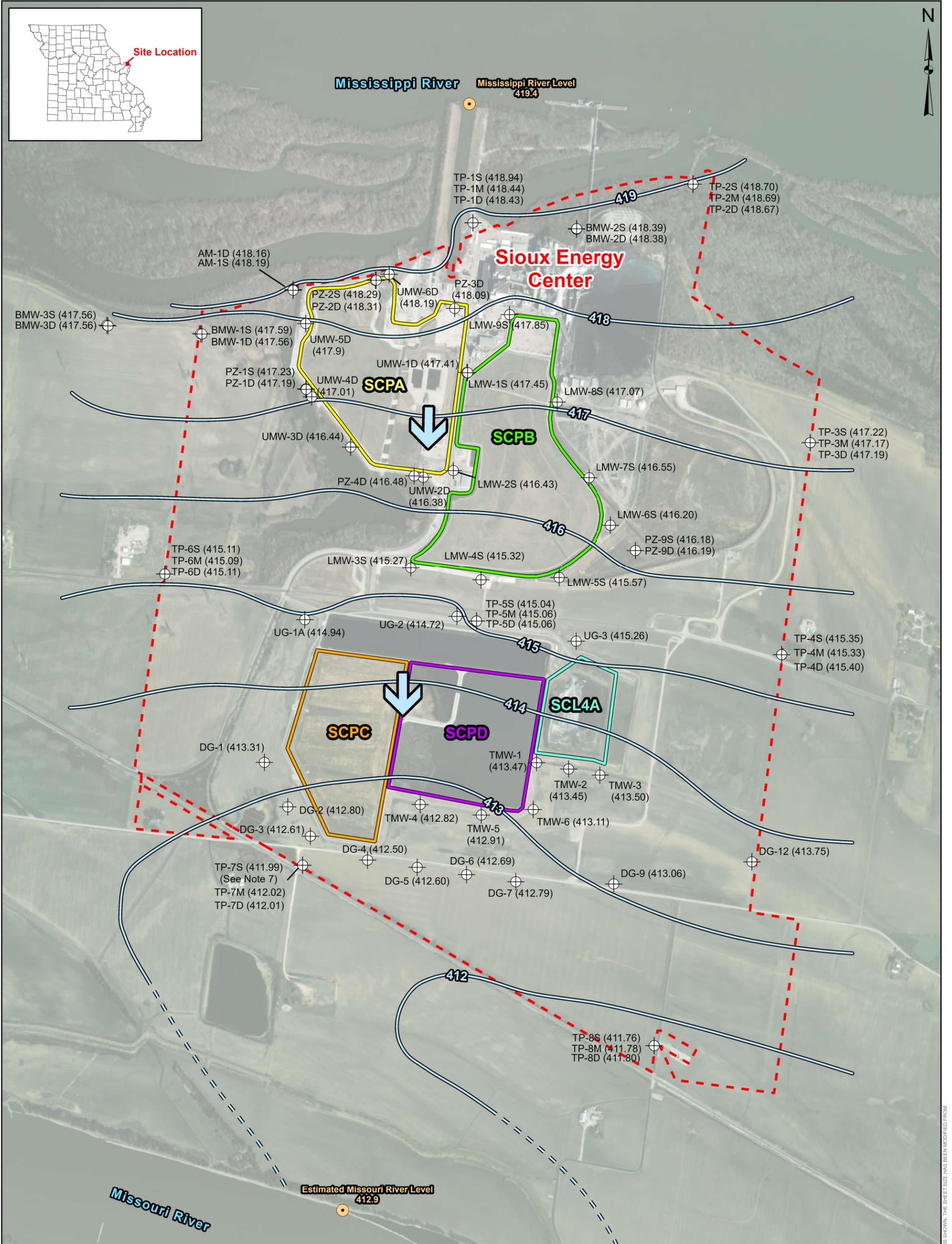
DESIGN	JSI	YYYY-MM-DD	2025-09-29
PREPARED	JTR	PROJECT No.	23009-25
REVIEW	GTM	<b>FIGURE 18</b>	
APPROVED	JSI		

