REPORT

2024 Annual Groundwater Monitoring and Corrective Action Report

LCPA Surface Impoundment, Labadie Energy Center, Franklin County, Missouri, USA

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Project Number: 23007-24

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EXECUTIVE SUMMARY AND STATUS OF THE LCPA 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 LCPA Coal Combustion Residuals (CCR) Surface Impoundment at the Labadie Energy Center (LEC or Site) is subject to the requirements of the CCR Rule. This Annual Report for the LCPA describes CCR Rule groundwater monitoring activities from January 1, 2024 through December 31, 2024 including verification results related to late 2023 sampling.

Throughout 2024, the LCPA has been in Corrective Action Monitoring with Detection and Assessment Monitoring continuing concurrently. Semi-annual groundwater sampling associated with Detection Monitoring has been ongoing since Detection Monitoring was initiated on October 17, 2017, as required by the CCR Rule. As a part of Detection Monitoring, statistical evaluations are completed after each sampling event to determine if there are any values at a Statistically Significant Increase (SSI) over background concentrations. SSIs have been determined for each sampling event and a summary of the SSIs for the past year is provided in **Table 1**.

The Assessment Monitoring program was established at the LCPA on April 15, 2018. Since that time, groundwater sampling and statistical evaluations have been completed semi-annually to determine if there are any values at a Statistically Significant Level (SSL) over the site-specific Groundwater Protection Standard (GWPS). On October 11, 2018, it was determined that molybdenum was present at an SSL. A summary of SSLs for the past year is provided in **Table 1**.

Table 1 - Summary of 2024 LCPA Sampling Events, Previous Year Verification, and Statistical Evaluations for Detection and Assessment Monitoring Well Network

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSLs	SSI & SSL Determination Date	ASD Completion Date
November 2023 Sampling Event	Detection & Assessment Monitoring, November 16-20, 2023	January 25, 2024	Appendix III, Appendix IV, & Major Cations and Anions	**pH:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D **Boron:** UMW-1D, UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D **Calcium:** UMW-1D **Chloride:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-9D **Sulfate:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D **TDS:** UMW-1D, UMW-2D, UMW-5D, UMW-6D	**Arsenic** UMW-1D (See Note 2) **Molybdenum:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D	April 24, 2024	July 23, 2024 (See Note 2)
	Verification Sampling, February 12, 2024	March 5, 2024	Detected Appendix III parameters (See Note 1)				
May 2024 Sampling Event	Detection & Assessment Monitoring, May 15-23, 2024	June 27, 2024	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters	**pH:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D **Boron:** UMW-1D, UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D **Chloride:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-9D **Sulfate:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D **TDS:** UMW-2D, UMW-5D, UMW-6D	**Molybdenum:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D	September 25, 2024	NA
	Verification Sampling, July 25, 2024	August 8, 2024	Detected Appendix III parameters (See Note 1)				

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSLs	SSI & SSL Determination Date	ASD Completion Date
October-November 2024 Sampling Event	Detection & Assessment Monitoring, October 28-November 1, 2024	December 23, 2024	Appendix III, Appendix IV, & Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2025.			

Notes:
1) Only analytes/wells that were detected above the prediction limit and that had not already been verified as SSIs were tested during Verification Sampling.
2) An Alternative Source Demonstration (ASD) was produced for the arsenic exceedance at UMW-1D associated with statistical analysis of the November 2023 sampling event.
3) SSI – Statistically Significant Increase.
4) SSL – Statistically Significant Limit.
5) TDS – Total Dissolved Solids.
6) MNA – Monitored Natural Attenuation.
7) NA – Not Applicable.

On January 9, 2019, Ameren initiated its Corrective Measures Assessment (CMA) and posted the CMA report on May 20, 2019. A public meeting was held on May 29, 2019, and responses to public comments are posted on Ameren's CCR website. On August 30, 2019, Ameren published its "Remedy Selection Report – 40 CFR § 257.97 Rush Island, Labadie, Sioux and Meramec CCR Basins" (Remedy Selection Report) that identified source control through installation of a low permeability cover system, use of Monitored Natural Attenuation (MNA), and installation of Supplemental Corrective Measures as its chosen corrective action remedial plan. The Remedy Selection Report's remedial plan consists of two phases as follows:

1) Source control, stabilization and containment of CCR by installation of a low permeability geomembrane cap (a minimum 1 x 10^{-7} centimeters per second (cm/sec) versus 1 x 10^{-5} cm/sec required by the CCR Rule).

2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. MNA occurs due to naturally occurring processes within the aquifer.

Ameren commenced Phase 1 of the corrective action remedial plan in September 2019 by initiating closure at the LCPA. Substantial closure of the LCPA was completed in 2020, with the geomembrane cover system completed on December 30, 2020. Additional aspects of closure were completed in spring 2021 and the unit is closed. Closure of the LCPA triggered the transition of the LCPA into the post-closure care requirements of the CCR Rule. As outlined in §257.104 (Post-closure Care Requirements) of the CCR Rule, the monitoring system and programs must be maintained for at least 30 years. After 30 years, if the unit is in Detection Monitoring, the unit may cease groundwater sampling activities, otherwise post-closure care must continue until the unit can return to Detection Monitoring in accordance with §257.95 (Assessment Monitoring Program).

A Supplemental Remedy Selection Report for the LEC was published in August 2024 by Haley & Aldrich, Inc. on behalf of Ameren. The report details the progress of corrective measures implemented since the 2019 Remedy Selection Report, including the completion of source control activities and ongoing natural attenuation processes. It highlights that the closure of the LCPA, through dewatering and the installation of a low-permeability geomembrane cap, has significantly contributed to reduced infiltration and controlled the release of contaminants. Groundwater monitoring data shows a general trend of decreasing constituent concentrations in many monitoring wells near the LCPA. Additionally, the report outlines future supplemental measures, specifically a groundwater treatment system similar to ones installed at the Rush Island Energy Center and the Sioux Energy Center are under consideration to further enhance groundwater quality and compliance with state and federal regulations.

Sampling for Phase 2 of the corrective measures remedial plan as outlined in the Remedy Selection Report began with the February/April 2021 Corrective Action Sampling Event on February 18, 2021. Since that time, groundwater sampling and statistical evaluations have been completed semi-annually to determine if any constituents within the Corrective Action Monitoring Well Network are statistically in exceedance of the GWPS. A summary of Corrective Action Monitoring activities and associated statistical results for this year is provided in **Table 2**.

Table 2 – Summary of 2024 LCPA Sampling Events and Statistical Evaluations for Corrective Action Monitoring Well Network

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt Date	Parameters Collected	Constituents Statistically Exceeding the GWPS as a Part of Corrective Action Statistical Evaluations	Date Exceedance of GWPS was determined	ASD Completion Date
November 2023 Sampling Event	Phase 2 – Corrective Action Sampling November 15-20, 2023	January 25, 2024	Appendix III, Appendix IV, & Major Cations and Anions	**Arsenic:** LMW-2S** **Lithium:** LMW-7S* **Molybdenum:** LMW-2S, LMW-4S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33[D], MW-34[D], MW-35[D]	April 24, 2024	July 23, 2024
May 2024 Sampling Event	Phase 2 – Corrective Action Sampling May 15-23, 2024	June 25, 2024	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters	**Arsenic:** LMW-2S** **Lithium:** LMW-7S* **Molybdenum:** LMW-2S, LMW-4S, LMW-7S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33[D], MW-34[D], MW-35[D]	September 23, 2024	December 22, 2024
October - November 2024 Sampling Event	Phase 2 – Corrective Action Sampling October 28-November 1, 2024	December 23, 2024	Appendix III, Appendix IV, & Major Cations and Anions	Statistical analysis to evaluate statistical exceedances of the GWPS were not completed in 2024. Results of the statistical evaluation will be included in the 2025 Annual Report.		

Notes:
1) * - Lithium has not historically been identified as an SSL in Assessment Monitoring. Alternative Source Demonstrations (ASDs) were prepared for lithium exceedances at LMW-7S.
2) ** - Arsenic values at LMW-2S were below the GWPS during both the May 2024 and November 2024 sampling event.

While there are exceedances of the GWPS using corrective action statistical analysis methods for arsenic, lithium, and molybdenum, variability in the initial groundwater sampling results after closure of the LCPA is expected, especially at wells in close proximity to the LCPA CCR Unit. Constituents at an SSL are expected to show decreases in concentration over time after stabilization occurs due to closure and corrective measure remedial activities are employed. Future data collection will be used to further constrain calculated statistical confidence limits used for SSL determination.

Alternative Source Demonstrations (ASDs) were completed for the lithium exceedances, demonstrating that these exceedances are not a result of impacts from the LCPA, but instead are the result of natural geochemical variability of groundwater within the alluvial aquifer at the site. Molybdenum and arsenic remain as exceedances within the LCPA Corrective Action Network; therefore, the unit remains in Corrective Action monitoring. However, at the only well within the Corrective Action Network with an arsenic exceedance (LMW-2S), arsenic concentrations were below the site GWPS in both the May 2024 and November 2024 sampling events.

Supplemental Corrective Measures

In addition to MNA as a Corrective Action Remedy at Labadie, Ameren is currently evaluating to determine if the installation of a groundwater treatment system similar to the system at the Rush Island Energy Center (RIEC) is

feasible at LEC. Ameren has received an Underground Injection Control State Operating Permit (UI – 0000045) and is currently completing feasibility studies to determine if installing this technology on the downgradient side (northern side) of the LCPA is a viable solution to supplement MNA at the site.

Overall, Corrective Actions taken by Ameren, including closure of the LCPA with an engineered geomembrane cover system and MNA, has reduced concentrations of key CCR constituents. In monitoring wells downgradient of the LCPA that currently have an exceedance for molybdenum in either the Assessment Monitoring or Corrective Action monitoring networks, average boron concentrations have decreased approximately 10% and average molybdenum concentrations have decreased approximately 8% since 2019 (the last year CCR Unit received CCR waste). After installation of the treatment system, it is expected that the additional remediation system will aid in reducing the concentrations of constituents of concern at the LCPA in coming years. Monitoring and further evaluation of monitoring results will continue, and progress will be tracked in future Annual Reports and statistical evaluations.

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1.0 INSTALLATION OR DECOMMISSIONING OF MONITORING WELLS

There are currently two different networks used for monitoring the LCPA. These include the monitoring well network established under §257.91 for Detection and Assessment Monitoring and the network established under §257.98 for Corrective Action Monitoring, as displayed in **Figure 1**. No new wells were installed or decommissioned in 2024. A summary of the well construction details for monitoring wells in both networks is provided in **Table 3.** Further details, including well construction diagrams for these wells, are provided in previous annual reports for the LCPA.

In April 2024, Rocksmith replaced the protective cover and bumper posts for monitoring wells TP-1, TP-2, TP-3, TP-4, and TP-5. Rocksmith will continue to evaluate the monitoring wells during each sampling event and make repairs as needed. These updates did not affect the integrity of the monitoring wells, only the protective covers and bumper posts protecting the wells.

2.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the LCPA CCR Unit in 2024. **Tables 4** and **5** provide a summary of the groundwater samples collected in 2024 including the number of samples, the date of the sample collection, and the monitoring program for which the samples were collected. **Appendix A** provides laboratory analytical data for CCR Rule sampling events conducted in 2024.

2.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 16-20, 2023. Verification sampling and the statistical analysis to evaluate for SSIs for the November 2023 event were not completed until 2024 and are therefore included in this report. New initial exceedances of Appendix III analytes triggered a verification sampling event, which was completed February 12, 2024, and verified SSIs. **Table 6** summarizes the results and the statistical analysis of the November 2023 Detection Monitoring event. Laboratory analytical data for the November 2023 Detection Monitoring event are provided in the 2023 Groundwater Monitoring and Corrective Action Annual Report for the LCPA.

Detection Monitoring samples were collected May 15-23, 2024, and testing was completed for all Appendix III analytes, as well as major cations and anions. New initial exceedances of Appendix III analytes triggered a verification sampling event, which was completed July 25, 2024, and did not verify any new SSIs. **Table 7** summarizes the results and the statistical analysis of the May 2024 Detection Monitoring event.

A Detection Monitoring sampling event was completed October 28 – November 1, 2024, and testing was completed for all Appendix III analytes, as well as major cations and anions. The statistical analysis to evaluate for SSIs in the October - November 2024 data was not completed in 2024 and will be included in the 2025 Annual Report. **Table 8** summarizes the results of the October - November 2024 Detection Monitoring event.

2.2 Assessment Monitoring Program

An Assessment Monitoring sampling event was completed November 16-20, 2023, and testing was completed for all Appendix IV analytes as well as major cations and anions. **Table 9** summarizes the results of the November 2023 Assessment Monitoring event. Laboratory analytical data for this event are provided in the 2023 Annual Report. The statistical evaluation for this event was completed in 2024 and is included in this report. The results from this analysis and a table that displays the site-specific GWPS for each Appendix IV constituent are provided in **Appendix B.** The SSLs for the LCPA as of November 2023 were identified as follows:

- Molybdenum at UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, and UMW-7D
- Arsenic at UMW-1D

Arsenic has not historically been identified as an SSL in the Assessment Monitoring network, and a review of the data determined that the SSL at monitoring well UMW-1D was not caused by the LCPA CCR Unit. Therefore, an Alternative Source Demonstration (ASD) was completed following the November 2023 sampling event and is provided in **Appendix C**. This ASD concludes that the SSL for arsenic was not a result of impacts from the LCPA but appears to result from natural geochemical variability within the alluvial aquifer.

An Assessment Monitoring sampling event was completed May 15-23, 2024. Testing was completed for all Appendix IV analytes, major cations and anions, and other selected MNA parameters. **Table 10** summarizes the results of the May 2024 Assessment Monitoring event. The statistical evaluation for this event was completed in 2024 and is included in this report as **Appendix D**. As of the May 2024 sampling event, arsenic at UMW-1D is no longer present at an SSL; however, previously identified molybdenum SSLs remain. As of May 2024, SSLs within the Assessment Monitoring network for the LCPA are as follows:

- Molybdenum at UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, and UMW-7D

An Assessment Monitoring sampling event was completed October 28 through November 1, 2024. Testing was completed for all Appendix IV analytes as well as major cations and anions. **Table 11** summarizes the results of the October – November 2024 Assessment Monitoring event; however, the statistical analysis to evaluate SSLs were not completed in 2024. Results of the statistical evaluation will be included in the 2025 Annual Report.

2.3 Corrective Action Monitoring Program

A Corrective Action sampling event was completed November 15-20, 2023. Testing was completed for all Appendix III analytes, Appendix IV analytes and major cations and anions. A summary of the November 2023 Corrective Action sampling event results is provided in **Table 12** and the results of the statistical evaluation for this event are provided in **Appendix E**. Based on this analysis, cobalt is no longer an exceedance of the GWPS at any well in the Corrective Action well network. The remaining exceedances are the same as those reported for the May 2023 sampling event. A summary of constituents displaying statistical exceedances of the GWPS using Corrective Action statistical methods[1] as of the November 2023 sampling event is as follows:

- Arsenic at LMW-2S[2]
- Lithium at LMW-7S
- Molybdenum at LMW-2S, LMW-4S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33(D), MW-34(D), and MW-35(D)

A Corrective Action sampling event was completed May 15-23, 2024. Testing was completed for all Appendix III and IV analytes, major cations and anions, and other selected MNA parameters. A summary of the May 2024 Corrective Action sampling event results is provided in **Table 13**, and the results from the statistical evaluation are provided in **Appendix F**. Molybdenum at LMW-7S is again an exceedance using Corrective Action statistical methods on data through May 2024. This has previously been identified as an exceedance as recently as the statistical evaluation for the November 2021 sampling event but was not an exceedance in subsequent evaluation. All other exceedances identified in the November 2023 statistical evaluation remain, and Corrective Action exceedances as of the May 2024 sampling event are listed below:

- Arsenic at LMW-2S

[1] The statistical testing method used to evaluate the Corrective Action monitoring results is the confidence interval method, which is the same method used during Assessment Monitoring, except the null hypothesis for the confidence intervals is reversed. For Corrective Action, the Unified Guidance states that the appropriate null hypothesis is that the groundwater population (mean) exceeds the Groundwater Protection Standard (GWPS) for those constituents that exceed the GWPS under Assessment Monitoring program. Therefore, in Corrective Action the Upper Confidence Limit (UCL) is compared to the GWPS instead of the Lower Confidence Limit (LCL) [as used during Assessment Monitoring].

[2] Arsenic results at LMW-2S were below the site GWPS for both the May and November 2024 sampling events. Arsenic is an exceedance at this well using Corrective Action statistical methods. However, if Assessment Monitoring statistical methods are used to evaluate arsenic at LMW-2S, it would not be a statistical exceedance.

- Lithium at LMW-7S
- Molybdenum at LMW-2S, LMW-4S, LMW-7S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33(D), MW-34(D), and MW-35(D)

As stated in the Corrective Action GMP, if the statistical evaluation determines that a constituent exceeds the GWPS that was not identified as an SSL in Assessment Monitoring, the data should be evaluated to determine the source of the exceedance. Lithium has not historically been identified as an SSL in Assessment Monitoring, and a review of the data determined that the statistical exceedances at monitoring well LMW-7S (lithium) were not caused by the LCPA CCR Unit. Therefore, ASDs were completed following the November 2023 and May 2024 sampling events and are provided in **Appendices G** and **H**. These ASDs conclude that the statistical exceedances for lithium were not a result of impacts from the LCPA but appear to result from natural geochemical variability within the alluvial aquifer.

While there are exceedances of the GWPS using corrective action statistical analysis methods for arsenic and molybdenum, variability in the initial groundwater sampling results during and directly after closure of the LCPA is expected, especially at wells in close proximity to the LCPA CCR Unit (e.g., LMW-2S). The concentrations reported in these preliminary results are expected to decrease over time as a result of the closure activities, as stabilization occurs, and groundwater treatment corrective measures are put into service.

A Corrective Action sampling event was completed on October 28 through November 1, 2024. Testing was completed for all Appendix III and IV analytes in addition to major cations and anions. **Table 14** summarizes the results of the October - November 2024 Corrective Action event; however, the evaluation for statistical exceedances of the GWPS was not completed in 2024. Results of this statistical evaluation will be included in the 2025 Annual Report.

2.4 Evaluation of Corrective Measures

As discussed above, Ameren obtained an Underground Injection Control Missouri State Operating Permit (UI – 0000045) in 2022. Due to the success of the treatment systems at the Rush Island and Sioux Energy Centers, Ameren is evaluating the feasibility of implementing an additional corrective measure (a pump, treat, and re-inject groundwater treatment system) at the downgradient side of the LCPA, to supplement the MNA at the site.

Ameren commenced Phase 1 of the corrective action remedial plan in September 2019 by initiating closure of the LCPA, which was completed on December 30, 2020. The November 2024 groundwater sampling event represents the eighth groundwater sampling event since closure of the LCPA was completed.

The effectiveness of the Corrective Action Remedies (Corrective Measures) was documented by completing a site-wide evaluation of concentrations of the key site CCR Indicators. **Figures 2** and **3**, below, display the average concentrations for boron and molybdenum in the monitoring wells that currently contain a statistical exceedance for molybdenum in either the Assessment Monitoring or Corrective Action Monitoring Networks for the LCPA. While there is variability in individual well results, the average annual boron and molybdenum concentrations at the site are decreasing as follows:

- **Boron** - Average concentrations in these monitoring wells downgradient of the LCPA have decreased approximately 10% since 2019.
- **Molybdenum** - Average concentrations in these monitoring wells downgradient of the LCPA have decreased approximately 8% since 2019.

Figure 2 - Average Boron Concentrations

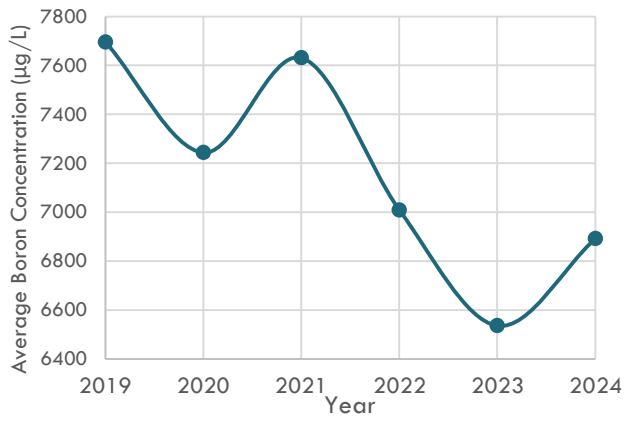
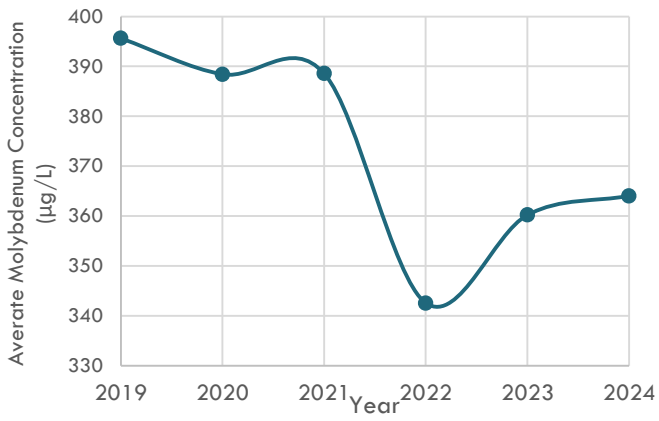


Figure 3 - Average Molybdenum Concentrations



As displayed by these figures, corrective measures taken by Ameren including the closure of the LCPA with an engineered geomembrane system and MNA have been effective at reducing concentrations of key CCR constituents.

Due to the success of the treatment systems at the Rush Island and Sioux Energy Centers, Ameren is evaluating the feasibility of implementing an additional corrective measure (a pump, treat, and re-inject groundwater treatment system) at the downgradient side of the LCPA, to supplement the MNA at the site. Ameren obtained an Underground Injection Control Missouri State Operating Permit (UI – 0000045) in 2022. The future implementation of the groundwater treatment system is expected to supplement the reductions resulting from the corrective measures to date. Groundwater monitoring and evaluation of monitoring results will continue, and progress will be tracked in future Annual Reports and statistical evaluations.

2.5 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 I**. 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 Missouri River. Water flows into and out of the alluvial aquifer because of fluctuating river water levels that produce “bank recharge” and “bank discharge” conditions. Overall, based on the potentiometric surface maps, a general flow direction from the south/southwest (bluffs area) to the north/northeast (Missouri River) is observed under normal river conditions. However, during periods of high river levels, groundwater flow can temporarily reverse, as was observed in May 2024. During these times of high river stage and temporary flow direction changes, horizontal groundwater gradients generally decrease, and little net movement of groundwater occurs. Based on water level measurements collected in 2024, groundwater across the LEC exhibited typical flow towards the Missouri River throughout much of 2024, except in May, when flow was influenced by high river levels and temporarily flowed to the southeast.

Groundwater flow direction and hydraulic gradient were estimated for the alluvial aquifer wells at the LEC using commercially available software. Results from this assessment indicate that, while groundwater flow direction is variable, the overall net groundwater flow in the alluvial aquifer at the LEC is from the bluffs toward the river. Horizontal gradients calculated by the program range from 0.0001 to 0.0009 feet/foot with an estimated net annual groundwater movement of approximately 19 feet per year in the prevailing downgradient direction.

2.6 Sampling Issues

No notable sampling issues were encountered at the LCPA in 2024.

3.0 ACTIVITIES PLANNED FOR 2025

Detection and Assessment Monitoring are scheduled to continue on a semi-annual basis in the second and fourth quarters of 2025. Statistical analysis of the November 2024 Detection and Assessment Monitoring data will be completed in 2025 and will be included in the 2025 Annual Report. 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. After the first semiannual sampling event in 2025, there will be at least 4 new results for each Appendix III parameter. Therefore, background updates are planned to be completed in 2025.

As part of the Phase 2 of the Remedy Selection Report's corrective measures remedial plan, Corrective Action sampling is scheduled to continue on a semi-annual basis in the second and fourth quarters of 2025. Statistical analysis of the November 2024 Corrective Action Monitoring data will be completed in 2025 and will be included in the 2025 Annual Report. Monitoring and statistical evaluation of MNA will be completed in accordance with the corrective measures remedial plan discussed in the Remedy Selection Report.

Evaluation of the effectiveness of Corrective Action and Corrective Measures on CCR constituent concentrations in groundwater will continue in 2025 and be included in the 2025 Annual Report.

Tables

Table 3
Summary of Well Construction Details
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Monitoring Well ID	Installation Date	Location		Top of Casing Elevation	Ground Surface Elevation	Top of Screen Elevation	Base of Well	Total Depth
		Northing[1]	Easting[1]	(FT MSL)[2]	(FT MSL)[2]	(FT MSL)[2]	(FT MSL)[2]	(FT BGS)[3]
CCR RULE COMPLIANCE NETWORK								
UMW-1D	11/19/2015	988822.5	723129.4	489.72	487.8	407.6	397.4	90.4
UMW-2D	11/21/2015	990437.2	722248.6	484.81	482.7	412.7	402.5	80.3
UMW-3D(R)	10/25/2018	991823.5	723545.1	491.13	488.9	409.4	399.2	89.7
UMW-4D	11/24/2015	992512.3	724538.1	494.95	493.2	407.9	397.7	95.5
UMW-5D	11/23/2015	992027.2	725067.9	496.76	494.9	408.2	398.0	96.9
UMW-6D*	11/22/2015	991382.8	725540.9	493.59	492.0	410.4	400.2	91.8
UMW-7D	11/20/2015	990722.8	726032.4	469.79	468.0	412.6	402.4	65.6
UMW-8D	11/19/2015	989892.7	725179.5	469.47	467.5	407.0	396.8	70.6
UMW-9D	11/19/2015	989220.0	724447.8	470.61	468.8	408.9	398.7	70.1
BMW-1D	2/1/2016	988310.6	715138.4	473.54	471.2	410.5	400.3	70.9
BMW-2D	2/2/2016	987204.3	715104.2	474.39	472.4	413.0	402.8	69.6
CORRECTIVE ACTION MONITORING WELL NETWORK								
BMW-1S	2/1/2016	988310.0	715131.6	473.49	471.2	450.7	440.5	30.7
BMW-2S	2/2/2016	987210.1	715104.3	474.56	472.5	454.6	444.4	28.1
LMW-1S	11/20/2015	990727.7	726039.1	470.06	468.1	454.5	444.3	23.8
LMW-2S	11/23/2015	992017.5	725074.2	496.64	494.9	445.8	440.6	54.3
LMW-4S	11/18/2015	994194.9	725624.1	472.88	470.7	448.3	438.1	32.7
LMW-7S	11/20/2015	992330.1	726371.1	468.43	466.7	453.4	443.2	23.5
LMW-8S	11/20/2015	991371.2	726351.3	467.24	465.2	452.2	442.0	23.2
MW-24	3/20/2013	991819.3	727992.3	467.10	464.6	457.3	447.1	17.5
MW-26	3/20/2013	993976.5	726910.9	469.20	466.7	456.4	446.2	20.5
S-1	4/5/2017	994676.8	726055.1	472.64	470.4	453.2	442.9	27.5
TP-1D	6/3/2018	997122.3	734100.3	469.09	465.8	380.1	375.0	90.8
TP-2M	6/2/2018	993865.6	722603.7	471.22	468.2	412.9	407.8	60.5
TP-2D	6/2/2018	993865.6	722603.7	471.22	468.2	374.6	369.5	98.7
TP-3M	6/17/2018	996343.6	725783.7	475.64	472.6	417.8	412.7	59.9
TP-3D	6/17/2018	996343.6	725783.7	475.63	472.6	382.5	377.4	95.2
TP-4D	6/13/2018	999139.8	728578.3	472.08	469.1	379.0	373.9	95.2
MW-33(D)	3/6/2014	995742.0	727409.0	472.15	469.4	402.1	391.9	77.5
MW-34(D)	2/25/2014	995561.0	728820.0	470.19	467.4	401.5	391.3	76.1
MW-35(D)	3/8/2014	992693.0	727536.0	468.59	465.9	398.5	388.3	77.6
AM-1D (UMW-10D)	5/31/2018	995298.6	723827.3	482.78	480.0	409.8	399.6	80.4
AM-1S (UMW-10S)	5/31/2018	995288.1	723817.1	483.00	480.2	454.8	444.6	35.6
AMW-8	6/13/2018	994225.9	726113.0	471.06	468.4	411.1	400.9	67.5

Notes:
1) Horizontal Datum: State Plane Coordinates NAD83 (2000) Missouri East Zone feet.
2) FT MSL- Feet above mean sea level.
3) FT BGS - Feet below ground surface.
4) Vertical Datum: NAVD88 feet.
5) * - UMW-6D was modified on October 15th, 2020 due to construction requirements associated with the closure of the LCPA.

Prepared by: JSI
Checked by: GTM
Reviewed by: MNH

Table 4
Summary of Detection and Assessment Groundwater Network Sampling Dates
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Groundwater Monitoring Wells	Date of Sample Collection				
	February 2024 Verification Sampling	May 2024 Sampling Event	July 2024 verification Sampling	October-November 2024 Sampling Event	Total Number of Samples
CCR Rule Compliance Monitoring Well Network					
BMW-1D	-	5/23/2024	-	10/28/2024	2
BMW-2D	-	5/23/2024	-	10/28/2024	2
UMW-1D	2/12/2024	5/15/2024	7/25/2024	11/1/2024	4
UMW-2D	-	5/22/2024	-	10/28/2024	2
UMW-3D(R)	-	5/15/2024	-	11/1/2024	2
UMW-4D	-	5/15/2024	7/25/2024	10/31/2024	3
UMW-5D	-	5/15/2024	-	11/1/2024	2
UMW-6D	-	5/15/2024	-	11/1/2024	2
UMW-7D	-	5/21/2024	-	10/29/2024	2
UMW-8D	-	5/21/2024	-	10/30/2024	2
UMW-9D	-	5/21/2024	-	10/30/2024	2
Detection or Assessment Monitoring	Detection	Assessment/ Detection	Detection	Assessment/ Detection	NA

Notes:

1.) Detection Monitoring results provided in Tables 6 - 8.

2.) Verification Sampling results provided in Tables 6 & 7.

3.) Assessment Monitoring results provided in Tables 9 - 11.

4.) "-" No sample collected.

5.) NA - Not Applicable.

Prepared by: GTM
Checked by: JTR
Reviewed by: MNH

Table 5
Summary of Corrective Action Groundwater Network Sampling Dates
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Groundwater Monitoring Wells	Date of Sample Collection		
	May 2024 Sampling Event	October-November 2024 Sampling Event	Total Number of Samples
Corrective Action Monitoring Well Network			
BMW-1S	5/23/2024	10/28/2024	2
BMW-2S	5/23/2024	10/28/2024	2
LMW-1S	5/21/2024	10/30/2024	2
LMW-2S	5/15/2024	11/1/2024	2
LMW-4S	5/17/2024	10/30/2024	2
LMW-7S	5/20/2024	10/29/2024	2
LMW-8S	5/20/2024	10/29/2024	2
MW-24	5/22/2024	10/30/2024	2
MW-26	5/22/2024	10/30/2024	2
S-1	5/20/2024	10/30/2024	2
TP-1D	5/22/2024	10/29/2024	2
TP-2M	5/15/2024	11/1/2024	2
TP-2D	5/15/2024	11/1/2024	2
TP-3M	5/21/2024	10/29/2024	2
TP-3D	5/21/2024	10/29/2024	2
TP-4D	5/21/2024	10/29/2024	2
MW-33(D)	5/21/2024	10/30/2024	2
MW-34(D)	5/22/2024	10/30/2024	2
MW-35(D)	5/22/2024	10/30/2024	2
AMW-8	5/17/2024	10/31/2024	2
AM-1D (UMW-10D)	5/22/2024	11/1/2024	2
AM-1S (UMW-10S)	5/22/2024	11/1/2024	2
Event Type	Corrective Action	Corrective Action	NA

Notes:

1.) Corrective Action sampling results provided in Tables 12-14.

2.) NA - Not Applicable.

Prepared by: GTM
Checked by: JTR
Reviewed by: MNH

Table 6
November 2023 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
November 2023 Sampling Event													
DATE	NA	NA	11/16/2023	11/16/2023	11/20/2023	11/16/2023	11/20/2023	11/17/2023	11/20/2023	11/20/2023	11/16/2023	11/16/2023	11/16/2023
pH	SU	6.865-7.474	7.23	7.31	7.18	7.43	8.95	8.37	9.32	8.82	7.17	7.39	7.16
BORON, TOTAL	µg/L	DQR	72.5 J	63.6 J	485	1,080	10,800	6,090	11,100	9,650	803	619	86.5 J
CALCIUM, TOTAL	µg/L	149,838	116,000	135,000	156,000	128,000	75,500	62,800	91,700	125,000	140,000	36,800	115,000
CHLORIDE, TOTAL	mg/L	17.52	6.2	2.0	10.5	27.2	23.0	22.3	20.8	19.6	6.4	2.5	25.9
FLUORIDE, TOTAL	mg/L	0.2975	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20 J	ND
SULFATE, TOTAL	mg/L	53.67	16.7	45.9	17.9	130	263	293	303	648	6.4	8.4	ND
TOTAL DISSOLVED SOLIDS	mg/L	569.9	182	325	596 J	615	515 J	565	645	961	465	128	445
February 2024 Verification Sampling Event													
DATE	NA	NA			2/12/2024								
pH	SU	6.865-7.474											
BORON, TOTAL	µg/L	DQR											
CALCIUM, TOTAL	µg/L	149,838			154,000								
CHLORIDE, TOTAL	mg/L	17.52											
FLUORIDE, TOTAL	mg/L	0.2975											
SULFATE, TOTAL	mg/L	53.67											
TOTAL DISSOLVED SOLIDS	mg/L	569.9											

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

Prepared By: GTM
Checked By: ANT
Reviewed By: MNH

Table 7
May 2024 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
May 2024 Sampling Event													
DATE	NA	NA	5/23/2024	5/23/2024	5/15/2024	5/22/2024	5/15/2024	5/15/2024	5/15/2024	5/15/2024	5/21/2024	5/21/2024	5/21/2024
pH	SU	6.865-7.474	7.23	7.16	6.97	7.20	8.46	8.18	9.19	8.15	7.13	7.23	7.01
BORON, TOTAL	µg/L	DQR	75.1 J	69.6 J	225	872	11,300	8,520	14,400	10,900	1,790	531	77.8 J
CALCIUM, TOTAL	µg/L	149,838	127,000	139,000	145,000	148,000	62,800	64,500	101,000	147,000	144,000	38,200	112,000
CHLORIDE, TOTAL	mg/L	17.52	7.9	4.5	5.4	21.1	24.8	25.8	23.7 J	19.9	1.7	1.9	25.9
FLUORIDE, TOTAL	mg/L	0.2975	ND	ND	0.35	ND	ND	0.22	ND	ND	ND	0.18 J	ND
SULFATE, TOTAL	mg/L	53.67	22.8	23.2	1.3	169	164	308	279 J	595	13.6	7.0	ND
TOTAL DISSOLVED SOLIDS	mg/L	569.9	441	465	542	713	422	580	657	1,010	534	170	426
July 2024 Verification Sampling Event													
DATE	NA	NA			7/25/2024			7/25/2024					
pH	SU	6.865-7.474											
BORON, TOTAL	µg/L	DQR											
CALCIUM, TOTAL	µg/L	149,838											
CHLORIDE, TOTAL	mg/L	17.52											
FLUORIDE, TOTAL	mg/L	0.2975			0.22								
SULFATE, TOTAL	mg/L	53.67											
TOTAL DISSOLVED SOLIDS	mg/L	569.9						565					

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

Prepared By: GTM
Checked By: JTR
Reviewed By: MNH

Table 8
October-November 2024 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
October-November 2024 Detection Monitoring Event												
DATE	NA	10/28/2024	10/28/2024	11/1/2024	10/28/2024	11/1/2024	10/31/2024	11/1/2024	11/1/2024	10/29/2024	10/30/2024	10/30/2024
pH	SU	6.82	6.98	7.06	6.97	8.05	8.37	9.34	8.18	7.08	7.12	7.02
BORON, TOTAL	µg/L	71.2 J	64.1 J	427	976	9,550	9,930	10,700	9,340	808	325	76.9 J
CALCIUM, TOTAL	µg/L	113,000	149,000	149,000	148,000	77,800	66,100	91,200	117,000	101,000	31,700	116,000
CHLORIDE, TOTAL	mg/L	7.4	2.2	9.4	42.6	29.0	26.7	28.8	21.9	7.6	1.1	27.6 J
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	0.27	ND	ND	ND	0.17 J	ND
SULFATE, TOTAL	mg/L	19.7	51.9	27.4	150	281	296	380	487	12.6	ND	0.61 J
TOTAL DISSOLVED SOLIDS	mg/L	431	540	627	707	537	566	641	925	399	149	472

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

Prepared By: JTR
Checked By: VAH
Reviewed By: MNH

Table 9
November 2023 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
FIELD PARAMETERS												
DATE	NA	11/16/2023	11/16/2023	11/20/2023	11/16/2023	11/20/2023	11/17/2023	11/20/2023	11/20/2023	11/16/2023	11/16/2023	11/16/2023
DISSOLVED OXYGEN	mg/L	0.99	0.23	0.51	0.33	0.97	0.55	0.31	0.68	0.18	0.49	0.30
pH	SU	7.23	7.31	7.18	7.43	8.95	8.37	9.32	8.82	7.17	7.39	7.16
REDOX POTENTIAL	mV	1.0	49.4	33.5	27.3	22.5	-34.2	60.9	-52.4	-48.7	-62.0	-117.7
SPECIFIC CONDUCTIVITY	mS/cm	0.707	0.761	1.063	0.924	0.737	0.783	0.827	1.322	0.642	0.276	0.577
TURBIDITY	NTU	4.48	3.22	4.93	3.28	4.97	1.04	1.10	3.22	3.01	4.28	0.90
APPENDIX IV PARAMETERS												
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	2.8	39.4	53.1	0.89 J	10.9	0.13 J	19.2	19.9	29.7	38.4	32.2
BARIUM, TOTAL	µg/L	951	311	551	134	63.4	76.3	88.8	89.7	143	124	496
BERYLLIUM, TOTAL	µg/L	0.21 J	0.20 J	0.19 J	0.15 J	ND	ND	ND	ND	0.18 J	ND	0.20 J
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.11 J	ND	ND	ND	ND	ND
CHROMIUM, TOTAL	µg/L	0.76 J	0.40 J	ND	0.51 J	0.53 J	0.41 J	0.46 J	0.31 J	0.39 J	0.51 J	0.53 J
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20 J	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	29.3	46.3	28.2	30.6	12.0	29.9	17.1	8.6 J	27.2	16.0	18.3
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	1.4 J	1.3 J	2.8 J	31.2	289	335	683	525	85.8	14.3 J	ND
RADIUM [226 + 228]	pCi/L	ND	ND	2.245	1.396	ND	1.495	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	0.30 J	ND	ND	0.26 J	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

Prepared By: JSI
Checked By: ANT
Reviewed By: MMH

Table 10
May 2024 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
FIELD PARAMETERS												
DATE	NA	5/23/2024	5/23/2024	5/15/2024	5/22/2024	5/15/2024	5/15/2024	5/15/2024	5/15/2024	5/21/2024	5/21/2024	5/21/2024
DISSOLVED OXYGEN	mg/L	0.17	0.47	0.57	0.57	0.71	0.49	0.22	0.43	0.49	0.40	0.40
pH	SU	7.23	7.16	6.97	7.20	8.46	8.18	9.19	8.15	7.13	7.23	7.01
REDOX POTENTIAL	mV	-115.3	-137.1	-66.3	-110.6	19.9	-77.4	-125.0	-74.0	-122.2	-144.7	-144.6
SPECIFIC CONDUCTIVITY	mS/cm	0.824	0.834	1.043	1.113	0.637	0.838	0.891	1.442	0.983	0.315	0.886
TURBIDITY	NTU	3.87	2.49	2.20	3.27	2.07	0.94	0.18	0.43	3.85	3.72	2.45
APPENDIX IV PARAMETERS												
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	1.1	30.3	37.3	0.74 J	26.6	0.14 J	13.0	7.7	23.0	31.3	31.7
BARIUM, TOTAL	µg/L	889	359	485	153	52.3	75.6	104	91.3	174	126	483
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	0.094 J	0.13 J	0.24 J	0.17 J	0.065 J	ND	ND
CHROMIUM, TOTAL	µg/L	ND	1.2	0.31 J	0.34 J	ND	0.31 J	ND	ND	ND	ND	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	0.35	ND	ND	0.22	ND	ND	ND	0.18 J	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	30.1	45.3	28.8	36.8	16.8	28.6	33.8	12.5	27.5	15.9	19.2
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	1.3 J	1.4 J	3.9 J	30.4	236	393	693	488	143	14.2 J	1.5 J
RADIUM [226 + 228]	pCi/L	ND	ND	ND	2.254	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	0.29 J	ND	ND	ND	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

Prepared By: GTM
Checked By: JTR
Reviewed By: MNH

Table 11
October-November 2024 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
FIELD PARAMETERS												
DATE	NA	10/28/2024	10/28/2024	11/1/2024	10/28/2024	11/1/2024	10/31/2024	11/1/2024	11/1/2024	10/29/2024	10/30/2024	10/30/2024
DISSOLVED OXYGEN	mg/L	0.15	0.14	0.31	0.53	0.90	0.24	0.27	0.23	0.21	0.11	0.20
pH	SU	6.82	6.98	7.06	6.97	8.05	8.37	9.34	8.18	7.08	7.12	7.02
REDOX POTENTIAL	mV	-45.1	-68.8	-147.0	-17.0	-77.1	-128.0	-155.4	-142.9	-135.6	-152.2	-144.2
SPECIFIC CONDUCTIVITY	mS/cm	0.741	0.888	1.114	1.079	0.758	0.784	0.856	1.313	0.655	0.239	0.882
TURBIDITY	NTU	1.64	1.79	3.86	2.90	1.55	1.17	1.27	3.05	5.36	4.94	2.96
APPENDIX IV PARAMETERS												
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	2.5	36.4	49.8	0.78 J	1.9	ND	16.9	15.7	25.3	29.0	29.2
BARIUM, TOTAL	µg/L	888	346	507	147	62.1	77.2	82.2	73.6	115	110	487
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.14 J	ND	ND	ND	ND	0.29 J
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	0.099 J	0.12 J	0.19 J	0.18 J	ND	ND	ND
CHROMIUM, TOTAL	µg/L	ND	ND	0.37 J	0.45 J	0.31 J	ND	ND	ND	ND	ND	0.33 J
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	0.27	ND	ND	ND	0.17 J	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	27.4	45.5	25.8	31.5	18.6	29.3	21.8	12.4	20.7	12.4	19.9
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	1.5 J	1.5 J	1.7 J	20.6	250	435	644	564	82.8	13.3 J	1.3 J
RADIUM [226 + 228]	pCi/L	ND	ND	2.189	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	0.22 J	ND	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

Prepared By: GTM
Checked By: JTR
Reviewed By: MNH

Table 12
November 2023 Corrective Action Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BMW-1S	BMW-2S	LMW-1S	LMW-2S	LMW-4S	LMW-7S	LMW-8S	MW-24	MW-26	S-1	AM-1S	TP-1D	TP-2M	TP-2D	TP-3M	TP-3D	TP-4D	MW-33(D)	MW-34(D)	MW-35(D)	AMW-8	AM-1D
FIELD PARAMETERS																							
DATE	NA	11/16/2023	11/16/2023	11/16/2023	11/20/2023	11/17/2023	11/15/2023	11/16/2023	11/17/2023	11/17/2023	11/20/2023	11/20/2023	11/15/2023	11/17/2023	11/17/2023	11/15/2023	11/15/2023	11/15/2023	11/16/2023	11/16/2023	11/17/2023	11/16/2023	11/20/2023
DISSOLVED OXYGEN	mg/L	0.24	1.43	0.27	0.23	0.11	0.15	4.01	0.83	0.61	0.34	0.28	0.12	0.53	0.22	0.23	0.35	0.27	0.37	0.35	0.37	0.74	0.30
REDOX POTENTIAL	mV	140.1	57.6	66.2	57.3	-38.9	-3.1	74.1	184.2	128.4	93.7	50.0	-38.5	-30.3	-79.6	-26.3	-69.4	-43.3	-13.1	9.1	87.6	146.7	152.6
SPECIFIC CONDUCTIVITY	mS/cm	1.151	0.784	0.537	0.760	1.035	1.048	0.742	0.184	0.798	0.830	1.340	0.911	1.007	0.812	0.905	1.114	0.893	1.058	1.023	0.987	0.731	1.084
TURBIDITY	NTU	3.20	3.13	4.17	0.58	9.74	8.05	3.59	4.45	3.85	0.89	4.91	4.35	0.36	0.58	2.11	2.73	2.28	4.78	3.89	2.73	4.97	4.49
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	113	50.8 J	1,060	3,450	3,470	6,580	1,550	71.9 J	69.9 J	83.6 J	327	65.8 J	1,190	1,320	5,040	9,620	6,510	9,340	9,760	7,640	6,670	8,410
CALCIUM, TOTAL	µg/L	208,000	150,000	103,000	84,300	178,000	184,000	118,000	128,000	147,000	143,000	188,000	141,000	128,000	101,000	108,000	94,600	125,000	117,000	121,000	120,000	68,200	106,000
CHLORIDE, TOTAL	mg/L	5.3	2.8	4.0	15.0	60.7	13.5	3.9	5.3	10.0	1.6 J	86.0	4.7	28.3	22.6	19.5	23.5	15.0	21.3	19.6	13.0	21.1	35.8
pH	SU	6.71	7.04	7.16	9.54	6.88	6.82	7.02	7.01	7.02	6.81	6.79	7.12	7.57	7.56	7.10	7.52	7.20	7.47	7.36	7.33	7.79	7.35
SULFATE, TOTAL	mg/L	72.4	38.3	41.2	337	116	192	79.2	29.9	37.2	15.5	5.0	13.3	241	165	189	457	183	477	394	219	273	329
TOTAL DISSOLVED SOLIDS	mg/L	692	471	348	533 J	722	607	462	439	434	523	767	498	685	520	604	792	526	834	817	700	510	753
APPENDIX IV PARAMETERS																							
ANTIMONY, TOTAL	µg/L	ND	0.21 J	ND	ND	ND	ND	ND	0.15 J	ND	0.13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	22.2	0.51 J	1.9	45.4	16.4	13.6	3.0	0.66 J	0.58 J	0.59 J	5.6	1.4	0.75 J	12.0	0.42 J	8.6	8.0	3.2	3.6	0.20 J	0.28 J	3.9
BARIUM, TOTAL	µg/L	342	307	111	55.5	178	269	171	175	205	367	647	1,480	162	121	250	64.9	404	137	116	52.9	117	67.9
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20 J	0.15 J	0.18 J	0.17 J	0.16 J	ND	ND	ND	ND	0.14 J	ND	ND
CADMIUM, TOTAL	µg/L	ND	0.075 J	ND	ND	0.054 J	0.061 J	ND	ND	0.082 J	ND	ND	ND	ND	ND	0.095 J	0.15 J	ND	0.26 J	0.25 J	0.17 J	0.11 J	ND
CHROMIUM, TOTAL	µg/L	0.33 J	0.34 J	ND	0.51 J	ND	0.30 J	ND	0.41 J	ND	0.42 J	0.45 J	0.50 J	0.32 J	0.38 J	0.41 J	0.49 J	0.41 J	ND	ND	0.49 J	ND	1.0 J
COBALT, TOTAL	µg/L	1.7 J	ND	ND	ND	2.6 J	3.6 J	ND	ND	ND	1.2 J	3.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	15.9	20.3	12.2	11.6	35.4	48.2	17.6	18.9	31.5	23.3	37.2	26.8	37.8	43.6	33.7	33.2	25.3	34.5	39.1	28.4	15.8	38.2
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	ND	2.6 J	4.0 J	281	50.3	38.6	49.1	2.1 J	1.3 J	ND	2.8 J	ND	68.2	109	259	471	3.5 J	782	750	463	280	344
RADIUM [226 + 228]	pCi/L	2.306	ND	ND	ND	ND	ND	ND	ND	ND	1.276 J	ND	3.160	ND	ND	1.559	ND	2.528	1.000 J	ND	ND	1.429	ND
SELENIUM, TOTAL	µg/L	ND	2.8	18.6	0.22 J	0.49 J	ND	14.8	28.5	3.6	8.2	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																							
ALKALINITY	mg/L	646	381	298	39.2	494	481	365	380	424	473	635	505	286	271	271	119	310	114	186	343	95.6	162
IRON, TOTAL	µg/L	29,900	ND	348	17.0 J	7,670	4,480	454	66.2	ND	13.1 J	11,800	8,560	3,750	3,750	7,970	4,080	5,430	5,710	7,020	5,550	2,640	4,820
MAGNESIUM, TOTAL	µg/L	40,600	23,100	17,400	76.6	30,200	38,800	18,800	24,800	27,500	20,900	37,800	35,700	19,000	18,100	22,900	20,700	32,900	23,800	29,200	27,300	11,000	13,100
MANGANESE, TOTAL	µg/L	2,720	9.7	504	1.9 J	1,840	1,490	30.2	6.2	241	179	1,700	264	570	358	1,270	173	347	309	329	422	327	281
POTASSIUM, TOTAL	µg/L	5,770	6,920	3,810	10,300	7,080	7,950	5,380	5,220	5,170	31,200	7,380	4,300	7,510	5,950	5,310	6,710	4,810	7,650	7,450	5,330	6,480	9,270
SODIUM, TOTAL	µg/L	13,100	4,290	7,330	72,700	61,400	39,600	38,300	7,280	5,980	2,960	50,300	12,700	79,200	64,000	62,400	122,000	28,500	99,100	87,600	75,600	76,500	107,000

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

Prepared By: JSI
Checked By: ANT
Reviewed By: MNH

Table 13
May 2024 Corrective Action Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BMW-1S	BMW-2S	LMW-1S	LMW-2S	LMW-4S	LMW-7S	LMW-8S	MW-24	MW-26	S-1	AM-1S	TP-1D	TP-2M	TP-2D	TP-3M	TP-3D	TP-4D	MW-33(D)	MW-34(D)	MW-35(D)	AMW-8	AM-1D
FIELD PARAMETERS																							
DATE	NA	5/23/2024	5/23/2024	5/21/2024	5/15/2024	5/17/2024	5/20/2024	5/20/2024	5/22/2024	5/22/2024	5/20/2024	5/22/2024	5/22/2024	5/15/2024	5/15/2024	5/21/2024	5/21/2024	5/21/2024	5/21/2024	5/22/2024	5/22/2024	5/17/2024	5/22/2024
DISSOLVED OXYGEN	mg/L	0.29	0.47	0.31	0.12	0.08	0.10	0.10	0.71	1.41	0.91	0.52	0.09	0.30	0.16	0.12	0.10	0.42	0.21	0.24	0.22	0.61	0.36
REDOX POTENTIAL	mV	-117.0	67.1	-77.0	-142.2	-101.0	-34.5	-32.8	47.4	71.3	96.5	63.9	-97.6	-131.2	-129.8	-100.2	-127.7	-112.0	-116.7	-110.8	-99.1	-137.0	-134.0
SPECIFIC CONDUCTIVITY	mS/cm	1.260	0.760	1.004	0.638	1.024	0.929	0.509	0.712	0.816	0.840	1.299	0.937	0.914	0.857	1.029	1.192	0.934	1.150	1.160	1.043	0.845	1.075
TURBIDITY	NTU	8.75	1.30	5.55	0.24	11.4	4.88	7.02	2.30	4.22	4.79	8.09	1.45	6.42	1.47	0.91	0.91	0.83	1.32	1.64	2.21	2.94	4.13
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	92.3 J	53.5 J	1,860	4,070	7,850	8,000	1,510	73.1 J	78.7 J	163	286	67.6 J	826	1,380	7,190	9,410	6,090	8,500	9,110	7,570	8,310	7,580
CALCIUM, TOTAL	µg/L	193,000	128,000	163,000	64,200	96,100	95,400	51,800	110,000	132,000	137,000	194,000	144,000	111,000	98,900	93,300	94,100	121,000	105,000	121,000	124,000	71,000	108,000
CHLORIDE, TOTAL	mg/L	6.9	2.9	4.7	19.8	25.8	16.4	1.8	3.6	7.2	6.2	67.1	4.8	22.4	27.4	30.7	31.6	14.9	28.0 J	20.0	15.5	23.6	49.7 J
pH	SU	6.72	6.98	7.03	9.55	7.09	7.13	7.29	7.08	7.08	6.89	6.73	7.08	7.93	7.91	7.19	7.66	7.16	7.64	7.32	7.31	7.74	7.28
SULFATE, TOTAL	mg/L	65.6	41.9	180	206	197	243	39.8	21.9	30.4	19.8	15.7	10.5	127	172	357	445 J	173	430	421	254	262	351 J
TOTAL DISSOLVED SOLIDS	mg/L	675	502	637	409	555	602	260	409	487	451	720	498	560	528	640	773	601	730	837	690	530 J	715
APPENDIX IV PARAMETERS																							
ANTIMONY, TOTAL	µg/L	ND	0.21 J	ND	ND	ND	ND	ND	0.18 J	0.13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	35.5	0.45 J	9.4	39.8	26.4	14.9	12.0	0.72 J	0.43 J	0.66 J	1.1	1.2	0.52 J	11.6	0.51 J	6.8	6.9	1.1	3.1	0.17 J	0.35 J	2.5
BARIUM, TOTAL	µg/L	308	254	231	38.2	126	152	116	144	183	357	527	1,510	135	115	232	72.8	383	117	114	61.7	115	72.2
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	0.069 J	ND	0.086 J	0.097 J	0.16 J	ND	ND	0.14 J	ND	ND	ND	ND	0.15 J	0.19 J	ND	0.25 J	0.24 J	0.19 J	0.14 J	0.10 J
CHROMIUM, TOTAL	µg/L	ND	ND	ND	ND	0.37 J	0.31 J	0.37 J	0.44 J	0.53 J	0.31 J	ND	0.39 J	0.64 J	ND	ND	0.33 J	0.34 J	ND	ND	0.39 J	0.37 J	0.35 J
COBALT, TOTAL	µg/L	ND	ND	2.5 J	ND	ND	1.3 J	ND	ND	ND	2.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14 J	ND	ND	ND	ND	ND	ND	ND	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	22.6	24.1	18.0	14.2	31.9	30.5	14.8	15.5	30.8	30.7	35.4	27.2	34.7	44.5	29.3	35.1	23.2	33.7	37.9	29.2	20.8	33.7
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	1.3 J	3.0 J	5.4 J	127	204	222	292	2.1 J	1.4 J	ND	ND	ND	53.9	97.6	367	517	ND	667	747	495	367	288
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.444	1.882	ND	1.955	ND	2.682	ND	ND	ND	ND	1.774
SELENIUM, TOTAL	µg/L	ND	ND	0.42 J	0.20 J	ND	ND	0.32 J	22.7	1.8	0.62 J	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																							
ALKALINITY	mg/L	690	385	397	47.8	289	229	214	349	443	439	658	526	334	275	149	126	327	128	169	326	86.3	193
IRON, FERRIC, TOTAL	mg/L	29.7	0.0 J	3.2	0.0 J	7.6	2.2	1.3	0.0 J	0.0 J	0.11 J	0.054	7.7	3.7	3.4	3.0	3.0 J	4.5	2.8 J	5.9	4.9	2.1	4.3
IRON, FERROUS, TOTAL	mg/L	1.5 J	ND	1.0 J	0.068 J	0.68 J	0.71 J	0.18 J	0.044 J	0.068 J	0.044 J	0.65 J	1.2 J	0.28 J	0.24 J	3.5 J	1.2 J	1.1 J	2.7 J	1.2 J	1.2 J	0.38 J	1.1 J
IRON, TOTAL	µg/L	31,200	ND	4,240	ND	8,260	2,960	1,470	ND	ND	153	706	8,850	4,000	3,600	6,490	4,200	5,640	5,470	7,070	6,070	2,470	5,370
MAGNESIUM, TOTAL	µg/L	43,600	20,200	28,600	90.5	18,800	20,100	8,700	21,400	24,800	21,600	40,200	36,000	17,300	17,400	19,200	20,400	31,000	22,500	28,000	28,000	8,640	13,500
MANGANESE, TOTAL	µg/L	2,490	2.9 J	1,680	1.1 J	1,500	758	466	6.0	180	960	301	259	536	316	1,010	164	326	320	313	402	329	297
POTASSIUM, TOTAL	µg/L	5,520	6,150	4,660	9,010	6,120	6,070	3,790	4,480	4,460	23,400	7,160	4,580	6,780	5,600	5,030	6,830	4,680	6,620	7,260	5,380	6,360	8,050
SODIUM, TOTAL	µg/L	15,500	5,110	9,830	66,100	91,000	70,300	28,300	6,710	5,830	4,340	42,000	13,700	62,700	58,400	88,500	120,000	27,500	90,600	86,400	68,900	77,500	102,000
SULFIDE, TOTAL	mg/L	ND	ND	ND	0.018 J	ND	ND	ND	ND	ND	ND	ND	0.016 J	ND	ND	ND	0.019 J	ND	ND	0.021 J	0.028 J	ND	ND

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

Prepared By: JSI
Checked By: JTA
Reviewed By: MNH

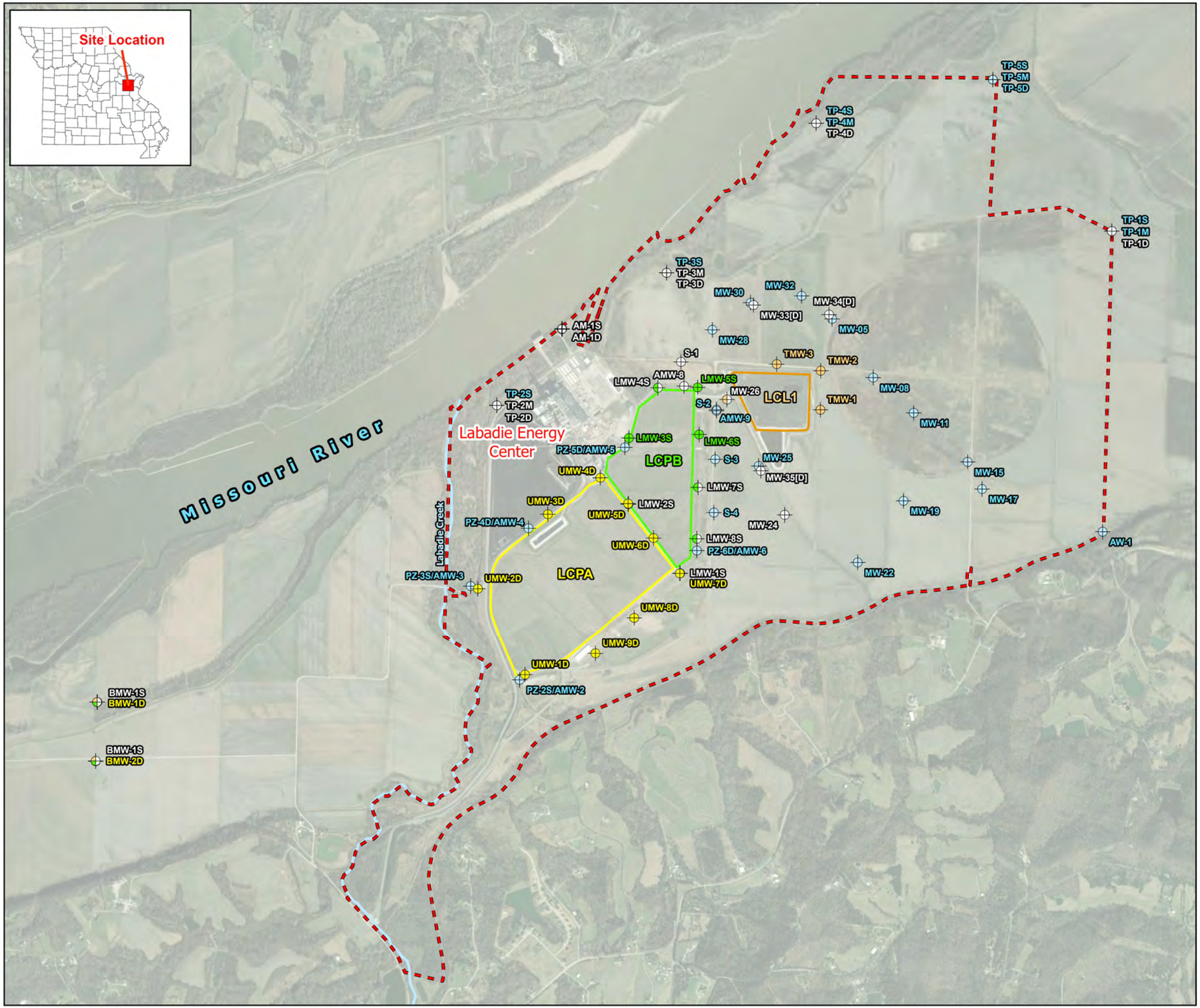
Table 14
October-November 2024 Corrective Action Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BMW-1S	BMW-2S	LMW-1S	LMW-2S	LMW-4S	LMW-7S	LMW-8S	MW-24	MW-26	S-1	AM-1S	TP-1D	TP-2M	TP-2D	TP-3M	TP-3D	TP-4D	MW-33(D)	MW-34(D)	MW-35(D)	AMW-8	AM-1D
FIELD PARAMETERS																							
DATE	NA	10/28/2024	10/28/2024	10/30/2024	11/1/2024	10/30/2024	10/29/2024	10/29/2024	10/30/2024	10/30/2024	10/30/2024	11/1/2024	10/29/2024	11/1/2024	11/1/2024	10/29/2024	10/29/2024	10/29/2024	10/30/2024	10/30/2024	10/30/2024	10/31/2024	11/1/2024
DISSOLVED OXYGEN	mg/L	0.15	3.04	0.23	0.24	0.92	0.49	2.01	0.24	2.74	0.24	0.13	0.12	0.24	0.19	0.12	0.14	0.14	0.25	0.24	0.24	1.40	0.12
REDOX POTENTIAL	mV	-42.2	129.6	47.6	-114.1	-46.2	-25.7	112.0	116.0	126.4	133.7	64.2	49.4	6.8	-19.4	48.3	45.0	55.4	14.5	48.8	84.8	-113.2	2.7
SPECIFIC CONDUCTIVITY	mS/cm	1.234	0.732	0.613	0.742	1.320	0.846	0.404	0.681	0.842	0.772	1.375	0.847	0.980	0.930	0.885	1.074	0.872	1.275	0.979	0.901	0.787	1.110
TURBIDITY	NTU	1.66	0.80	4.95	1.61	8.29	4.19	3.85	0.96	1.04	1.30	4.10	1.22	3.72	0.63	1.26	1.24	1.83	0.94	0.84	1.04	1.47	3.94
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	84.8 J	45.4 J	772	3,490	2,950	4,870	721	110	61.4 J	93.7 J	316	59.1 J	1,430	2,440	4,440	9,310	6,840	8,010	9,190	6,760	6,890	7,540
CALCIUM, TOTAL	µg/L	202,000	121,000	99,700	73,800	168,000	162,000	82,300	124,000	157,000	152,000	187,000	139,000	106,000	102,000	118,000	98,800	127,000	148,000	110,000	121,000	67,200	110,000
CHLORIDE, TOTAL	mg/L	4.5	1.8	2.1	20.0	86.4	9.2	1.2	5.3	17.7	2.4	115 J	3.1	29.8	35.7	25.5	31.8	16.1	27.2	24.0	13.3	30.0	55.2
pH	SU	6.47	6.92	6.94	9.56	6.77	6.79	6.97	6.46	6.67	6.63	6.28	6.87	7.36	7.09	6.71	6.86	6.67	7.05	6.90	6.93	7.63	7.03
SULFATE, TOTAL	mg/L	95.1	13.7	22.5	326 J	106	149	24.7	29.0	28.5	21.5 J	14.9 J	21.5	211 J	194 J	164	532 J	221	671	376	167	274	358 J
TOTAL DISSOLVED SOLIDS	mg/L	744	436	364	506	777	697	349	454	572	527	788	536	592	581	613	869	628	176	773	695	544	732
APPENDIX IV PARAMETERS																							
ANTIMONY, TOTAL	µg/L	ND	0.20 J	ND	ND	ND	ND	ND	0.19 J	0.12 J	0.16 J	ND	ND	ND	0.20 J	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	18.0	0.41 J	2.3	39.6	18.1	11.7	3.0	0.91 J	0.47 J	0.49 J	2.0	1.2	0.40 J	10.8	0.36 J	6.5	7.5	3.2	3.3	0.14 J	0.16 J	4.0
BARIUM, TOTAL	µg/L	329	236	125	45.4	161	222	161	175	226	373	584	1,440	132	122	263	75.7	388	143	102	57.6	111	69.2
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.33 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	0.051 J	0.063 J	0.072 J	0.057 J	0.097 J	ND	0.066 J	ND	0.089 J	0.11 J	ND	ND	0.058 J	0.074 J	0.19 J	ND	0.26 J	0.27 J	0.15 J	0.11 J	0.12 J
CHROMIUM, TOTAL	µg/L	ND	ND	1.7	0.33 J	0.38 J	ND	ND	ND	2.1	1.7	0.34 J	ND	0.39 J	0.33 J	0.36 J	ND	ND	1.9 J	1.6	1.9	1.7 J	0.64 J
COBALT, TOTAL	µg/L	1.7 J	ND	ND	ND	2.6 J	2.5 J	ND	ND	ND	ND	2.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	0.21	ND	ND	ND	ND	ND	ND	0.22	ND	ND	ND	ND	ND	ND	0.21	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	17.2	17.6	13.1	14.4	32.2	39.9	16.6	23.3	28.6	24.7	36.6	23.2	33.9	39.5	35.8	31.1	25.3	37.0	35.7	27.3	20.7	33.5
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	ND	1.9 J	3.0 J	209	62.3	69.9	53.5	1.3 J	ND	ND	1.8 J	ND	82.8	124	207	497	4.1 J	661	738	387	285	329
RADIUM [226 + 228]	pCi/L	2.47	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.28	ND	ND	2.25	ND	3.17 J	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	7.0	3.0	ND	0.41 J	2.0	1.5	12.4	6.2	8.5	0.49 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																							
ALKALINITY	mg/L	628	353	314	41.0	506	473	294	377	469	495	599	506	275	264	332	119	312	98.1	197	387	98.1	175
IRON, TOTAL	µg/L	27,000	ND	663	ND	5,850	2,840	426	ND	46.2 J	37.4 J	7,160	8,290	3,770	3,980	8,840	4,540	5,730	7,090	6,280	5,750	2,390	5,730
MAGNESIUM, TOTAL	µg/L	36,700	17,600	16,000	97.8	26,900	30,400	12,900	24,100	27,600	21,100	37,800	34,100	16,200	18,000	24,400	21,100	32,500	29,200	25,400	27,500	11,900	13,100
MANGANESE, TOTAL	µg/L	2,570	3.4 J	454	ND	1,540	966	71.2	24.2	79.2	196	1,130	241	467	360	1,390	178	352	392	291	415	327	285
POTASSIUM, TOTAL	µg/L	5,040	5,320	4,330	9,330	6,830	6,820	4,360	5,780	4,900	27,200	7,070	4,140	6,740	5,770	5,680	6,980	4,990	8,350	7,190	5,470	5,880	8,560
SODIUM, TOTAL	µg/L	10,900	4,600	7,700	68,100	64,800	38,200	26,700	7,590	7,530	5,500	49,800	10,900	71,800	64,200	55,800	119,000	28,600	108,000	81,900	64,600	78,100	106,000

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

Prepared By: GTM
Checked By: JTR
Reviewed By: MNH

Figures



TITLE

LABADIE ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

Legend

Approximate Property Boundary

Labadie Energy Center CCR Units

- LCPA - Closed Bottom Ash Surface Impoundment
- LCPB - Closed Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1

Monitoring Well Network

- Corrective Action Monitoring Well
- LCPA Monitoring Well
- LCPB Monitoring Well
- LCPB and Corrective Action Monitoring Well
- LCL1 Monitoring Well
- LCL1 and Corrective Action Monitoring Well
- Background Well Used for LCPA, Corrective Action, LCPB, and LCL1 Monitoring
- Monitoring Well Used for Water Level Elevation Measurements Only

NOTES

1. All locations and boundaries are approximate.

REFERENCES

1. Zahner and Associates, Inc. 2016. Lot Consolidation Plat of "Labadie Energy Center" - Prepared for Ameren Missouri. Revised June 15, 2016.
2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 5001,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-01-08
PREPARED	JSI	PROJECT No	23007-24
REVIEW	GTM		
APPROVED	MNH		

FIGURE 1

Path: C:\Users\JackRasmussen\Rocksmith Geoengineering LLC\23007 - Ameren GW - Documents\400 - Drawings, Figures\4.1 LEO\4.1.2 - Production\Other Maps\Annual Report Figure 1.aprx

Appendix A
Laboratory Analytical Data

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

March 05, 2024

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

RE: Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2024. 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.

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CERTIFICATIONS

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 88-00679
Illinois Certification #: 2000302023-5
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-23-17
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60447271001	**L-UMW-1D**	Water	02/12/24 10:10	02/14/24 05:44
60447271002	**L-UMW-DUP-1**	Water	02/12/24 00:00	02/14/24 05:44
60447271003	**L-UMW-FB-1**	Water	02/12/24 10:25	02/14/24 05:44

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60447271001	**L-UMW-1D**	EPA 200.7	JXD	1	PASI-K
		EPA 200.8	JGP	1	PASI-K
60447271002	**L-UMW-DUP-1**	EPA 200.7	JXD	1	PASI-K
		EPA 200.8	JGP	1	PASI-K
60447271003	**L-UMW-FB-1**	EPA 200.7	JXD	1	PASI-K
		EPA 200.8	JGP	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Sample: L-UMW-1D **Lab ID: 60447271001** Collected: 02/12/24 10:10 Received: 02/14/24 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	**154000**	ug/L	200	26.9	1	02/19/24 11:41	02/21/24 13:57	7440-70-2	M1
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**53.1**	ug/L	1.0	0.13	1	02/19/24 15:18	03/05/24 10:51	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Sample: L-UMW-DUP-1 **Lab ID: 60447271002** Collected: 02/12/24 00:00 Received: 02/14/24 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	**151000**	ug/L	200	26.9	1	02/19/24 11:41	02/21/24 14:03	7440-70-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**55.6**	ug/L	1.0	0.13	1	02/19/24 15:18	03/05/24 11:00	7440-38-2	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Sample: L-UMW-FB-1 **Lab ID: 60447271003** Collected: 02/12/24 10:25 Received: 02/14/24 05:44 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	**<26.9**	ug/L	200	26.9	1	02/19/24 11:41	02/21/24 14:17	7440-70-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**<0.13**	ug/L	1.0	0.13	1	02/19/24 15:18	03/05/24 11:05	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

QC Batch: 883662
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60447271001, 60447271002, 60447271003

METHOD BLANK: 3497914 Matrix: Water
Associated Lab Samples: 60447271001, 60447271002, 60447271003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<26.9	200	26.9	02/21/24 13:52	

LABORATORY CONTROL SAMPLE: 3497915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3497916 3497917

Parameter	Units	60447271001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	154000	10000	10000	158000	161000	40	78	70-130	2	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3497918 3497919

Parameter	Units	60447272001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	138000	10000	10000	150000	150000	115	116	70-130	0	20	

MATRIX SPIKE SAMPLE: 3497920

Parameter	Units	60447144002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	85300	10000	104000	187	70-130	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

QC Batch: 883706
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60447271001, 60447271002, 60447271003

METHOD BLANK: 3498238 Matrix: Water
Associated Lab Samples: 60447271001, 60447271002, 60447271003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	03/05/24 10:31	

LABORATORY CONTROL SAMPLE: 3498239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	40.2	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3498240 3498241

Parameter	Units	60447271001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	53.1	40	40	97.7	98.0	111	112	70-130	0	20	

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

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QUALIFIERS

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-VERIFICATION SAMP.
Pace Project No.: 60447271

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60447271001	**L-UMW-1D**	EPA 200.7	883662	EPA 200.7	883675
60447271002	**L-UMW-DUP-1**	EPA 200.7	883662	EPA 200.7	883675
60447271003	**L-UMW-FB-1**	EPA 200.7	883662	EPA 200.7	883675
60447271001	**L-UMW-1D**	EPA 200.8	883706	EPA 200.8	883736
60447271002	**L-UMW-DUP-1**	EPA 200.8	883706	EPA 200.8	883736
60447271003	**L-UMW-FB-1**	EPA 200.8	883706	EPA 200.8	883736

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WO# : 60447271

60447271

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

Client Name: Rocksmith Geoenv

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

Cooler Temperature (°C): **As-read** 0.6 **Corr. Factor** -0.3 **Corrected** 0.3

Date and initials of person examining contents: PV 2/16/24

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 67187	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Rocksmith Geoengineering, LLC
Address:	5233 Roanoke Drive
	St. Charles, MO 63304
Email To:	mark.haddock@rocksmithgeo.com
Phone: 314-974-5678	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Mark Haddock
Copy To:	Jeffery Ingram, Grant Morey
Purchase Order No.:	COC #1
Project Name:	Ameren LCPA - Verification Sampling
Project Number:	COC#1

Section C Invoice Information:

Attention:	
Company Name:	Rocksmith
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	15856, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Calcium (200.7)	Arsenic (200.8)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
	Requested Analysis Filtered (Y/N)																		N	N		
1	L-UMW-1D	WT	G			2-12-24	1010	*	1	1									✓	✓		60447271
2	L-UMW-DUP-1	WT	G				—	*	1	1									✓	✓		
3	L-UMW-FB-1	WT	G				1025		1	1									✓	✓		
4	L-UMW-MS-1	WT	G				1010		1	1									✓	✓		Collected @ L-UMW-1D
5	L-UMW-MSD-1	WT	G				1010		1	1									✓	✓		"
6		WT	G																			
7		WT	G																			
8		WT	G																			
9		WT	G																			
10		WT	G																			
11		WT	G																			
12		WT	G																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	2-13-24	1545	[signature]	2/14	0544	0-3	X	X	X

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Grant Morey

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 02/13/24

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

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

Client: Rocksmith Eng

Profile # 15856-1

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	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																						3									
2	↓																						1									
3																							1									
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass				Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1C	1L NAOH plastic	I	Wipe/Swab
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NAOH plastic	R	Terracore Kit
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic	U	Summa Can
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S	500mL H2SO4 plastic		
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate	Matrix	
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3C	250mL NaOH plastic		
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic	NAL	Non-aqueous Liquid
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic	OL	OIL
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate	WP	Wipe
				BP4U	125mL unpreserved plastic	DW	Drinking Water
				BP4N	125mL HNO3 plastic		
				BP4S	125mL H2SO4 plastic		
				WPDU	16oz unpresserved plstic		

Work Order Number: 60447271

Memorandum

March 27, 2024

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23007
CC:	Mark Haddock, Jeffrey Ingram		
From:	Grant Morey	**Email:**	Grant.Morey@Rocksmithgeo.com
RE:	**Data Validation Summary, Labadie Energy Center – LCPA Verification – Data Package 60447271**		

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

- None.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren LCPA Verification
Project Number: 23007
Reviewer: G. Morey
Validation Date: 3/27/2024

Laboratory: Pace Analytical
SDG #: 60447271
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names L-UMW-1D, L-UMW-DUP-1, L-UMW-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			2/12/2024
b) Sampling team indicated?	x			GTM
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?		x		

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	L-UMW-DUP-1 @ L-UMW-1D
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	
c) Were lab duplicates analyzed (note original and duplicate samples)?	☐	☒	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☒	

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

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

Comments/Notes:

MS/MSD:

3497916/3497917: MS recovery low for calcium, MSD recovery and RPD within control limits, associated with sample -001, no qualification necessary.

3497920: MS recovery high for calcium, associated with unrelated sample, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Grant Morey Date: 3/27/2024

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

January 07, 2025

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

RE: Project: AMEREN LCPA
Pace Project No.: 60453166

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between May 17, 2024 and May 24, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

REV-1, Report revised to remove parameters not required under the CCR Rule.