Path: C:\Users\CramMosey\Rocksmith Geoenvironmenting LLC\202007 - Ameren GW - Documents\400 - Drawings - Figures\3-SEC-CR-3.2 - Production\SCPC\ASD\SCPC ASD Stiff.spr

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

# Appendix D

## 2025 Potentiometric Surface Maps



**LEGEND**

**CCR Units**

- SCPA - Bottom Ash Surface Impoundment (Closed)
- SCPB - Fly Ash Surface Impoundment (Closed)
- SCPC - WFGD Surface Impoundment (Closed)
- SCL4A - Dry CCR Disposal Area
- SCPD - FGD Surface Impoundment

**Groundwater Elevation Contour (FT MSL)**

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

**Ground/Surface Water Measurement Locations**

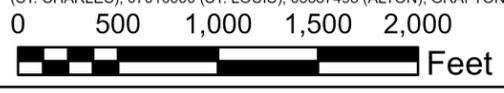
- River Gauge Location
- Monitoring Well or Piezometer
- Groundwater Flow Direction

**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 ROCKSMITH.
- 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.) FGD - FLUE GAS DESULFURIZATION.
- 7.) WELL TP-7S NOT USED IN POTENTIOMETRIC SURFACE CONTOURING DUE TO LOCALIZED VERTICAL GRADIENT.

**REFERENCES**

- 1.) ST CHARLES COUNTY, MISSOURI GEO-DATA & MAPPING HUB, PARCEL DATASET, UPDATED APRIL 2025.
- 2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2401 FEET.
- 3.) USGS NATIONAL WATER INFORMATION SYSTEM, USGS GAUGES 06935965 (ST. CHARLES), 07010000 (ST. LOUIS), 05587498 (ALTON), GRAFTON (05587450).