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 LCPA
Pace Project No.: 60453166

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Arkansas Certification #: 88-00679
Colorado Division of Oil and Public Safety
Illinois Certification #: 2000302023-6
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 LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60453166001	**L-UMW-1D**	Water	05/15/24 10:05	05/17/24 05:30
60453166002	**L-UMW-3D**	Water	05/15/24 15:10	05/17/24 05:30
60453166003	**L-UMW-4D**	Water	05/15/24 15:40	05/17/24 05:30
60453166004	**L-UMW-5D**	Water	05/15/24 09:43	05/17/24 05:30
60453166005	**L-UMW-6D**	Water	05/15/24 14:22	05/17/24 05:30
60453166006	**L-UMW-DUP-1**	Water	05/15/24 08:00	05/17/24 05:30
60453166007	**L-UMW-DUP-2**	Water	05/15/24 08:00	05/17/24 05:30
60453166008	**L-UMW-FB-1**	Water	05/15/24 14:10	05/17/24 05:30
60453166009	**L-UMW-MS-1**	Water	05/15/24 09:43	05/17/24 05:30
60453166010	**L-UMW-MSD-1**	Water	05/15/24 09:43	05/17/24 05:30
60453166011	**L-UMW-7D**	Water	05/21/24 12:59	05/22/24 05:50
60453166012	**L-UMW-8D**	Water	05/21/24 11:42	05/22/24 05:50
60453166013	**L-UMW-9D**	Water	05/21/24 09:55	05/22/24 05:50
60453166014	**L-UMW-FB-2**	Water	05/21/24 10:18	05/22/24 05:50
60453166015	**L-UMW-2D**	Water	05/22/24 14:47	05/24/24 05:00
60453166016	**L-BMW-2D**	Water	05/23/24 09:25	05/24/24 05:00
60453166017	**L-BMW-1D**	Water	05/23/24 10:45	05/24/24 05:00

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60453166001	**L-UMW-1D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166002	**L-UMW-3D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166003	**L-UMW-4D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166004	**L-UMW-5D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166005	**L-UMW-6D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166006	**L-UMW-DUP-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166007	**L-UMW-DUP-2**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166008	**L-UMW-FB-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166009	**L-UMW-MS-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60453166010	**L-UMW-MSD-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60453166011	**L-UMW-7D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166012	**L-UMW-8D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166013	**L-UMW-9D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166014	**L-UMW-FB-2**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166015	**L-UMW-2D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60453166016	**L-BMW-2D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453166017	**L-BMW-1D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-1D **Lab ID: 60453166001** Collected: 05/15/24 10:05 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**485**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:21	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:21	7440-41-7	
Boron	**225**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:21	7440-42-8	
Calcium	**145000**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:21	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:21	7440-48-4	
Iron	**18600**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:21	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:21	7439-92-1	
Lithium	**28.8**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:21	7439-93-2	
Magnesium	**34600**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:21	7439-95-4	
Manganese	**454**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:21	7439-96-5	
Molybdenum	**3.9J**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:21	7439-98-7	
Potassium	**5760**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:21	7440-09-7	
Sodium	**13800**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:21	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 10:30	7440-36-0	
Arsenic	**37.3**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 10:30	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 10:30	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 10:30	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 10:30	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 10:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 13:45	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**565**	mg/L	20.0	10.5	1		05/27/24 16:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**542**	mg/L	10.0	10.0	1		05/20/24 10:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**17.8**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.86**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-1D **Lab ID: 60453166001** Collected: 05/15/24 10:05 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**5.4**	mg/L	1.0	0.53	1		06/06/24 19:29	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.12	1		06/06/24 19:29	16984-48-8	N2
Sulfate	**1.3**	mg/L	1.0	0.55	1		06/06/24 19:29	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-3D **Lab ID: 60453166002** Collected: 05/15/24 15:10 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**52.3**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:23	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:23	7440-41-7	
Boron	**11300**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:23	7440-42-8	
Calcium	**62800**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:23	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:23	7440-48-4	
Iron	**67.0**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:23	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:23	7439-92-1	
Lithium	**16.8**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:23	7439-93-2	
Magnesium	**2080**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:23	7439-95-4	
Manganese	**56.3**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:23	7439-96-5	
Molybdenum	**236**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:23	7439-98-7	
Potassium	**9970**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:23	7440-09-7	
Sodium	**65000**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:23	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 10:33	7440-36-0	
Arsenic	**26.6**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 10:33	7440-38-2	
Cadmium	**0.094J**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 10:33	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 10:33	7440-47-3	
Selenium	**0.29J**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 10:33	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 10:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 13:47	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**86.0**	mg/L	20.0	10.5	1		05/27/24 17:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**422**	mg/L	10.0	10.0	1		05/20/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.13J**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-3D **Lab ID: 60453166002** Collected: 05/15/24 15:10 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.18**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.8**	mg/L	20.0	10.5	20		06/06/24 20:19	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/06/24 20:02	16984-48-8	N2
Sulfate	**164**	mg/L	20.0	11.0	20		06/06/24 20:19	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-4D **Lab ID: 60453166003** Collected: 05/15/24 15:40 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**75.6**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:25	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:25	7440-41-7	
Boron	**8520**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:25	7440-42-8	
Calcium	**64500**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:25	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:25	7440-48-4	
Iron	**268**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:25	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:25	7439-92-1	
Lithium	**28.6**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:25	7439-93-2	
Magnesium	**6720**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:25	7439-95-4	
Manganese	**343**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:25	7439-96-5	
Molybdenum	**393**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:25	7439-98-7	
Potassium	**8190**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:25	7440-09-7	
Sodium	**88400**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:25	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 10:36	7440-36-0	
Arsenic	**0.14J**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 10:36	7440-38-2	
Cadmium	**0.13J**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 10:36	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 10:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 10:36	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 10:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 13:50	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**78.8**	mg/L	20.0	10.5	1		05/27/24 17:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**580**	mg/L	10.0	10.0	1		05/20/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.074**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.19J**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-4D **Lab ID: 60453166003** Collected: 05/15/24 15:40 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.018J**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.8**	mg/L	20.0	10.5	20		06/06/24 09:45	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.12	1		06/10/24 20:29	16984-48-8	N2
Sulfate	**308**	mg/L	20.0	11.0	20		06/06/24 09:45	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-5D **Lab ID: 60453166004** Collected: 05/15/24 09:43 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**104**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:27	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:27	7440-41-7	
Boron	**14400**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:27	7440-42-8	M1
Calcium	**101000**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:27	7440-70-2	M1
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:27	7440-48-4	
Iron	**16.6J**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:27	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:27	7439-92-1	
Lithium	**33.8**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:27	7439-93-2	
Magnesium	**32.9J**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:27	7439-95-4	
Manganese	**13.0**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:27	7439-96-5	
Molybdenum	**693**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:27	7439-98-7	
Potassium	**16100**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:27	7440-09-7	
Sodium	**82700**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:27	7440-23-5	M1
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 10:52	7440-36-0	
Arsenic	**13.0**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 10:52	7440-38-2	
Cadmium	**0.24J**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 10:52	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 10:52	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 10:52	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 10:52	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 13:52	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**120**	mg/L	20.0	10.5	1		05/27/24 17:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**657**	mg/L	10.0	10.0	1		05/20/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.11J**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-5D **Lab ID: 60453166004** Collected: 05/15/24 09:43 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.28**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	M1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**23.7**	mg/L	20.0	10.5	20		06/06/24 09:59	16887-00-6	M1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/10/24 20:41	16984-48-8	M1,N2
Sulfate	**279**	mg/L	20.0	11.0	20		06/06/24 09:59	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-6D **Lab ID: 60453166005** Collected: 05/15/24 14:22 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**91.3**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:38	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:38	7440-41-7	
Boron	**10900**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:38	7440-42-8	
Calcium	**147000**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:38	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:38	7440-48-4	
Iron	**1160**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:38	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:38	7439-92-1	
Lithium	**12.5**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:38	7439-93-2	
Magnesium	**6840**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:38	7439-95-4	
Manganese	**699**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:38	7439-96-5	
Molybdenum	**488**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:38	7439-98-7	
Potassium	**16600**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:38	7440-09-7	
Sodium	**153000**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 11:03	7440-36-0	
Arsenic	**7.7**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 11:03	7440-38-2	
Cadmium	**0.17J**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 11:03	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 11:03	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 11:03	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 11:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 13:59	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**68.8**	mg/L	20.0	10.5	1		05/24/24 16:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1010**	mg/L	13.3	13.3	1		05/20/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.93**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.23**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-6D **Lab ID: 60453166005** Collected: 05/15/24 14:22 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.037J**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.9**	mg/L	1.0	0.53	1		06/10/24 21:31	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/10/24 21:31	16984-48-8	N2
Sulfate	**595**	mg/L	100	55.0	100		06/06/24 11:14	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-DUP-1 **Lab ID: 60453166006** Collected: 05/15/24 08:00 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**73.8**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:40	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:40	7440-41-7	
Boron	**8520**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:40	7440-42-8	
Calcium	**63300**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:40	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:40	7440-48-4	
Iron	**242**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:40	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:40	7439-92-1	
Lithium	**28.4**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:40	7439-93-2	
Magnesium	**6490**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:40	7439-95-4	
Manganese	**319**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:40	7439-96-5	
Molybdenum	**383**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:40	7439-98-7	
Potassium	**8100**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:40	7440-09-7	
Sodium	**86000**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:40	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 11:06	7440-36-0	
Arsenic	**0.16J**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 11:06	7440-38-2	
Cadmium	**0.13J**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 11:06	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 11:06	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 11:06	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 11:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:01	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**72.7**	mg/L	20.0	10.5	1		05/24/24 16:19		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**573**	mg/L	10.0	10.0	1		05/20/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.048J**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.19J**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-DUP-1 **Lab ID: 60453166006** Collected: 05/15/24 08:00 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.019J**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.6**	mg/L	10.0	5.3	10		06/06/24 11:29	16887-00-6	
Fluoride	**0.20**	mg/L	0.20	0.12	1		06/10/24 22:08	16984-48-8	N2
Sulfate	**300**	mg/L	10.0	5.5	10		06/06/24 11:29	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-DUP-2 **Lab ID: 60453166007** Collected: 05/15/24 08:00 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**52.4**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:42	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:42	7440-41-7	
Boron	**11300**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:42	7440-42-8	
Calcium	**62200**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:42	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:42	7440-48-4	
Iron	**65.1**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:42	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:42	7439-92-1	
Lithium	**16.7**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:42	7439-93-2	
Magnesium	**2040**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:42	7439-95-4	
Manganese	**55.2**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:42	7439-96-5	
Molybdenum	**232**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:42	7439-98-7	
Potassium	**9970**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:42	7440-09-7	
Sodium	**64700**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:42	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 11:09	7440-36-0	
Arsenic	**27.2**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 11:09	7440-38-2	
Cadmium	**0.087J**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 11:09	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 11:09	7440-47-3	
Selenium	**0.23J**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 11:09	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 11:09	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:08	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**86.7**	mg/L	20.0	10.5	1		05/24/24 16:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**434**	mg/L	10.0	10.0	1		05/20/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.13J**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-DUP-2 **Lab ID: 60453166007** Collected: 05/15/24 08:00 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.17**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.5**	mg/L	10.0	5.3	10		06/10/24 22:20	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 14:10	16984-48-8	N2
Sulfate	**198**	mg/L	10.0	5.5	10		06/10/24 22:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-FB-1 **Lab ID: 60453166008** Collected: 05/15/24 14:10 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:44	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:44	7440-41-7	
Boron	**16.7J**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:44	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:44	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:44	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:44	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:44	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:44	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:44	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:44	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:44	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:44	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:44	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 11:12	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 11:12	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 11:12	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 11:12	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 11:12	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 11:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:10	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		05/24/24 16:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		05/20/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/10/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-FB-1 **Lab ID: 60453166008** Collected: 05/15/24 14:10 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		06/06/24 12:43	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/06/24 12:43	16984-48-8	N2
Sulfate	**<0.55**	mg/L	1.0	0.55	1		06/06/24 12:43	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-7D **Lab ID: 60453166011** Collected: 05/21/24 12:59 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**174**	ug/L	5.0	0.64	1	05/29/24 14:58	06/03/24 10:49	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/29/24 14:58	06/03/24 10:49	7440-41-7	
Boron	**1790**	ug/L	100	6.4	1	05/29/24 14:58	06/03/24 10:49	7440-42-8	
Calcium	**144000**	ug/L	200	26.9	1	05/29/24 14:58	06/03/24 10:49	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/29/24 14:58	06/03/24 10:49	7440-48-4	
Iron	**11500**	ug/L	50.0	9.1	1	05/29/24 14:58	06/03/24 10:49	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/29/24 14:58	06/03/24 10:49	7439-92-1	
Lithium	**27.5**	ug/L	10.0	3.7	1	05/29/24 14:58	06/03/24 10:49	7439-93-2	
Magnesium	**21500**	ug/L	50.0	20.1	1	05/29/24 14:58	06/03/24 10:49	7439-95-4	
Manganese	**1580**	ug/L	5.0	0.39	1	05/29/24 14:58	06/03/24 10:49	7439-96-5	
Molybdenum	**143**	ug/L	20.0	1.0	1	05/29/24 14:58	06/03/24 10:49	7439-98-7	
Potassium	**5170**	ug/L	500	69.7	1	05/29/24 14:58	06/03/24 10:49	7440-09-7	
Sodium	**30100**	ug/L	500	115	1	05/29/24 14:58	06/03/24 10:49	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/03/24 10:41	06/14/24 13:51	7440-36-0	
Arsenic	**23.0**	ug/L	1.0	0.13	1	06/03/24 10:41	06/14/24 13:51	7440-38-2	
Cadmium	**0.065J**	ug/L	0.50	0.050	1	06/03/24 10:41	06/14/24 13:51	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/03/24 10:41	06/14/24 13:51	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/03/24 10:41	06/14/24 13:51	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/03/24 10:41	06/14/24 13:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:13	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**468**	mg/L	20.0	10.5	1		05/24/24 16:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**534**	mg/L	10.0	10.0	1		05/22/24 15:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**9.3**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.2**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-7D **Lab ID: 60453166011** Collected: 05/21/24 12:59 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**1.7**	mg/L	1.0	0.53	1		06/06/24 15:19	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/06/24 15:19	16984-48-8	N2
Sulfate	**13.6**	mg/L	1.0	0.55	1		06/06/24 15:19	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-8D **Lab ID: 60453166012** Collected: 05/21/24 11:42 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**126**	ug/L	5.0	0.64	1	05/29/24 14:58	06/03/24 10:51	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/29/24 14:58	06/03/24 10:51	7440-41-7	
Boron	**531**	ug/L	100	6.4	1	05/29/24 14:58	06/03/24 10:51	7440-42-8	
Calcium	**38200**	ug/L	200	26.9	1	05/29/24 14:58	06/03/24 10:51	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/29/24 14:58	06/03/24 10:51	7440-48-4	
Iron	**5990**	ug/L	50.0	9.1	1	05/29/24 14:58	06/03/24 10:51	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/29/24 14:58	06/03/24 10:51	7439-92-1	
Lithium	**15.9**	ug/L	10.0	3.7	1	05/29/24 14:58	06/03/24 10:51	7439-93-2	
Magnesium	**9460**	ug/L	50.0	20.1	1	05/29/24 14:58	06/03/24 10:51	7439-95-4	
Manganese	**230**	ug/L	5.0	0.39	1	05/29/24 14:58	06/03/24 10:51	7439-96-5	
Molybdenum	**14.2J**	ug/L	20.0	1.0	1	05/29/24 14:58	06/03/24 10:51	7439-98-7	
Potassium	**2910**	ug/L	500	69.7	1	05/29/24 14:58	06/03/24 10:51	7440-09-7	
Sodium	**12200**	ug/L	500	115	1	05/29/24 14:58	06/03/24 10:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/03/24 10:41	06/14/24 13:53	7440-36-0	
Arsenic	**31.3**	ug/L	1.0	0.13	1	06/03/24 10:41	06/14/24 13:53	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/03/24 10:41	06/14/24 13:53	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/03/24 10:41	06/14/24 13:53	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/03/24 10:41	06/14/24 13:53	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/03/24 10:41	06/14/24 13:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:15	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**154**	mg/L	20.0	10.5	1		05/24/24 16:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**170**	mg/L	5.0	5.0	1		05/22/24 15:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**5.3**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.70**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-8D **Lab ID: 60453166012** Collected: 05/21/24 11:42 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.018J**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**1.9**	mg/L	1.0	0.53	1		06/06/24 16:03	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.12	1		06/06/24 16:03	16984-48-8	N2
Sulfate	**7.0**	mg/L	1.0	0.55	1		06/06/24 16:03	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-9D **Lab ID: 60453166013** Collected: 05/21/24 09:55 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**483**	ug/L	5.0	0.64	1	05/29/24 14:58	06/03/24 10:53	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/29/24 14:58	06/03/24 10:53	7440-41-7	
Boron	**77.8J**	ug/L	100	6.4	1	05/29/24 14:58	06/03/24 10:53	7440-42-8	
Calcium	**112000**	ug/L	200	26.9	1	05/29/24 14:58	06/03/24 10:53	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/29/24 14:58	06/03/24 10:53	7440-48-4	
Iron	**23000**	ug/L	50.0	9.1	1	05/29/24 14:58	06/03/24 10:53	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/29/24 14:58	06/03/24 10:53	7439-92-1	
Lithium	**19.2**	ug/L	10.0	3.7	1	05/29/24 14:58	06/03/24 10:53	7439-93-2	
Magnesium	**29700**	ug/L	50.0	20.1	1	05/29/24 14:58	06/03/24 10:53	7439-95-4	
Manganese	**386**	ug/L	5.0	0.39	1	05/29/24 14:58	06/03/24 10:53	7439-96-5	
Molybdenum	**1.5J**	ug/L	20.0	1.0	1	05/29/24 14:58	06/03/24 10:53	7439-98-7	
Potassium	**4030**	ug/L	500	69.7	1	05/29/24 14:58	06/03/24 10:53	7440-09-7	
Sodium	**13700**	ug/L	500	115	1	05/29/24 14:58	06/03/24 10:53	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/03/24 10:41	06/14/24 13:56	7440-36-0	
Arsenic	**31.7**	ug/L	1.0	0.13	1	06/03/24 10:41	06/14/24 13:56	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/03/24 10:41	06/14/24 13:56	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/03/24 10:41	06/14/24 13:56	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/03/24 10:41	06/14/24 13:56	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/03/24 10:41	06/14/24 13:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:17	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**455**	mg/L	40.0	21.0	2		05/24/24 16:54		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**426**	mg/L	10.0	10.0	1		05/22/24 15:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**17.1**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**5.9**	mg/L	1.0	0.20	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-9D **Lab ID: 60453166013** Collected: 05/21/24 09:55 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.9**	mg/L	1.0	0.53	1		06/06/24 16:18	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/06/24 16:18	16984-48-8	N2
Sulfate	**<0.55**	mg/L	1.0	0.55	1		06/06/24 16:18	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-FB-2 **Lab ID: 60453166014** Collected: 05/21/24 10:18 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	05/29/24 14:58	06/03/24 11:00	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/29/24 14:58	06/03/24 11:00	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	05/29/24 14:58	06/03/24 11:00	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	05/29/24 14:58	06/03/24 11:00	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/29/24 14:58	06/03/24 11:00	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	05/29/24 14:58	06/03/24 11:00	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/29/24 14:58	06/03/24 11:00	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	05/29/24 14:58	06/03/24 11:00	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	05/29/24 14:58	06/03/24 11:00	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	05/29/24 14:58	06/03/24 11:00	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	05/29/24 14:58	06/03/24 11:00	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	05/29/24 14:58	06/03/24 11:00	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	05/29/24 14:58	06/03/24 11:00	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/03/24 10:41	06/14/24 14:01	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	06/03/24 10:41	06/14/24 14:01	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/03/24 10:41	06/14/24 14:01	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/03/24 10:41	06/14/24 14:01	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/03/24 10:41	06/14/24 14:01	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/03/24 10:41	06/14/24 14:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:19	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		05/24/24 17:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		05/22/24 15:18		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/25/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.044J**	mg/L	0.20	0.041	1		06/25/24 14:39	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-FB-2 **Lab ID: 60453166014** Collected: 05/21/24 10:18 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		06/06/24 16:33	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/06/24 16:33	16984-48-8	N2
Sulfate	**<0.55**	mg/L	1.0	0.55	1		06/06/24 16:33	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-2D **Lab ID: 60453166015** Collected: 05/22/24 14:47 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**153**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:56	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:56	7440-41-7	
Boron	**872**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:56	7440-42-8	
Calcium	**148000**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:56	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:56	7440-48-4	
Iron	**4810**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:56	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:56	7439-92-1	
Lithium	**36.8**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:56	7439-93-2	
Magnesium	**28700**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:56	7439-95-4	
Manganese	**533**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:56	7439-96-5	
Molybdenum	**30.4**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:56	7439-98-7	
Potassium	**8230**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:56	7440-09-7	
Sodium	**81300**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:56	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 15:04	7440-36-0	
Arsenic	**0.74J**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 15:04	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 15:04	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 15:04	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 15:04	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 15:04	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:56	06/13/24 15:55	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**389**	mg/L	20.0	10.5	1		05/28/24 13:28		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**713**	mg/L	13.3	13.3	1		05/28/24 10:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.8**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.0**	mg/L	0.20	0.041	1		05/29/24 13:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-2D **Lab ID: 60453166015** Collected: 05/22/24 14:47 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.1**	mg/L	20.0	10.5	20		06/06/24 21:15	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/06/24 21:01	16984-48-8	N2
Sulfate	**169**	mg/L	20.0	11.0	20		06/06/24 21:15	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-BMW-2D **Lab ID: 60453166016** Collected: 05/23/24 09:25 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**359**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 17:05	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 17:05	7440-41-7	
Boron	**69.6J**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 17:05	7440-42-8	
Calcium	**139000**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 17:05	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 17:05	7440-48-4	
Iron	**7150**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 17:05	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 17:05	7439-92-1	
Lithium	**45.3**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 17:05	7439-93-2	
Magnesium	**32300**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 17:05	7439-95-4	
Manganese	**274**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 17:05	7439-96-5	
Molybdenum	**1.4J**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 17:05	7439-98-7	
Potassium	**4350**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 17:05	7440-09-7	
Sodium	**6320**	ug/L	500	115	1	05/31/24 09:05	06/05/24 17:05	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 15:09	7440-36-0	
Arsenic	**30.3**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 15:09	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 15:09	7440-43-9	
Chromium	**1.2**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 15:09	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 15:09	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 15:09	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:56	06/13/24 16:02	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**453**	mg/L	20.0	10.5	1		05/28/24 13:34		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**465**	mg/L	10.0	10.0	1		05/28/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**6.0**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.1**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-BMW-2D **Lab ID: 60453166016** Collected: 05/23/24 09:25 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.5**	mg/L	1.0	0.53	1		06/09/24 13:51	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/09/24 13:51	16984-48-8	N2
Sulfate	**23.2**	mg/L	10.0	5.5	10		06/09/24 14:07	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-BMW-1D **Lab ID: 60453166017** Collected: 05/23/24 10:45 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**889**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 17:07	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 17:07	7440-41-7	
Boron	**75.1J**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 17:07	7440-42-8	
Calcium	**127000**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 17:07	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 17:07	7440-48-4	
Iron	**9970**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 17:07	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 17:07	7439-92-1	
Lithium	**30.1**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 17:07	7439-93-2	
Magnesium	**27900**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 17:07	7439-95-4	
Manganese	**685**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 17:07	7439-96-5	
Molybdenum	**1.3J**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 17:07	7439-98-7	
Potassium	**4070**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 17:07	7440-09-7	
Sodium	**8510**	ug/L	500	115	1	05/31/24 09:05	06/05/24 17:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 15:14	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 15:14	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 15:14	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 15:14	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 15:14	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 15:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:56	06/13/24 14:12	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**427**	mg/L	20.0	10.5	1		05/28/24 13:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**441**	mg/L	10.0	10.0	1		05/28/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**8.7**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.3**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-BMW-1D **Lab ID: 60453166017** Collected: 05/23/24 10:45 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**7.9**	mg/L	1.0	0.53	1		06/09/24 14:24	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/09/24 14:24	16984-48-8	N2
Sulfate	**22.8**	mg/L	5.0	2.8	5		06/09/24 15:15	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895448
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3543909 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/24/24 13:40	

LABORATORY CONTROL SAMPLE: 3543910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3543911 3543912

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.1	5.0	102	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 897906
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3554377 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	06/13/24 15:50	

LABORATORY CONTROL SAMPLE: 3554378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3554379 3554380

Parameter	Units	60453166015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	4.7	4.8	94	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895736
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

METHOD BLANK: 3544957 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	05/30/24 14:05	
Beryllium	ug/L	<0.12	1.0	0.12	05/30/24 14:05	
Boron	ug/L	<6.4	100	6.4	05/30/24 14:05	
Calcium	ug/L	<26.9	200	26.9	05/30/24 14:05	
Cobalt	ug/L	<1.2	5.0	1.2	05/30/24 14:05	
Iron	ug/L	<9.1	50.0	9.1	05/30/24 14:05	
Lead	ug/L	<3.8	10.0	3.8	05/30/24 14:05	
Lithium	ug/L	<3.7	10.0	3.7	05/30/24 14:05	
Magnesium	ug/L	<20.1	50.0	20.1	05/30/24 14:05	
Manganese	ug/L	<0.39	5.0	0.39	05/30/24 14:05	
Molybdenum	ug/L	<1.0	20.0	1.0	05/30/24 14:05	
Potassium	ug/L	<69.7	500	69.7	05/30/24 14:05	
Sodium	ug/L	<115	500	115	05/30/24 14:05	

LABORATORY CONTROL SAMPLE: 3544958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1040	104	85-115	
Beryllium	ug/L	1000	965	96	85-115	
Boron	ug/L	1000	979	98	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Cobalt	ug/L	1000	992	99	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1050	105	85-115	
Lithium	ug/L	1000	1050	105	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	972	97	85-115	
Molybdenum	ug/L	1000	947	95	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE SAMPLE: 3544959

Parameter	Units	60453303001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	82.4	1000	1130	105	70-130	
Beryllium	ug/L	ND	1000	984	98	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

MATRIX SPIKE SAMPLE: 3544959

Parameter	Units	60453303001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	ND	1000	1010	99	70-130	
Calcium	ug/L	44400	10000	64000	196	70-130	M1
Cobalt	ug/L	ND	1000	986	99	70-130	
Iron	ug/L	187	10000	10800	106	70-130	
Lead	ug/L	ND	1000	1040	103	70-130	
Lithium	ug/L	ND	1000	1060	105	70-130	
Magnesium	ug/L	5890	10000	17600	117	70-130	
Manganese	ug/L	9.4	1000	983	97	70-130	
Molybdenum	ug/L	ND	1000	975	97	70-130	
Potassium	ug/L	3980	10000	14700	107	70-130	
Sodium	ug/L	52100	10000	70100	180	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3544960 3544961

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	104	1000	1000	1110	1140	100	104	70-130	3	20	
Beryllium	ug/L	<0.12	1000	1000	1070	1080	107	108	70-130	1	20	
Boron	ug/L	14400	1000	1000	14700	15300	30	89	70-130	4	20	M1
Calcium	ug/L	101000	10000	10000	104000	108000	35	77	70-130	4	20	M1
Cobalt	ug/L	<1.2	1000	1000	1080	1090	108	109	70-130	1	20	
Iron	ug/L	16.6J	10000	10000	10100	10400	100	104	70-130	3	20	
Lead	ug/L	<3.8	1000	1000	1050	1060	105	106	70-130	2	20	
Lithium	ug/L	33.8	1000	1000	1080	1120	104	108	70-130	4	20	
Magnesium	ug/L	32.9J	10000	10000	9780	10100	97	100	70-130	3	20	
Manganese	ug/L	13.0	1000	1000	1080	1090	107	108	70-130	1	20	
Molybdenum	ug/L	693	1000	1000	1810	1840	112	114	70-130	1	20	
Potassium	ug/L	16100	10000	10000	25800	26600	97	106	70-130	3	20	
Sodium	ug/L	82700	10000	10000	88800	92300	62	96	70-130	4	20	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 896075
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3546453 Matrix: Water
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	06/03/24 10:15	
Beryllium	ug/L	<0.12	1.0	0.12	06/03/24 10:15	
Boron	ug/L	<6.4	100	6.4	06/03/24 10:15	
Calcium	ug/L	<26.9	200	26.9	06/03/24 10:15	
Cobalt	ug/L	<1.2	5.0	1.2	06/03/24 10:15	
Iron	ug/L	<9.1	50.0	9.1	06/03/24 10:15	
Lead	ug/L	<3.8	10.0	3.8	06/03/24 10:15	
Lithium	ug/L	<3.7	10.0	3.7	06/03/24 10:15	
Magnesium	ug/L	<20.1	50.0	20.1	06/03/24 10:15	
Manganese	ug/L	<0.39	5.0	0.39	06/03/24 10:15	
Molybdenum	ug/L	<1.0	20.0	1.0	06/03/24 10:15	
Potassium	ug/L	<69.7	500	69.7	06/03/24 10:15	
Sodium	ug/L	<115	500	115	06/03/24 10:15	

LABORATORY CONTROL SAMPLE: 3546454

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	986	99	85-115	
Boron	ug/L	1000	957	96	85-115	
Calcium	ug/L	10000	10100	101	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1050	105	85-115	
Lithium	ug/L	1000	1010	101	85-115	
Magnesium	ug/L	10000	9810	98	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	978	98	85-115	
Potassium	ug/L	10000	9730	97	85-115	
Sodium	ug/L	10000	9990	100	85-115	

MATRIX SPIKE SAMPLE: 3546455

Parameter	Units	60453572001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	5060	1000	6400	135	70-130	M1
Beryllium	ug/L	ND	1000	1030	103	70-130	
Boron	ug/L	ND	1000	1040	99	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

MATRIX SPIKE SAMPLE: 3546455

Parameter	Units	60453572001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	13500	10000	24300	108	70-130	
Cobalt	ug/L	ND	1000	1040	104	70-130	
Iron	ug/L	1110	10000	11700	106	70-130	
Lead	ug/L	ND	1000	1050	105	70-130	
Lithium	ug/L	12.2	1000	1100	109	70-130	
Magnesium	ug/L	10600	10000	21100	105	70-130	
Manganese	ug/L	22.3	1000	1050	103	70-130	
Molybdenum	ug/L	ND	1000	1010	101	70-130	
Potassium	ug/L	41900	10000	54100	122	70-130	
Sodium	ug/L	60600	10000	73800	132	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3546456 3546457

Parameter	Units	60453358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L		1000	1000	1250	1210	103	100	70-130	3	20	
Beryllium	ug/L		1000	1000	1080	1010	108	101	70-130	6	20	
Boron	ug/L	83.6J	1000	1000	1080	1030	99	95	70-130	4	20	
Calcium	ug/L	124000	10000	10000	135000	127000	108	29	70-130	6	20	M1
Cobalt	ug/L		1000	1000	1060	998	106	100	70-130	6	20	
Iron	ug/L	364	10000	10000	10600	10500	102	101	70-130	1	20	
Lead	ug/L		1000	1000	1060	1010	106	101	70-130	5	20	
Lithium	ug/L		1000	1000	1100	1070	107	104	70-130	2	20	
Magnesium	ug/L	24700	10000	10000	35000	33300	103	86	70-130	5	20	
Manganese	ug/L	360	1000	1000	1430	1330	107	97	70-130	7	20	
Molybdenum	ug/L		1000	1000	1040	981	104	98	70-130	6	20	
Potassium	ug/L	5270	10000	10000	15800	15200	105	99	70-130	4	20	
Sodium	ug/L	6660	10000	10000	17300	16600	107	99	70-130	5	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 896143
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3546715 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	06/05/24 16:16	
Beryllium	ug/L	<0.12	1.0	0.12	06/05/24 16:16	
Boron	ug/L	<6.4	100	6.4	06/05/24 16:16	
Calcium	ug/L	<26.9	200	26.9	06/05/24 16:16	
Cobalt	ug/L	<1.2	5.0	1.2	06/05/24 16:16	
Iron	ug/L	<9.1	50.0	9.1	06/05/24 16:16	
Lead	ug/L	<3.8	10.0	3.8	06/05/24 16:16	
Lithium	ug/L	<3.7	10.0	3.7	06/05/24 16:16	
Magnesium	ug/L	<20.1	50.0	20.1	06/05/24 16:16	
Manganese	ug/L	<0.39	5.0	0.39	06/05/24 16:16	
Molybdenum	ug/L	<1.0	20.0	1.0	06/05/24 16:16	
Potassium	ug/L	<69.7	500	69.7	06/05/24 16:16	
Sodium	ug/L	<115	500	115	06/05/24 16:16	

LABORATORY CONTROL SAMPLE: 3546716

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	977	98	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Boron	ug/L	1000	918	92	85-115	
Calcium	ug/L	10000	9950	99	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Iron	ug/L	10000	9730	97	85-115	
Lead	ug/L	1000	1040	104	85-115	
Lithium	ug/L	1000	943	94	85-115	
Magnesium	ug/L	10000	9730	97	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	975	98	85-115	
Potassium	ug/L	10000	9440	94	85-115	
Sodium	ug/L	10000	9490	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3546717 3546718

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	232	1000	1000	1210	1260	97	103	70-130	5	20	
Beryllium	ug/L	<0.12	1000	1000	1010	1020	101	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3546717 3546718

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	7190	1000	1000	7830	8140	64	95	70-130	4	20	M1
Calcium	ug/L	93300	10000	10000	98000	102000	47	91	70-130	4	20	M1
Cobalt	ug/L	<1.2	1000	1000	1010	1020	101	102	70-130	1	20	
Iron	ug/L	6490	10000	10000	15900	16800	95	103	70-130	5	20	
Lead	ug/L	<3.8	1000	1000	1000	1030	100	103	70-130	3	20	
Lithium	ug/L	29.3	1000	1000	1020	1060	99	103	70-130	4	20	
Magnesium	ug/L	19200	10000	10000	28000	29400	88	102	70-130	5	20	
Manganese	ug/L	1010	1000	1000	2000	2010	99	99	70-130	0	20	
Molybdenum	ug/L	367	1000	1000	1360	1370	100	100	70-130	1	20	
Potassium	ug/L	5030	10000	10000	15000	15300	100	103	70-130	2	20	
Sodium	ug/L	88500	10000	10000	94100	97500	56	90	70-130	3	20	M1

MATRIX SPIKE SAMPLE: 3546719

Parameter	Units	60453167013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	359	1000	1340	98	70-130	
Beryllium	ug/L	<0.12	1000	1050	105	70-130	
Boron	ug/L	171	1000	1110	94	70-130	
Calcium	ug/L	138000	10000	144000	63	70-130	M1
Cobalt	ug/L	2.3J	1000	1030	103	70-130	
Iron	ug/L	136	10000	9940	98	70-130	
Lead	ug/L	<3.8	1000	1030	103	70-130	
Lithium	ug/L	33.0	1000	1030	100	70-130	
Magnesium	ug/L	21800	10000	31300	95	70-130	
Manganese	ug/L	904	1000	1930	103	70-130	
Molybdenum	ug/L	<1.0	1000	1010	101	70-130	
Potassium	ug/L	23500	10000	33400	99	70-130	
Sodium	ug/L	4400	10000	14200	98	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895826
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

METHOD BLANK: 3545451 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/13/24 10:24	
Arsenic	ug/L	<0.13	1.0	0.13	06/13/24 10:24	
Cadmium	ug/L	<0.050	0.50	0.050	06/13/24 10:24	
Chromium	ug/L	<0.30	1.0	0.30	06/13/24 10:24	
Selenium	ug/L	<0.18	1.0	0.18	06/13/24 10:24	
Thallium	ug/L	<0.14	1.0	0.14	06/13/24 10:24	

LABORATORY CONTROL SAMPLE: 3545452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	36.7	92	85-115	
Arsenic	ug/L	40	39.3	98	85-115	
Cadmium	ug/L	40	38.9	97	85-115	
Chromium	ug/L	40	40.3	101	85-115	
Selenium	ug/L	40	39.7	99	85-115	
Thallium	ug/L	40	35.2	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545453 3545454

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	34.9	34.2	87	85	70-130	2	20	
Arsenic	ug/L	13.0	40	40	53.6	52.9	101	100	70-130	1	20	
Cadmium	ug/L	0.24J	40	40	35.7	35.5	89	88	70-130	1	20	
Chromium	ug/L	<0.30	40	40	40.9	40.4	102	100	70-130	1	20	
Selenium	ug/L	<0.18	40	40	39.5	38.5	98	96	70-130	3	20	
Thallium	ug/L	<0.14	40	40	37.6	37.0	94	92	70-130	2	20	

MATRIX SPIKE SAMPLE: 3545455

Parameter	Units	60453167003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	35.9	90	70-130	
Arsenic	ug/L	11.6	40	53.6	105	70-130	
Cadmium	ug/L	<0.050	40	37.0	92	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

MATRIX SPIKE SAMPLE: 3545455

Parameter	Units	60453167003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	<0.30	40	41.7	104	70-130	
Selenium	ug/L	<0.18	40	39.7	99	70-130	
Thallium	ug/L	<0.14	40	39.1	98	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 896384
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3547739 Matrix: Water
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/14/24 13:27	
Arsenic	ug/L	<0.13	1.0	0.13	06/14/24 13:27	
Cadmium	ug/L	<0.050	0.50	0.050	06/14/24 13:27	
Chromium	ug/L	<0.30	1.0	0.30	06/14/24 13:27	
Selenium	ug/L	<0.18	1.0	0.18	06/14/24 13:27	
Thallium	ug/L	<0.14	1.0	0.14	06/14/24 13:27	

LABORATORY CONTROL SAMPLE: 3547740

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.3	98	85-115	
Arsenic	ug/L	40	40.0	100	85-115	
Cadmium	ug/L	40	40.3	101	85-115	
Chromium	ug/L	40	40.7	102	85-115	
Selenium	ug/L	40	40.0	100	85-115	
Thallium	ug/L	40	37.7	94	85-115	

MATRIX SPIKE SAMPLE: 3547741

Parameter	Units	60453166014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	38.6	96	70-130	
Arsenic	ug/L	<0.13	40	39.0	98	70-130	
Cadmium	ug/L	<0.050	40	39.6	99	70-130	
Chromium	ug/L	<0.30	40	40.5	100	70-130	
Selenium	ug/L	<0.18	40	39.0	97	70-130	
Thallium	ug/L	<0.14	40	37.5	94	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3547742 3547743

Parameter	Units	60453358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L		40	40	38.4	38.7	96	97	70-130	1	20	
Arsenic	ug/L		40	40	39.4	40.4	97	99	70-130	2	20	
Cadmium	ug/L		40	40	38.5	38.8	96	97	70-130	1	20	
Chromium	ug/L		40	40	40.0	40.6	99	101	70-130	2	20	
Selenium	ug/L		40	40	44.9	45.4	94	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3547742 3547743

Parameter	Units	60453358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Thallium	ug/L		40	40	38.9	39.2	97	98	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 896601
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3548603 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/14/24 14:28	
Arsenic	ug/L	<0.13	1.0	0.13	06/14/24 14:28	
Cadmium	ug/L	<0.050	0.50	0.050	06/14/24 14:28	
Chromium	ug/L	<0.30	1.0	0.30	06/14/24 14:28	
Selenium	ug/L	<0.18	1.0	0.18	06/14/24 14:28	
Thallium	ug/L	<0.14	1.0	0.14	06/14/24 14:28	

LABORATORY CONTROL SAMPLE: 3548604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.1	95	85-115	
Arsenic	ug/L	40	38.8	97	85-115	
Cadmium	ug/L	40	39.3	98	85-115	
Chromium	ug/L	40	39.9	100	85-115	
Selenium	ug/L	40	39.5	99	85-115	
Thallium	ug/L	40	37.1	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3548605 3548606

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	40.6	40.0	102	100	70-130	2	20	
Arsenic	ug/L	0.51J	40	40	42.9	42.6	106	105	70-130	1	20	
Cadmium	ug/L	0.15J	40	40	40.4	39.8	101	99	70-130	1	20	
Chromium	ug/L	<0.30	40	40	40.9	40.3	102	100	70-130	1	20	
Selenium	ug/L	<0.18	40	40	40.0	40.2	100	100	70-130	1	20	
Thallium	ug/L	<0.14	40	40	41.4	40.8	104	102	70-130	2	20	

MATRIX SPIKE SAMPLE: 3548607

Parameter	Units	60453166016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	40.2	100	70-130	
Arsenic	ug/L	30.3	40	72.5	105	70-130	
Cadmium	ug/L	<0.050	40	40.9	102	70-130	
Chromium	ug/L	1.2	40	43.0	105	70-130	
Selenium	ug/L	<0.18	40	40.7	102	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

MATRIX SPIKE SAMPLE: 3548607

Parameter	Units	60453166016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Thallium	ug/L	<0.14	40	41.7	104	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895685 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004

METHOD BLANK: 3544778 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	05/28/24 11:24	

LABORATORY CONTROL SAMPLE: 3544779

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

SAMPLE DUPLICATE: 3544780

Parameter	Units	60453275001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	353	341	3	10	

SAMPLE DUPLICATE: 3544781

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	120	125	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895687
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3544782 Matrix: Water
Associated Lab Samples: 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	05/24/24 15:39	

LABORATORY CONTROL SAMPLE: 3544783

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

SAMPLE DUPLICATE: 3544785

Parameter	Units	60453166013 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	455	448	2	10	

SAMPLE DUPLICATE: 3545466

Parameter	Units	60453133002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	1380	1470	6	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895910
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3546043 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	05/28/24 13:13	

LABORATORY CONTROL SAMPLE: 3546044

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

SAMPLE DUPLICATE: 3546045

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	149	150	0	10	

SAMPLE DUPLICATE: 3546046

Parameter	Units	60453167015 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	127	127	0	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895067
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

METHOD BLANK: 3542516 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/20/24 10:39	

LABORATORY CONTROL SAMPLE: 3542517

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	900	90	80-120	

SAMPLE DUPLICATE: 3542518

Parameter	Units	60452946003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	868	848	2	10	

SAMPLE DUPLICATE: 3542519

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	657	652	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895513 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3544098 Matrix: Water
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/22/24 15:14	

LABORATORY CONTROL SAMPLE: 3544099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	915	92	80-120	

SAMPLE DUPLICATE: 3544101

Parameter	Units	60453358003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	406	385	5	10	

SAMPLE DUPLICATE: 3544191

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	640	695	8	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895953
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3546159 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/28/24 10:39	

LABORATORY CONTROL SAMPLE: 3546160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	915	92	80-120	

SAMPLE DUPLICATE: 3546161

Parameter	Units	60453167004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	530	529	0	10	H1

SAMPLE DUPLICATE: 3546193

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	715	719	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895017
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

METHOD BLANK: 3542231 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/20/24 09:51	H6

LABORATORY CONTROL SAMPLE: 3542232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.2	109	90-110	H6

SAMPLE DUPLICATE: 3542233

Parameter	Units	60453166006 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.19J	0.19J		20	H6

SAMPLE DUPLICATE: 3542234

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.11J	0.094J		20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895436
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166011, 60453166012, 60453166013

METHOD BLANK: 3543812 Matrix: Water
Associated Lab Samples: 60453166011, 60453166012, 60453166013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/22/24 13:50	H6

LABORATORY CONTROL SAMPLE: 3543813

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2.3	2.3	97	90-110	H6

SAMPLE DUPLICATE: 3543814

Parameter	Units	60453167013 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.082J	0.082J		20	H6

SAMPLE DUPLICATE: 3543815

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	3.5	3.5	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895806
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166016, 60453166017

METHOD BLANK: 3545330 Matrix: Water
Associated Lab Samples: 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/29/24 14:10	H6

LABORATORY CONTROL SAMPLE: 3545331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2.3	2.3	99	90-110	H6

SAMPLE DUPLICATE: 3545332

Parameter	Units	60452518001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	3.4	3.5	2	20	H6

SAMPLE DUPLICATE: 3545335

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.1	1.1	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895935
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60453166015

METHOD BLANK: 3546109 Matrix: Water
Associated Lab Samples: 60453166015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/29/24 13:58	H6

LABORATORY CONTROL SAMPLE: 3546110

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2.3	2.3	98	90-110	H6

SAMPLE DUPLICATE: 3546111

Parameter	Units	60453167025 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.2	1.2	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 899323
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60453166014

METHOD BLANK: 3559784 Matrix: Water
Associated Lab Samples: 60453166014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	06/25/24 14:39	H6

LABORATORY CONTROL SAMPLE: 3559785

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

SAMPLE DUPLICATE: 3559786

Parameter	Units	60453166014 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.044J	<0.041		20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895061
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

METHOD BLANK: 3542499 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	05/20/24 09:13	

LABORATORY CONTROL SAMPLE: 3542500

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3542501 3542502

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.28	0.5	0.5	0.41	0.37	27	19	75-125	10	20	M1

SAMPLE DUPLICATE: 3542503

Parameter	Units	60453166002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.18	0.17	4	20	

SAMPLE DUPLICATE: 3542505

Parameter	Units	60453166001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3542507

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.28	0.29	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895595
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3544318 Matrix: Water
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	05/24/24 09:13	

LABORATORY CONTROL SAMPLE: 3544319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.46	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3544320 3544321

Parameter	Units	60453167008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	<0.016	0.5	0.5	0.38	0.39	75	78	75-125	3	20	

SAMPLE DUPLICATE: 3544328

Parameter	Units	60453167009 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3544329

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3544330

Parameter	Units	60453167008 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 895804
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3545320 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	05/28/24 09:13	

LABORATORY CONTROL SAMPLE: 3545321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.48	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545322 3545323

Parameter	Units	60453167020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	<0.016	0.5	0.5	0.38	0.40	76	80	75-125	5	20	

SAMPLE DUPLICATE: 3545327

Parameter	Units	60453167020 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3545328

Parameter	Units	60453167026 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3545329

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 896824
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166001, 60453166002

METHOD BLANK: 3549452 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/06/24 09:21	
Fluoride	mg/L	<0.12	0.20	0.12	06/06/24 09:21	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/06/24 09:21	

METHOD BLANK: 3553509 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/10/24 10:59	
Fluoride	mg/L	<0.12	0.20	0.12	06/10/24 10:59	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/10/24 10:59	

LABORATORY CONTROL SAMPLE: 3549453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	90	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	N2
Sulfate	mg/L	5	4.6	92	90-110	

LABORATORY CONTROL SAMPLE: 3553510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	N2
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549454 3549455

Parameter	Units	60453238001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22.2	25	25	44.3	42.4	89	81	80-120	4	15	
Fluoride	mg/L	0.35	2.5	2.5	2.7	2.7	93	95	80-120	1	15	N2
Sulfate	mg/L	210	250	250	613	534	161	130	80-120	14	15	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549457 3549458

Parameter	Units	60453795007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.5	25	25	50.1	48.9	115	110	80-120	2	15	
Fluoride	mg/L	ND	12.5	12.5	15.5	16.7	124	134	80-120	8	15	M1,N2
Sulfate	mg/L	93.2	25	25	124	121	125	112	80-120	3	15	E,M1

SAMPLE DUPLICATE: 3549456

Parameter	Units	60453238001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	22.2	22.0	1	15	
Fluoride	mg/L	0.35	<0.12		15	N2
Sulfate	mg/L	210	225	7	15	

SAMPLE DUPLICATE: 3549459

Parameter	Units	60453795007 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	21.5	20.6	4	15	
Fluoride	mg/L	ND	<0.62		15	N2
Sulfate	mg/L	93.2	91.5	2	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 896825
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014, 60453166015

METHOD BLANK: 3549460 Matrix: Water
Associated Lab Samples: 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014, 60453166015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/06/24 09:15	
Fluoride	mg/L	<0.12	0.20	0.12	06/06/24 09:15	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/06/24 09:15	

METHOD BLANK: 3553513 Matrix: Water
Associated Lab Samples: 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014, 60453166015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/10/24 10:59	
Fluoride	mg/L	<0.12	0.20	0.12	06/10/24 10:59	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/10/24 10:59	

METHOD BLANK: 3555090 Matrix: Water
Associated Lab Samples: 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166011, 60453166012, 60453166013, 60453166014, 60453166015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/11/24 09:07	
Fluoride	mg/L	<0.12	0.20	0.12	06/11/24 09:07	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/11/24 09:07	

LABORATORY CONTROL SAMPLE: 3549461

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	N2
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3553514

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

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

LABORATORY CONTROL SAMPLE: 3553514

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	105	90-110	N2
Sulfate	mg/L	5	5.1	102	90-110	

LABORATORY CONTROL SAMPLE: 3555091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	N2
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549462 3549463

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	23.7	100	100	172	152	149	129	80-120	12	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	<0.12	<0.12	0	1	80-120		15	M1,N2
Sulfate	mg/L	279	100	100	440	422	161	143	80-120	4	15	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549465 3549466

Parameter	Units	60453358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.4	5	5	7.3	7.3	99	98	80-120	0	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.4	2.4	95	95	80-120	0	15	N2
Sulfate	mg/L	25.1	50	50	75.5	69.7	101	89	80-120	8	15	

SAMPLE DUPLICATE: 3549464

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	23.7	23.4	1	15	
Fluoride	mg/L	<0.12	<0.12		15	N2
Sulfate	mg/L	279	285	2	15	

SAMPLE DUPLICATE: 3549467

Parameter	Units	60453358003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	2.4	2.4	1	15	
Fluoride	mg/L	<0.12	<0.12		15	N2
Sulfate	mg/L	25.1	27.6	10	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 897148
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453166016, 60453166017

METHOD BLANK: 3551048 Matrix: Water
Associated Lab Samples: 60453166016, 60453166017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/09/24 11:46	
Fluoride	mg/L	<0.12	0.20	0.12	06/09/24 11:46	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/09/24 11:46	

LABORATORY CONTROL SAMPLE: 3551049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	N2
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3551050 3551051

Parameter	Units	60454133007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	325	1000	1000	1900	1390	157	107	80-120	31	15	M1,R1
Fluoride	mg/L	ND	500	500	868	757	174	151	80-120	14	15	M1,N2
Sulfate	mg/L	1830	1000	1000	3510	2860	168	102	80-120	21	15	M1,R1

MATRIX SPIKE SAMPLE: 3551052

Parameter	Units	60454133008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	ND	2000	2650	124	80-120	M1
Fluoride	mg/L	ND	1000	1360	136	80-120	M1,N2
Sulfate	mg/L	3140	2000	5760	131	80-120	M1

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-1D **Lab ID: 60453166001** Collected: 05/15/24 10:05 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0564 ± 0.530 (1.02) C:NA T:91%**	pCi/L	06/13/24 14:14	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.26 ± 0.479 (0.715) C:83% T:84%**	pCi/L	06/10/24 12:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-3D **Lab ID: 60453166002** Collected: 05/15/24 15:10 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.127 ± 0.683 (1.28) C:NA T:88%**	pCi/L	06/13/24 14:14	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.06 ± 0.435 (0.647) C:81% T:80%**	pCi/L	06/10/24 12:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-4D **Lab ID: 60453166003** Collected: 05/15/24 15:40 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.135 ± 0.649 (1.32) C:NA T:85%**	pCi/L	06/13/24 14:14	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.582 ± 0.375 (0.692) C:81% T:78%**	pCi/L	06/10/24 12:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-5D **Lab ID: 60453166004** Collected: 05/15/24 09:43 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.571 ± 0.514 (0.797) C:NA T:92%**	pCi/L	06/13/24 14:14	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.801 ± 0.395 (0.673) C:87% T:79%**	pCi/L	06/10/24 12:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-6D **Lab ID: 60453166005** Collected: 05/15/24 14:22 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.128 ± 0.500 (1.06) C:NA T:92%**	pCi/L	06/13/24 14:14	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.384 ± 0.337 (0.676) C:86% T:76%**	pCi/L	06/10/24 12:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-DUP-1 **Lab ID: 60453166006** Collected: 05/15/24 08:00 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.132 ± 0.409 (0.929) C:NA T:85%**	pCi/L	06/13/24 14:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.937 ± 0.429 (0.707) C:85% T:77%**	pCi/L	06/10/24 12:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-DUP-2 **Lab ID: 60453166007** Collected: 05/15/24 08:00 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.603 ± 0.513 (0.721) C:NA T:85%**	pCi/L	06/13/24 14:26	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.575 ± 0.443 (0.885) C:86% T:79%**	pCi/L	06/10/24 12:47	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-FB-1 **Lab ID: 60453166008** Collected: 05/15/24 14:10 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.355 (0.750) C:NA T:91%**	pCi/L	06/13/24 14:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.221 ± 0.377 (0.823) C:86% T:81%**	pCi/L	06/10/24 12:47	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-MS-1 **Lab ID: 60453166009** Collected: 05/15/24 09:43 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**109.19 %REC ±NA (NA) C:NA T:NA**	pCi/L	06/13/24 14:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**86.94 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/10/24 12:47	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-MSD-1 **Lab ID: 60453166010** Collected: 05/15/24 09:43 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**97.96 %REC 10.84RPD ± NA (NA) C:NA T:NA%**	pCi/L	06/13/24 14:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**60.34 %REC 36.13RPD ± NA (NA) C:NA T:NA**	pCi/L	06/10/24 12:47	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-7D **Lab ID: 60453166011** Collected: 05/21/24 12:59 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.309 ± 0.535 (0.846) C:NA T:97%**	pCi/L	06/15/24 17:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.16 ± 0.578 (0.966) C:80% T:81%**	pCi/L	06/12/24 19:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-8D **Lab ID: 60453166012** Collected: 05/21/24 11:42 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.240 ± 0.751 (1.32) C:NA T:91%**	pCi/L	06/15/24 17:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.500 ± 0.456 (0.919) C:81% T:87%**	pCi/L	06/12/24 19:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-9D **Lab ID: 60453166013** Collected: 05/21/24 09:55 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.182 ± 0.519 (0.855) C:NA T:93%**	pCi/L	06/15/24 17:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.04 ± 0.589 (1.06) C:75% T:87%**	pCi/L	06/12/24 19:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-FB-2 **Lab ID: 60453166014** Collected: 05/21/24 10:18 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-1.14 ± 1.06 (1.89) C:NA T:94%**	pCi/L	06/15/24 17:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.622 ± 0.612 (1.27) C:84% T:86%**	pCi/L	06/12/24 19:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-UMW-2D **Lab ID: 60453166015** Collected: 05/22/24 14:47 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.544 ± 0.571 (0.907) C:NA T:89%**	pCi/L	06/18/24 16:04	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.71 ± 0.649 (0.957) C:84% T:89%**	pCi/L	06/13/24 19:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.25 ± 1.22 (1.86)**	pCi/L	06/18/24 17:24	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-BMW-2D **Lab ID: 60453166016** Collected: 05/23/24 09:25 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.802 ± 0.716 (1.12) C:NA T:94%**	pCi/L	06/18/24 16:04	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.24 ± 0.612 (1.06) C:87% T:84%**	pCi/L	06/13/24 19:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.04 ± 1.33 (2.18)**	pCi/L	06/18/24 17:24	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

Sample: L-BMW-1D **Lab ID: 60453166017** Collected: 05/23/24 10:45 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.01 ± 0.751 (1.13) C:NA T:97%**	pCi/L	06/18/24 16:04	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.976 ± 0.520 (0.909) C:82% T:93%**	pCi/L	06/13/24 19:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.99 ± 1.27 (2.04)**	pCi/L	06/18/24 17:24	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 671365
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3269274 Matrix: Water
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0205 ± 0.353 (0.634) C:NA T:91%	pCi/L	06/15/24 16:57	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 672982
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3276137 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.207 ± 0.353 (0.623) C:NA T:89%	pCi/L	06/18/24 15:51	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 671366
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

METHOD BLANK: 3269275 Matrix: Water
Associated Lab Samples: 60453166011, 60453166012, 60453166013, 60453166014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0930 ± 0.327 (0.782) C:78% T:90%	pCi/L	06/12/24 16:05	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 672983
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453166015, 60453166016, 60453166017

METHOD BLANK: 3276144 Matrix: Water
Associated Lab Samples: 60453166015, 60453166016, 60453166017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.165 ± 0.321 (0.706) C:83% T:83%	pCi/L	06/13/24 16:10	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 671150
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166009, 60453166010

METHOD BLANK: 3268387 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166009, 60453166010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.670 ± 0.439 (0.839) C:80% T:81%	pCi/L	06/10/24 12:45	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60453166

QC Batch: 671149
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166009, 60453166010

METHOD BLANK: 3268386 Matrix: Water
Associated Lab Samples: 60453166001, 60453166002, 60453166003, 60453166004, 60453166005, 60453166006, 60453166007, 60453166008, 60453166009, 60453166010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.457 ± 0.362 (0.492) C:NA T:90%	pCi/L	06/13/24 14:00	

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QUALIFIERS

Project: AMEREN LCPA
Pace Project No.: 60453166

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453166001	**L-UMW-1D**	EPA 200.7	895736	EPA 200.7	895848
60453166002	**L-UMW-3D**	EPA 200.7	895736	EPA 200.7	895848
60453166003	**L-UMW-4D**	EPA 200.7	895736	EPA 200.7	895848
60453166004	**L-UMW-5D**	EPA 200.7	895736	EPA 200.7	895848
60453166005	**L-UMW-6D**	EPA 200.7	895736	EPA 200.7	895848
60453166006	**L-UMW-DUP-1**	EPA 200.7	895736	EPA 200.7	895848
60453166007	**L-UMW-DUP-2**	EPA 200.7	895736	EPA 200.7	895848
60453166008	**L-UMW-FB-1**	EPA 200.7	895736	EPA 200.7	895848
60453166011	**L-UMW-7D**	EPA 200.7	896075	EPA 200.7	896170
60453166012	**L-UMW-8D**	EPA 200.7	896075	EPA 200.7	896170
60453166013	**L-UMW-9D**	EPA 200.7	896075	EPA 200.7	896170
60453166014	**L-UMW-FB-2**	EPA 200.7	896075	EPA 200.7	896170
60453166015	**L-UMW-2D**	EPA 200.7	896143	EPA 200.7	896437
60453166016	**L-BMW-2D**	EPA 200.7	896143	EPA 200.7	896437
60453166017	**L-BMW-1D**	EPA 200.7	896143	EPA 200.7	896437
60453166001	**L-UMW-1D**	EPA 200.8	895826	EPA 200.8	895887
60453166002	**L-UMW-3D**	EPA 200.8	895826	EPA 200.8	895887
60453166003	**L-UMW-4D**	EPA 200.8	895826	EPA 200.8	895887
60453166004	**L-UMW-5D**	EPA 200.8	895826	EPA 200.8	895887
60453166005	**L-UMW-6D**	EPA 200.8	895826	EPA 200.8	895887
60453166006	**L-UMW-DUP-1**	EPA 200.8	895826	EPA 200.8	895887
60453166007	**L-UMW-DUP-2**	EPA 200.8	895826	EPA 200.8	895887
60453166008	**L-UMW-FB-1**	EPA 200.8	895826	EPA 200.8	895887
60453166011	**L-UMW-7D**	EPA 200.8	896384	EPA 200.8	896515
60453166012	**L-UMW-8D**	EPA 200.8	896384	EPA 200.8	896515
60453166013	**L-UMW-9D**	EPA 200.8	896384	EPA 200.8	896515
60453166014	**L-UMW-FB-2**	EPA 200.8	896384	EPA 200.8	896515
60453166015	**L-UMW-2D**	EPA 200.8	896601	EPA 200.8	896725
60453166016	**L-BMW-2D**	EPA 200.8	896601	EPA 200.8	896725
60453166017	**L-BMW-1D**	EPA 200.8	896601	EPA 200.8	896725
60453166001	**L-UMW-1D**	EPA 7470	895448	EPA 7470	895690
60453166002	**L-UMW-3D**	EPA 7470	895448	EPA 7470	895690
60453166003	**L-UMW-4D**	EPA 7470	895448	EPA 7470	895690
60453166004	**L-UMW-5D**	EPA 7470	895448	EPA 7470	895690
60453166005	**L-UMW-6D**	EPA 7470	895448	EPA 7470	895690
60453166006	**L-UMW-DUP-1**	EPA 7470	895448	EPA 7470	895690
60453166007	**L-UMW-DUP-2**	EPA 7470	895448	EPA 7470	895690
60453166008	**L-UMW-FB-1**	EPA 7470	895448	EPA 7470	895690
60453166011	**L-UMW-7D**	EPA 7470	895448	EPA 7470	895690
60453166012	**L-UMW-8D**	EPA 7470	895448	EPA 7470	895690
60453166013	**L-UMW-9D**	EPA 7470	895448	EPA 7470	895690
60453166014	**L-UMW-FB-2**	EPA 7470	895448	EPA 7470	895690
60453166015	**L-UMW-2D**	EPA 7470	897906	EPA 7470	898071
60453166016	**L-BMW-2D**	EPA 7470	897906	EPA 7470	898071
60453166017	**L-BMW-1D**	EPA 7470	897906	EPA 7470	898071

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453166001	**L-UMW-1D**	EPA 903.1	671149		
60453166002	**L-UMW-3D**	EPA 903.1	671149		
60453166003	**L-UMW-4D**	EPA 903.1	671149		
60453166004	**L-UMW-5D**	EPA 903.1	671149		
60453166005	**L-UMW-6D**	EPA 903.1	671149		
60453166006	**L-UMW-DUP-1**	EPA 903.1	671149		
60453166007	**L-UMW-DUP-2**	EPA 903.1	671149		
60453166008	**L-UMW-FB-1**	EPA 903.1	671149		
60453166009	**L-UMW-MS-1**	EPA 903.1	671149		
60453166010	**L-UMW-MSD-1**	EPA 903.1	671149		
60453166011	**L-UMW-7D**	EPA 903.1	671365		
60453166012	**L-UMW-8D**	EPA 903.1	671365		
60453166013	**L-UMW-9D**	EPA 903.1	671365		
60453166014	**L-UMW-FB-2**	EPA 903.1	671365		
60453166015	**L-UMW-2D**	EPA 903.1	672982		
60453166016	**L-BMW-2D**	EPA 903.1	672982		
60453166017	**L-BMW-1D**	EPA 903.1	672982		
60453166001	**L-UMW-1D**	EPA 904.0	671150		
60453166002	**L-UMW-3D**	EPA 904.0	671150		
60453166003	**L-UMW-4D**	EPA 904.0	671150		
60453166004	**L-UMW-5D**	EPA 904.0	671150		
60453166005	**L-UMW-6D**	EPA 904.0	671150		
60453166006	**L-UMW-DUP-1**	EPA 904.0	671150		
60453166007	**L-UMW-DUP-2**	EPA 904.0	671150		
60453166008	**L-UMW-FB-1**	EPA 904.0	671150		
60453166009	**L-UMW-MS-1**	EPA 904.0	671150		
60453166010	**L-UMW-MSD-1**	EPA 904.0	671150		
60453166011	**L-UMW-7D**	EPA 904.0	671366		
60453166012	**L-UMW-8D**	EPA 904.0	671366		
60453166013	**L-UMW-9D**	EPA 904.0	671366		
60453166014	**L-UMW-FB-2**	EPA 904.0	671366		
60453166015	**L-UMW-2D**	EPA 904.0	672983		
60453166016	**L-BMW-2D**	EPA 904.0	672983		
60453166017	**L-BMW-1D**	EPA 904.0	672983		
60453166015	**L-UMW-2D**	Total Radium Calculation	676708		
60453166016	**L-BMW-2D**	Total Radium Calculation	676708		
60453166017	**L-BMW-1D**	Total Radium Calculation	676708		
60453166001	**L-UMW-1D**	SM 2320B	895685		
60453166002	**L-UMW-3D**	SM 2320B	895685		
60453166003	**L-UMW-4D**	SM 2320B	895685		
60453166004	**L-UMW-5D**	SM 2320B	895685		
60453166005	**L-UMW-6D**	SM 2320B	895687		
60453166006	**L-UMW-DUP-1**	SM 2320B	895687		
60453166007	**L-UMW-DUP-2**	SM 2320B	895687		
60453166008	**L-UMW-FB-1**	SM 2320B	895687		

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453166011	**L-UMW-7D**	SM 2320B	895687		
60453166012	**L-UMW-8D**	SM 2320B	895687		
60453166013	**L-UMW-9D**	SM 2320B	895687		
60453166014	**L-UMW-FB-2**	SM 2320B	895687		
60453166015	**L-UMW-2D**	SM 2320B	895910		
60453166016	**L-BMW-2D**	SM 2320B	895910		
60453166017	**L-BMW-1D**	SM 2320B	895910		
60453166001	**L-UMW-1D**	SM 2540C	895067		
60453166002	**L-UMW-3D**	SM 2540C	895067		
60453166003	**L-UMW-4D**	SM 2540C	895067		
60453166004	**L-UMW-5D**	SM 2540C	895067		
60453166005	**L-UMW-6D**	SM 2540C	895067		
60453166006	**L-UMW-DUP-1**	SM 2540C	895067		
60453166007	**L-UMW-DUP-2**	SM 2540C	895067		
60453166008	**L-UMW-FB-1**	SM 2540C	895067		
60453166011	**L-UMW-7D**	SM 2540C	895513		
60453166012	**L-UMW-8D**	SM 2540C	895513		
60453166013	**L-UMW-9D**	SM 2540C	895513		
60453166014	**L-UMW-FB-2**	SM 2540C	895513		
60453166015	**L-UMW-2D**	SM 2540C	895953		
60453166016	**L-BMW-2D**	SM 2540C	895953		
60453166017	**L-BMW-1D**	SM 2540C	895953		
60453166001	**L-UMW-1D**	SM 3500-Fe B#4	897547		
60453166002	**L-UMW-3D**	SM 3500-Fe B#4	897547		
60453166003	**L-UMW-4D**	SM 3500-Fe B#4	897547		
60453166004	**L-UMW-5D**	SM 3500-Fe B#4	897547		
60453166005	**L-UMW-6D**	SM 3500-Fe B#4	897547		
60453166006	**L-UMW-DUP-1**	SM 3500-Fe B#4	897547		
60453166007	**L-UMW-DUP-2**	SM 3500-Fe B#4	897547		
60453166008	**L-UMW-FB-1**	SM 3500-Fe B#4	897547		
60453166011	**L-UMW-7D**	SM 3500-Fe B#4	897870		
60453166012	**L-UMW-8D**	SM 3500-Fe B#4	897870		
60453166013	**L-UMW-9D**	SM 3500-Fe B#4	897870		
60453166014	**L-UMW-FB-2**	SM 3500-Fe B#4	899661		
60453166015	**L-UMW-2D**	SM 3500-Fe B#4	897870		
60453166016	**L-BMW-2D**	SM 3500-Fe B#4	897870		
60453166017	**L-BMW-1D**	SM 3500-Fe B#4	897870		
60453166001	**L-UMW-1D**	SM 3500-Fe B#4	895017		
60453166002	**L-UMW-3D**	SM 3500-Fe B#4	895017		
60453166003	**L-UMW-4D**	SM 3500-Fe B#4	895017		
60453166004	**L-UMW-5D**	SM 3500-Fe B#4	895017		
60453166005	**L-UMW-6D**	SM 3500-Fe B#4	895017		
60453166006	**L-UMW-DUP-1**	SM 3500-Fe B#4	895017		
60453166007	**L-UMW-DUP-2**	SM 3500-Fe B#4	895017		

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60453166

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453166008	**L-UMW-FB-1**	SM 3500-Fe B#4	895017		
60453166011	**L-UMW-7D**	SM 3500-Fe B#4	895436		
60453166012	**L-UMW-8D**	SM 3500-Fe B#4	895436		
60453166013	**L-UMW-9D**	SM 3500-Fe B#4	895436		
60453166014	**L-UMW-FB-2**	SM 3500-Fe B#4	899323		
60453166015	**L-UMW-2D**	SM 3500-Fe B#4	895935		
60453166016	**L-BMW-2D**	SM 3500-Fe B#4	895806		
60453166017	**L-BMW-1D**	SM 3500-Fe B#4	895806		
60453166001	**L-UMW-1D**	SM 4500-S-2 D	895061		
60453166002	**L-UMW-3D**	SM 4500-S-2 D	895061		
60453166003	**L-UMW-4D**	SM 4500-S-2 D	895061		
60453166004	**L-UMW-5D**	SM 4500-S-2 D	895061		
60453166005	**L-UMW-6D**	SM 4500-S-2 D	895061		
60453166006	**L-UMW-DUP-1**	SM 4500-S-2 D	895061		
60453166007	**L-UMW-DUP-2**	SM 4500-S-2 D	895061		
60453166008	**L-UMW-FB-1**	SM 4500-S-2 D	895061		
60453166011	**L-UMW-7D**	SM 4500-S-2 D	895595		
60453166012	**L-UMW-8D**	SM 4500-S-2 D	895595		
60453166013	**L-UMW-9D**	SM 4500-S-2 D	895595		
60453166014	**L-UMW-FB-2**	SM 4500-S-2 D	895595		
60453166015	**L-UMW-2D**	SM 4500-S-2 D	895804		
60453166016	**L-BMW-2D**	SM 4500-S-2 D	895804		
60453166017	**L-BMW-1D**	SM 4500-S-2 D	895804		
60453166001	**L-UMW-1D**	EPA 300.0	896824		
60453166002	**L-UMW-3D**	EPA 300.0	896824		
60453166003	**L-UMW-4D**	EPA 300.0	896825		
60453166004	**L-UMW-5D**	EPA 300.0	896825		
60453166005	**L-UMW-6D**	EPA 300.0	896825		
60453166006	**L-UMW-DUP-1**	EPA 300.0	896825		
60453166007	**L-UMW-DUP-2**	EPA 300.0	896825		
60453166008	**L-UMW-FB-1**	EPA 300.0	896825		
60453166011	**L-UMW-7D**	EPA 300.0	896825		
60453166012	**L-UMW-8D**	EPA 300.0	896825		
60453166013	**L-UMW-9D**	EPA 300.0	896825		
60453166014	**L-UMW-FB-2**	EPA 300.0	896825		
60453166015	**L-UMW-2D**	EPA 300.0	896825		
60453166016	**L-BMW-2D**	EPA 300.0	897148		
60453166017	**L-BMW-1D**	EPA 300.0	897148		

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WO# : 60453166

60453166

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

Client Name: Rocksmith Green

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

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

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

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

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

Cooler Temperature (°C): **As-read** 17.9/18.4 **Corr. Factor** 0.0 **Corrected** 17.9/18.4

Temperature should be above freezing to 6°C 2.1/2.0/1.8 2.1/2.0/1.8

Date and initials of person examining contents: AV 5/17/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187/606203	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

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60453166

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC #1		
Project Name:	AMEREN LCPA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
L-UMW-1D	WT	G			5-15-24	1005	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-2D	WT																			
L-UMW-3D	WT	G			5-15-24	1510	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-4D	WT	G			"	1540	8			"	"	"	"	"	"	"	"	"	"	
L-UMW-5D	WT	G			"	0943	8			"	"	"	"	"	"	"	"	"	"	
L-UMW-6D	WT	G			"	1422	8			"	"	"	"	"	"	"	"	"	"	
L-UMW-7D	WT																			
L-UMW-8D	WT																			
L-UMW-9D	WT																			
L-BMW-1D	WT																			

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

Lab Use Only

Proj Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086519

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) Grant Morey
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp (°C)	On Ice:
5	T299	0.0	17.9/18.4/18.8/22/22		

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	5-16-24 1330		5/17/24 0530	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other

Page: 1 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

ENV-FRM-CORQ-0019_v02_110123 ©

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

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

60453166

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 1		
Project Name:	AMEREN LCPA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
L-BMW-2D	WT																				
L-UMW-DUP-1	WT	G			5-15-24	—	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-UMW-DUP-2	WT	G			1	—	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-UMW-FB-1	WT	G			1	1410	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-UMW-FB-2	WT																				
L-UMW-MS-1	WT	G			5-15-24	0943	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Collected @ L-UMW-5D	
L-UMW-MSD-1	WT	G			1	0943	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1	

**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

Lab Use Only

Proj. Mgr: **Jamie Church**
AcctNum / Client ID:
Table #:
Profile / Template: **15857**
Prelog / Bottle Ord. ID: **EZ 3086519**

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By: (Printed Name) Grant Moray
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
5	T299	0.0	17.9/18.4/18/2.1/2.0		

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Grant Moray/Rocksmith	5-16-24 1336		5/17/24 0530
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In- Person [ ] Courier
[ ] FedEX [ ] UPS [ ] Other

Page: 2 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

1/2

Client: Rocksmith Geoeng Profile #

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	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT												2						1		1	2	1				1					
2																																
3	WT												↓						↓		↓	↓	↓									
4	↓												↓						↓		↓	↓	↓									
5													6						3		3	↓	3				3					
6	↓												2						1		1	↓	1				1					
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

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

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

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

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

Work Order Number: 60453166

2h

Client: Rocksmith Geoeng

Profile #

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	BP3C	BP3Z	WPDU	ZPLC	Other		
1																																
2	WT												2						1		1	2	1				1					
3	↓												↓						↓		↓	↓	↓				↓					
4	↓												↓						↓		↓	↓	↓				↓					
5																																
6	WT																					↓										
7	↓																					↓										
8																																
9																																
10																																
11																																
12																																

Container Codes

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

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

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

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

Work Order Number: 60453166

WO# : 60453166

60453166

Pace ANALYTICAL SERVICES	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 ☐ 5/22/24

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

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

Cooler Temperature (°C): As-read 1.9/1.1/1.4 Corr. Factor 0.0 Corrected 1.9/1.1/1.4

Temperature should be above freezing to 6°C 16.9/17.1 16.9/17.1

Date and initials of person examining contents: PV 5/22/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67181/60623	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60453166

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC #1		
Project Name:	AMEREN LCPA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET		County / State origin of sample(s):	Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 7 7 3 3 3 1

Identify Container Preservative Type***: 1 1 1 3 6 2 2 2 3 7

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample:
L-UMW-1D	WT																				
L-UMW-2D	WT																				
L-UMW-3D	WT																				
L-UMW-4D	WT																				
L-UMW-5D	WT																				
L-UMW-6D	WT																				
L-UMW-7D	WT	G			5-21-24	1259	8			✓	✓	✓	✓	–	✓	✓	✓	✓	–		
L-UMW-8D	WT	G			"	1143	8			✓	✓	✓	✓	–	✓	✓	✓	✓	–		
L-UMW-9D	WT	G			"	0955	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
~~EBMW-1D~~ L-UMW-FB-2	WT	G			"	1018	8														

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By: (Printed Name) Grant Mory
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
5	T299	0.0	1.9/1.1/1.4/1.6	1.9/1.1/1.4/1.6	9/7.1

Relinquished by/Company: (Signature) Rocksmith	Date/Time: 5/21/24 @ 1554	Received by/Company: (Signature)	Date/Time: 5/22/24 0550	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

Lab Use Only: Proj. Mgr: Jamie Church; AcctNum / Client ID:; Table #:; Profile / Template: 15857; Prelog / Bottle Ord. ID: EZ 3086519

**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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

only print what you log.
one AG3S: SE-21WET.

Client: Rocksmith Geoeng

Profile # BP1N: SE-38RAD and SE-38RAD02

Site:

Notes Append to 60453166

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

Container Codes

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

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

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

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

Work Order Number: 60453166

WO# : 60453166

60453166

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

Client Name: Rocksmith Geoenv

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: T99 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 22.4/19.4 **Corr. Factor** 0.0 **Corrected** 22.4/19.4

Temperature should be above freezing to 6°C 0.9/1.0 0.9/1.0

Date and initials of person examining contents: PV 5/24/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 67/87/606203	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60453166

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC #1		
Project Name:	AMEREN LCPA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 3 3 3 3 3 1

Identify Container Preservative Type***: 1 1 1 3 6 2 2 2 3 2

**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

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
L-UMW-1D	WT																				
L-UMW-2D	WT	G			5-22-24	1447	8			✓	✓	✓	✓	✓	✓	✓	—	✓	✓		
L-UMW-3D	WT																				
L-UMW-4D	WT																				
L-UMW-5D	WT																				
L-UMW-6D	WT																				
L-UMW-7D	WT																				
L-UMW-8D	WT																				
~~L-UMW-9D~~ L-BMW-2D	WT	G			5-23-24	0925	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-BMW-1D	WT	G			1	1045	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

Lab Use Only: Proj. Mgr: Jamie Church; AcctNum / Client ID:; Table #:; Profile / Template: 15857; Prelog / Bottle Ord. ID: EZ 3086519

Additional Instructions from Pace®:
**App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
***App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg
****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) Grant Marty
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
4	T299	0.0		22.4/19.4/0.5/1.0	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	5-23-24/1530		5/24/24 0500	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

only print what you log.
one AG3S = SI-21WET

Client: Rocksmith Energy

Profile # BPIN: SI-38RAD and SI-38RAD02

Site:

Notes Append to 60453166

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

Container Codes

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

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

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

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

Work Order Number: 60453166

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60453166 Workorder Name: AMEREN LCPA - COC#1

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4						Requested Analysis: 9020B TOX												LAB USE ONLY
1	L-UMW-1D	PS	5/15/2024 10:05	60453166001	Water	1						X												01
2	L-UMW-3D	PS	5/15/2024 15:10	60453166002	Water	1						X												02
3	L-UMW-4D	PS	5/15/2024 15:40	60453166003	Water	1	0					X												
4	L-UMW-5D	RQS	5/15/2024 09:43	60453166004	Water	2						X												MS/MSD 03
5	L-UMW-6D	PS	5/15/2024 14:22	60453166005	Water	1						X												04 05
6	L-UMW-DUP-1	PS	5/15/2024 08:00	60453166006	Water	1						X												06
7	L-UMW-DUP-2	PS	5/15/2024 08:00	60453166007	Water	1						X												07
8	L-UMW-FB-1	PS	5/15/2024 14:10	60453166008	Water	1						X												

L1739105

Transfers	Released By	Date/Time	Received By	Date/Time
1		5/21/24 1700		
2				
3			Christopher R. Gallion	5/22/24 0900

Comments: KS sample location: 6090-R1-S6A

Cooler Temperature on Receipt ____°C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact:	X Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres. Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RA Screen <0.5 mR/hr:	X Y N		

BTOYAL

Internal Transfer Chain of Custody

A216

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60453166 **Workorder Name:** AMEREN LCPA - COC#1

Owner Received Date: 5/17/2024 **Results Requested By:** 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4	Requested Analysis: 9020B TOX	LIT39105 LAB USE ONLY
1	L-UMW-1D	PS	5/15/2024 10:05	60453166001	Water	1	X	
2	L-UMW-3D	PS	5/15/2024 15:10	60453166002	Water	1	X	
3	L-UMW-4D	PS	5/15/2024 15:40	60453166003	Water	1	X	-08
4	L-UMW-5D	RQS	5/15/2024 09:43	60453166004	Water	1	X	-09
5	L-UMW-6D	PS	5/15/2024 14:22	60453166005	Water	1	X	
6	L-UMW-DUP-1	PS	5/15/2024 08:00	60453166006	Water	1	X	
7	L-UMW-DUP-2	PS	5/15/2024 08:00	60453166007	Water	1	X	
8	L-UMW-FB-1	PS	5/15/2024 14:10	60453166008	Water	1	X	
1	L-UMW-7D	PS	5/21/2024 12:59	60453166011	Water	1	X	-10
2	L-UMW-8D	PS	5/21/2024 11:42	60453166012	Water	1	X	-11
3	L-UMW-9D	PS	5/21/2024 09:55	60453166013	Water	1	X	-12
4	L-UMW-FB-2	PS	5/21/2024 10:18	60453166014	Water	1	X	-13

Transfers	Released By	Date/Time	Received By	Date/Time
1				05-23-24 0900
2				
3				

Comments: KS sample location: 6090-R7-S6A

Cooler Temperature on Receipt 1.0+0.4=1.4 °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

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Sample Receipt Checklist

		If Applicable	
COC Seal Present/Intact:	Y N	VOA Zero Headspace:	Y N
COC Signed/Accurate:	Y N	Pres. Correct/Check:	Y N
Bottles arrive intact:	Y N		
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RA Screen <0.5 mR/hr:	Y N		

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60453166 Workorder Name: AMEREN LCPA

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4						Requested Analysis: 9020B TOX												LAB USE ONLY
1	L-UMW-1D	PS	5/15/2024 10:05	60453166001	Water	1						X												
2	L-UMW-3D	PS	5/15/2024 15:10	60453166002	Water	1						X												
3	L-UMW-4D	PS	5/15/2024 15:40	60453166003	Water	1						X												
4	L-UMW-5D	RQS	5/15/2024 09:43	60453166004	Water	1						X												
5	L-UMW-6D	PS	5/15/2024 14:22	60453166005	Water	1						X												
6	L-UMW-DUP-1	PS	5/15/2024 08:00	60453166006	Water	1						X												
7	L-UMW-DUP-2	PS	5/15/2024 08:00	60453166007	Water	1						X												
8	L-UMW-FB-1	PS	5/15/2024 14:10	60453166008	Water	1						X												
9	L-UMW-7D	PS	5/21/2024 12:59	60453166011	Water	1						X												
10	L-UMW-8D	PS	5/21/2024 11:42	60453166012	Water	1						X												
11	L-UMW-9D	PS	5/21/2024 09:55	60453166013	Water	1						X												
12	L-UMW-FB-2	PS	5/21/2024 10:18	60453166014	Water	1						X												
1	L-UMW-2D •	PS	5/22/2024 14:47	60453166015	Water	1						X												01
2	L-BMW-2D •	PS	5/22/2024 09:25	60453166016	Water	1						X												02
3	L-BMW-1D •	PS	5/22/2024 10:45	60453166017	Water	1						X												03

L174072

EDA6 4.9=5.0

7146 2329 6292

Sample Receipt Checklist

		If Applicable	
COC Seal Present/Intact:	X Y N	VOA Zero Headspace:	Y N
COC Signed/Accurate:	Y N	Pres. Correct/Check:	Y N
Bottles arrive intact:	Y N		
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RA Screen <0.5 mR/hr:	X Y N		

Containers: 3

					Comments
Transfers	Released By	Date/Time	Received By	Date/Time	KS sample location: 6090-R7-S6A
1	Allison Shaw	5/28/24 1600	Ashley Boyd	05/29/2024 0900	
2					
3					

Cooler Temperature on Receipt _____ °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

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This chain of custody is considered complete as is since this information is available in the owner laboratory.

Internal Transfer Chain of Custody

Rush Multiplier_____X

Samples Pre-Logged into eCOC

State Of Origin: MO

Cert. Needed: ☐ Yes ☒ No

Workorder: 60453166 Workorder Name: AMEREN LCPA - COC#1

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To

Jamie Church
Pace Analytical Kansas
9608 Loiret Blvd.
Lenexa, KS 66219
Phone 314-838-7223

Subcontract To

Pace Analytical Pittsburgh
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226	Radium 228	LAB USE ONLY
1	L-UMW-1D	PS	5/15/2024 10:05	60453166001	Water	1	X	X	
2	L-UMW-3D	PS	5/15/2024 15:10	60453166002	Water	1	X	X	
3	L-UMW-4D	PS	5/15/2024 15:40	60453166003	Water	1	X	X	
4	L-UMW-5D	RQS	5/15/2024 09:43	60453166004	Water	1	X	X	
5	L-UMW-6D	PS	5/15/2024 14:22	60453166005	Water	1	X	X	
6	L-UMW-DUP-1	PS	5/15/2024 08:00	60453166006	Water	1	X	X	
7	L-UMW-DUP-2	PS	5/15/2024 08:00	60453166007	Water	1	X	X	
8	L-UMW-FB-1	PS	5/15/2024 14:10	60453166008	Water	1	X	X	
9	L-UMW-MS-1	PS	5/15/2024 09:43	60453166009	Water	1	X	X	
10	L-UMW-MSD-1	PS	5/15/2024 09:43	60453166010	Water	1	X	X	
1	L-UMW-7D	PS	5/21/2024 12:59	60453166011	Water	2	X	X	011
2	L-UMW-8D	PS	5/21/2024 11:42	60453166012	Water	2	X	X	012
3	L-UMW-9D	PS	5/21/2024 09:55	60453166013	Water	2	X	X	013
4	L-UMW-FB-2	PS	5/21/2024 10:18	60453166014	Water	2	X	X	014

WO# : 30686297

30686297

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[signature]	5-22-24 1700			KS sample location: RECEIVING
2			[signature]	5/23/24 1020	
3					

Cooler Temperature on Receipt ___ °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO# : 30686297

PM: MAR Due Date: 06/13/24

CLIENT: PACE_GO_LEKS

DC#_Title: ENV-FRM-GBUR-0088 v07_Sampl Greensburg

Effective Date: 01/04/2024

WO# : 30686297

PM: MAR Due Date: 06/13/24

CLIENT: PACE_60_LEKS

Client Name: Pace - Lenexa, KS

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 7146 2379 3661

Initial / Date

Examined By: EL 5/23/24

Labeled By: EL 5/23/24

Temped By: —

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

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

Cooler Temperature: Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

pH paper Lot# 10D2931 | D.P.D. Residual Chlorine Lot # —

Comments:	Yes	No	NA	
Chain of Custody Present	✓			1.
Chain of Custody Filled Out:	✓			2.
-Were client corrections present on COC		✓		
Chain of Custody Relinquished	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous samples field filtered:			✓	13.
Organic Samples checked for dichlorination			✓	14:
Filtered volume received for dissolved tests:			✓	15:
All containers checked for preservation:	✓			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				
All containers meet method preservation requirements:	✓			Initial when completed: EL Date/Time of Preservation:
				Lot# of added Preservative:
8260C/D: Headspace in VOA Vials (> 6mm)			✓	17.
624.1: Headspace in VOA Vials (0mm)			✓	18.
Radon: Headspace in RAD Vials (0mm)			✓	19.
Trip Blank Present:			✓	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	✓			Initial when completed: PS Date: 5/23/24 Survey Meter SN: 25014380

Comments: Received samples 011, 012, 013, & 014 from prior Workorder 30686297

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Qualtrax ID: 55680

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☐ No

Workorder: 60453166 Workorder Name: AMEREN LCPA

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30686297

30686297

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Radium 226	Radium 228												LAB USE ONLY
1																									
~~2~~	~~L-UMW-3D~~	~~PS~~	~~5/15/2024 15:10~~	~~60453166002~~	~~Water~~	~~1~~						~~X~~	~~X~~												
3	L-UMW-4D	PS	5/15/2024 15:40	60453166003	Water	1						X	X												
4	L-UMW-5D	RQS	5/15/2024 09:43	60453166004	Water	1						X	X												
5																									
9	L-UMW-MS-1	PS	5/15/2024 09:43	60453166009	Water	1						X	X												
10	L-UMW-MSD-1	PS	5/15/2024 09:43	60453166010	Water	1						X	X												
11	L-UMW-7D	PS	5/21/2024 12:59	60453166011	Water	2						X	X												
12	L-UMW-8D	PS	5/21/2024 11:42	60453166012	Water	2						X	X												
13	L-UMW-9D	PS	5/21/2024 09:55	60453166013	Water	2						X	X												
14																									
1	L-UMW-2D	PS	5/22/2024 14:47	60453166015	Water	2						X	X												015
2	L-BMW-2D	PS	5/22/2024 09:25	60453166016	Water	2						X	X												016
3	L-BMW-1D	PS	5/22/2024 10:45	60453166017	Water	2						X	X												017

30686297

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[signature]	5/28/24 1600	Evan Laughlin	5/29/24 1000	KS sample location: FEDEX
2					
3					

Cooler Temperature on Receipt ___ °C	Custody Seal (Y) or N	Received on Ice Y or (N)	Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

	DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-Greensburg
Pace ANALYTICAL SERVICES	Effective Date: 01/04/2024

Client Name: Pace-Lenexa, KS **Project #:** 30686297

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 7146 2379 6281

Initial / Date

Examined By: EJ 5/29/24
Labeled By: EJ 5/29/24
Temped By: —

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

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

Cooler Temperature: Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

pH paper Lot# 10D2931 **D.P.D. Residual Chlorine Lot #** —

Comments:	Yes	No	NA	
Chain of Custody Present	✓			1.
Chain of Custody Filled Out:	✓			2.
-Were client corrections present on COC		✓		
Chain of Custody Relinquished	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID				
Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous samples field filtered:			✓	13.
Organic Samples checked for dichlorination			✓	14:
Filtered volume received for dissolved tests:			✓	15:
All containers checked for preservation:	✓			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				pH<2
All containers meet method preservation requirements:	✓			Initial when completed: EJ Date/Time of Preservation:
				Lot# of added Preservative:
8260C/D: Headspace in VOA Vials (> 6mm)			✓	17.
624.1: Headspace in VOA Vials (0mm)			✓	18.
Radon: Headspace in RAD Vials (0mm)			✓	19.
Trip Blank Present:			✓	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	✓			Initial when completed: EJ Date: 5/29/24 Survey Meter SN: 250143 80

Comments:

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Qualtrax ID: 55680

Memorandum

January 9, 2025

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23007-24
CC:	Mark Haddock, Jeffrey Ingram		
From:	Jack Rasmussen	**Email:**	Jack.Rasmussen@Rocksmithgeo.com
RE:	**Data Validation Summary, Labadie Energy Center – LCPA – Data Package 60453166**		

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 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). When the associated sample result was a non-detect, and matrix spike recovery was below 10%, the result was rejected (R).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren LCPA
Project Number: 23007-24
Reviewer: J. Rasmussen
Validation Date: 1/9/2025

Laboratory: Pace Analytical
SDG #: 60453166
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide); EPA 903.1/904.0 (Radium 226+228)
Sample Names L-UMW-1D, L-UMW-3D, L-UMW-4D, L-UMW-5D, L-UMW-6D, L-UMW-DUP-1, L-UMW-DUP-2, L-UMW-FB-1, L-UMW-MS-1, L-UMW-MSD-1, L-UMW-7D, L-UMW-8D, L-UMW-9D, L-UMW-FB-2, L-UMW-2D, L-BMW-2D, L-BMW-1D

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			5/15/2024 - 5/23/2024
b) Sampling team indicated?	x			GTM/ANT/JTA
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

General:

Ferrous iron samples were all analyzed outside of hold time. Results qualified as estimates.