**TITLE**

**FEBRUARY 6, 2025 POTENTIOMETRIC SURFACE MAP**

**PROJECT**

CCR GROUNDWATER MONITORING PROGRAM

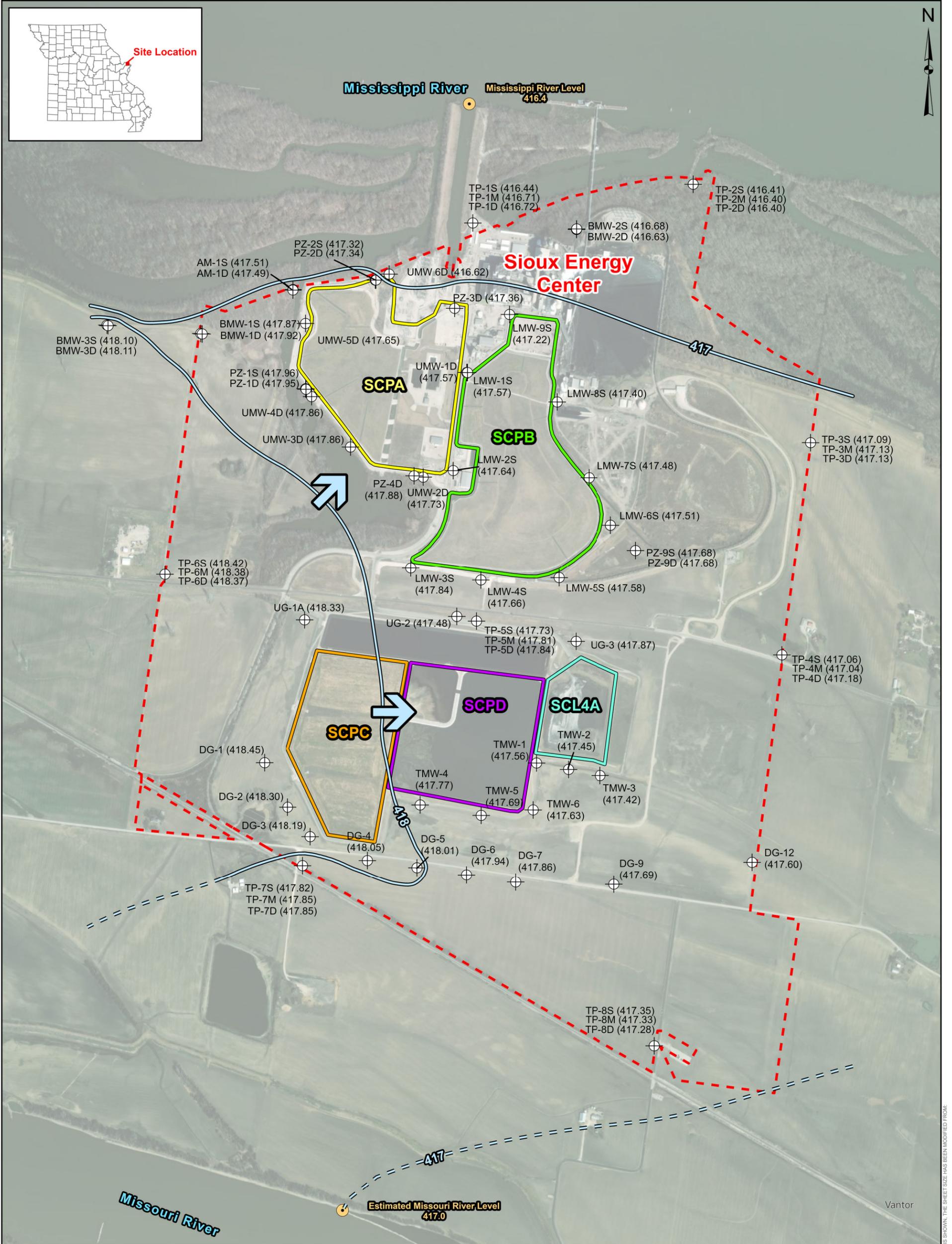
**CLIENT**

AMEREN MISSOURI  
SIOUX ENERGY CENTER

DESIGN	GTM	YYYY-MM-DD	2025-03-28
PREPARED	JTR	PROJECT No.	23009-25
REVIEW	JDQ	<b>FIGURE D1</b>	
APPROVED	MNH		



IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 11in



**LEGEND**

	Sioux Energy Center Property Boundary
<b>CCR Units</b>	
	SCPA - Bottom Ash Surface Impoundment (Closed)
	SCPB - Fly Ash Surface Impoundment (Closed)
	SCPC - WFGD Surface Impoundment (Closed)
	SCL4A - Dry CCR Disposal Area
	SCPD - FGD Surface Impoundment

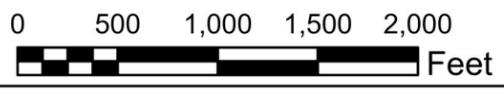
	Groundwater Elevation Contour (FT MSL)
	Inferred Groundwater Elevation Contour (FT MSL)
<b>Ground/Surface Water Measurement Locations</b>	
	River Gauge Location
	Monitoring Well or Piezometer
	Groundwater Flow Direction

**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 ROCKSMITH.
- 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.) FGD - FLUE GAS DESULFURIZATION.

**REFERENCES**

- 1.) ST CHARLES COUNTY, MISSOURI GEO-DATA & MAPPING HUB, PARCEL DATASET, UPDATED APRIL 2025.
- 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).