Chloride and/or sulfate were diluted in several samples; no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Field Blanks: L-UMW-FB-1 @ L-UMW-6D: boron (16.7J), result > RL and 10x blank, no qualification necessary.

L-UMW-FB-2 @ L-UMW-9D: ferrous iron (0.044J), result > RL and 10x blank, no qualification necessary.

Duplicates:

L-UMW-DUP-1 @ L-UMW-4D: Chromium detected in original sample and non-detect in field duplicate. Results qualified as estimates.

Field duplicate RPD exceeds control limit (20%) for ferric iron (42%), results qualified as estimates.

Radium-228 non-detect in original sample and detected in field duplicate, results qualified as estimates.

L-UMW-DUP-2 @ L-UMW-3D: Radium-228 detected in original sample and non-detect in field duplicate: results qualified as estimates. Field duplicate RPD exceeds control limit (20%) for selenium (23%), results qualified as estimates.

Lab duplicate max RPD: 10%: alkalinity, TDS; 15%: chloride, fluoride, sulfate; 20%: ferrous iron, sulfide

MS/MSD:

3544959: MS recovery high for calcium and sodium, associated with unrelated sample, no qualification necessary.

3544960/3544961: MS recovery low for boron, calcium and sodium, associated with sample -004. MSD and RPD within control limits, no qualification necessary.

3546455: MS recovery high for barium and sodium. Associated with unrelated sample, no qualification necessary.

3546456/3546457: MSD recovery low for calcium, MS and RPD with control limits. Associated with unrelated sample, no qualification necessary.

3546717/3546718: MS recovery low for boron, calcium and sodium, MS and RPD within control limits. Associated with unrelated sample, no qualification necessary.

3546719: MS recovery low for calcium, associated with unrelated sample, no qualification necessary.

3542501/3542502: MS/MSD recovery low for sulfide, RPD within control limits. Associated with sample -004, result qualified as estimate.

3549545/3549455: MS/MSD recovery high for sulfate, associated with unrelated sample, no qualification necessary.

3549457/3549458: MS/MSD recovery high for fluoride. MS recovery high for sulfate, MSD and RPD within control limits. Associated with unrelated sample, no qualification necessary.

3549462/3549463: MS/MSD recovery high for chloride and sulfate. MS/MSD recovery low for fluoride (<10%). Associated with sample -004. Chloride and sulfate results qualified as estimated, fluoride result is a ND and therefore rejected.

3551050/3551051: MS recovery high for chloride, RPD outside control limits. MS/MSD recovery high for fluoride, MS recovery high for sulfate. Associated with unrelated sample, no qualification necessary.

3551052: MS recovery high for chloride, fluoride and sulfate. Associated with unrelated sample, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-1D	Iron, Ferrous	0.86	J	Analyzed outside of hold time controls
L-UMW-3D	"	0.13	J	"
L-UMW-4D	"	0.019	J	"
L-UMW-5D	"	0.11	J	"
L-UMW-6D	"	0.23	J	"
L-UMW-DUP-1	"	0.19	J	"
L-UMW-DUP-2	"	0.13	J	"
L-UMW-FB-1	"	0.041	UJ	"
L-UMW-7D	"	2.2	J	"
L-UMW-8D	"	0.70	J	"
L-UMW-9D	"	5.9	J	"
L-UMW-FB-2	"	0.044	J	"
L-UMW-2D	"	1.0	J	"
L-BMW-2D	"	1.1	J	"
L-BMW-1D	"	1.3	J	"
L-UMW-4D	Chromium	0.31	J	Detected in original sample, non-detect in field duplicate
L-UMW-DUP-1	"	0.3	UJ	"
L-UMW-4D	Ferric iron	0.074	J	Field DUP RPD exceeds control limits
L-UMW-DUP-1	"	0.048	J	"
L-UMW-4D	Radium-228	0.692	UJ	Non-detect in original sample, detected in field duplicate
L-UMW-DUP-1	"	0.937 ± 0.429	J	"
L-UMW-3D	Radium-228	1.06 ± 0.435	J	Detected in original sample, non-detect in field duplicate
L-UMW-DUP-2	"	0.885	UJ	"
L-UMW-3D	Selenium	0.29	J	Field DUP RPD exceeds control limits
L-UMW-DUP-2	"	0.23	J	"
L-UMW-5D	Sulfide	0.28	J-	MS/MSD recovery low
L-UMW-5D	Chloride	23.7	J+	MS/MSD recovery high
"	Sulfate	279	J+	"
"	Fluoride	0.12	R	MS/MSD recovery <10%, result is a non-detect

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Date: 1/9/2025

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

January 07, 2025

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

RE: Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between May 17, 2024 and May 24, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

REV-1, Report revised to remove parameters not required under the CCR Rule.

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

CERTIFICATIONS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Arkansas Certification #: 88-00679
Colorado Division of Oil and Public Safety
Illinois Certification #: 2000302023-6
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 LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60453167002	**L-TP-2M**	Water	05/15/24 12:39	05/17/24 05:30
60453167003	**L-TP-2D**	Water	05/15/24 13:25	05/17/24 05:30
60453167004	**L-AMW-8**	Water	05/17/24 13:59	05/18/24 05:00
60453167005	**L-CA-FB-1**	Water	05/17/24 13:50	05/18/24 05:00
60453167007	**L-MW-33(D)**	Water	05/21/24 13:00	05/22/24 05:50
60453167008	**L-S-1**	Water	05/20/24 11:05	05/22/24 05:50
60453167011	**L-TP-3M**	Water	05/21/24 10:00	05/22/24 05:50
60453167012	**L-TP-3D**	Water	05/21/24 11:17	05/22/24 05:50
60453167013	**L-CA-DUP-1**	Water	05/20/24 00:00	05/22/24 05:50
60453167014	**L-CA-DUP-2**	Water	05/21/24 00:00	05/22/24 05:50
60453167015	**L-CA-DUP-3**	Water	05/21/24 08:00	05/22/24 05:50
60453167016	**L-MS-1**	Water	05/21/24 08:00	05/22/24 05:50
60453167017	**L-MSD-1**	Water	05/21/24 10:00	05/22/24 05:50
60453167021	**L-MW-24**	Water	05/22/24 16:05	05/24/24 05:00
60453167023	**L-MW-34(D)**	Water	05/22/24 10:41	05/24/24 05:00
60453167024	**L-MW-35(D)**	Water	05/22/24 12:50	05/24/24 05:00
60453167025	**L-TP-1D**	Water	05/22/24 14:40	05/24/24 05:00
60453167026	**L-TP-4D**	Water	05/21/24 16:54	05/24/24 05:00
60453167027	**L-AM-1S**	Water	05/22/24 10:47	05/24/24 05:00
60453167028	**L-AM-1D**	Water	05/22/24 11:50	05/24/24 05:00
60453167029	**L-CA-FB-2**	Water	05/22/24 10:12	05/24/24 05:00
60453167030	**L-CA-FB-3**	Water	05/22/24 14:50	05/24/24 05:00
60453167031	**L-MS-2**	Water	05/22/24 11:50	05/24/24 05:00
60453167032	**L-MSD-2**	Water	05/22/24 11:50	05/24/24 05:00
60453167022	**L-MW-26**	Water	05/22/24 12:01	05/24/24 05:00
60453167020	**L-LMW-1S**	Water	05/21/24 15:15	05/24/24 05:00
60453167001	**L-LMW-2S**	Water	05/15/24 13:02	05/17/24 05:30
60453167006	**L-LMW-4S**	Water	05/17/24 12:32	05/18/24 05:00
60453167010	**L-LMW-7S**	Water	05/20/24 13:05	05/22/24 05:50
60453167009	**L-LMW-8S**	Water	05/20/24 14:44	05/22/24 05:50
60453167018	**L-BMW-1S**	Water	05/23/24 12:45	05/24/24 05:00
60453167019	**L-BMW-2S**	Water	05/23/24 09:28	05/24/24 05:00

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60453167002	**L-TP-2M**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167003	**L-TP-2D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167004	**L-AMW-8**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167005	**L-CA-FB-1**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167007	**L-MW-33(D)**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167008	**L-S-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167011	**L-TP-3M**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167012	**L-TP-3D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167013	**L-CA-DUP-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167014	**L-CA-DUP-2**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167015	**L-CA-DUP-3**	EPA 200.7	JXD	13	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167016	**L-MS-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60453167017	**L-MSD-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60453167021	**L-MW-24**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167023	**L-MW-34(D)**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167024	**L-MW-35(D)**	EPA 200.7	JXD	13	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167025	**L-TP-1D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167026	**L-TP-4D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167027	**L-AM-1S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167028	**L-AM-1D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167029	**L-CA-FB-2**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167030	**L-CA-FB-3**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167031	**L-MS-2**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60453167032	**L-MSD-2**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60453167022	**L-MW-26**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167020	**L-LMW-1S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167001	**L-LMW-2S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167006	**L-LMW-4S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167010	**L-LMW-7S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167009	**L-LMW-8S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167018	**L-BMW-1S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K
60453167019	**L-BMW-2S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SR1	1	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 3500-Fe B#4	CRN2	1	PASI-K
		SM 3500-Fe B#4	DLJ	1	PASI-K
		SM 4500-S-2 D	DLJ	1	PASI-K
		EPA 300.0	PL	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-2M **Lab ID: 60453167002** Collected: 05/15/24 12:39 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**135**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:48	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:48	7440-41-7	
Boron	**826**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:48	7440-42-8	
Calcium	**111000**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:48	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:48	7440-48-4	
Iron	**4000**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:48	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:48	7439-92-1	
Lithium	**34.7**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:48	7439-93-2	
Magnesium	**17300**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:48	7439-95-4	
Manganese	**536**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:48	7439-96-5	
Molybdenum	**53.9**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:48	7439-98-7	
Potassium	**6780**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:48	7440-09-7	
Sodium	**62700**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:48	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 11:20	7440-36-0	
Arsenic	**0.52J**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 11:20	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 11:20	7440-43-9	
Chromium	**0.64J**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 11:20	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 11:20	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 11:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:24	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**334**	mg/L	20.0	10.5	1		05/24/24 17:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**560**	mg/L	10.0	10.0	1		05/20/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.7**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.28**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-2M **Lab ID: 60453167002** Collected: 05/15/24 12:39 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.4**	mg/L	20.0	10.5	20		06/10/24 15:46	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/10/24 15:31	16984-48-8	N2
Sulfate	**127**	mg/L	20.0	11.0	20		06/10/24 15:46	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-2D **Lab ID: 60453167003** Collected: 05/15/24 13:25 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**115**	ug/L	5.0	0.64	1	05/24/24 10:17	05/30/24 12:02	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 10:17	05/30/24 12:02	7440-41-7	
Boron	**1380**	ug/L	100	6.4	1	05/24/24 10:17	05/30/24 12:02	7440-42-8	
Calcium	**98900**	ug/L	200	26.9	1	05/24/24 10:17	05/30/24 12:02	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 10:17	05/30/24 12:02	7440-48-4	
Iron	**3600**	ug/L	50.0	9.1	1	05/24/24 10:17	05/30/24 12:02	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 10:17	05/30/24 12:02	7439-92-1	
Lithium	**44.5**	ug/L	10.0	3.7	1	05/24/24 10:17	05/30/24 12:02	7439-93-2	
Magnesium	**17400**	ug/L	50.0	20.1	1	05/24/24 10:17	05/30/24 12:02	7439-95-4	
Manganese	**316**	ug/L	5.0	0.39	1	05/24/24 10:17	05/30/24 12:02	7439-96-5	
Molybdenum	**97.6**	ug/L	20.0	1.0	1	05/24/24 10:17	05/30/24 12:02	7439-98-7	
Potassium	**5600**	ug/L	500	69.7	1	05/24/24 10:17	05/30/24 12:02	7440-09-7	
Sodium	**58400**	ug/L	500	115	1	05/24/24 10:17	05/30/24 12:02	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 11:23	7440-36-0	
Arsenic	**11.6**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 11:23	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 11:23	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 11:23	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 11:23	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 11:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:26	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**275**	mg/L	20.0	10.5	1		05/24/24 17:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**528**	mg/L	10.0	10.0	1		05/20/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.4**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.24**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-2D **Lab ID: 60453167003** Collected: 05/15/24 13:25 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**27.4**	mg/L	20.0	10.5	20		06/10/24 16:16	16887-00-6	
Fluoride	**0.14J**	mg/L	0.20	0.12	1		06/10/24 16:01	16984-48-8	N2
Sulfate	**172**	mg/L	20.0	11.0	20		06/10/24 16:16	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AMW-8 **Lab ID: 60453167004** Collected: 05/17/24 13:59 Received: 05/18/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**115**	ug/L	5.0	0.64	1	05/24/24 10:17	05/30/24 12:50	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 10:17	05/30/24 12:50	7440-41-7	
Boron	**8310**	ug/L	100	6.4	1	05/24/24 10:17	05/30/24 12:50	7440-42-8	
Calcium	**71000**	ug/L	200	26.9	1	05/24/24 10:17	05/30/24 12:50	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 10:17	05/30/24 12:50	7440-48-4	
Iron	**2470**	ug/L	50.0	9.1	1	05/24/24 10:17	05/30/24 12:50	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 10:17	05/30/24 12:50	7439-92-1	
Lithium	**20.8**	ug/L	10.0	3.7	1	05/24/24 10:17	05/30/24 12:50	7439-93-2	
Magnesium	**8640**	ug/L	50.0	20.1	1	05/24/24 10:17	05/30/24 12:50	7439-95-4	
Manganese	**329**	ug/L	5.0	0.39	1	05/24/24 10:17	05/30/24 12:50	7439-96-5	
Molybdenum	**367**	ug/L	20.0	1.0	1	05/24/24 10:17	05/30/24 12:50	7439-98-7	
Potassium	**6360**	ug/L	500	69.7	1	05/24/24 10:17	05/30/24 12:50	7440-09-7	
Sodium	**77500**	ug/L	500	115	1	05/24/24 10:17	05/30/24 12:50	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/03/24 10:41	06/14/24 13:31	7440-36-0	
Arsenic	**0.35J**	ug/L	1.0	0.13	1	06/03/24 10:41	06/14/24 13:31	7440-38-2	
Cadmium	**0.14J**	ug/L	0.50	0.050	1	06/03/24 10:41	06/14/24 13:31	7440-43-9	
Chromium	**0.37J**	ug/L	1.0	0.30	1	06/03/24 10:41	06/14/24 13:31	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/03/24 10:41	06/14/24 13:31	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/03/24 10:41	06/14/24 13:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:29	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**86.3**	mg/L	20.0	10.5	1		05/24/24 17:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**530**	mg/L	5.0	5.0	1		05/28/24 10:40		H1
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**2.1**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.38**	mg/L	0.20	0.041	1		05/21/24 09:40	15438-31-0	H1,H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AMW-8 **Lab ID: 60453167004** Collected: 05/17/24 13:59 Received: 05/18/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/21/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**23.6**	mg/L	20.0	10.5	20		06/10/24 17:00	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/10/24 16:45	16984-48-8	N2
Sulfate	**262**	mg/L	20.0	11.0	20		06/10/24 17:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-1 **Lab ID: 60453167005** Collected: 05/17/24 13:50 Received: 05/18/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	05/24/24 15:18	06/04/24 11:37	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:18	06/04/24 11:37	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	05/24/24 15:18	06/04/24 11:37	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	05/24/24 15:18	06/04/24 11:37	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 15:18	06/04/24 11:37	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	05/24/24 15:18	06/04/24 11:37	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 15:18	06/04/24 11:37	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	05/24/24 15:18	06/04/24 11:37	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	05/24/24 15:18	06/04/24 11:37	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	05/24/24 15:18	06/04/24 11:37	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	05/24/24 15:18	06/04/24 11:37	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	05/24/24 15:18	06/04/24 11:37	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	05/24/24 15:18	06/04/24 11:37	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/03/24 10:41	06/14/24 13:34	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	06/03/24 10:41	06/14/24 13:34	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/03/24 10:41	06/14/24 13:34	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/03/24 10:41	06/14/24 13:34	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/03/24 10:41	06/14/24 13:34	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/03/24 10:41	06/14/24 13:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:35	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		05/24/24 17:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**310**	mg/L	5.0	5.0	1		05/21/24 11:26		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		05/21/24 09:40	15438-31-0	H1,H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-1 **Lab ID: 60453167005** Collected: 05/17/24 13:50 Received: 05/18/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/21/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		06/10/24 17:15	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/10/24 17:15	16984-48-8	N2
Sulfate	**<0.55**	mg/L	1.0	0.55	1		06/10/24 17:15	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-33(D) **Lab ID: 60453167007** Collected: 05/21/24 13:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**117**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:26	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:26	7440-41-7	
Boron	**8500**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:26	7440-42-8	
Calcium	**105000**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:26	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:26	7440-48-4	
Iron	**5470**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:26	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:26	7439-92-1	
Lithium	**33.7**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:26	7439-93-2	
Magnesium	**22500**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:26	7439-95-4	
Manganese	**320**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:26	7439-96-5	
Molybdenum	**667**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:26	7439-98-7	
Potassium	**6620**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:26	7440-09-7	
Sodium	**90600**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:26	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 14:33	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 14:33	7440-38-2	
Cadmium	**0.25J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 14:33	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 14:33	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 14:33	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 14:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:40	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**128**	mg/L	20.0	10.5	1		05/24/24 17:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**730**	mg/L	10.0	10.0	1		05/22/24 15:18		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**2.8**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.7**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-33(D) **Lab ID: 60453167007** Collected: 05/21/24 13:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**28.0**	mg/L	20.0	10.5	20		06/11/24 19:28	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/11/24 19:11	16984-48-8	N2
Sulfate	**430**	mg/L	50.0	27.5	50		06/11/24 19:46	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-S-1 **Lab ID: 60453167008** Collected: 05/20/24 11:05 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**357**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:28	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:28	7440-41-7	
Boron	**163**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:28	7440-42-8	
Calcium	**137000**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:28	7440-70-2	
Cobalt	**2.2J**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:28	7440-48-4	
Iron	**153**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:28	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:28	7439-92-1	
Lithium	**30.7**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:28	7439-93-2	
Magnesium	**21600**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:28	7439-95-4	
Manganese	**960**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:28	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:28	7439-98-7	
Potassium	**23400**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:28	7440-09-7	
Sodium	**4340**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:28	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 14:35	7440-36-0	
Arsenic	**0.66J**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 14:35	7440-38-2	
Cadmium	**0.14J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 14:35	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 14:35	7440-47-3	
Selenium	**0.62J**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 14:35	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 14:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:42	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**439**	mg/L	20.0	10.5	1		05/24/24 17:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**451**	mg/L	10.0	10.0	1		05/22/24 15:15		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.11**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.044J**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-S-1 **Lab ID: 60453167008** Collected: 05/20/24 11:05 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**6.2**	mg/L	1.0	0.53	1		06/11/24 20:03	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/11/24 20:03	16984-48-8	N2
Sulfate	**19.8**	mg/L	2.0	1.1	2		06/12/24 12:23	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-3M **Lab ID: 60453167011** Collected: 05/21/24 10:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**232**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:40	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:40	7440-41-7	
Boron	**7190**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:40	7440-42-8	M1,P6
Calcium	**93300**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:40	7440-70-2	M1,P6
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:40	7440-48-4	
Iron	**6490**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:40	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:40	7439-92-1	
Lithium	**29.3**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:40	7439-93-2	
Magnesium	**19200**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:40	7439-95-4	
Manganese	**1010**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:40	7439-96-5	
Molybdenum	**367**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:40	7439-98-7	
Potassium	**5030**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:40	7440-09-7	
Sodium	**88500**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:40	7440-23-5	M1,P6
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 14:45	7440-36-0	
Arsenic	**0.51J**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 14:45	7440-38-2	
Cadmium	**0.15J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 14:45	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 14:45	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 14:45	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 14:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:54	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**149**	mg/L	20.0	10.5	1		05/28/24 13:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**640**	mg/L	10.0	10.0	1		05/22/24 15:18		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.0**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**3.5**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-3M **Lab ID: 60453167011** Collected: 05/21/24 10:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**30.7**	mg/L	20.0	10.5	20		06/11/24 23:14	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/11/24 22:05	16984-48-8	N2
Sulfate	**357**	mg/L	20.0	11.0	20		06/11/24 23:14	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-3D **Lab ID: 60453167012** Collected: 05/21/24 11:17 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**72.8**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:46	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:46	7440-41-7	
Boron	**9410**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:46	7440-42-8	
Calcium	**94100**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:46	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:46	7440-48-4	
Iron	**4200**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:46	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:46	7439-92-1	
Lithium	**35.1**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:46	7439-93-2	
Magnesium	**20400**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:46	7439-95-4	
Manganese	**164**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:46	7439-96-5	
Molybdenum	**517**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:46	7439-98-7	
Potassium	**6830**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:46	7440-09-7	
Sodium	**120000**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 14:52	7440-36-0	
Arsenic	**6.8**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 14:52	7440-38-2	
Cadmium	**0.19J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 14:52	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 14:52	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 14:52	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 14:52	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 15:05	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**126**	mg/L	20.0	10.5	1		05/28/24 14:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**773**	mg/L	13.3	13.3	1		05/22/24 15:18		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.0**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.2**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-3D **Lab ID: 60453167012** Collected: 05/21/24 11:17 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.019J**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**31.6**	mg/L	20.0	10.5	20		06/12/24 01:16	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 00:58	16984-48-8	N2
Sulfate	**445**	mg/L	50.0	27.5	50		06/12/24 01:33	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-1 **Lab ID: 60453167013** Collected: 05/20/24 00:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**359**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:48	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:48	7440-41-7	
Boron	**171**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:48	7440-42-8	
Calcium	**138000**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:48	7440-70-2	M1,P6
Cobalt	**2.3J**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:48	7440-48-4	
Iron	**136**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:48	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:48	7439-92-1	
Lithium	**33.0**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:48	7439-93-2	
Magnesium	**21800**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:48	7439-95-4	
Manganese	**904**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:48	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:48	7439-98-7	
Potassium	**23500**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:48	7440-09-7	
Sodium	**4400**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:48	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 14:57	7440-36-0	
Arsenic	**0.64J**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 14:57	7440-38-2	
Cadmium	**0.13J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 14:57	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 14:57	7440-47-3	
Selenium	**0.70J**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 14:57	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 14:57	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 15:08	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**438**	mg/L	20.0	10.5	1		05/28/24 14:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**450**	mg/L	10.0	10.0	1		05/22/24 15:15		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.054**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.082J**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-1 **Lab ID: 60453167013** Collected: 05/20/24 00:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**6.8**	mg/L	1.0	0.53	1		06/12/24 01:50	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 01:50	16984-48-8	N2
Sulfate	**20.8**	mg/L	5.0	2.8	5		06/12/24 02:08	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-2 **Lab ID: 60453167014** Collected: 05/21/24 00:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**77.1**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:52	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:52	7440-41-7	
Boron	**9890**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:52	7440-42-8	
Calcium	**99400**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:52	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:52	7440-48-4	
Iron	**4430**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:52	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:52	7439-92-1	
Lithium	**35.2**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:52	7439-93-2	
Magnesium	**21700**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:52	7439-95-4	
Manganese	**165**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:52	7439-96-5	
Molybdenum	**518**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:52	7439-98-7	
Potassium	**7070**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:52	7440-09-7	
Sodium	**127000**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:52	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 15:00	7440-36-0	
Arsenic	**6.8**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 15:00	7440-38-2	
Cadmium	**0.18J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 15:00	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 15:00	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 15:00	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 15:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 15:10	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**126**	mg/L	20.0	10.5	1		05/28/24 14:28		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**767**	mg/L	13.3	13.3	1		05/28/24 10:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.4**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-2 **Lab ID: 60453167014** Collected: 05/21/24 00:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.018J**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**30.1**	mg/L	20.0	10.5	20		06/12/24 03:00	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 02:43	16984-48-8	N2
Sulfate	**549**	mg/L	200	110	200		06/12/24 03:52	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-3 **Lab ID: 60453167015** Collected: 05/21/24 08:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**117**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:54	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:54	7440-41-7	
Boron	**8660**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:54	7440-42-8	
Calcium	**107000**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:54	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:54	7440-48-4	
Iron	**5400**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:54	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:54	7439-92-1	
Lithium	**36.4**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:54	7439-93-2	
Magnesium	**23100**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:54	7439-95-4	
Manganese	**327**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:54	7439-96-5	
Molybdenum	**679**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:54	7439-98-7	
Potassium	**6690**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:54	7440-09-7	
Sodium	**91300**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 15:02	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 15:02	7440-38-2	
Cadmium	**0.23J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 15:02	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 15:02	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 15:02	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 15:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 15:12	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**127**	mg/L	20.0	10.5	1		05/28/24 14:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**744**	mg/L	13.3	13.3	1		05/28/24 10:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.5**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.9**	mg/L	0.20	0.041	1		05/22/24 14:38	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-3 **Lab ID: 60453167015** Collected: 05/21/24 08:00 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.019J**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.8**	mg/L	10.0	5.3	10		06/12/24 04:27	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 04:10	16984-48-8	N2
Sulfate	**425**	mg/L	50.0	27.5	50		06/12/24 04:44	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-24 **Lab ID: 60453167021** Collected: 05/22/24 16:05 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**144**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:40	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:40	7440-41-7	
Boron	**73.1J**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:40	7440-42-8	
Calcium	**110000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:40	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:40	7440-48-4	
Iron	**19.3J**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:40	7439-89-6	B
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:40	7439-92-1	
Lithium	**15.5**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:40	7439-93-2	
Magnesium	**21400**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:40	7439-95-4	
Manganese	**6.0**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:40	7439-96-5	
Molybdenum	**2.1J**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:40	7439-98-7	
Potassium	**4480**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:40	7440-09-7	
Sodium	**6710**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:40	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.18J**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 15:56	7440-36-0	
Arsenic	**0.72J**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 15:56	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 15:56	7440-43-9	
Chromium	**0.44J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 15:56	7440-47-3	
Selenium	**22.7**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 15:56	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 15:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:30	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**349**	mg/L	20.0	10.5	1		05/28/24 15:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**409**	mg/L	10.0	10.0	1		05/28/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.044J**	mg/L	0.20	0.041	1		05/29/24 13:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-24 **Lab ID: 60453167021** Collected: 05/22/24 16:05 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.6**	mg/L	1.0	0.53	1		06/12/24 09:08	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 09:08	16984-48-8	N2
Sulfate	**21.9**	mg/L	2.0	1.1	2		06/12/24 09:23	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-34(D) **Lab ID: 60453167023** Collected: 05/22/24 10:41 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**114**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:49	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:49	7440-41-7	
Boron	**9110**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:49	7440-42-8	
Calcium	**121000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:49	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:49	7440-48-4	
Iron	**7070**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:49	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:49	7439-92-1	
Lithium	**37.9**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:49	7439-93-2	
Magnesium	**28000**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:49	7439-95-4	
Manganese	**313**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:49	7439-96-5	
Molybdenum	**747**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:49	7439-98-7	
Potassium	**7260**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:49	7440-09-7	
Sodium	**86400**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:49	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 16:02	7440-36-0	
Arsenic	**3.1**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 16:02	7440-38-2	
Cadmium	**0.24J**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 16:02	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 16:02	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 16:02	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 16:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:34	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**169**	mg/L	20.0	10.5	1		05/28/24 15:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**837**	mg/L	13.3	13.3	1		05/28/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**5.9**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.2**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-34(D) **Lab ID: 60453167023** Collected: 05/22/24 10:41 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.021J**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**20.0**	mg/L	10.0	5.3	10		06/12/24 10:23	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 10:08	16984-48-8	N2
Sulfate	**421**	mg/L	50.0	27.5	50		06/12/24 11:07	14808-79-8	

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

ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-35(D) **Lab ID: 60453167024** Collected: 05/22/24 12:50 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**61.7**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:51	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:51	7440-41-7	
Boron	**7570**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:51	7440-42-8	
Calcium	**124000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:51	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:51	7440-48-4	
Iron	**6070**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:51	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:51	7439-92-1	
Lithium	**29.2**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:51	7439-93-2	
Magnesium	**28000**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:51	7439-95-4	
Manganese	**402**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:51	7439-96-5	
Molybdenum	**495**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:51	7439-98-7	
Potassium	**5380**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:51	7440-09-7	
Sodium	**68900**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 16:05	7440-36-0	
Arsenic	**0.17J**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 16:05	7440-38-2	
Cadmium	**0.19J**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 16:05	7440-43-9	
Chromium	**0.39J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 16:05	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 16:05	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 16:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:37	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**326**	mg/L	20.0	10.5	1		05/28/24 15:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**690**	mg/L	10.0	10.0	1		05/28/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.9**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.2**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-35(D) **Lab ID: 60453167024** Collected: 05/22/24 12:50 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.028J**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**15.5**	mg/L	1.0	0.53	1		06/12/24 11:21	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 11:21	16984-48-8	N2
Sulfate	**254**	mg/L	20.0	11.0	20		06/12/24 11:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-1D **Lab ID: 60453167025** Collected: 05/22/24 14:40 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**1510**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:53	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:53	7440-41-7	
Boron	**67.6J**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:53	7440-42-8	
Calcium	**144000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:53	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:53	7440-48-4	
Iron	**8850**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:53	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:53	7439-92-1	
Lithium	**27.2**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:53	7439-93-2	
Magnesium	**36000**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:53	7439-95-4	
Manganese	**259**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:53	7439-96-5	
Molybdenum	**2.4J**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:53	7439-98-7	
Potassium	**4580**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:53	7440-09-7	
Sodium	**13700**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:53	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 16:08	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 16:08	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 16:08	7440-43-9	
Chromium	**0.39J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 16:08	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 16:08	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 16:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:39	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**526**	mg/L	20.0	10.5	1		05/28/24 15:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**498**	mg/L	10.0	10.0	1		05/28/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**7.7**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.2**	mg/L	0.20	0.041	1		05/29/24 13:58	15438-31-0	H6

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-1D **Lab ID: 60453167025** Collected: 05/22/24 14:40 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.016J**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.8**	mg/L	1.0	0.53	1		06/12/24 11:51	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 11:51	16984-48-8	N2
Sulfate	**10.5**	mg/L	1.0	0.55	1		06/12/24 11:51	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-4D **Lab ID: 60453167026** Collected: 05/21/24 16:54 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**383**	ug/L	5.0	0.64	1	06/05/24 11:05	06/07/24 13:07	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 11:05	06/07/24 13:07	7440-41-7	
Boron	**6090**	ug/L	100	6.4	1	06/05/24 11:05	06/07/24 13:07	7440-42-8	
Calcium	**121000**	ug/L	200	26.9	1	06/05/24 11:05	06/07/24 13:07	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 11:05	06/07/24 13:07	7440-48-4	
Iron	**5640**	ug/L	50.0	9.1	1	06/05/24 11:05	06/07/24 13:07	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 11:05	06/07/24 13:07	7439-92-1	
Lithium	**23.2**	ug/L	10.0	3.7	1	06/05/24 11:05	06/07/24 13:07	7439-93-2	
Magnesium	**31000**	ug/L	50.0	20.1	1	06/05/24 11:05	06/07/24 13:07	7439-95-4	
Manganese	**326**	ug/L	5.0	0.39	1	06/05/24 11:05	06/07/24 13:07	7439-96-5	
Molybdenum	**3.3J**	ug/L	20.0	1.0	1	06/05/24 11:05	06/07/24 13:07	7439-98-7	B
Potassium	**4680**	ug/L	500	69.7	1	06/05/24 11:05	06/07/24 13:07	7440-09-7	
Sodium	**27500**	ug/L	500	115	1	06/05/24 11:05	06/07/24 13:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 16:15	7440-36-0	
Arsenic	**6.9**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 16:15	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 16:15	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 16:15	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 16:15	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 16:15	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:41	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**327**	mg/L	20.0	10.5	1		05/28/24 15:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**601**	mg/L	10.0	10.0	1		05/28/24 10:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.5**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.1**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-4D **Lab ID: 60453167026** Collected: 05/21/24 16:54 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**14.9**	mg/L	1.0	0.53	1		06/12/24 12:06	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 12:06	16984-48-8	N2
Sulfate	**173**	mg/L	20.0	11.0	20		06/12/24 12:21	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AM-1S **Lab ID: 60453167027** Collected: 05/22/24 10:47 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**527**	ug/L	5.0	0.64	1	06/05/24 11:05	06/07/24 13:09	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 11:05	06/07/24 13:09	7440-41-7	
Boron	**286**	ug/L	100	6.4	1	06/05/24 11:05	06/07/24 13:09	7440-42-8	
Calcium	**194000**	ug/L	200	26.9	1	06/05/24 11:05	06/07/24 13:09	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 11:05	06/07/24 13:09	7440-48-4	
Iron	**706**	ug/L	50.0	9.1	1	06/05/24 11:05	06/07/24 13:09	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 11:05	06/07/24 13:09	7439-92-1	
Lithium	**35.4**	ug/L	10.0	3.7	1	06/05/24 11:05	06/07/24 13:09	7439-93-2	
Magnesium	**40200**	ug/L	50.0	20.1	1	06/05/24 11:05	06/07/24 13:09	7439-95-4	
Manganese	**301**	ug/L	5.0	0.39	1	06/05/24 11:05	06/07/24 13:09	7439-96-5	
Molybdenum	**2.7J**	ug/L	20.0	1.0	1	06/05/24 11:05	06/07/24 13:09	7439-98-7	B
Potassium	**7160**	ug/L	500	69.7	1	06/05/24 11:05	06/07/24 13:09	7440-09-7	
Sodium	**42000**	ug/L	500	115	1	06/05/24 11:05	06/07/24 13:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 16:18	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 16:18	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 16:18	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 16:18	7440-47-3	
Selenium	**3.2**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 16:18	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 16:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:43	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**658**	mg/L	20.0	10.5	1		06/01/24 14:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**720**	mg/L	13.3	13.3	1		05/28/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.054**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.65**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AM-1S **Lab ID: 60453167027** Collected: 05/22/24 10:47 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**67.1**	mg/L	20.0	10.5	20		06/12/24 12:51	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 12:36	16984-48-8	N2
Sulfate	**15.7**	mg/L	1.0	0.55	1		06/12/24 12:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AM-1D **Lab ID: 60453167028** Collected: 05/22/24 11:50 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**72.2**	ug/L	5.0	0.64	1	06/05/24 11:05	06/07/24 13:10	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 11:05	06/07/24 13:10	7440-41-7	
Boron	**7580**	ug/L	100	6.4	1	06/05/24 11:05	06/07/24 13:10	7440-42-8	
Calcium	**108000**	ug/L	200	26.9	1	06/05/24 11:05	06/07/24 13:10	7440-70-2	M1
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 11:05	06/07/24 13:10	7440-48-4	
Iron	**5370**	ug/L	50.0	9.1	1	06/05/24 11:05	06/07/24 13:10	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 11:05	06/07/24 13:10	7439-92-1	
Lithium	**33.7**	ug/L	10.0	3.7	1	06/05/24 11:05	06/07/24 13:10	7439-93-2	
Magnesium	**13500**	ug/L	50.0	20.1	1	06/05/24 11:05	06/07/24 13:10	7439-95-4	
Manganese	**297**	ug/L	5.0	0.39	1	06/05/24 11:05	06/07/24 13:10	7439-96-5	
Molybdenum	**288**	ug/L	20.0	1.0	1	06/05/24 11:05	06/07/24 13:10	7439-98-7	
Potassium	**8050**	ug/L	500	69.7	1	06/05/24 11:05	06/07/24 13:10	7440-09-7	
Sodium	**102000**	ug/L	500	115	1	06/05/24 11:05	06/07/24 13:10	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 15:44	7440-36-0	
Arsenic	**2.5**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 15:44	7440-38-2	
Cadmium	**0.10J**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 15:44	7440-43-9	
Chromium	**0.35J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 15:44	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 15:44	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 15:44	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:50	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**193**	mg/L	20.0	10.5	1		06/01/24 14:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**715**	mg/L	13.3	13.3	1		05/28/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.3**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.1**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AM-1D **Lab ID: 60453167028** Collected: 05/22/24 11:50 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**49.7**	mg/L	20.0	10.5	20		06/12/24 14:35	16887-00-6	M1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 13:05	16984-48-8	M1,N2
Sulfate	**351**	mg/L	20.0	11.0	20		06/12/24 14:35	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-2 **Lab ID: 60453167029** Collected: 05/22/24 10:12 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	06/05/24 11:05	06/07/24 13:16	7440-39-3	
Beryllium	**0.16J**	ug/L	1.0	0.12	1	06/05/24 11:05	06/07/24 13:16	7440-41-7	
Boron	**12.4J**	ug/L	100	6.4	1	06/05/24 11:05	06/07/24 13:16	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	06/05/24 11:05	06/07/24 13:16	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 11:05	06/07/24 13:16	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	06/05/24 11:05	06/07/24 13:16	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 11:05	06/07/24 13:16	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	06/05/24 11:05	06/07/24 13:16	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	06/05/24 11:05	06/07/24 13:16	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	06/05/24 11:05	06/07/24 13:16	7439-96-5	
Molybdenum	**1.4J**	ug/L	20.0	1.0	1	06/05/24 11:05	06/07/24 13:16	7439-98-7	B
Potassium	**81.1J**	ug/L	500	69.7	1	06/05/24 11:05	06/07/24 13:16	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	06/05/24 11:05	06/07/24 13:16	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 16:21	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 16:21	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 16:21	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 16:21	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 16:21	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 16:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:57	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		06/01/24 15:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**11.0**	mg/L	5.0	5.0	1		05/28/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-2 **Lab ID: 60453167029** Collected: 05/22/24 10:12 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		06/11/24 11:05	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/11/24 11:05	16984-48-8	N2
Sulfate	**<0.55**	mg/L	1.0	0.55	1		06/11/24 11:05	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-3 **Lab ID: 60453167030** Collected: 05/22/24 14:50 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	06/05/24 11:05	06/07/24 13:18	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 11:05	06/07/24 13:18	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	06/05/24 11:05	06/07/24 13:18	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	06/05/24 11:05	06/07/24 13:18	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 11:05	06/07/24 13:18	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	06/05/24 11:05	06/07/24 13:18	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 11:05	06/07/24 13:18	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	06/05/24 11:05	06/07/24 13:18	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	06/05/24 11:05	06/07/24 13:18	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	06/05/24 11:05	06/07/24 13:18	7439-96-5	
Molybdenum	**1.2J**	ug/L	20.0	1.0	1	06/05/24 11:05	06/07/24 13:18	7439-98-7	B
Potassium	**<69.7**	ug/L	500	69.7	1	06/05/24 11:05	06/07/24 13:18	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	06/05/24 11:05	06/07/24 13:18	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 16:24	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 16:24	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 16:24	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 16:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 16:24	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 16:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 13:00	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		06/01/24 15:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**8.5**	mg/L	5.0	5.0	1		05/28/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		05/29/24 13:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-3 **Lab ID: 60453167030** Collected: 05/22/24 14:50 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		06/11/24 11:57	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/11/24 11:57	16984-48-8	N2
Sulfate	**<0.55**	mg/L	1.0	0.55	1		06/11/24 11:57	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-26 **Lab ID: 60453167022** Collected: 05/22/24 12:01 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**183**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:41	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:41	7440-41-7	
Boron	**78.7J**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:41	7440-42-8	
Calcium	**132000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:41	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:41	7440-48-4	
Iron	**42.7J**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:41	7439-89-6	B
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:41	7439-92-1	
Lithium	**30.8**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:41	7439-93-2	
Magnesium	**24800**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:41	7439-95-4	
Manganese	**180**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:41	7439-96-5	
Molybdenum	**1.4J**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:41	7439-98-7	
Potassium	**4460**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:41	7440-09-7	
Sodium	**5830**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:41	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.13J**	ug/L	1.0	0.12	1	06/05/24 14:26	06/19/24 15:59	7440-36-0	
Arsenic	**0.43J**	ug/L	1.0	0.13	1	06/05/24 14:26	06/19/24 15:59	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/05/24 14:26	06/19/24 15:59	7440-43-9	
Chromium	**0.53J**	ug/L	1.0	0.30	1	06/05/24 14:26	06/19/24 15:59	7440-47-3	
Selenium	**1.8**	ug/L	1.0	0.18	1	06/05/24 14:26	06/19/24 15:59	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/05/24 14:26	06/19/24 15:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:32	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**443**	mg/L	20.0	10.5	1		05/28/24 15:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**487**	mg/L	10.0	10.0	1		05/28/24 10:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.068J**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-26 **Lab ID: 60453167022** Collected: 05/22/24 12:01 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**7.2**	mg/L	1.0	0.53	1		06/12/24 09:38	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 09:38	16984-48-8	N2
Sulfate	**30.4**	mg/L	20.0	11.0	20		06/12/24 09:53	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-1S **Lab ID: 60453167020** Collected: 05/21/24 15:15 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**231**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:38	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:38	7440-41-7	
Boron	**1860**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:38	7440-42-8	
Calcium	**163000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:38	7440-70-2	
Cobalt	**2.5J**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:38	7440-48-4	
Iron	**4240**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:38	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:38	7439-92-1	
Lithium	**18.0**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:38	7439-93-2	
Magnesium	**28600**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:38	7439-95-4	
Manganese	**1680**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:38	7439-96-5	
Molybdenum	**5.4J**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:38	7439-98-7	
Potassium	**4660**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:38	7440-09-7	
Sodium	**9830**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/19/24 12:47	06/20/24 15:27	7440-36-0	
Arsenic	**9.4**	ug/L	1.0	0.13	1	06/19/24 12:47	06/20/24 15:27	7440-38-2	
Cadmium	**0.069J**	ug/L	0.50	0.050	1	06/19/24 12:47	06/20/24 15:27	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/19/24 12:47	06/20/24 15:27	7440-47-3	
Selenium	**0.42J**	ug/L	1.0	0.18	1	06/19/24 12:47	06/20/24 15:27	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/19/24 12:47	06/20/24 15:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:27	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**397**	mg/L	20.0	10.5	1		05/28/24 14:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**637**	mg/L	10.0	10.0	1		05/28/24 10:40		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.2**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.0**	mg/L	0.20	0.041	1		05/29/24 14:10	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-1S **Lab ID: 60453167020** Collected: 05/21/24 15:15 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.7**	mg/L	1.0	0.53	1		06/12/24 08:38	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 08:38	16984-48-8	N2
Sulfate	**180**	mg/L	10.0	5.5	10		06/12/24 08:53	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-2S **Lab ID: 60453167001** Collected: 05/15/24 13:02 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**38.2**	ug/L	5.0	0.64	1	05/24/24 09:30	05/31/24 11:46	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 09:30	05/31/24 11:46	7440-41-7	
Boron	**4070**	ug/L	100	6.4	1	05/24/24 09:30	05/31/24 11:46	7440-42-8	
Calcium	**64200**	ug/L	200	26.9	1	05/24/24 09:30	05/31/24 11:46	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 09:30	05/31/24 11:46	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	05/24/24 09:30	05/31/24 11:46	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 09:30	05/31/24 11:46	7439-92-1	
Lithium	**14.2**	ug/L	10.0	3.7	1	05/24/24 09:30	05/31/24 11:46	7439-93-2	
Magnesium	**90.5**	ug/L	50.0	20.1	1	05/24/24 09:30	05/31/24 11:46	7439-95-4	
Manganese	**1.1J**	ug/L	5.0	0.39	1	05/24/24 09:30	05/31/24 11:46	7439-96-5	
Molybdenum	**127**	ug/L	20.0	1.0	1	05/24/24 09:30	05/31/24 11:46	7439-98-7	
Potassium	**9010**	ug/L	500	69.7	1	05/24/24 09:30	05/31/24 11:46	7440-09-7	
Sodium	**66100**	ug/L	500	115	1	05/24/24 09:30	05/31/24 11:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:26	06/13/24 11:17	7440-36-0	
Arsenic	**39.8**	ug/L	1.0	0.13	1	05/24/24 15:26	06/13/24 11:17	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	05/24/24 15:26	06/13/24 11:17	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	05/24/24 15:26	06/13/24 11:17	7440-47-3	
Selenium	**0.20J**	ug/L	1.0	0.18	1	05/24/24 15:26	06/13/24 11:17	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	05/24/24 15:26	06/13/24 11:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:22	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**47.8**	mg/L	20.0	10.5	1		05/24/24 17:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**409**	mg/L	10.0	10.0	1		05/20/24 10:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.068J**	mg/L	0.20	0.041	1		05/20/24 09:51	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-2S **Lab ID: 60453167001** Collected: 05/15/24 13:02 Received: 05/17/24 05:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.018J**	mg/L	0.050	0.016	1		05/20/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.8**	mg/L	1.0	0.53	1		06/10/24 15:01	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/10/24 15:01	16984-48-8	N2
Sulfate	**206**	mg/L	20.0	11.0	20		06/10/24 15:16	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-4S **Lab ID: 60453167006** Collected: 05/17/24 12:32 Received: 05/18/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**126**	ug/L	5.0	0.64	1	05/24/24 15:18	06/04/24 11:39	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/24/24 15:18	06/04/24 11:39	7440-41-7	
Boron	**7850**	ug/L	100	6.4	1	05/24/24 15:18	06/04/24 11:39	7440-42-8	
Calcium	**96100**	ug/L	200	26.9	1	05/24/24 15:18	06/04/24 11:39	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/24/24 15:18	06/04/24 11:39	7440-48-4	
Iron	**8260**	ug/L	50.0	9.1	1	05/24/24 15:18	06/04/24 11:39	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/24/24 15:18	06/04/24 11:39	7439-92-1	
Lithium	**31.9**	ug/L	10.0	3.7	1	05/24/24 15:18	06/04/24 11:39	7439-93-2	
Magnesium	**18800**	ug/L	50.0	20.1	1	05/24/24 15:18	06/04/24 11:39	7439-95-4	
Manganese	**1500**	ug/L	5.0	0.39	1	05/24/24 15:18	06/04/24 11:39	7439-96-5	
Molybdenum	**204**	ug/L	20.0	1.0	1	05/24/24 15:18	06/04/24 11:39	7439-98-7	
Potassium	**6120**	ug/L	500	69.7	1	05/24/24 15:18	06/04/24 11:39	7440-09-7	
Sodium	**91000**	ug/L	500	115	1	05/24/24 15:18	06/04/24 11:39	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/03/24 10:41	06/14/24 13:36	7440-36-0	
Arsenic	**26.4**	ug/L	1.0	0.13	1	06/03/24 10:41	06/14/24 13:36	7440-38-2	
Cadmium	**0.086J**	ug/L	0.50	0.050	1	06/03/24 10:41	06/14/24 13:36	7440-43-9	
Chromium	**0.37J**	ug/L	1.0	0.30	1	06/03/24 10:41	06/14/24 13:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/03/24 10:41	06/14/24 13:36	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/03/24 10:41	06/14/24 13:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:38	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**289**	mg/L	20.0	10.5	1		05/24/24 17:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**555**	mg/L	10.0	10.0	1		05/21/24 11:26		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**7.6**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.68**	mg/L	0.20	0.041	1		05/21/24 09:40	15438-31-0	H1,H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-4S **Lab ID: 60453167006** Collected: 05/17/24 12:32 Received: 05/18/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/21/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.8**	mg/L	20.0	10.5	20		06/10/24 18:14	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/10/24 18:00	16984-48-8	N2
Sulfate	**197**	mg/L	20.0	11.0	20		06/10/24 18:14	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-7S **Lab ID: 60453167010** Collected: 05/20/24 13:05 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**152**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:32	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:32	7440-41-7	
Boron	**8000**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:32	7440-42-8	
Calcium	**95400**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:32	7440-70-2	
Cobalt	**1.3J**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:32	7440-48-4	
Iron	**2960**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:32	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:32	7439-92-1	
Lithium	**30.5**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:32	7439-93-2	
Magnesium	**20100**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:32	7439-95-4	
Manganese	**758**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:32	7439-96-5	
Molybdenum	**222**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:32	7439-98-7	
Potassium	**6070**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:32	7440-09-7	
Sodium	**70300**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:32	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 14:40	7440-36-0	
Arsenic	**14.9**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 14:40	7440-38-2	
Cadmium	**0.097J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 14:40	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 14:40	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 14:40	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 14:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:51	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**229**	mg/L	20.0	10.5	1		05/28/24 13:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**602**	mg/L	10.0	10.0	1		05/22/24 15:15		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**2.2**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.71**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-7S **Lab ID: 60453167010** Collected: 05/20/24 13:05 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**16.4**	mg/L	1.0	0.53	1		06/11/24 21:30	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/11/24 21:30	16984-48-8	N2
Sulfate	**243**	mg/L	20.0	11.0	20		06/11/24 21:47	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-8S **Lab ID: 60453167009** Collected: 05/20/24 14:44 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**116**	ug/L	5.0	0.64	1	05/31/24 09:05	06/05/24 16:30	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	05/31/24 09:05	06/05/24 16:30	7440-41-7	
Boron	**1510**	ug/L	100	6.4	1	05/31/24 09:05	06/05/24 16:30	7440-42-8	
Calcium	**51800**	ug/L	200	26.9	1	05/31/24 09:05	06/05/24 16:30	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	05/31/24 09:05	06/05/24 16:30	7440-48-4	
Iron	**1470**	ug/L	50.0	9.1	1	05/31/24 09:05	06/05/24 16:30	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	05/31/24 09:05	06/05/24 16:30	7439-92-1	
Lithium	**14.8**	ug/L	10.0	3.7	1	05/31/24 09:05	06/05/24 16:30	7439-93-2	
Magnesium	**8700**	ug/L	50.0	20.1	1	05/31/24 09:05	06/05/24 16:30	7439-95-4	
Manganese	**466**	ug/L	5.0	0.39	1	05/31/24 09:05	06/05/24 16:30	7439-96-5	
Molybdenum	**292**	ug/L	20.0	1.0	1	05/31/24 09:05	06/05/24 16:30	7439-98-7	
Potassium	**3790**	ug/L	500	69.7	1	05/31/24 09:05	06/05/24 16:30	7440-09-7	
Sodium	**28300**	ug/L	500	115	1	05/31/24 09:05	06/05/24 16:30	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/04/24 09:04	06/14/24 14:37	7440-36-0	
Arsenic	**12.0**	ug/L	1.0	0.13	1	06/04/24 09:04	06/14/24 14:37	7440-38-2	
Cadmium	**0.16J**	ug/L	0.50	0.050	1	06/04/24 09:04	06/14/24 14:37	7440-43-9	
Chromium	**0.37J**	ug/L	1.0	0.30	1	06/04/24 09:04	06/14/24 14:37	7440-47-3	
Selenium	**0.32J**	ug/L	1.0	0.18	1	06/04/24 09:04	06/14/24 14:37	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/04/24 09:04	06/14/24 14:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/22/24 15:46	05/24/24 14:49	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**214**	mg/L	20.0	10.5	1		05/28/24 13:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**260**	mg/L	5.0	5.0	1		05/22/24 15:15		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**1.3**	mg/L	0.050		1		06/12/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.18J**	mg/L	0.20	0.041	1		05/22/24 13:50	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-8S **Lab ID: 60453167009** Collected: 05/20/24 14:44 Received: 05/22/24 05:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/24/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**1.8**	mg/L	1.0	0.53	1		06/11/24 20:55	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/11/24 20:55	16984-48-8	N2
Sulfate	**39.8**	mg/L	20.0	11.0	20		06/11/24 21:12	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-BMW-1S **Lab ID: 60453167018** Collected: 05/23/24 12:45 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**308**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:34	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:34	7440-41-7	
Boron	**92.3J**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:34	7440-42-8	
Calcium	**193000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:34	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:34	7440-48-4	
Iron	**31200**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:34	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:34	7439-92-1	
Lithium	**22.6**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:34	7439-93-2	
Magnesium	**43600**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:34	7439-95-4	
Manganese	**2490**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:34	7439-96-5	
Molybdenum	**1.3J**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:34	7439-98-7	
Potassium	**5520**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:34	7440-09-7	
Sodium	**15500**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:34	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	06/19/24 12:47	06/20/24 15:13	7440-36-0	
Arsenic	**35.5**	ug/L	1.0	0.13	1	06/19/24 12:47	06/20/24 15:13	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/19/24 12:47	06/20/24 15:13	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/19/24 12:47	06/20/24 15:13	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/24 12:47	06/20/24 15:13	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/19/24 12:47	06/20/24 15:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:23	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**690**	mg/L	40.0	21.0	2		05/28/24 14:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**675**	mg/L	13.3	13.3	1		05/28/24 14:19		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**29.7**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.5**	mg/L	0.20	0.041	1		05/29/24 13:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-BMW-1S **Lab ID: 60453167018** Collected: 05/23/24 12:45 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**6.9**	mg/L	1.0	0.53	1		06/12/24 05:21	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 05:21	16984-48-8	N2
Sulfate	**65.6**	mg/L	10.0	5.5	10		06/12/24 05:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-BMW-2S **Lab ID: 60453167019** Collected: 05/23/24 09:28 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**254**	ug/L	5.0	0.64	1	06/05/24 10:25	06/07/24 09:36	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	06/05/24 10:25	06/07/24 09:36	7440-41-7	
Boron	**53.5J**	ug/L	100	6.4	1	06/05/24 10:25	06/07/24 09:36	7440-42-8	
Calcium	**128000**	ug/L	200	26.9	1	06/05/24 10:25	06/07/24 09:36	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	06/05/24 10:25	06/07/24 09:36	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	06/05/24 10:25	06/07/24 09:36	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	06/05/24 10:25	06/07/24 09:36	7439-92-1	
Lithium	**24.1**	ug/L	10.0	3.7	1	06/05/24 10:25	06/07/24 09:36	7439-93-2	
Magnesium	**20200**	ug/L	50.0	20.1	1	06/05/24 10:25	06/07/24 09:36	7439-95-4	
Manganese	**2.9J**	ug/L	5.0	0.39	1	06/05/24 10:25	06/07/24 09:36	7439-96-5	
Molybdenum	**3.0J**	ug/L	20.0	1.0	1	06/05/24 10:25	06/07/24 09:36	7439-98-7	
Potassium	**6150**	ug/L	500	69.7	1	06/05/24 10:25	06/07/24 09:36	7440-09-7	
Sodium	**5110**	ug/L	500	115	1	06/05/24 10:25	06/07/24 09:36	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.21J**	ug/L	1.0	0.12	1	06/19/24 12:47	06/20/24 15:24	7440-36-0	
Arsenic	**0.45J**	ug/L	1.0	0.13	1	06/19/24 12:47	06/20/24 15:24	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	06/19/24 12:47	06/20/24 15:24	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	06/19/24 12:47	06/20/24 15:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/24 12:47	06/20/24 15:24	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	06/19/24 12:47	06/20/24 15:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	06/12/24 16:32	06/14/24 12:25	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**385**	mg/L	20.0	10.5	1		05/28/24 14:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**502**	mg/L	10.0	10.0	1		05/28/24 14:19		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0J**	mg/L	0.050		1		06/18/24 00:00	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		05/29/24 13:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-BMW-2S **Lab ID: 60453167019** Collected: 05/23/24 09:28 Received: 05/24/24 05:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		05/28/24 09:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.9**	mg/L	1.0	0.53	1		06/12/24 08:09	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		06/12/24 08:09	16984-48-8	N2
Sulfate	**41.9**	mg/L	10.0	5.5	10		06/12/24 08:24	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895448
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008

METHOD BLANK: 3543909 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/24/24 13:40	

LABORATORY CONTROL SAMPLE: 3543910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3543911 3543912

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.1	5.0	102	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895455
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

METHOD BLANK: 3543936 Matrix: Water
Associated Lab Samples: 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/24/24 14:45	

LABORATORY CONTROL SAMPLE: 3543937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3543938 3543939

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.2	5.0	104	99	75-125	5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3543940 3543941

Parameter	Units	60453238001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L		5	5	5.5	5.3	105	101	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3543942 3543943

Parameter	Units	60453358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L		5	5	3.3	5.6	66	113	75-125	52	20	M1,R1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 897908
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

METHOD BLANK: 3554385 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	06/14/24 12:14	

LABORATORY CONTROL SAMPLE: 3554386

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3554387 3554388

Parameter	Units	60453167028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.4	5.2	108	104	75-125	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895736
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002

METHOD BLANK: 3544957 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	05/30/24 14:05	
Beryllium	ug/L	<0.12	1.0	0.12	05/30/24 14:05	
Boron	ug/L	<6.4	100	6.4	05/30/24 14:05	
Calcium	ug/L	<26.9	200	26.9	05/30/24 14:05	
Cobalt	ug/L	<1.2	5.0	1.2	05/30/24 14:05	
Iron	ug/L	<9.1	50.0	9.1	05/30/24 14:05	
Lead	ug/L	<3.8	10.0	3.8	05/30/24 14:05	
Lithium	ug/L	<3.7	10.0	3.7	05/30/24 14:05	
Magnesium	ug/L	<20.1	50.0	20.1	05/30/24 14:05	
Manganese	ug/L	<0.39	5.0	0.39	05/30/24 14:05	
Molybdenum	ug/L	<1.0	20.0	1.0	05/30/24 14:05	
Potassium	ug/L	<69.7	500	69.7	05/30/24 14:05	
Sodium	ug/L	<115	500	115	05/30/24 14:05	

LABORATORY CONTROL SAMPLE: 3544958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1040	104	85-115	
Beryllium	ug/L	1000	965	96	85-115	
Boron	ug/L	1000	979	98	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Cobalt	ug/L	1000	992	99	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1050	105	85-115	
Lithium	ug/L	1000	1050	105	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	972	97	85-115	
Molybdenum	ug/L	1000	947	95	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE SAMPLE: 3544959

Parameter	Units	60453303001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	82.4	1000	1130	105	70-130	
Beryllium	ug/L	ND	1000	984	98	70-130	
Boron	ug/L	ND	1000	1010	99	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE SAMPLE: 3544959

Parameter	Units	60453303001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	44400	10000	64000	196	70-130	M1
Cobalt	ug/L	ND	1000	986	99	70-130	
Iron	ug/L	187	10000	10800	106	70-130	
Lead	ug/L	ND	1000	1040	103	70-130	
Lithium	ug/L	ND	1000	1060	105	70-130	
Magnesium	ug/L	5890	10000	17600	117	70-130	
Manganese	ug/L	9.4	1000	983	97	70-130	
Molybdenum	ug/L	ND	1000	975	97	70-130	
Potassium	ug/L	3980	10000	14700	107	70-130	
Sodium	ug/L	52100	10000	70100	180	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3544960 3544961

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	104	1000	1000	1110	1140	100	104	70-130	3	20	
Beryllium	ug/L	<0.12	1000	1000	1070	1080	107	108	70-130	1	20	
Boron	ug/L	14400	1000	1000	14700	15300	30	89	70-130	4	20	M1
Calcium	ug/L	101000	10000	10000	104000	108000	35	77	70-130	4	20	M1
Cobalt	ug/L	<1.2	1000	1000	1080	1090	108	109	70-130	1	20	
Iron	ug/L	16.6J	10000	10000	10100	10400	100	104	70-130	3	20	
Lead	ug/L	<3.8	1000	1000	1050	1060	105	106	70-130	2	20	
Lithium	ug/L	33.8	1000	1000	1080	1120	104	108	70-130	4	20	
Magnesium	ug/L	32.9J	10000	10000	9780	10100	97	100	70-130	3	20	
Manganese	ug/L	13.0	1000	1000	1080	1090	107	108	70-130	1	20	
Molybdenum	ug/L	693	1000	1000	1810	1840	112	114	70-130	1	20	
Potassium	ug/L	16100	10000	10000	25800	26600	97	106	70-130	3	20	
Sodium	ug/L	82700	10000	10000	88800	92300	62	96	70-130	4	20	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895764
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167003, 60453167004

METHOD BLANK: 3545078 Matrix: Water
Associated Lab Samples: 60453167003, 60453167004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	05/30/24 11:53	
Beryllium	ug/L	<0.12	1.0	0.12	05/30/24 11:53	
Boron	ug/L	<6.4	100	6.4	05/30/24 11:53	
Calcium	ug/L	<26.9	200	26.9	05/30/24 11:53	
Cobalt	ug/L	<1.2	5.0	1.2	05/30/24 11:53	
Iron	ug/L	<9.1	50.0	9.1	05/30/24 11:53	
Lead	ug/L	<3.8	10.0	3.8	05/30/24 11:53	
Lithium	ug/L	<3.7	10.0	3.7	05/30/24 11:53	
Magnesium	ug/L	<20.1	50.0	20.1	05/30/24 11:53	
Manganese	ug/L	<0.39	5.0	0.39	05/30/24 11:53	
Molybdenum	ug/L	<1.0	20.0	1.0	05/30/24 11:53	
Potassium	ug/L	<69.7	500	69.7	05/30/24 11:53	
Sodium	ug/L	<115	500	115	05/30/24 11:53	

LABORATORY CONTROL SAMPLE: 3545079

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Beryllium	ug/L	1000	972	97	85-115	
Boron	ug/L	1000	970	97	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1040	104	85-115	
Lithium	ug/L	1000	1040	104	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	990	99	85-115	
Molybdenum	ug/L	1000	965	97	85-115	
Potassium	ug/L	10000	9960	100	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545080 3545081

Parameter	Units	60453462001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	55.3	1000	1000	1080	1040	102	99	70-130	3	20	
Beryllium	ug/L	ND	1000	1000	1020	1050	102	105	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545080 3545081

Parameter	Units	60453462001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	720	1000	1000	1660	1620	94	90	70-130	2	20	
Calcium	ug/L	35300	10000	10000	43800	42900	84	76	70-130	2	20	
Cobalt	ug/L	6.4	1000	1000	1010	1050	101	104	70-130	3	20	
Iron	ug/L	125	10000	10000	10400	10000	103	99	70-130	4	20	
Lead	ug/L	ND	1000	1000	1020	1010	102	101	70-130	0	20	
Lithium	ug/L	21.2	1000	1000	1070	1040	105	102	70-130	3	20	
Magnesium	ug/L	12200	10000	10000	21800	21200	96	90	70-130	2	20	
Manganese	ug/L	10.9	1000	1000	998	1030	99	102	70-130	3	20	
Molybdenum	ug/L	ND	1000	1000	993	1030	99	102	70-130	3	20	
Potassium	ug/L	19300	10000	10000	28600	28100	93	89	70-130	1	20	
Sodium	ug/L	231000	10000	10000	230000	225000	-6	-62	70-130	2	20	M1

MATRIX SPIKE SAMPLE: 3545082

Parameter	Units	40278590003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	14.4	1000	1080	107	70-130	
Beryllium	ug/L	<1.0	1000	1000	100	70-130	
Boron	ug/L	<100	1000	1060	101	70-130	
Calcium	ug/L	69300	10000	82800	136	70-130	M1
Cobalt	ug/L	<5.0	1000	1020	102	70-130	
Iron	ug/L	74.8	10000	10900	108	70-130	
Lead	ug/L	<10.0	1000	1040	104	70-130	
Lithium	ug/L	25.4	1000	1130	110	70-130	
Magnesium	ug/L	60.0 mg/L	10000	74000	139	70-130	M1
Manganese	ug/L	0.0055 mg/L	1000	1030	102	70-130	
Molybdenum	ug/L	<20.0	1000	1020	101	70-130	
Potassium	ug/L	1950	10000	12500	105	70-130	
Sodium	ug/L	9360	10000	20400	110	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895824
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167005, 60453167006

METHOD BLANK: 3545442 Matrix: Water
Associated Lab Samples: 60453167005, 60453167006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	06/04/24 11:34	
Beryllium	ug/L	<0.12	1.0	0.12	06/04/24 11:34	
Boron	ug/L	<6.4	100	6.4	06/04/24 11:34	
Calcium	ug/L	<26.9	200	26.9	06/04/24 11:34	
Cobalt	ug/L	<1.2	5.0	1.2	06/04/24 11:34	
Iron	ug/L	39.2J	50.0	9.1	06/04/24 11:34	
Lead	ug/L	<3.8	10.0	3.8	06/04/24 11:34	
Lithium	ug/L	<3.7	10.0	3.7	06/04/24 11:34	
Magnesium	ug/L	<20.1	50.0	20.1	06/04/24 11:34	
Manganese	ug/L	<0.39	5.0	0.39	06/04/24 11:34	
Molybdenum	ug/L	<1.0	20.0	1.0	06/04/24 11:34	
Potassium	ug/L	<69.7	500	69.7	06/04/24 11:34	
Sodium	ug/L	<115	500	115	06/04/24 11:34	

LABORATORY CONTROL SAMPLE: 3545443

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	958	96	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1070	107	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1050	105	85-115	
Lithium	ug/L	1000	1010	101	85-115	
Magnesium	ug/L	10000	9980	100	85-115	
Manganese	ug/L	1000	1050	105	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	9860	99	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545444 3545445

Parameter	Units	60453238001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L		1000	1000	1090	1060	101	98	70-130	2	20	
Beryllium	ug/L		1000	1000	1030	1020	103	102	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545444 3545445

Parameter	Units	60453238001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	3920	1000	1000	4990	4940	107	102	70-130	1	20	
Calcium	ug/L	73700	10000	10000	85100	83300	114	97	70-130	2	20	
Cobalt	ug/L		1000	1000	1060	1050	106	105	70-130	0	20	
Iron	ug/L	5210	10000	10000	15800	15100	106	99	70-130	4	20	
Lead	ug/L		1000	1000	1020	1020	102	102	70-130	1	20	
Lithium	ug/L		1000	1000	1040	1020	101	99	70-130	2	20	
Magnesium	ug/L	7160	10000	10000	17300	17000	101	99	70-130	2	20	
Manganese	ug/L	494	1000	1000	1530	1520	103	103	70-130	0	20	
Molybdenum	ug/L		1000	1000	1160	1150	103	103	70-130	1	20	
Potassium	ug/L	7560	10000	10000	17700	17600	101	100	70-130	1	20	
Sodium	ug/L	97700	10000	10000	109000	108000	117	99	70-130	2	20	

MATRIX SPIKE SAMPLE: 3545446

Parameter	Units	60453436003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	135	1000	1130	99	70-130	
Beryllium	ug/L	ND	1000	1040	104	70-130	
Boron	ug/L	ND	1000	1010	96	70-130	
Calcium	ug/L	138000	10000	149000	108	70-130	
Cobalt	ug/L	ND	1000	1040	104	70-130	
Iron	ug/L	ND	10000	10100	101	70-130	
Lead	ug/L	ND	1000	1020	102	70-130	
Lithium	ug/L	ND	1000	1000	100	70-130	
Magnesium	ug/L	11100	10000	21000	99	70-130	
Manganese	ug/L	ND	1000	1030	102	70-130	
Molybdenum	ug/L	ND	1000	1020	102	70-130	
Potassium	ug/L	11100	10000	20900	99	70-130	
Sodium	ug/L	89000	10000	98500	95	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 896143
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

METHOD BLANK: 3546715 Matrix: Water
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	06/05/24 16:16	
Beryllium	ug/L	<0.12	1.0	0.12	06/05/24 16:16	
Boron	ug/L	<6.4	100	6.4	06/05/24 16:16	
Calcium	ug/L	<26.9	200	26.9	06/05/24 16:16	
Cobalt	ug/L	<1.2	5.0	1.2	06/05/24 16:16	
Iron	ug/L	<9.1	50.0	9.1	06/05/24 16:16	
Lead	ug/L	<3.8	10.0	3.8	06/05/24 16:16	
Lithium	ug/L	<3.7	10.0	3.7	06/05/24 16:16	
Magnesium	ug/L	<20.1	50.0	20.1	06/05/24 16:16	
Manganese	ug/L	<0.39	5.0	0.39	06/05/24 16:16	
Molybdenum	ug/L	<1.0	20.0	1.0	06/05/24 16:16	
Potassium	ug/L	<69.7	500	69.7	06/05/24 16:16	
Sodium	ug/L	<115	500	115	06/05/24 16:16	

LABORATORY CONTROL SAMPLE: 3546716

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	977	98	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Boron	ug/L	1000	918	92	85-115	
Calcium	ug/L	10000	9950	99	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Iron	ug/L	10000	9730	97	85-115	
Lead	ug/L	1000	1040	104	85-115	
Lithium	ug/L	1000	943	94	85-115	
Magnesium	ug/L	10000	9730	97	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	975	98	85-115	
Potassium	ug/L	10000	9440	94	85-115	
Sodium	ug/L	10000	9490	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3546717 3546718

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	232	1000	1000	1210	1260	97	103	70-130	5	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3546717 3546718

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	<0.12	1000	1000	1010	1020	101	102	70-130	1	20	
Boron	ug/L	7190	1000	1000	7830	8140	64	95	70-130	4	20	M1
Calcium	ug/L	93300	10000	10000	98000	102000	47	91	70-130	4	20	M1
Cobalt	ug/L	<1.2	1000	1000	1010	1020	101	102	70-130	1	20	
Iron	ug/L	6490	10000	10000	15900	16800	95	103	70-130	5	20	
Lead	ug/L	<3.8	1000	1000	1000	1030	100	103	70-130	3	20	
Lithium	ug/L	29.3	1000	1000	1020	1060	99	103	70-130	4	20	
Magnesium	ug/L	19200	10000	10000	28000	29400	88	102	70-130	5	20	
Manganese	ug/L	1010	1000	1000	2000	2010	99	99	70-130	0	20	
Molybdenum	ug/L	367	1000	1000	1360	1370	100	100	70-130	1	20	
Potassium	ug/L	5030	10000	10000	15000	15300	100	103	70-130	2	20	
Sodium	ug/L	88500	10000	10000	94100	97500	56	90	70-130	3	20	M1

MATRIX SPIKE SAMPLE: 3546719

Parameter	Units	60453167013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	359	1000	1340	98	70-130	
Beryllium	ug/L	<0.12	1000	1050	105	70-130	
Boron	ug/L	171	1000	1110	94	70-130	
Calcium	ug/L	138000	10000	144000	63	70-130	M1
Cobalt	ug/L	2.3J	1000	1030	103	70-130	
Iron	ug/L	136	10000	9940	98	70-130	
Lead	ug/L	<3.8	1000	1030	103	70-130	
Lithium	ug/L	33.0	1000	1030	100	70-130	
Magnesium	ug/L	21800	10000	31300	95	70-130	
Manganese	ug/L	904	1000	1930	103	70-130	
Molybdenum	ug/L	<1.0	1000	1010	101	70-130	
Potassium	ug/L	23500	10000	33400	99	70-130	
Sodium	ug/L	4400	10000	14200	98	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 896753
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025

METHOD BLANK: 3549216 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	06/07/24 08:19	
Beryllium	ug/L	<0.12	1.0	0.12	06/07/24 08:19	
Boron	ug/L	<6.4	100	6.4	06/07/24 08:19	
Calcium	ug/L	34.8J	200	26.9	06/07/24 08:19	
Cobalt	ug/L	<1.2	5.0	1.2	06/07/24 08:19	
Iron	ug/L	13.7J	50.0	9.1	06/07/24 08:19	
Lead	ug/L	<3.8	10.0	3.8	06/07/24 08:19	
Lithium	ug/L	<3.7	10.0	3.7	06/07/24 08:19	
Magnesium	ug/L	<20.1	50.0	20.1	06/07/24 08:19	
Manganese	ug/L	<0.39	5.0	0.39	06/07/24 08:19	
Molybdenum	ug/L	<1.0	20.0	1.0	06/07/24 08:19	
Potassium	ug/L	<69.7	500	69.7	06/07/24 08:19	
Sodium	ug/L	<115	500	115	06/07/24 08:19	

LABORATORY CONTROL SAMPLE: 3549217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Boron	ug/L	1000	967	97	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Cobalt	ug/L	1000	1060	106	85-115	
Iron	ug/L	10000	10400	104	85-115	
Lead	ug/L	1000	1050	105	85-115	
Lithium	ug/L	1000	1040	104	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Manganese	ug/L	1000	1050	105	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10100	101	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549218 3549219

Parameter	Units	60453848001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	12.5	1000	1000	1030	1050	102	103	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549218 3549219

Parameter	Units	60453848001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	0.16J	1000	1000	1040	1030	104	103	70-130	1	20	
Boron	ug/L	9.6J	1000	1000	990	994	98	98	70-130	0	20	
Calcium	ug/L	238000	10000	10000	243000	249000	50	110	70-130	2	20	M1
Cobalt	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	20	
Iron	ug/L	ND	10000	10000	10500	10600	105	106	70-130	1	20	
Lead	ug/L	ND	1000	1000	1020	1020	102	102	70-130	0	20	
Lithium	ug/L	ND	1000	1000	1060	1080	106	108	70-130	1	20	
Magnesium	ug/L	25900	10000	10000	35600	36300	98	104	70-130	2	20	
Manganese	ug/L	158	1000	1000	1200	1190	104	103	70-130	1	20	
Molybdenum	ug/L	2.9J	1000	1000	1050	1040	105	103	70-130	1	20	
Potassium	ug/L	3210	10000	10000	13600	13700	103	105	70-130	1	20	
Sodium	ug/L	4130	10000	10000	14500	14700	104	105	70-130	1	20	

MATRIX SPIKE SAMPLE: 3549220

Parameter	Units	60453857001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	59.0	1000	1070	101	70-130	
Beryllium	ug/L	ND	1000	1030	103	70-130	
Boron	ug/L	179	1000	1140	96	70-130	
Calcium	ug/L	77100	10000	87200	101	70-130	
Cobalt	ug/L	ND	1000	1030	103	70-130	
Iron	ug/L	ND	10000	10400	103	70-130	
Lead	ug/L	ND	1000	994	99	70-130	
Lithium	ug/L	ND	1000	1030	102	70-130	
Magnesium	ug/L	20400	10000	30300	99	70-130	
Manganese	ug/L	110	1000	1130	102	70-130	
Molybdenum	ug/L	ND	1000	1020	102	70-130	
Potassium	ug/L	7440	10000	17500	100	70-130	
Sodium	ug/L	63600	10000	74500	109	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 896787
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

METHOD BLANK: 3549316 Matrix: Water
Associated Lab Samples: 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	06/07/24 13:03	
Beryllium	ug/L	<0.12	1.0	0.12	06/07/24 13:03	
Boron	ug/L	<6.4	100	6.4	06/07/24 13:03	
Calcium	ug/L	<26.9	200	26.9	06/07/24 13:03	
Cobalt	ug/L	<1.2	5.0	1.2	06/07/24 13:03	
Iron	ug/L	<9.1	50.0	9.1	06/07/24 13:03	
Lead	ug/L	<3.8	10.0	3.8	06/07/24 13:03	
Lithium	ug/L	<3.7	10.0	3.7	06/07/24 13:03	
Magnesium	ug/L	<20.1	50.0	20.1	06/07/24 13:03	
Manganese	ug/L	<0.39	5.0	0.39	06/07/24 13:03	
Molybdenum	ug/L	1.1J	20.0	1.0	06/07/24 13:03	
Potassium	ug/L	<69.7	500	69.7	06/07/24 13:03	
Sodium	ug/L	<115	500	115	06/07/24 13:03	

LABORATORY CONTROL SAMPLE: 3549317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	987	99	85-115	
Beryllium	ug/L	1000	988	99	85-115	
Boron	ug/L	1000	933	93	85-115	
Calcium	ug/L	10000	9800	98	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9940	99	85-115	
Lead	ug/L	1000	992	99	85-115	
Lithium	ug/L	1000	1000	100	85-115	
Magnesium	ug/L	10000	9520	95	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Molybdenum	ug/L	1000	987	99	85-115	
Potassium	ug/L	10000	9730	97	85-115	
Sodium	ug/L	10000	9890	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549318 3549319

Parameter	Units	60453167028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	72.2	1000	1000	1090	1080	101	101	70-130	0	20	
Beryllium	ug/L	<0.12	1000	1000	1030	1000	103	100	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549318 3549319

Parameter	Units	60453167028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	7580	1000	1000	8430	8410	85	84	70-130	0	20	
Calcium	ug/L	108000	10000	10000	115000	116000	69	79	70-130	1	20	M1
Cobalt	ug/L	<1.2	1000	1000	1040	1020	104	102	70-130	2	20	
Iron	ug/L	5370	10000	10000	15600	15700	102	103	70-130	1	20	
Lead	ug/L	<3.8	1000	1000	999	981	100	98	70-130	2	20	
Lithium	ug/L	33.7	1000	1000	1060	1050	102	102	70-130	0	20	
Magnesium	ug/L	13500	10000	10000	22800	22900	93	93	70-130	0	20	
Manganese	ug/L	297	1000	1000	1320	1300	103	100	70-130	2	20	
Molybdenum	ug/L	288	1000	1000	1320	1290	103	100	70-130	2	20	
Potassium	ug/L	8050	10000	10000	18000	17900	100	99	70-130	1	20	
Sodium	ug/L	102000	10000	10000	110000	110000	77	82	70-130	0	20	

MATRIX SPIKE SAMPLE: 3549320

Parameter	Units	60453794003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	54.1	1000	1070	102	70-130	
Beryllium	ug/L	ND	1000	1050	105	70-130	
Boron	ug/L	134	1000	1110	97	70-130	
Calcium	ug/L	78200	10000	86800	86	70-130	
Cobalt	ug/L	ND	1000	1040	104	70-130	
Iron	ug/L	689	10000	11000	103	70-130	
Lead	ug/L	ND	1000	1000	100	70-130	
Lithium	ug/L	24.2	1000	1060	103	70-130	
Magnesium	ug/L	12500	10000	21900	95	70-130	
Manganese	ug/L	126	1000	1150	103	70-130	
Molybdenum	ug/L	ND	1000	1020	102	70-130	
Potassium	ug/L	10900	10000	21000	101	70-130	
Sodium	ug/L	58100	10000	67600	95	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895826
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002, 60453167003