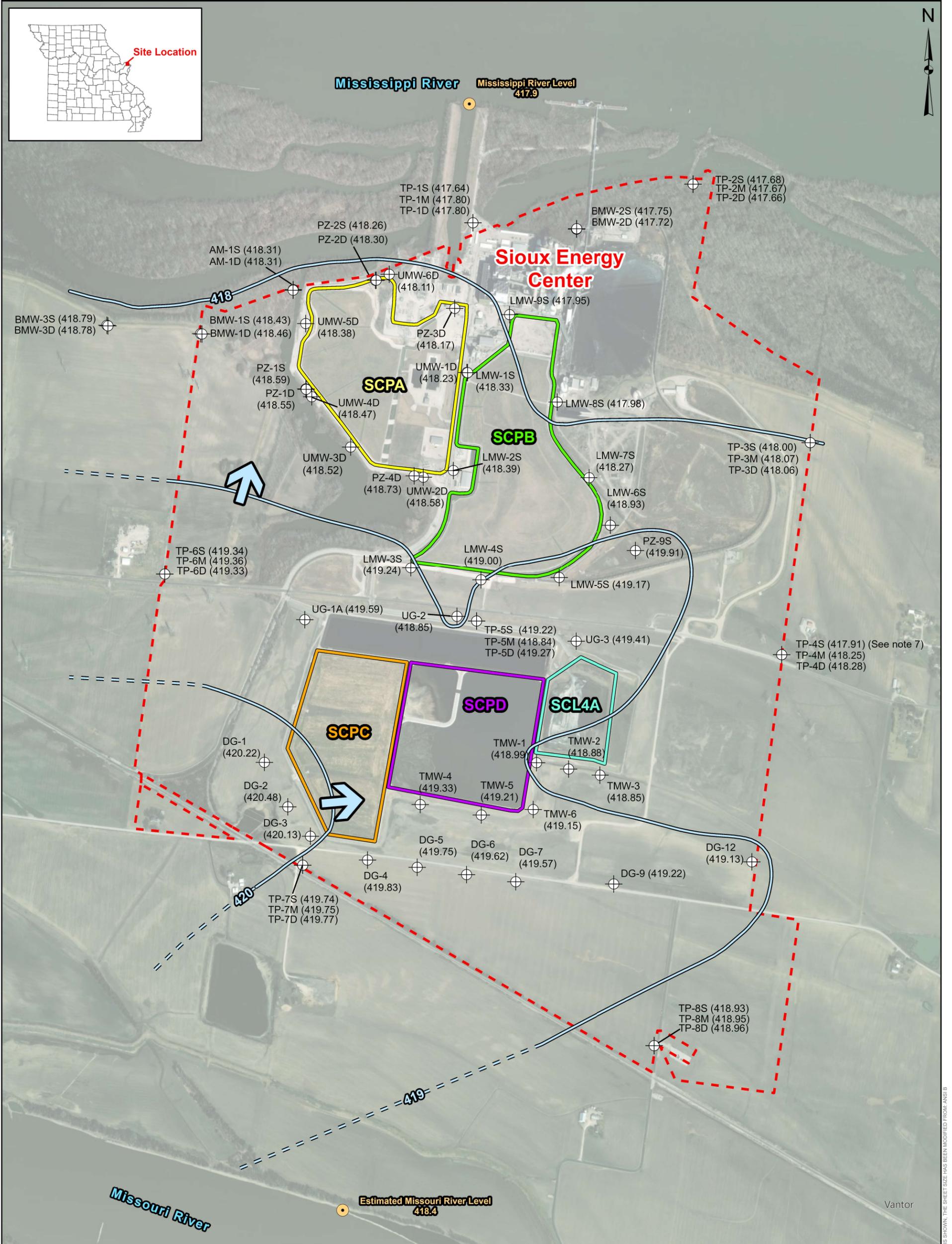
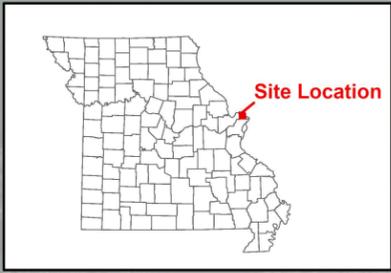
TITLE  
**MAY 7, 2025 POTENTIOMETRIC SURFACE MAP**

PROJECT  
CCR GROUNDWATER MONITORING PROGRAM

CLIENT  
AMEREN MISSOURI  
SIOUX ENERGY CENTER

	DESIGN	GTM	YYYY-MM-DD	2025-05-19
	PREPARED	JDQ	PROJECT No.	23009-25
	REVIEW	JTR	<b>FIGURE D2</b>	
	APPROVED	MNH		

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 11in



**LEGEND**

**CCR Units**

- SCPA - Bottom Ash Surface Impoundment (Closed)
- SCPB - Fly Ash Surface Impoundment (Closed)
- SPCG - WFGD Surface Impoundment (Closed)
- SCL4A - Dry CCR Disposal Area
- SCPD - FGD 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 ROCKSMITH.
- 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.) FGD - FLUE GAS DESULFURIZATION.
- 7.) TP-4S NOT USED IN POTENTIOMETRIC SURFACE CALCULATION DUE TO LOCALIZED VERTICAL GRADIENT.