METHOD BLANK: 3545451 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/13/24 10:24	
Arsenic	ug/L	<0.13	1.0	0.13	06/13/24 10:24	
Cadmium	ug/L	<0.050	0.50	0.050	06/13/24 10:24	
Chromium	ug/L	<0.30	1.0	0.30	06/13/24 10:24	
Selenium	ug/L	<0.18	1.0	0.18	06/13/24 10:24	
Thallium	ug/L	<0.14	1.0	0.14	06/13/24 10:24	

LABORATORY CONTROL SAMPLE: 3545452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	36.7	92	85-115	
Arsenic	ug/L	40	39.3	98	85-115	
Cadmium	ug/L	40	38.9	97	85-115	
Chromium	ug/L	40	40.3	101	85-115	
Selenium	ug/L	40	39.7	99	85-115	
Thallium	ug/L	40	35.2	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545453 3545454

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	34.9	34.2	87	85	70-130	2	20	
Arsenic	ug/L	13.0	40	40	53.6	52.9	101	100	70-130	1	20	
Cadmium	ug/L	0.24J	40	40	35.7	35.5	89	88	70-130	1	20	
Chromium	ug/L	<0.30	40	40	40.9	40.4	102	100	70-130	1	20	
Selenium	ug/L	<0.18	40	40	39.5	38.5	98	96	70-130	3	20	
Thallium	ug/L	<0.14	40	40	37.6	37.0	94	92	70-130	2	20	

MATRIX SPIKE SAMPLE: 3545455

Parameter	Units	60453167003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	35.9	90	70-130	
Arsenic	ug/L	11.6	40	53.6	105	70-130	
Cadmium	ug/L	<0.050	40	37.0	92	70-130	
Chromium	ug/L	<0.30	40	41.7	104	70-130	
Selenium	ug/L	<0.18	40	39.7	99	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE SAMPLE: 3545455

Parameter	Units	60453167003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Thallium	ug/L	<0.14	40	39.1	98	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 896384
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167004, 60453167005, 60453167006

METHOD BLANK: 3547739 Matrix: Water
Associated Lab Samples: 60453167004, 60453167005, 60453167006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/14/24 13:27	
Arsenic	ug/L	<0.13	1.0	0.13	06/14/24 13:27	
Cadmium	ug/L	<0.050	0.50	0.050	06/14/24 13:27	
Chromium	ug/L	<0.30	1.0	0.30	06/14/24 13:27	
Selenium	ug/L	<0.18	1.0	0.18	06/14/24 13:27	
Thallium	ug/L	<0.14	1.0	0.14	06/14/24 13:27	

LABORATORY CONTROL SAMPLE: 3547740

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.3	98	85-115	
Arsenic	ug/L	40	40.0	100	85-115	
Cadmium	ug/L	40	40.3	101	85-115	
Chromium	ug/L	40	40.7	102	85-115	
Selenium	ug/L	40	40.0	100	85-115	
Thallium	ug/L	40	37.7	94	85-115	

MATRIX SPIKE SAMPLE: 3547741

Parameter	Units	60453166014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	38.6	96	70-130	
Arsenic	ug/L	<0.13	40	39.0	98	70-130	
Cadmium	ug/L	<0.050	40	39.6	99	70-130	
Chromium	ug/L	<0.30	40	40.5	100	70-130	
Selenium	ug/L	<0.18	40	39.0	97	70-130	
Thallium	ug/L	<0.14	40	37.5	94	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3547742 3547743

Parameter	Units	60453358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L		40	40	38.4	38.7	96	97	70-130	1	20	
Arsenic	ug/L		40	40	39.4	40.4	97	99	70-130	2	20	
Cadmium	ug/L		40	40	38.5	38.8	96	97	70-130	1	20	
Chromium	ug/L		40	40	40.0	40.6	99	101	70-130	2	20	
Selenium	ug/L		40	40	44.9	45.4	94	96	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3547742 3547743

Parameter	Units	60453358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Thallium	ug/L		40	40	38.9	39.2	97	98	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 896601
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

METHOD BLANK: 3548603 Matrix: Water
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/14/24 14:28	
Arsenic	ug/L	<0.13	1.0	0.13	06/14/24 14:28	
Cadmium	ug/L	<0.050	0.50	0.050	06/14/24 14:28	
Chromium	ug/L	<0.30	1.0	0.30	06/14/24 14:28	
Selenium	ug/L	<0.18	1.0	0.18	06/14/24 14:28	
Thallium	ug/L	<0.14	1.0	0.14	06/14/24 14:28	

LABORATORY CONTROL SAMPLE: 3548604

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.1	95	85-115	
Arsenic	ug/L	40	38.8	97	85-115	
Cadmium	ug/L	40	39.3	98	85-115	
Chromium	ug/L	40	39.9	100	85-115	
Selenium	ug/L	40	39.5	99	85-115	
Thallium	ug/L	40	37.1	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3548605 3548606

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	40.6	40.0	102	100	70-130	2	20	
Arsenic	ug/L	0.51J	40	40	42.9	42.6	106	105	70-130	1	20	
Cadmium	ug/L	0.15J	40	40	40.4	39.8	101	99	70-130	1	20	
Chromium	ug/L	<0.30	40	40	40.9	40.3	102	100	70-130	1	20	
Selenium	ug/L	<0.18	40	40	40.0	40.2	100	100	70-130	1	20	
Thallium	ug/L	<0.14	40	40	41.4	40.8	104	102	70-130	2	20	

MATRIX SPIKE SAMPLE: 3548607

Parameter	Units	60453166016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	40.2	100	70-130	
Arsenic	ug/L	30.3	40	72.5	105	70-130	
Cadmium	ug/L	<0.050	40	40.9	102	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE SAMPLE: 3548607

Parameter	Units	60453166016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	1.2	40	43.0	105	70-130	
Selenium	ug/L	<0.18	40	40.7	102	70-130	
Thallium	ug/L	<0.14	40	41.7	104	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 896795
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

METHOD BLANK: 3549341 Matrix: Water
Associated Lab Samples: 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/19/24 15:37	
Arsenic	ug/L	<0.13	1.0	0.13	06/19/24 15:37	
Cadmium	ug/L	<0.050	0.50	0.050	06/19/24 15:37	
Chromium	ug/L	<0.30	1.0	0.30	06/19/24 15:37	
Selenium	ug/L	<0.18	1.0	0.18	06/19/24 15:37	
Thallium	ug/L	<0.14	1.0	0.14	06/19/24 15:37	

LABORATORY CONTROL SAMPLE: 3549342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	37.5	94	85-115	
Arsenic	ug/L	40	36.5	91	85-115	
Cadmium	ug/L	40	37.6	94	85-115	
Chromium	ug/L	40	41.1	103	85-115	
Selenium	ug/L	40	37.6	94	85-115	
Thallium	ug/L	40	35.4	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549343 3549344

Parameter	Units	60453167028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	41.9	41.3	105	103	70-130	1	20	
Arsenic	ug/L	2.5	40	40	45.0	44.4	106	105	70-130	1	20	
Cadmium	ug/L	0.10J	40	40	40.0	39.2	100	98	70-130	2	20	
Chromium	ug/L	0.35J	40	40	41.8	41.8	104	104	70-130	0	20	
Selenium	ug/L	<0.18	40	40	41.0	40.4	102	101	70-130	2	20	
Thallium	ug/L	<0.14	40	40	37.6	36.8	94	92	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 898799
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167018, 60453167019, 60453167020

METHOD BLANK: 3557669 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	06/20/24 15:08	
Arsenic	ug/L	<0.13	1.0	0.13	06/20/24 15:08	
Cadmium	ug/L	<0.050	0.50	0.050	06/20/24 15:08	
Chromium	ug/L	<0.30	1.0	0.30	06/20/24 15:08	
Selenium	ug/L	<0.18	1.0	0.18	06/20/24 15:08	
Thallium	ug/L	<0.14	1.0	0.14	06/20/24 15:08	

LABORATORY CONTROL SAMPLE: 3557670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	42.2	106	85-115	
Arsenic	ug/L	40	39.9	100	85-115	
Cadmium	ug/L	40	40.7	102	85-115	
Chromium	ug/L	40	39.9	100	85-115	
Selenium	ug/L	40	39.7	99	85-115	
Thallium	ug/L	40	37.1	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3557671 3557672

Parameter	Units	60453167018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	38.2	37.4	96	94	70-130	2	20	
Arsenic	ug/L	35.5	40	40	76.3	75.3	102	99	70-130	1	20	
Cadmium	ug/L	<0.050	40	40	38.1	37.2	95	93	70-130	2	20	
Chromium	ug/L	<0.30	40	40	38.3	37.6	95	93	70-130	2	20	
Selenium	ug/L	<0.18	40	40	38.7	37.9	97	95	70-130	2	20	
Thallium	ug/L	<0.14	40	40	39.4	38.3	98	96	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895687 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008

METHOD BLANK: 3544782 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	05/24/24 15:39	

LABORATORY CONTROL SAMPLE: 3544783

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

SAMPLE DUPLICATE: 3544785

Parameter	Units	60453166013 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	455	448	2	10	

SAMPLE DUPLICATE: 3545466

Parameter	Units	60453133002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	1380	1470	6	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895910
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015, 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026

METHOD BLANK: 3546043 Matrix: Water
Associated Lab Samples: 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015, 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	05/28/24 13:13	

LABORATORY CONTROL SAMPLE: 3546044

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

SAMPLE DUPLICATE: 3546045

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	149	150	0	10	

SAMPLE DUPLICATE: 3546046

Parameter	Units	60453167015 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	127	127	0	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 896321 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167027, 60453167028, 60453167029, 60453167030

METHOD BLANK: 3547433 Matrix: Water
Associated Lab Samples: 60453167027, 60453167028, 60453167029, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	06/01/24 14:40	

LABORATORY CONTROL SAMPLE: 3547434

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	509	102	90-110	

SAMPLE DUPLICATE: 3547435

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	193	194	1	10	

SAMPLE DUPLICATE: 3547436

Parameter	Units	60453351008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	420	419	0	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895067
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002, 60453167003

METHOD BLANK: 3542516 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/20/24 10:39	

LABORATORY CONTROL SAMPLE: 3542517

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	900	90	80-120	

SAMPLE DUPLICATE: 3542518

Parameter	Units	60452946003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	868	848	2	10	

SAMPLE DUPLICATE: 3542519

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	657	652	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895235
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167005, 60453167006

METHOD BLANK: 3543060 Matrix: Water
Associated Lab Samples: 60453167005, 60453167006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/21/24 11:24	

LABORATORY CONTROL SAMPLE: 3543061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	963	96	80-120	

SAMPLE DUPLICATE: 3543187

Parameter	Units	60453238001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	552	740	29	10	D6

SAMPLE DUPLICATE: 3543296

Parameter	Units	60453275001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1030	1050	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895513
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013

METHOD BLANK: 3544098 Matrix: Water
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/22/24 15:14	

LABORATORY CONTROL SAMPLE: 3544099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	915	92	80-120	

SAMPLE DUPLICATE: 3544101

Parameter	Units	60453358003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	406	385	5	10	

SAMPLE DUPLICATE: 3544191

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	640	695	8	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895953
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167004, 60453167014, 60453167015, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

METHOD BLANK: 3546159
Matrix: Water
Associated Lab Samples: 60453167004, 60453167014, 60453167015, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/28/24 10:39	

LABORATORY CONTROL SAMPLE: 3546160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	915	92	80-120	

SAMPLE DUPLICATE: 3546161

Parameter	Units	60453167004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	530	529	0	10	H1

SAMPLE DUPLICATE: 3546193

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	715	719	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895999
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167018, 60453167019

METHOD BLANK: 3546289 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/28/24 14:18	

LABORATORY CONTROL SAMPLE: 3546290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	946	95	80-120	

SAMPLE DUPLICATE: 3546291

Parameter	Units	60453637001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1570	1670	6	10	H1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895017
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002, 60453167003

METHOD BLANK: 3542231 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/20/24 09:51	H6

LABORATORY CONTROL SAMPLE: 3542232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.2	109	90-110	H6

SAMPLE DUPLICATE: 3542233

Parameter	Units	60453166006 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.19J	0.19J		20	H6

SAMPLE DUPLICATE: 3542234

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.11J	0.094J		20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895199
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167004, 60453167005, 60453167006

METHOD BLANK: 3542962 Matrix: Water
Associated Lab Samples: 60453167004, 60453167005, 60453167006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/21/24 09:40	H6

LABORATORY CONTROL SAMPLE: 3542963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.2	110	90-110	H6

SAMPLE DUPLICATE: 3542964

Parameter	Units	60453167006 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.68	0.69	2	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895436
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014

METHOD BLANK: 3543812 Matrix: Water
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/22/24 13:50	H6

LABORATORY CONTROL SAMPLE: 3543813

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2.3	2.3	97	90-110	H6

SAMPLE DUPLICATE: 3543814

Parameter	Units	60453167013 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.082J	0.082J		20	H6

SAMPLE DUPLICATE: 3543815

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	3.5	3.5	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895468
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60453167015

METHOD BLANK: 3543984 Matrix: Water
Associated Lab Samples: 60453167015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/22/24 14:38	H6

LABORATORY CONTROL SAMPLE: 3543985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2.3	2.3	97	90-110	H6

SAMPLE DUPLICATE: 3543986

Parameter	Units	60453167015 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.9	1.9	0	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895806
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167020, 60453167022, 60453167023, 60453167024, 60453167026, 60453167027, 60453167028, 60453167029

METHOD BLANK: 3545330 Matrix: Water
Associated Lab Samples: 60453167020, 60453167022, 60453167023, 60453167024, 60453167026, 60453167027, 60453167028, 60453167029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/29/24 14:10	H6

LABORATORY CONTROL SAMPLE: 3545331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2.3	2.3	99	90-110	H6

SAMPLE DUPLICATE: 3545332

Parameter	Units	60452518001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	3.4	3.5	2	20	H6

SAMPLE DUPLICATE: 3545335

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.1	1.1	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895935
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167018, 60453167019, 60453167021, 60453167025, 60453167030

METHOD BLANK: 3546109 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167021, 60453167025, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	05/29/24 13:58	H6

LABORATORY CONTROL SAMPLE: 3546110

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2.3	2.3	98	90-110	H6

SAMPLE DUPLICATE: 3546111

Parameter	Units	60453167025 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.2	1.2	1	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895061
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002, 60453167003

METHOD BLANK: 3542499 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	05/20/24 09:13	

LABORATORY CONTROL SAMPLE: 3542500

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3542501 3542502

Parameter	Units	60453166004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.28	0.5	0.5	0.41	0.37	27	19	75-125	10	20	M1

SAMPLE DUPLICATE: 3542503

Parameter	Units	60453166002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.18	0.17	4	20	

SAMPLE DUPLICATE: 3542505

Parameter	Units	60453166001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3542507

Parameter	Units	60453166004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.28	0.29	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895179
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167004, 60453167005, 60453167006

METHOD BLANK: 3542896 Matrix: Water
Associated Lab Samples: 60453167004, 60453167005, 60453167006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	05/21/24 09:13	

LABORATORY CONTROL SAMPLE: 3542897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.46	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3542898 3542899

Parameter	Units	60453227004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	5	5	2.2	2.4	44	47	75-125	6	20	M1

SAMPLE DUPLICATE: 3542905

Parameter	Units	60453227004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.016		20	

SAMPLE DUPLICATE: 3542906

Parameter	Units	60453227010 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	1.2	1.4	12	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895595
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

METHOD BLANK: 3544318 Matrix: Water
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	05/24/24 09:13	

LABORATORY CONTROL SAMPLE: 3544319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.46	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3544320 3544321

Parameter	Units	60453167008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	<0.016	0.5	0.5	0.38	0.39	75	78	75-125	3	20	

SAMPLE DUPLICATE: 3544328

Parameter	Units	60453167009 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3544329

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3544330

Parameter	Units	60453167008 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 895804
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

METHOD BLANK: 3545320 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028, 60453167029, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	05/28/24 09:13	

LABORATORY CONTROL SAMPLE: 3545321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.48	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3545322 3545323

Parameter	Units	60453167020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	<0.016	0.5	0.5	0.38	0.40	76	80	75-125	5	20	

SAMPLE DUPLICATE: 3545327

Parameter	Units	60453167020 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3545328

Parameter	Units	60453167026 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

SAMPLE DUPLICATE: 3545329

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 897150
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006

METHOD BLANK: 3551057 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/10/24 07:16	
Fluoride	mg/L	<0.12	0.20	0.12	06/10/24 07:16	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/10/24 07:16	

METHOD BLANK: 3555086 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/12/24 10:24	
Fluoride	mg/L	<0.12	0.20	0.12	06/12/24 10:24	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/12/24 10:24	

LABORATORY CONTROL SAMPLE: 3551058

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	101	90-110	N2
Sulfate	mg/L	5	4.6	92	90-110	

LABORATORY CONTROL SAMPLE: 3555087

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	2.4	96	90-110	N2
Sulfate	mg/L	5	5.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3551059 3551060

Parameter	Units	60453754006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	47.8	100	100	151	150	103	103	80-120	0	15	
Fluoride	mg/L	ND	50	50	58.2	58.5	116	117	80-120	1	15	N2
Sulfate	mg/L	2720	1000	1000	2960	4210	24	149	80-120	35	15	M1,R1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE SAMPLE: 3551061

Parameter	Units	60453754008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	40.0	100	133	93	80-120	
Fluoride	mg/L	ND	50	54.6	105	80-120	N2
Sulfate	mg/L	1430	1000	3610	217	80-120	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 897382
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

METHOD BLANK: 3552624 Matrix: Water
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/11/24 17:27	
Fluoride	mg/L	<0.12	0.20	0.12	06/11/24 17:27	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/11/24 17:27	

METHOD BLANK: 3554985 Matrix: Water
Associated Lab Samples: 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/12/24 10:42	
Fluoride	mg/L	<0.12	0.20	0.12	06/12/24 10:42	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/12/24 10:42	

LABORATORY CONTROL SAMPLE: 3552625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.4	98	90-110	N2
Sulfate	mg/L	5	5.2	104	90-110	

LABORATORY CONTROL SAMPLE: 3555135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	99	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	N2
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552626 3552627

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	30.7	100	100	135	134	104	103	80-120	1	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.9	2.9	114	116	80-120	2	15	N2

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552626 3552627

Parameter	Units	60453167011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	357	100	100	484	477	127	120	80-120	1	15	E,M1

SAMPLE DUPLICATE: 3552628

Parameter	Units	60453167011 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	30.7	28.3	8	15	
Fluoride	mg/L	<0.12	<0.12		15	N2
Sulfate	mg/L	357	332	7	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 897383
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028

METHOD BLANK: 3555098 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027, 60453167028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/11/24 08:59	
Fluoride	mg/L	<0.12	0.20	0.12	06/11/24 08:59	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/11/24 08:59	

LABORATORY CONTROL SAMPLE: 3555099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	N2
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552631 3552632

Parameter	Units	60453167028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	49.7	100	100	213	200	163	150	80-120	6	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	4.2	4.3	165	167	80-120	1	15	M1,N2
Sulfate	mg/L	351	100	100	543	508	192	157	80-120	7	15	M1

SAMPLE DUPLICATE: 3552633

Parameter	Units	60453167028 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	49.7	45.0	10	15	
Fluoride	mg/L	<0.12	<0.12		15	N2
Sulfate	mg/L	351	326	7	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 897384
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60453167029, 60453167030

METHOD BLANK: 3552634 Matrix: Water
Associated Lab Samples: 60453167029, 60453167030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	06/11/24 09:07	
Fluoride	mg/L	<0.12	0.20	0.12	06/11/24 09:07	N2
Sulfate	mg/L	<0.55	1.0	0.55	06/11/24 09:07	

LABORATORY CONTROL SAMPLE: 3552635

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	N2
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552636 3552637

Parameter	Units	60453167029 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	<0.53	5	5	5.7	5.5	114	110	80-120	3	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.6	2.6	104	102	80-120	2	15	N2
Sulfate	mg/L	<0.55	5	5	6.4	6.2	129	125	80-120	3	15	M1

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-2M **Lab ID: 60453167002** Collected: 05/15/24 12:39 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.462 ± 0.648 (1.10) C:NA T:89%**	pCi/L	06/17/24 15:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.42 ± 0.479 (0.659) C:87% T:82%**	pCi/L	06/13/24 12:37	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-2D **Lab ID: 60453167003** Collected: 05/15/24 13:25 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.188 ± 0.910 (1.65) C:NA T:87%**	pCi/L	06/17/24 15:15	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.988 ± 0.505 (0.920) C:83% T:80%**	pCi/L	06/13/24 12:38	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AMW-8 **Lab ID: 60453167004** Collected: 05/17/24 13:59 Received: 05/18/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.000 ± 0.532 (1.08) C:NA T:87%**	pCi/L	06/17/24 15:15	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.28 ± 0.542 (0.905) C:81% T:78%**	pCi/L	06/13/24 12:38	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-1 **Lab ID: 60453167005** Collected: 05/17/24 13:50 Received: 05/18/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.143 ± 0.864 (1.68) C:NA T:92%**	pCi/L	06/17/24 15:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.396 ± 0.433 (0.908) C:86% T:71%**	pCi/L	06/13/24 12:38	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-33(D) **Lab ID: 60453167007** Collected: 05/21/24 13:00 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0649 ± 0.555 (1.13) C:NA T:86%**	pCi/L	06/17/24 15:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.06 ± 0.581 (1.06) C:81% T:90%**	pCi/L	06/13/24 16:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-S-1 **Lab ID: 60453167008** Collected: 05/20/24 11:05 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.934 ± 0.570 (0.670) C:NA T:91%**	pCi/L	06/17/24 15:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.571 ± 0.484 (0.973) C:85% T:89%**	pCi/L	06/13/24 16:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-3M **Lab ID: 60453167011** Collected: 05/21/24 10:00 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.355 ± 0.412 (0.666) C:NA T:89%**	pCi/L	06/17/24 15:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.60 ± 0.554 (0.771) C:80% T:82%**	pCi/L	06/13/24 16:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-3D **Lab ID: 60453167012** Collected: 05/21/24 11:17 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.579 ± 0.682 (1.12) C:NA T:92%**	pCi/L	06/17/24 15:29	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.785 ± 0.434 (0.788) C:85% T:83%**	pCi/L	06/13/24 16:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-1 **Lab ID: 60453167013** Collected: 05/20/24 00:00 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.378 ± 0.782 (1.38) C:NA T:90%**	pCi/L	06/17/24 15:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.03 ± 0.445 (0.698) C:82% T:77%**	pCi/L	06/17/24 12:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-2 **Lab ID: 60453167014** Collected: 05/21/24 00:00 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.268 ± 0.671 (1.22) C:NA T:91%**	pCi/L	06/17/24 15:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.614 ± 0.379 (0.697) C:89% T:72%**	pCi/L	06/17/24 12:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-DUP-3 **Lab ID: 60453167015** Collected: 05/21/24 08:00 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.680 ± 0.476 (0.574) C:NA T:93%**	pCi/L	06/17/24 15:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.885 ± 0.415 (0.691) C:88% T:73%**	pCi/L	06/17/24 12:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MS-1 **Lab ID: 60453167016** Collected: 05/21/24 08:00 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**110.18 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/17/24 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**81.25 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/17/24 12:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MSD-1 **Lab ID: 60453167017** Collected: 05/21/24 10:00 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**95.36 %REC 14.42RPD ± NA (NA) C:NA T:NA**	pCi/L	06/17/24 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**85.79 %REC 5.43RPD ± NA (NA) C:NA T:NA**	pCi/L	06/17/24 12:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-24 **Lab ID: 60453167021** Collected: 05/22/24 16:05 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.814 ± 0.745 (1.07) C:NA T:90%**	pCi/L	06/23/24 14:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.209 ± 0.423 (0.936) C:86% T:85%**	pCi/L	06/20/24 19:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-34(D) **Lab ID: 60453167023** Collected: 05/22/24 10:41 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.129 ± 0.609 (1.02) C:NA T:90%**	pCi/L	06/23/24 15:08	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.483 ± 0.471 (0.967) C:84% T:91%**	pCi/L	06/20/24 19:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-35(D) **Lab ID: 60453167024** Collected: 05/22/24 12:50 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.497 ± 0.437 (0.595) C:NA T:89%**	pCi/L	06/23/24 14:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.767 ± 0.618 (1.25) C:85% T:90%**	pCi/L	06/20/24 19:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-1D **Lab ID: 60453167025** Collected: 05/22/24 14:40 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.804 ± 0.590 (0.788) C:NA T:93%**	pCi/L	06/23/24 14:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.64 ± 0.721 (1.22) C:83% T:90%**	pCi/L	06/20/24 19:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-TP-4D **Lab ID: 60453167026** Collected: 05/21/24 16:54 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**1.70 ± 0.718 (0.738) C:NA T:92%**	pCi/L	06/23/24 14:55	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.982 ± 0.615 (1.17) C:86% T:87%**	pCi/L	06/20/24 19:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AM-1S **Lab ID: 60453167027** Collected: 05/22/24 10:47 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.976 ± 0.765 (1.06) C:NA T:85%**	pCi/L	06/23/24 15:08	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.489 ± 0.600 (1.27) C:83% T:87%**	pCi/L	06/20/24 19:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-AM-1D **Lab ID: 60453167028** Collected: 05/22/24 11:50 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.464 ± 0.488 (0.774) C:NA T:90%**	pCi/L	06/20/24 15:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.31 ± 0.505 (0.796) C:82% T:85%**	pCi/L	06/18/24 12:26	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-2 **Lab ID: 60453167029** Collected: 05/22/24 10:12 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.134 ± 0.417 (0.948) C:NA T:88%**	pCi/L	06/20/24 15:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.231 ± 0.337 (0.725) C:80% T:91%**	pCi/L	06/18/24 12:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-CA-FB-3 **Lab ID: 60453167030** Collected: 05/22/24 14:50 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.766 ± 0.740 (1.64) C:NA T:85%**	pCi/L	06/20/24 15:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.259 ± 0.342 (0.729) C:78% T:89%**	pCi/L	06/18/24 12:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MS-2 **Lab ID: 60453167031** Collected: 05/22/24 11:50 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**113.44 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/20/24 15:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**106.72 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/18/24 12:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MSD-2 **Lab ID: 60453167032** Collected: 05/22/24 11:50 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**109.31 %REC 3.71RPD ± NA (NA) C:NA T:NA**	pCi/L	06/20/24 15:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**89.34 %REC 17.73RPD ± NA (NA) C:NA T:NA**	pCi/L	06/18/24 12:27	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-MW-26 **Lab ID: 60453167022** Collected: 05/22/24 12:01 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0800 ± 0.621 (1.06) C:NA T:91%**	pCi/L	06/23/24 14:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.470 ± 0.453 (0.925) C:89% T:88%**	pCi/L	06/20/24 19:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-1S **Lab ID: 60453167020** Collected: 05/21/24 15:15 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0695 ± 0.594 (1.00) C:NA T:85%**	pCi/L	06/23/24 14:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.175 ± 0.387 (0.861) C:88% T:87%**	pCi/L	06/20/24 19:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-2S **Lab ID: 60453167001** Collected: 05/15/24 13:02 Received: 05/17/24 05:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.189 ± 0.688 (1.38) C:NA T:91%**	pCi/L	06/17/24 15:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.456 ± 0.363 (0.717) C:77% T:85%**	pCi/L	06/13/24 12:37	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-4S **Lab ID: 60453167006** Collected: 05/17/24 12:32 Received: 05/18/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.225 ± 0.569 (1.06) C:NA T:87%**	pCi/L	06/17/24 15:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.420 ± 0.430 (0.893) C:81% T:81%**	pCi/L	06/13/24 12:38	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-7S **Lab ID: 60453167010** Collected: 05/20/24 13:05 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0652 ± 0.424 (0.919) C:NA T:88%**	pCi/L	06/17/24 15:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.173 ± 0.343 (0.755) C:88% T:84%**	pCi/L	06/13/24 16:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-LMW-8S **Lab ID: 60453167009** Collected: 05/20/24 14:44 Received: 05/22/24 05:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.131 ± 0.314 (0.608) C:NA T:90%**	pCi/L	06/17/24 15:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.25 ± 0.652 (1.16) C:77% T:83%**	pCi/L	06/13/24 16:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-BMW-1S **Lab ID: 60453167018** Collected: 05/23/24 12:45 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.566 ± 0.879 (1.36) C:NA T:90%**	pCi/L	06/23/24 14:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.96 ± 0.802 (1.32) C:83% T:86%**	pCi/L	06/20/24 19:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Sample: L-BMW-2S **Lab ID: 60453167019** Collected: 05/23/24 09:28 Received: 05/24/24 05:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.116 ± 0.668 (1.15) C:NA T:90%**	pCi/L	06/23/24 14:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.193 ± 0.476 (1.06) C:88% T:84%**	pCi/L	06/20/24 19:03	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 673640 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453167028, 60453167029, 60453167030, 60453167031, 60453167032

METHOD BLANK: 3279297 Matrix: Water
Associated Lab Samples: 60453167028, 60453167029, 60453167030, 60453167031, 60453167032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.347 ± 0.349 (0.722) C:80% T:89%	pCi/L	06/18/24 12:26	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 673177
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027

METHOD BLANK: 3276837 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.313 ± 0.363 (0.765) C:85% T:89%	pCi/L	06/20/24 15:55	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 672402 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015, 60453167016, 60453167017

METHOD BLANK: 3273530 Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015, 60453167016, 60453167017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.254 ± 0.319 (0.675) C:83% T:72%	pCi/L	06/13/24 12:37	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 672401
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015, 60453167016, 60453167017

METHOD BLANK: 3273524
Matrix: Water
Associated Lab Samples: 60453167001, 60453167002, 60453167003, 60453167004, 60453167005, 60453167006, 60453167007, 60453167008, 60453167009, 60453167010, 60453167011, 60453167012, 60453167013, 60453167014, 60453167015, 60453167016, 60453167017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.104 ± 0.287 (0.558) C:NA T:93%	pCi/L	06/17/24 15:15	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 673638
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453167028, 60453167029, 60453167030, 60453167031, 60453167032

METHOD BLANK: 3279296 Matrix: Water
Associated Lab Samples: 60453167028, 60453167029, 60453167030, 60453167031, 60453167032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0540 ± 0.280 (0.648) C:NA T:88%	pCi/L	06/20/24 15:03	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

QC Batch: 673174
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027

METHOD BLANK: 3276836 Matrix: Water
Associated Lab Samples: 60453167018, 60453167019, 60453167020, 60453167021, 60453167022, 60453167023, 60453167024, 60453167025, 60453167026, 60453167027

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.289 ± 0.341 (0.509) C:NA T:91%	pCi/L	06/23/24 14:17	

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QUALIFIERS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60453167004

[1] tds use 200ml! thanks crn

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALIFIERS

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

ANALYTE QUALIFIERS

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453167001	**L-LMW-2S**	EPA 200.7	895736	EPA 200.7	895848
60453167002	**L-TP-2M**	EPA 200.7	895736	EPA 200.7	895848
60453167003	**L-TP-2D**	EPA 200.7	895764	EPA 200.7	895851
60453167004	**L-AMW-8**	EPA 200.7	895764	EPA 200.7	895851
60453167005	**L-CA-FB-1**	EPA 200.7	895824	EPA 200.7	895890
60453167006	**L-LMW-4S**	EPA 200.7	895824	EPA 200.7	895890
60453167007	**L-MW-33(D)**	EPA 200.7	896143	EPA 200.7	896437
60453167008	**L-S-1**	EPA 200.7	896143	EPA 200.7	896437
60453167009	**L-LMW-8S**	EPA 200.7	896143	EPA 200.7	896437
60453167010	**L-LMW-7S**	EPA 200.7	896143	EPA 200.7	896437
60453167011	**L-TP-3M**	EPA 200.7	896143	EPA 200.7	896437
60453167012	**L-TP-3D**	EPA 200.7	896143	EPA 200.7	896437
60453167013	**L-CA-DUP-1**	EPA 200.7	896143	EPA 200.7	896437
60453167014	**L-CA-DUP-2**	EPA 200.7	896143	EPA 200.7	896437
60453167015	**L-CA-DUP-3**	EPA 200.7	896143	EPA 200.7	896437
60453167018	**L-BMW-1S**	EPA 200.7	896753	EPA 200.7	896952
60453167019	**L-BMW-2S**	EPA 200.7	896753	EPA 200.7	896952
60453167020	**L-LMW-1S**	EPA 200.7	896753	EPA 200.7	896952
60453167021	**L-MW-24**	EPA 200.7	896753	EPA 200.7	896952
60453167022	**L-MW-26**	EPA 200.7	896753	EPA 200.7	896952
60453167023	**L-MW-34(D)**	EPA 200.7	896753	EPA 200.7	896952
60453167024	**L-MW-35(D)**	EPA 200.7	896753	EPA 200.7	896952
60453167025	**L-TP-1D**	EPA 200.7	896753	EPA 200.7	896952
60453167026	**L-TP-4D**	EPA 200.7	896787	EPA 200.7	896960
60453167027	**L-AM-1S**	EPA 200.7	896787	EPA 200.7	896960
60453167028	**L-AM-1D**	EPA 200.7	896787	EPA 200.7	896960
60453167029	**L-CA-FB-2**	EPA 200.7	896787	EPA 200.7	896960
60453167030	**L-CA-FB-3**	EPA 200.7	896787	EPA 200.7	896960
60453167001	**L-LMW-2S**	EPA 200.8	895826	EPA 200.8	895887
60453167002	**L-TP-2M**	EPA 200.8	895826	EPA 200.8	895887
60453167003	**L-TP-2D**	EPA 200.8	895826	EPA 200.8	895887
60453167004	**L-AMW-8**	EPA 200.8	896384	EPA 200.8	896515
60453167005	**L-CA-FB-1**	EPA 200.8	896384	EPA 200.8	896515
60453167006	**L-LMW-4S**	EPA 200.8	896384	EPA 200.8	896515
60453167007	**L-MW-33(D)**	EPA 200.8	896601	EPA 200.8	896725
60453167008	**L-S-1**	EPA 200.8	896601	EPA 200.8	896725
60453167009	**L-LMW-8S**	EPA 200.8	896601	EPA 200.8	896725
60453167010	**L-LMW-7S**	EPA 200.8	896601	EPA 200.8	896725
60453167011	**L-TP-3M**	EPA 200.8	896601	EPA 200.8	896725
60453167012	**L-TP-3D**	EPA 200.8	896601	EPA 200.8	896725
60453167013	**L-CA-DUP-1**	EPA 200.8	896601	EPA 200.8	896725
60453167014	**L-CA-DUP-2**	EPA 200.8	896601	EPA 200.8	896725
60453167015	**L-CA-DUP-3**	EPA 200.8	896601	EPA 200.8	896725
60453167018	**L-BMW-1S**	EPA 200.8	898799	EPA 200.8	898834