**REFERENCES**

- 1.) ST CHARLES COUNTY, MISSOURI GEO-DATA & MAPPING HUB, PARCEL DATASET, UPDATED APRIL 2025.
- 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).

**TITLE**

**JULY 9, 2025 POTENTIOMETRIC SURFACE MAP**

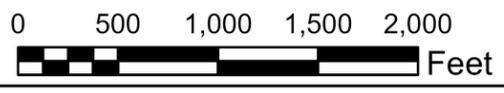
**PROJECT**

CCR GROUNDWATER MONITORING PROGRAM

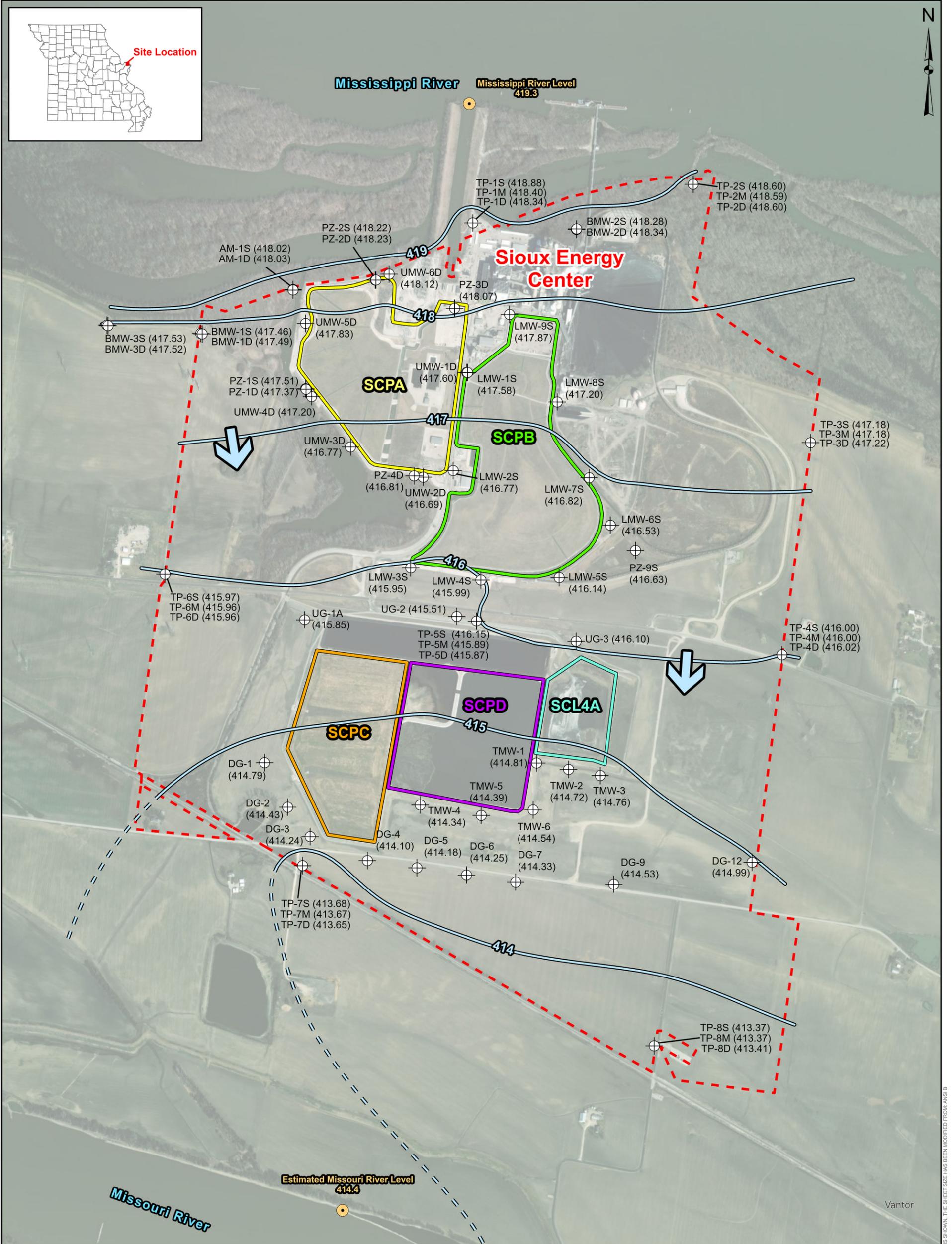
**CLIENT**

AMEREN MISSOURI  
SIOUX ENERGY CENTER

DESIGN	GTM	YYYY-MM-DD	2025-08-15
PREPARED	JDQ	PROJECT No.	23009-25
REVIEW	JTR	<b>FIGURE D3</b>	
APPROVED	MNH		



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



**LEGEND**

**CCR Units**

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

**Groundwater Elevation Contour (FT MSL)**

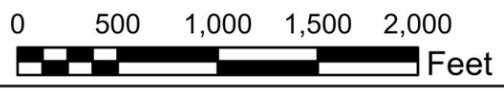
- Groundwater Elevation Contour (FT MSL)
- Inferred Groundwater Elevation Contour (FT MSL)

**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 ROCKSMITH.
  - 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.) FGD - FLUE GAS DESULFURIZATION.

- REFERENCES**
- 1.) ST CHARLES COUNTY, MISSOURI GEO-DATA & MAPPING HUB, PARCEL DATASET, UPDATED APRIL 2025.
  - 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).



**TITLE**

**OCTOBER 2, 2025 POTENTIOMETRIC SURFACE MAP**

**PROJECT**

CCR GROUNDWATER MONITORING PROGRAM

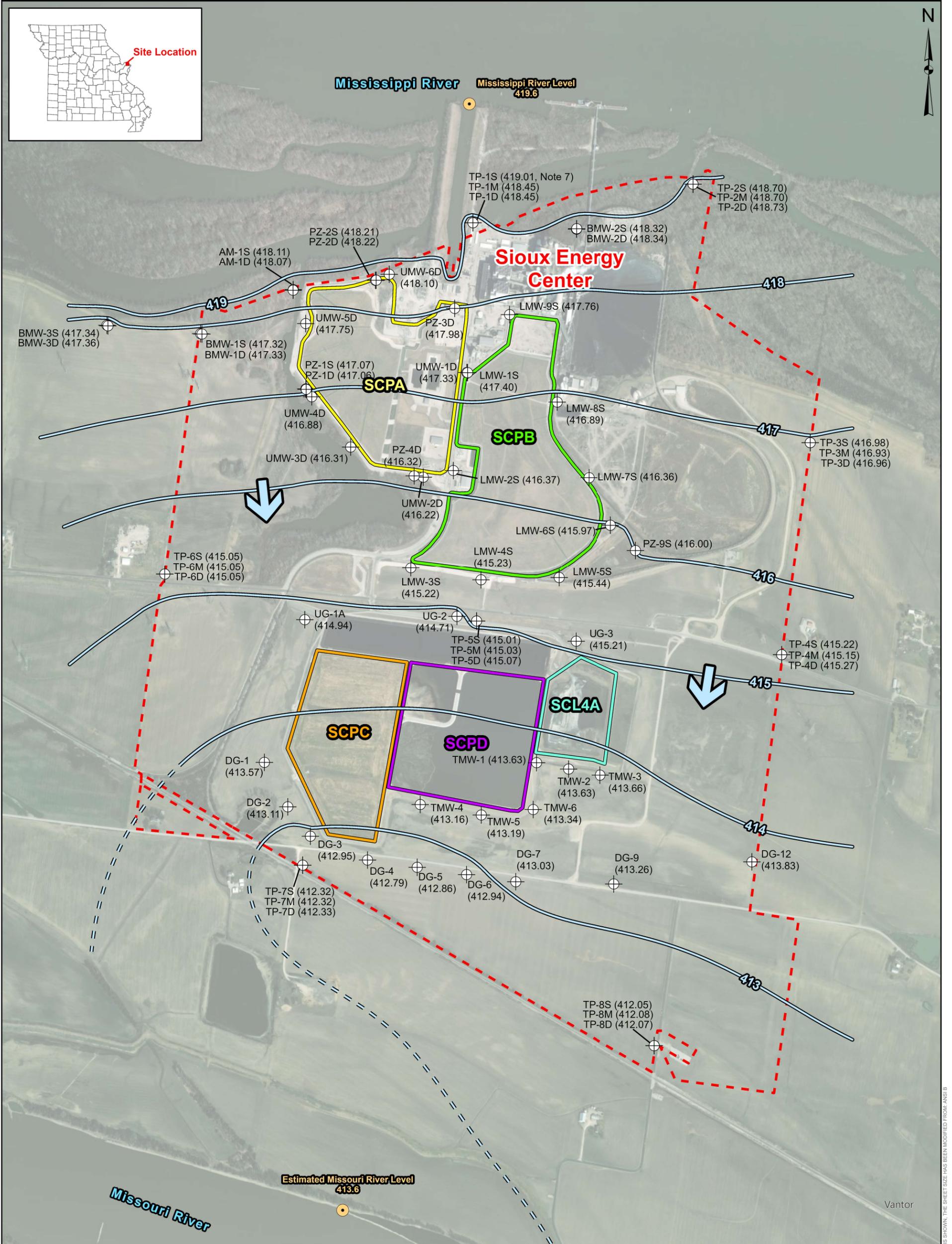
**CLIENT**

AMEREN MISSOURI  
SIOUX ENERGY CENTER

DESIGN	GTM	YYYY-MM-DD	2025-12-18
PREPARED	JDQ	PROJECT No.	23009-25
REVIEW	JTR	<b>FIGURE D4</b>	
APPROVED	MNH		



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



**LEGEND**

	Sioux Energy Center Property Boundary
<b>CCR Units</b>	
	SCPA - Bottom Ash Surface Impoundment (Closed)
	SCPB - Fly Ash Surface Impoundment (Closed)
	SCPC - WFGD Surface Impoundment (Closed)
	SCL4A - Dry CCR Disposal Area
	SCPD - FGD Surface Impoundment

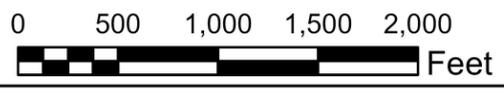
	Groundwater Elevation Contour (FT MSL)
	Inferred Groundwater Elevation Contour (FT MSL)
<b>Ground/Surface Water Measurement Locations</b>	
	River Gauge Location
	Monitoring Well or Piezometer
	Groundwater Flow Direction

**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 ROCKSMITH.
- 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.) FGD - FLUE GAS DESULFURIZATION.
- 7.) TP-1S IS NOT USED FOR POTENTIOMETRIC SURFACE CONTOURING.

**REFERENCES**

- 1.) ST CHARLES COUNTY, MISSOURI GEO-DATA & MAPPING HUB, PARCEL DATASET, UPDATED APRIL 2025.
- 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).



**TITLE**  
**DECEMBER 2, 2025 POTENTIOMETRIC SURFACE MAP**

**PROJECT**  
 CCR GROUNDWATER MONITORING PROGRAM

**CLIENT**  
 AMEREN MISSOURI  
 SIOUX ENERGY CENTER

DESIGN	GTM	YYYY-MM-DD	2025-12-11
PREPARED	JDQ	PROJECT No.	23009-25
REVIEW	GTM	<b>FIGURE D5</b>	
APPROVED	MNH		

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