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453167019	**L-BMW-2S**	EPA 200.8	898799	EPA 200.8	898834
60453167020	**L-LMW-1S**	EPA 200.8	898799	EPA 200.8	898834
60453167021	**L-MW-24**	EPA 200.8	896795	EPA 200.8	897009
60453167022	**L-MW-26**	EPA 200.8	896795	EPA 200.8	897009
60453167023	**L-MW-34(D)**	EPA 200.8	896795	EPA 200.8	897009
60453167024	**L-MW-35(D)**	EPA 200.8	896795	EPA 200.8	897009
60453167025	**L-TP-1D**	EPA 200.8	896795	EPA 200.8	897009
60453167026	**L-TP-4D**	EPA 200.8	896795	EPA 200.8	897009
60453167027	**L-AM-1S**	EPA 200.8	896795	EPA 200.8	897009
60453167028	**L-AM-1D**	EPA 200.8	896795	EPA 200.8	897009
60453167029	**L-CA-FB-2**	EPA 200.8	896795	EPA 200.8	897009
60453167030	**L-CA-FB-3**	EPA 200.8	896795	EPA 200.8	897009
60453167001	**L-LMW-2S**	EPA 7470	895448	EPA 7470	895690
60453167002	**L-TP-2M**	EPA 7470	895448	EPA 7470	895690
60453167003	**L-TP-2D**	EPA 7470	895448	EPA 7470	895690
60453167004	**L-AMW-8**	EPA 7470	895448	EPA 7470	895690
60453167005	**L-CA-FB-1**	EPA 7470	895448	EPA 7470	895690
60453167006	**L-LMW-4S**	EPA 7470	895448	EPA 7470	895690
60453167007	**L-MW-33(D)**	EPA 7470	895448	EPA 7470	895690
60453167008	**L-S-1**	EPA 7470	895448	EPA 7470	895690
60453167009	**L-LMW-8S**	EPA 7470	895455	EPA 7470	895691
60453167010	**L-LMW-7S**	EPA 7470	895455	EPA 7470	895691
60453167011	**L-TP-3M**	EPA 7470	895455	EPA 7470	895691
60453167012	**L-TP-3D**	EPA 7470	895455	EPA 7470	895691
60453167013	**L-CA-DUP-1**	EPA 7470	895455	EPA 7470	895691
60453167014	**L-CA-DUP-2**	EPA 7470	895455	EPA 7470	895691
60453167015	**L-CA-DUP-3**	EPA 7470	895455	EPA 7470	895691
60453167018	**L-BMW-1S**	EPA 7470	897908	EPA 7470	898074
60453167019	**L-BMW-2S**	EPA 7470	897908	EPA 7470	898074
60453167020	**L-LMW-1S**	EPA 7470	897908	EPA 7470	898074
60453167021	**L-MW-24**	EPA 7470	897908	EPA 7470	898074
60453167022	**L-MW-26**	EPA 7470	897908	EPA 7470	898074
60453167023	**L-MW-34(D)**	EPA 7470	897908	EPA 7470	898074
60453167024	**L-MW-35(D)**	EPA 7470	897908	EPA 7470	898074
60453167025	**L-TP-1D**	EPA 7470	897908	EPA 7470	898074
60453167026	**L-TP-4D**	EPA 7470	897908	EPA 7470	898074
60453167027	**L-AM-1S**	EPA 7470	897908	EPA 7470	898074
60453167028	**L-AM-1D**	EPA 7470	897908	EPA 7470	898074
60453167029	**L-CA-FB-2**	EPA 7470	897908	EPA 7470	898074
60453167030	**L-CA-FB-3**	EPA 7470	897908	EPA 7470	898074
60453167001	**L-LMW-2S**	EPA 903.1	672401		
60453167002	**L-TP-2M**	EPA 903.1	672401		
60453167003	**L-TP-2D**	EPA 903.1	672401		
60453167004	**L-AMW-8**	EPA 903.1	672401		
60453167005	**L-CA-FB-1**	EPA 903.1	672401		
60453167006	**L-LMW-4S**	EPA 903.1	672401		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453167007	**L-MW-33(D)**	EPA 903.1	672401		
60453167008	**L-S-1**	EPA 903.1	672401		
60453167009	**L-LMW-8S**	EPA 903.1	672401		
60453167010	**L-LMW-7S**	EPA 903.1	672401		
60453167011	**L-TP-3M**	EPA 903.1	672401		
60453167012	**L-TP-3D**	EPA 903.1	672401		
60453167013	**L-CA-DUP-1**	EPA 903.1	672401		
60453167014	**L-CA-DUP-2**	EPA 903.1	672401		
60453167015	**L-CA-DUP-3**	EPA 903.1	672401		
60453167016	**L-MS-1**	EPA 903.1	672401		
60453167017	**L-MSD-1**	EPA 903.1	672401		
60453167018	**L-BMW-1S**	EPA 903.1	673174		
60453167019	**L-BMW-2S**	EPA 903.1	673174		
60453167020	**L-LMW-1S**	EPA 903.1	673174		
60453167021	**L-MW-24**	EPA 903.1	673174		
60453167022	**L-MW-26**	EPA 903.1	673174		
60453167023	**L-MW-34(D)**	EPA 903.1	673174		
60453167024	**L-MW-35(D)**	EPA 903.1	673174		
60453167025	**L-TP-1D**	EPA 903.1	673174		
60453167026	**L-TP-4D**	EPA 903.1	673174		
60453167027	**L-AM-1S**	EPA 903.1	673174		
60453167028	**L-AM-1D**	EPA 903.1	673638		
60453167029	**L-CA-FB-2**	EPA 903.1	673638		
60453167030	**L-CA-FB-3**	EPA 903.1	673638		
60453167031	**L-MS-2**	EPA 903.1	673638		
60453167032	**L-MSD-2**	EPA 903.1	673638		
60453167001	**L-LMW-2S**	EPA 904.0	672402		
60453167002	**L-TP-2M**	EPA 904.0	672402		
60453167003	**L-TP-2D**	EPA 904.0	672402		
60453167004	**L-AMW-8**	EPA 904.0	672402		
60453167005	**L-CA-FB-1**	EPA 904.0	672402		
60453167006	**L-LMW-4S**	EPA 904.0	672402		
60453167007	**L-MW-33(D)**	EPA 904.0	672402		
60453167008	**L-S-1**	EPA 904.0	672402		
60453167009	**L-LMW-8S**	EPA 904.0	672402		
60453167010	**L-LMW-7S**	EPA 904.0	672402		
60453167011	**L-TP-3M**	EPA 904.0	672402		
60453167012	**L-TP-3D**	EPA 904.0	672402		
60453167013	**L-CA-DUP-1**	EPA 904.0	672402		
60453167014	**L-CA-DUP-2**	EPA 904.0	672402		
60453167015	**L-CA-DUP-3**	EPA 904.0	672402		
60453167016	**L-MS-1**	EPA 904.0	672402		
60453167017	**L-MSD-1**	EPA 904.0	672402		
60453167018	**L-BMW-1S**	EPA 904.0	673177		
60453167019	**L-BMW-2S**	EPA 904.0	673177		
60453167020	**L-LMW-1S**	EPA 904.0	673177		
60453167021	**L-MW-24**	EPA 904.0	673177		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453167022	**L-MW-26**	EPA 904.0	673177		
60453167023	**L-MW-34(D)**	EPA 904.0	673177		
60453167024	**L-MW-35(D)**	EPA 904.0	673177		
60453167025	**L-TP-1D**	EPA 904.0	673177		
60453167026	**L-TP-4D**	EPA 904.0	673177		
60453167027	**L-AM-1S**	EPA 904.0	673177		
60453167028	**L-AM-1D**	EPA 904.0	673640		
60453167029	**L-CA-FB-2**	EPA 904.0	673640		
60453167030	**L-CA-FB-3**	EPA 904.0	673640		
60453167031	**L-MS-2**	EPA 904.0	673640		
60453167032	**L-MSD-2**	EPA 904.0	673640		
60453167001	**L-LMW-2S**	SM 2320B	895687		
60453167002	**L-TP-2M**	SM 2320B	895687		
60453167003	**L-TP-2D**	SM 2320B	895687		
60453167004	**L-AMW-8**	SM 2320B	895687		
60453167005	**L-CA-FB-1**	SM 2320B	895687		
60453167006	**L-LMW-4S**	SM 2320B	895687		
60453167007	**L-MW-33(D)**	SM 2320B	895687		
60453167008	**L-S-1**	SM 2320B	895687		
60453167009	**L-LMW-8S**	SM 2320B	895910		
60453167010	**L-LMW-7S**	SM 2320B	895910		
60453167011	**L-TP-3M**	SM 2320B	895910		
60453167012	**L-TP-3D**	SM 2320B	895910		
60453167013	**L-CA-DUP-1**	SM 2320B	895910		
60453167014	**L-CA-DUP-2**	SM 2320B	895910		
60453167015	**L-CA-DUP-3**	SM 2320B	895910		
60453167018	**L-BMW-1S**	SM 2320B	895910		
60453167019	**L-BMW-2S**	SM 2320B	895910		
60453167020	**L-LMW-1S**	SM 2320B	895910		
60453167021	**L-MW-24**	SM 2320B	895910		
60453167022	**L-MW-26**	SM 2320B	895910		
60453167023	**L-MW-34(D)**	SM 2320B	895910		
60453167024	**L-MW-35(D)**	SM 2320B	895910		
60453167025	**L-TP-1D**	SM 2320B	895910		
60453167026	**L-TP-4D**	SM 2320B	895910		
60453167027	**L-AM-1S**	SM 2320B	896321		
60453167028	**L-AM-1D**	SM 2320B	896321		
60453167029	**L-CA-FB-2**	SM 2320B	896321		
60453167030	**L-CA-FB-3**	SM 2320B	896321		
60453167001	**L-LMW-2S**	SM 2540C	895067		
60453167002	**L-TP-2M**	SM 2540C	895067		
60453167003	**L-TP-2D**	SM 2540C	895067		
60453167004	**L-AMW-8**	SM 2540C	895953		
60453167005	**L-CA-FB-1**	SM 2540C	895235		
60453167006	**L-LMW-4S**	SM 2540C	895235		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453167007	**L-MW-33(D)**	SM 2540C	895513		
60453167008	**L-S-1**	SM 2540C	895513		
60453167009	**L-LMW-8S**	SM 2540C	895513		
60453167010	**L-LMW-7S**	SM 2540C	895513		
60453167011	**L-TP-3M**	SM 2540C	895513		
60453167012	**L-TP-3D**	SM 2540C	895513		
60453167013	**L-CA-DUP-1**	SM 2540C	895513		
60453167014	**L-CA-DUP-2**	SM 2540C	895953		
60453167015	**L-CA-DUP-3**	SM 2540C	895953		
60453167018	**L-BMW-1S**	SM 2540C	895999		
60453167019	**L-BMW-2S**	SM 2540C	895999		
60453167020	**L-LMW-1S**	SM 2540C	895953		
60453167021	**L-MW-24**	SM 2540C	895953		
60453167022	**L-MW-26**	SM 2540C	895953		
60453167023	**L-MW-34(D)**	SM 2540C	895953		
60453167024	**L-MW-35(D)**	SM 2540C	895953		
60453167025	**L-TP-1D**	SM 2540C	895953		
60453167026	**L-TP-4D**	SM 2540C	895953		
60453167027	**L-AM-1S**	SM 2540C	895953		
60453167028	**L-AM-1D**	SM 2540C	895953		
60453167029	**L-CA-FB-2**	SM 2540C	895953		
60453167030	**L-CA-FB-3**	SM 2540C	895953		
60453167001	**L-LMW-2S**	SM 3500-Fe B#4	897871		
60453167002	**L-TP-2M**	SM 3500-Fe B#4	897871		
60453167003	**L-TP-2D**	SM 3500-Fe B#4	897871		
60453167004	**L-AMW-8**	SM 3500-Fe B#4	897871		
60453167005	**L-CA-FB-1**	SM 3500-Fe B#4	897871		
60453167006	**L-LMW-4S**	SM 3500-Fe B#4	897871		
60453167007	**L-MW-33(D)**	SM 3500-Fe B#4	897871		
60453167008	**L-S-1**	SM 3500-Fe B#4	897871		
60453167009	**L-LMW-8S**	SM 3500-Fe B#4	897871		
60453167010	**L-LMW-7S**	SM 3500-Fe B#4	897871		
60453167011	**L-TP-3M**	SM 3500-Fe B#4	897871		
60453167012	**L-TP-3D**	SM 3500-Fe B#4	897871		
60453167013	**L-CA-DUP-1**	SM 3500-Fe B#4	897871		
60453167014	**L-CA-DUP-2**	SM 3500-Fe B#4	897871		
60453167015	**L-CA-DUP-3**	SM 3500-Fe B#4	897871		
60453167018	**L-BMW-1S**	SM 3500-Fe B#4	898694		
60453167019	**L-BMW-2S**	SM 3500-Fe B#4	898694		
60453167020	**L-LMW-1S**	SM 3500-Fe B#4	898694		
60453167021	**L-MW-24**	SM 3500-Fe B#4	898694		
60453167022	**L-MW-26**	SM 3500-Fe B#4	898694		
60453167023	**L-MW-34(D)**	SM 3500-Fe B#4	898694		
60453167024	**L-MW-35(D)**	SM 3500-Fe B#4	898694		
60453167025	**L-TP-1D**	SM 3500-Fe B#4	898694		
60453167026	**L-TP-4D**	SM 3500-Fe B#4	898694		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453167027	**L-AM-1S**	SM 3500-Fe B#4	898694		
60453167028	**L-AM-1D**	SM 3500-Fe B#4	898694		
60453167029	**L-CA-FB-2**	SM 3500-Fe B#4	898694		
60453167030	**L-CA-FB-3**	SM 3500-Fe B#4	898694		
60453167001	**L-LMW-2S**	SM 3500-Fe B#4	895017		
60453167002	**L-TP-2M**	SM 3500-Fe B#4	895017		
60453167003	**L-TP-2D**	SM 3500-Fe B#4	895017		
60453167004	**L-AMW-8**	SM 3500-Fe B#4	895199		
60453167005	**L-CA-FB-1**	SM 3500-Fe B#4	895199		
60453167006	**L-LMW-4S**	SM 3500-Fe B#4	895199		
60453167007	**L-MW-33(D)**	SM 3500-Fe B#4	895436		
60453167008	**L-S-1**	SM 3500-Fe B#4	895436		
60453167009	**L-LMW-8S**	SM 3500-Fe B#4	895436		
60453167010	**L-LMW-7S**	SM 3500-Fe B#4	895436		
60453167011	**L-TP-3M**	SM 3500-Fe B#4	895436		
60453167012	**L-TP-3D**	SM 3500-Fe B#4	895436		
60453167013	**L-CA-DUP-1**	SM 3500-Fe B#4	895436		
60453167014	**L-CA-DUP-2**	SM 3500-Fe B#4	895436		
60453167015	**L-CA-DUP-3**	SM 3500-Fe B#4	895468		
60453167018	**L-BMW-1S**	SM 3500-Fe B#4	895935		
60453167019	**L-BMW-2S**	SM 3500-Fe B#4	895935		
60453167020	**L-LMW-1S**	SM 3500-Fe B#4	895806		
60453167021	**L-MW-24**	SM 3500-Fe B#4	895935		
60453167022	**L-MW-26**	SM 3500-Fe B#4	895806		
60453167023	**L-MW-34(D)**	SM 3500-Fe B#4	895806		
60453167024	**L-MW-35(D)**	SM 3500-Fe B#4	895806		
60453167025	**L-TP-1D**	SM 3500-Fe B#4	895935		
60453167026	**L-TP-4D**	SM 3500-Fe B#4	895806		
60453167027	**L-AM-1S**	SM 3500-Fe B#4	895806		
60453167028	**L-AM-1D**	SM 3500-Fe B#4	895806		
60453167029	**L-CA-FB-2**	SM 3500-Fe B#4	895806		
60453167030	**L-CA-FB-3**	SM 3500-Fe B#4	895935		
60453167001	**L-LMW-2S**	SM 4500-S-2 D	895061		
60453167002	**L-TP-2M**	SM 4500-S-2 D	895061		
60453167003	**L-TP-2D**	SM 4500-S-2 D	895061		
60453167004	**L-AMW-8**	SM 4500-S-2 D	895179		
60453167005	**L-CA-FB-1**	SM 4500-S-2 D	895179		
60453167006	**L-LMW-4S**	SM 4500-S-2 D	895179		
60453167007	**L-MW-33(D)**	SM 4500-S-2 D	895595		
60453167008	**L-S-1**	SM 4500-S-2 D	895595		
60453167009	**L-LMW-8S**	SM 4500-S-2 D	895595		
60453167010	**L-LMW-7S**	SM 4500-S-2 D	895595		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60453167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60453167011	**L-TP-3M**	SM 4500-S-2 D	895595		
60453167012	**L-TP-3D**	SM 4500-S-2 D	895595		
60453167013	**L-CA-DUP-1**	SM 4500-S-2 D	895595		
60453167014	**L-CA-DUP-2**	SM 4500-S-2 D	895595		
60453167015	**L-CA-DUP-3**	SM 4500-S-2 D	895595		
60453167018	**L-BMW-1S**	SM 4500-S-2 D	895804		
60453167019	**L-BMW-2S**	SM 4500-S-2 D	895804		
60453167020	**L-LMW-1S**	SM 4500-S-2 D	895804		
60453167021	**L-MW-24**	SM 4500-S-2 D	895804		
60453167022	**L-MW-26**	SM 4500-S-2 D	895804		
60453167023	**L-MW-34(D)**	SM 4500-S-2 D	895804		
60453167024	**L-MW-35(D)**	SM 4500-S-2 D	895804		
60453167025	**L-TP-1D**	SM 4500-S-2 D	895804		
60453167026	**L-TP-4D**	SM 4500-S-2 D	895804		
60453167027	**L-AM-1S**	SM 4500-S-2 D	895804		
60453167028	**L-AM-1D**	SM 4500-S-2 D	895804		
60453167029	**L-CA-FB-2**	SM 4500-S-2 D	895804		
60453167030	**L-CA-FB-3**	SM 4500-S-2 D	895804		
60453167001	**L-LMW-2S**	EPA 300.0	897150		
60453167002	**L-TP-2M**	EPA 300.0	897150		
60453167003	**L-TP-2D**	EPA 300.0	897150		
60453167004	**L-AMW-8**	EPA 300.0	897150		
60453167005	**L-CA-FB-1**	EPA 300.0	897150		
60453167006	**L-LMW-4S**	EPA 300.0	897150		
60453167007	**L-MW-33(D)**	EPA 300.0	897382		
60453167008	**L-S-1**	EPA 300.0	897382		
60453167009	**L-LMW-8S**	EPA 300.0	897382		
60453167010	**L-LMW-7S**	EPA 300.0	897382		
60453167011	**L-TP-3M**	EPA 300.0	897382		
60453167012	**L-TP-3D**	EPA 300.0	897382		
60453167013	**L-CA-DUP-1**	EPA 300.0	897382		
60453167014	**L-CA-DUP-2**	EPA 300.0	897382		
60453167015	**L-CA-DUP-3**	EPA 300.0	897382		
60453167018	**L-BMW-1S**	EPA 300.0	897383		
60453167019	**L-BMW-2S**	EPA 300.0	897383		
60453167020	**L-LMW-1S**	EPA 300.0	897383		
60453167021	**L-MW-24**	EPA 300.0	897383		
60453167022	**L-MW-26**	EPA 300.0	897383		
60453167023	**L-MW-34(D)**	EPA 300.0	897383		
60453167024	**L-MW-35(D)**	EPA 300.0	897383		
60453167025	**L-TP-1D**	EPA 300.0	897383		
60453167026	**L-TP-4D**	EPA 300.0	897383		
60453167027	**L-AM-1S**	EPA 300.0	897383		
60453167028	**L-AM-1D**	EPA 300.0	897383		
60453167029	**L-CA-FB-2**	EPA 300.0	897384		
60453167030	**L-CA-FB-3**	EPA 300.0	897384		

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WO# : 60453167

60453167

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample (		
	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: T299 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): As-read 17.9/18.4 Corr. Factor 0.0 Corrected 17.9/18.4

Temperature should be above freezing to 6°C 2.1/2.0/1.8 2.1/2.0/1.8

Date and initials of person examining contents: AV 5/17/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187/66203	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60453167

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample.
L-AMW-8	WT																				
L-BMW-1S	WT																				
L-BMW-2S	WT																				
L-LMW-1S	WT																				
L-LMW-2S	WT	G			5-15-24	1302	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-LMW-4S	WT																				
L-LMW-7S	WT																				
L-LMW-8S	WT																				
~~L-AMW-24~~ L-TP-2M	WT	G			5-15-24	1239	8			✓	✓	✓	✓	~	✓	✓	✓	✓	✓		
~~L-BMW-2S~~ L-TP-2D	WT	G			1	1325	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086539

**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) HNO_3, (3) H_2SO_4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) $NaHSO_4$, (8) Sod Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Additional Instructions from Pace®:
**App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) Grant Moore
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
5	T299	0.0	17.9	18.4	1/1
			18.2	18.7	1/1
			18.3	18.8	1/1
			18.4	18.9	1/1
			18.5	19.0	1/1

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	5-16-24 1330		5/17/24 0530	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
				[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

ENV-FRM-CORQ-0019_v02_110123 ©

Client: Rocksmith Geoeng Profile #

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	BP3C	BP3Z	WPDU	ZPLC	Other		
1																																
2																																
3																																
4																																
5	WT												2						1		1	2	1				1					
6																																
7																																
8																																
9	WT												↓						↓		↓	↓	↓				↓					
10	WT												↓						↓		↓	↓	↓				↓					
11																																
12																																

Container Codes

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

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

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

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

Work Order Number: 60453167

WO# : 60453167

60453167

Pace ANALYTICAL SERVICES	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: T499 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.5/1.2/23.9 **Corr. Factor** 0.0 **Corrected** 1.5/1.2/23.9

Date and initials of person examining contents: 12/5 bohy

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187/606203	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60453167

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
Specify Container Size **										1	1	3	10	3	3	3	3	3	1		
Identify Container Preservative Type***										1	1	1	3	6	2	2	2	3	2		
L-AMW-8	WT	G			5-17-24	1359	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
~~L-BMW-1S~~ L-CA-FB-1	WT	G			5-17-24	1350	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-BMW-2S	WT																				
L-LMW-1S	WT																				
L-LMW-2S	WT																				
L-LMW-4S	WT	G			5-17-24	1232	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-LMW-7S	WT																				
L-LMW-8S	WT																				
L-MW-24	WT																				
L-MW-26	WT																				

**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

Lab Use Only

Proj. Mgr: **Jamie Church**

AcctNum / Client ID:

Table #:

Profile / Template: **15857**

Prelog / Bottle Ord. ID: **EZ 3086539**

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By: (Printed Name) Grant Morey

Signature: Grant Morey

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
3	T299	0.0	1.5/1.2/23.9	1.5/1.2/23.9	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Grant Morey / Rocksmith	5-17-24 / 1600		5/18/24 0500	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

BPIN = SI-3BRAD / RAD 02
one AG3S: SI-21WGT

Client: Rocksmith Geoeng

Profile # only print what you log.

Site:

Notes Append to 60453167

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

Container Codes

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

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

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

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

Work Order Number: 60453167

WO# : 60453167

60453167

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

Client Name: Rocksmith

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: T199 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 18.3/17.1/16.9/1.5/2.5 Corr. Factor 0.0 Corrected 18.3/17.1/16.9/1.5/2.5

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 1.1/1.9/2.1/1.4 1.1/1.9/2.1/1.4 PW 5/22/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187/606203	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60453167

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample.
Container Size **										1	1	3	3	3	3	3	3	3	1		
Preservative Type***										1	1	1	3	6	2	2	2	3	2		
L-MW-33(D)	WT	G			5-21-24	1300	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-MW-34(D)	WT																				
L-MW-35(D)	WT																				
L-S-1	WT	G			5-20-24	1105	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-TP-1D	WT																				
~~L-TP-2M~~ L-LMW-85	WT	G			5-20-24	1444	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
~~L-TP-2D~~ L-LMW-75	WT	G			5-20-24	1305	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-TP-3M	WT	G			5-21-24	1000	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-TP-3D	WT	G			5-21-24	1117	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-TP-4D	WT																				

**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

Lab Use Only

Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086539

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By:
(Printed Name) Grant Moro
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
9	T299	0.0	18.3/17.1/16.9/1.5/2.5/1.1/1.9	2.1/1.4	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Rocksmith	5/21/24 @ 1554		5/22/24 0550
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In- Person [ ] Courier
[ ] FedEx [ ] UPS [ ] Other

Page: 1 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

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

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

60453167

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 3 3 3 3 3 1

Identify Container Preservative Type***: 1 1 1 3 6 2 2 2 3 2

**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

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086539

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
L-AM-1S	WT																				
L-AM-1D	WT																				
L-CA-DUP-1	WT	G			5-20-24	—	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-CA-DUP-2	WT	G			5-21-24	—	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-CA-DUP-3	WT	G			5-21-24	—	8														
L-CA-FB-1	WT																				
L-CA-FB-2	WT																				
L-CA-FB-3	WT																				
L-MS-1	WT	G			5-21-24	1000	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Collected @ L-TP-2M	
L-MSD-1	WT	G			1	1000	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1	

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By:
(Printed Name) Grant Morey
Signature:

Customer Remarks / Special Conditions / Possible Hazards:
18.3/17.5/16.9/1.5/2.5/1.1/1.9/2.1/1.4

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
9	T299	0.0			

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	5/21/24@1554		5/22/24 0950	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

1/2 only print what you log
one AG3S = SI-21WET

Client: Rocksmith Geoeng

Profile # BPIN: SI-38RAD and SI-38RADOL

Site:

Notes Append to 60453167

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

Container Codes

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

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

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

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

Work Order Number: 60453167

2/2 Same note from page one.

Client: Locksmith Reoeng

Profile #

Site:

Notes Append to 60453167

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

Container Codes

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

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

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

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

Work Order Number: 60453167

WO#: 60453167

60453167

DC#_Title: ENV-FRM-LENE-0009_Sample		
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: T299 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): As-read 19.4/22.4/1.8/1.7 Corr. Factor 0.0 Corrected 19.4/22.4/1.8/1.7

Temperature should be above freezing to 6°C 1.9/0.9/1.0 1.9/0.9/1.0

Date and initials of person examining contents: PV 5/24/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	Time -
Pace containers used:	☑Yes ☐No ☐N/A	L-Am-1s - 10:47
Containers intact:	☑Yes ☐No ☐N/A	L-Am-1D - 11:50
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187/606203	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

L0453167

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units
L-AMW-8	WT								
L-BMW-1S	WT	G			5-23-24	1245	8		
L-BMW-2S	WT	G			1	0928	8		
L-LMW-1S	WT	G			5-21-24	1515	8		
L-LMW-2S	WT								
L-LMW-4S	WT								
L-LMW-7S	WT								
L-LMW-8S	WT								
L-MW-24	WT	G			5-22-24	1605	8		
L-MW-26	WT	G			5-22-24	1201	8		

Specify Container Size **: 1 1 3 3 3 3 3 3 3 1

Identify Container Preservative Type***: 1 1 1 3 6 2 2 2 3 2

Analysis Requested

Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**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

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086539

Sample Comment

Preservation non-conformance identified for sample:

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By:
(Printed Name) Grant Morey
Signature: Grant Morey

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
7	T299	0.0	0.9 / 1.0	19.4 / 22.4 / 1.8 / 1.7 / 2.9	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Grant Morey / Rocksmith	5-23-24 / 1536		5/24/24 0500	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 4

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

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

60453167
Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2	Invoice To:	Mark Haddock
Project Name:	AMEREN LCPA-CA	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
Specify Container Size **										1	1	3	3	3	3	3	3	3	1		
Identify Container Preservative Type***										1	1	1	3	6	2	2	2	3	2		
L-MW-33(D)	WT																				
L-MW-34(D)	WT	G			5-22-24	1041	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-MW-35(D)	WT	G			5-22-24	1250	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-S-1	WT																				
L-TP-1D	WT	G			5-22-24	1440	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-TP-2M	WT																				
L-TP-2D	WT																				
L-TP-3M	WT																				
L-TP-3D	WT																				
L-TP-4D	WT	G			5-21-24	1654	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

**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

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086539

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By: (Printed Name) Grant Moore
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
7	T299	0.0	19.4/22.4/1.8/1.7/1.9	0.9/1.0	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	5-23-24/1530		5/24/24 0500	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 4

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

CHAIN-OF-CUSTODY Analytical Request Document

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60453167
Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
Container Size **										1	1	3	3	3	3	3	3	3	1	
Preservative Type***										1	1	1	3	6	2	2	2	3	2	
L-AM-1S	WT	G			5-22-24		8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L-AM-1D	WT	G			1		8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L-CA-DUP-1	WT																			
L-CA-DUP-2	WT																			
L-CA-DUP-3	WT																			
L-CA-FB-1	WT																			
L-CA-FB-2	WT	G			5-22-24	1012	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L-CA-FB-3	WT	G			5-22-24	1450	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L-MS-1	WT																			
L-MSD-1	WT																			

**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

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086539

Preservation non-conformance identified for sample

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By:
(Printed Name) Grant Morey
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

0.9/1.0

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
7	T299	0.0	19.4/22.4/1.8/1.7/16.9		

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
[signature] / ROC/Rocksmith	5-23-24/1530	[signature] ABC	5/24/24 0500	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 3 of 4

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

CHAIN-OF-CUSTODY Analytical Request Document

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60453167

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC #2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	Ferrous Iron / Ferric Iron	COD / TOC	Sulfide	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
Specify Container Size **										1	1	3	3	3	3	3	3	3	1		
Identify Container Preservative Type***										1	1	1	3	6	2	2	2	3	2		
L-MS-2	WT	G			5-22-24	1150	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
L-MSD-2	WT	G			1	1150	8			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

**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

Analysis Requested

Lab Use Only

Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3086539

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By:
(Printed Name) Grant Morey
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

0.9/1.0

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	Onice:
7	T299	0.0	19.4/22.4/1.8/1.7	1.9	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
[illegible] / Rocksmith	5-23-24/1530	[illegible]	5/24/24 0820	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 4 of 4

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DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

1/4

only print what you log.
one AG3S = SI-21WGT

Client: Rocksmith Geoeng

Profile # BP1N=SI-RAD and SI-38RADO2

Site:

Notes Append to 60453167

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

Container Codes

Glass				Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1C	1L NAOH plastic	I	Wipe/Swab
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NAOH plastic	R	Terracore Kit
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic	U	Summa Can
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S	500mL H2SO4 plastic		
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate	Matrix	
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3C	250mL NaOH plastic		
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic	NAL	Non-aqueous Liquid
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic	OL	OIL
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate	WP	Wipe
				BP4U	125mL unpreserved plastic	DW	Drinking Water
				BP4N	125mL HNO3 plastic		
				BP4S	125mL H2SO4 plastic		
				WPDU	16oz unpresserved plstic		

Work Order Number: 60453167

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

2/4

only print what you log.
one AG3S = SI-21WGT

Client: Rocksmith Geoeng

Profile # BP1N=SI-RAD and SI-38RADO2

Site:

Notes Append to 60453167

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

Container Codes

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

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

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

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

Work Order Number: 60453167

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

3/4

only print what you log.
one AG3S = SI-21WGT

Client: Rocksmith Geoeng

Profile # BP1N=SI-RAD and SI-38RADOZ

Site:

Notes Append to 60453167

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other	Time
1	WT												2						1		1	2	1				1				10:47
2	↓					(MS/MSD)							6						3		3	2	3				3				11:50
3																															
4																															
5																															
6																															
7	WT												2						1		1	2	1				1				
8	↓												↓						↓		↓	↓	↓				↓				
9																															
10																															
11																															
12																															

Container Codes

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

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

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

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

Work Order Number: 60453167

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

4/4

only print what you log.
one AG3S = SI-21WGT

Client: Rocksmith Geoeng

Profile # BP1N = SI-RAD and SI-38RADOZ

Site:

Notes Append to 60453167

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

(only log RAD)

Container Codes

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

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

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

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

Work Order Number: 60453167

Internal Transfer Chain of Custody

E042

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60453167 Workorder Name: AMEREN LCPA-CA COC#2

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4	9020B TOX	LAB USE ONLY
1	L-LMW-2S	PS	5/15/2024 13:02	60453167001	Water	1	X	-01
2	L-TP-2M	PS	5/15/2024 12:39	60453167002	Water	1	X	-02
3	L-TP-2D	PS	5/15/2024 13:25	60453167003	Water	1	X	-03
4	L-AMW-8	PS	5/17/2024 13:59	60453167004	Water	1	X	-04
5	L-CA-FB-1	PS	5/17/2024 13:50	60453167005	Water	1	X	-05
~~6~~	~~L-LMW-4S~~	~~PS~~	~~5/17/2024 12:32~~	~~60453167006~~	~~Water~~	~~1~~	~~X~~	
1	L-MW-33(D)	PS	5/21/2024 13:00	60453167007	Water	1	X	-06
2	L-S-1	PS	5/20/2024 11:05	60453167008	Water	1	X	-07
3	L-LMW-8S	PS	5/20/2024 14:44	60453167009	Water	1	X	-08
4	L-LMW-7S	PS	5/20/2024 13:05	60453167010	Water	1	X	-09
5	L-TP-3M	RQS	5/21/2024 10:00	60453167011	Water	1 3	X	MS/MSD -10
6	L-TP-3D	PS	5/21/2024 11:17	60453167012	Water	1	X	-11
7	L-CA-DUP-1	PS	5/20/2024 00:00	60453167013	Water	1	X	-12
8	L-CA-DUP-2	PS	5/21/2024 00:00	60453167014	Water	1	X	-13
9	L-CA-DUP-3	PS	5/21/2024 08:00	60453167015	Water	1	X	-14

L1739658

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact	Y N	Pres. Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent	Y N		
RA Screen <0.5 mR/hr:	Y N		

4.4+0.1=4.5

PH-10BDH5021 TRC 235216
CR6-20221V

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[illegible]	5-22-24 1700	[illegible]	5/23/24 900	KS sample location: 6090-R7-S6A
2					
3					

Cooler Temperature on Receipt ____ °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

L1739658

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No
Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Workorder: 60453167 Workorder Name: AMEREN LCPA-CA

Report To

Jamie Church
Pace Analytical Kansas
9608 Loiret Blvd.
Lenexa, KS 66219
Phone 314-838-7223

Subcontract To

Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers H2SO4	Requested Analysis 9020B TOX														LAB USE ONLY
1	L-LMW-2S	PS	5/15/2024 13:02	60453167001	Water	1	X														
2	L-TP-2M	PS	5/15/2024 12:39	60453167002	Water	1	X														
3	L-TP-2D	PS	5/15/2024 13:25	60453167003	Water	1	X														
4	L-AMW-8	PS	5/17/2024 13:59	60453167004	Water	1	X														
5	L-CA-FB-1	PS	5/17/2024 13:50	60453167005	Water	1	X														
6	L-LMW-4S	PS	5/17/2024 12:32	60453167006	Water	1	X														
7	L-MW-33(D)	PS	5/21/2024 13:00	60453167007	Water	1	X														
8	L-S-1	PS	5/20/2024 11:05	60453167008	Water	1	X														
9	L-LMW-8S	PS	5/20/2024 14:44	60453167009	Water	1	X														
10	L-LMW-7S	PS	5/20/2024 13:05	60453167010	Water	1	X														
11	L-TP-3M	RQS	5/21/2024 10:00	60453167011	Water	1	X														
12	L-TP-3D	PS	5/21/2024 11:17	60453167012	Water	1	X														
13	L-CA-DUP-1	PS	5/20/2024 00:00	60453167013	Water	1	X														
14	L-CA-DUP-2	PS	5/21/2024 00:00	60453167014	Water	1	X														
15	L-CA-DUP-3	PS	5/21/2024 08:00	60453167015	Water	1	X														
1	L-BMW-1S	PS	5/23/2024 12:45	60453167018	Water	1	X														
2	L-BMW-2S	PS	5/23/2024 09:28	60453167019	Water	1	X														
3	L-LMW-1S	PS	5/21/2024 15:15	60453167020	Water	1	X														
4	L-MW-24	PS	5/22/2024 16:05	60453167021	Water	1	X														

EDA 6 4.9=5.0

7146 2379 6292

Sample Receipt Checklist

COC Seal Present/Intact:	☒Y ☐N	If Applicable	
COC Signed Accurate:	☒Y ☐N	VOA Zero Headspace:	☐Y ☐N
Bottles arrive intact:	☐Y ☐N	Pres. Correct/Check:	☐Y ☐N
Correct bottles used:	☐Y ☐N		
Sufficient volume sent:	☒Y ☐N		
RA Screen <0.5 mR/hr:	☒Y ☐N		

Containers: 15

Tuesday, May 28, 2024 9:54:19 AM

L1741069

Internal Transfer Chain of Custody

Rush Multiplier_____X

Samples Pre-Logged into eCOC

State Of Origin: MO

Cert. Needed: ☐ Yes ☒ No

Workorder: 60453167 Workorder Name: AMEREN LCPA-CA

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers H2SO4	Requested Analysis 9020B TOX	LAB USE ONLY
5	L-MW-26	PS	5/22/2024 12:01	60453167022	Water	1	X	
6	L-MW-34(D)	PS	5/22/2024 10:41	60453167023	Water	1	X	
7	L-MW-35(D)	PS	5/22/2024 12:50	60453167024	Water	1	X	
8	L-TP-1D	PS	5/22/2024 14:40	60453167025	Water	1	X	
9	L-TP-4D	PS	5/21/2024 16:54	60453167026	Water	1	X	
10	L-AM-1S	PS	5/22/2024 10:47	60453167027	Water	1	X	
11	L-AM-1D	RQS	5/22/2024 11:50	60453167028	Water	2	X	MS/MSD
12	L-CA-FB-2	PS	5/22/2024 10:12	60453167029	Water	1	X	
13	L-CA-FB-3	PS	5/22/2024 14:50	60453167030	Water	1	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1	Allison Shannon	5/23/24 1600	Ashley Booth	05/29/2024 0900
2				
3				

Comments: KS sample location: 6091-R14-S4A

Cooler Temperature on Receipt _____ °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60453167 Workorder Name: AMEREN LCPA-CA

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30686795

30686795

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Radium 226	Radium 228	LAB USE ONLY
1	L-LMW-2S	PS	5/15/2024 13:02	60453167001	Water	1	X	X	001
2	L-TP-2M	PS	5/15/2024 12:39	60453167002	Water	1	X	X	002
3	L-TP-2D	PS	5/15/2024 13:25	60453167003	Water	1	X	X	003
4	L-AMW-8	PS	5/17/2024 13:59	60453167004	Water	2	X	X	
5	L-CA-FB-1	PS	5/17/2024 13:50	60453167005	Water	2	X	X	
6	L-LMW-4S	PS	5/17/2024 12:32	60453167006	Water	2	X	X	
7	L-MW-33(D)	PS	5/21/2024 13:00	60453167007	Water	2	X	X	
8	L-S-1	PS	5/20/2024 11:05	60453167008	Water	2	X	X	
9	L-LMW-8S	PS	5/20/2024 14:44	60453167009	Water	2	X	X	
10	L-LMW-7S	PS	5/20/2024 13:05	60453167010	Water	2	X	X	
11	L-TP-3M	RQS	5/21/2024 10:00	60453167011	Water	2	X	X	
12	L-TP-3D	PS	5/21/2024 11:17	60453167012	Water	2	X	X	
13	L-CA-DUP-1	PS	5/20/2024 00:00	60453167013	Water	2	X	X	
14	L-CA-DUP-2	PS	5/21/2024 00:00	60453167014	Water	2	X	X	
15	L-CA-DUP-3	PS	5/21/2024 08:00	60453167015	Water	2	X	X	
16	L-MS-1	PS	5/21/2024 08:00	60453167016	Water	2	X	X	
17									
1	L-BMW-1S	PS	5/23/2024 12:45	60453167018	Water	2	X	X	018
2	L-BMW-2S	PS	5/23/2024 09:28	60453167019	Water	2	X	X	019

30686795

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60453167 Workorder Name: AMEREN LCPA-CA

Owner Received Date: 5/17/2024 Results Requested By: 6/10/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis Radium 226	Radium 228											LAB USE ONLY
3	L-LMW-1S	PS	5/21/2024 15:15	60453167020	Water	2						X	X											020
4	L-MW-24	PS	5/22/2024 16:05	60453167021	Water	2						X	X											021
5	L-MW-26	PS	5/22/2024 12:01	60453167022	Water	2						X	X											022
6	L-MW-34(D)	PS	5/22/2024 10:41	60453167023	Water	2						X	X											023
7	L-MW-35(D)	PS	5/22/2024 12:50	60453167024	Water	2						X	X											024
8	L-TP-1D	PS	5/22/2024 14:40	60453167025	Water	2						X	X											025
9	L-TP-4D	PS	5/21/2024 16:54	60453167026	Water	2						X	X											026
10	L-AM-1S	PS	5/22/2024 10:47	60453167027	Water	2						X	X											027
11	L-AM-1D	RQS	5/22/2024 11:50	60453167028	Water	2						X	X											MS/MSD 028
12	L-CA-FB-2	PS	5/22/2024 10:12	60453167029	Water	2						X	X											029
13	L-CA-FB-3	PS	5/22/2024 14:50	60453167030	Water	2						X	X											030
14	L-MS-2	PS	5/22/2024 11:50	60453167031	Water	2						X	X											031
15	L-MSD-2	PS	5/22/2024 11:50	60453167032	Water	2						X	X											032

300686795

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	5/28/24 1600	Evan Laughlin	5/29/24 1000
2				
3				

Comments

KS sample location: Receiving

Note: Sample 028 is parent sample for 031/032 MS/MSD.

Cooler Temperature on Receipt ___ °C	Custody Seal (Y) or N	Received on Ice Y or (N)	Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

	DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-Greensburg
Pace ANALYTICAL SERVICES	Effective Date: 01/04/2024

Client Name: Pace-Lenexa, KS **Project #:** 30686795

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 7146 2379 6281

Initial / Date

Examined By: EJ 5/29/24
Labeled By: EJ 5/29/24
Temped By: —

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

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

Cooler Temperature: Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

pH paper Lot# 10D2931 **D.P.D. Residual Chlorine Lot #** —

Comments:	Yes	No	NA	
Chain of Custody Present	✓			1.
Chain of Custody Filled Out:	✓			2.
-Were client corrections present on COC		✓		
Chain of Custody Relinquished	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID				
Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous samples field filtered:			✓	13.
Organic Samples checked for dichlorination			✓	14:
Filtered volume received for dissolved tests:			✓	15:
All containers checked for preservation:	✓			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				pH<2
All containers meet method preservation requirements:	✓			Initial when completed EJ / Date/Time of Preservation / Lot# of added Preservative
8260C/D: Headspace in VOA Vials (> 6mm)			✓	17.
624.1: Headspace in VOA Vials (0mm)			✓	18.
Radon: Headspace in RAD Vials (0mm)			✓	19.
Trip Blank Present:			✓	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	✓			Initial when completed EJ / Date: 5/29/24 / Survey Meter SN: 250 14380

Comments:

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Qualtrax ID: 55680

Memorandum

January 29, 2025

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23007-24
CC:	Mark Haddock, Jeffrey Ingram		
From:	Jack Rasmussen	**Email:**	Jack.Rasmussen@Rocksmithgeo.com
RE:	**Data Validation Summary, Labadie Energy Center – LCPA-CA – Data Package 60453167**		

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

- When a compound was analyzed outside of hold time, the sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When a compound was detected in a sample result between the Method Detection Limit (MDL) and Practical Quantification Limit (PQL), the results were recorded at the detection value and qualified as estimates (J).
- 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 Manager: J. Ingram
Project Name: Ameren LCPA-CA
Project Number: 23007-24
Reviewer: J. Rasmussen
Validation Date: 1/29/2025

Laboratory: Pace Analytical
SDG #: 60453167
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide); EPA 903.1/904.0 (Radium 226+228)
Sample Names L-LMW-2S, L-TP-2M, L-TP-2D, L-AMW-8, L-CA-FB-1, L-LMW-4S, L-MW-33(D), L-S-1, L-LMW-8S, L-LMW-7S, L-TP-3M, L-TP-3D, L-CA-DUP-1, L-CA-DUP-2, L-CA-DUP-3, L-MS-1, L-MSD-1, L-BMW-1S, L-BMW-2S, L-LMW-1S, L-MW-24, L-MW-26, L-MW-34(D), L-MW-35(D), L-TP-1D, L-TP-4D, L-AM-1S, L-AM-1D, L-CA-FB-2, L-CA-FB-3, L-MS-2, L-MSD-2.

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			5/15/2024 - 5/22/2024
b) Sampling team indicated?	x			GTM/ANT/JTA
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

General:

One TDS sample analyzed outside of hold time. Result qualified as estimate. All ferrous iron samples analyzed outside hold time, results qualified as estimates.

Chloride and/or sulfate were diluted in several samples; no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks:

35445442: iron (39.2J), associated with samples -005 and -006, results non-detect and > RL and 10x blank, no qualification necessary.

3549216: calcium (34.8J) and iron (13.7J), associated with samples -018 through -025. Calcium results for all samples > RL and 10x blank, no qualification necessary. Samples -018, -020, -023, -024, -025 iron results > RL and 10x blank, no qualification necessary. Sample -019 iron detected as non-detect, no qualification necessary. Sample -021 and -022 iron < RL, reported at reporting limit and qualified as non-detect (U). 3549316: molybdenum (1.1J), associated with samples -026 through -030. Samples -026, -027, -029, -030 results < RL, report at reporting limit and qualified as non-detect (U).

Sample -028 results > RL and 10x blank, no qualification necessary.

Field Blank:

L-CA-FB-1 @ L-AMW-8: TDS (310), result > RL and < 10x blank, result qualified as estimate.

L-CA-FB-2 @ L-AM-1S: boron (12.4J), beryllium (0.16J), molybdenum (1.4J), chromium (0.33J), potassium (81.1J), TDS (11.0). Boron result > RL and 10x blank, no qualification necessary. Beryllium result is non-detect, no qualification necessary. Molybdenum results < RL, report at reporting limit and qualified as non-detect (U). Chromium results < RL, report at reporting limit and qualified as non-detect (U). Potassium results > RL and 10x blank, no qualification necessary. TDS results > RL and 10x blank, no qualification necessary.

L-CA-FB-3 @ L-TP-1D: molybdenum (1.2J), TDS (8.5). Molybdenum results < RL, report at reporting limit and qualified as non-detect (U). TDS results > RL and 10x blank, no qualification necessary.

Duplicates:

L-CA-DUP-1 @ L-S-1: chromium detected in original sample and non-detect in field duplicate, results qualified as estimates.

Field duplicate RPD exceeds control limit (20%) for ferric iron (68%) and ferrous iron (60%), results qualified as estimates.

Radium-226 detected in original sample, non-detect in field duplicate, results qualified as estimates.

Radium-228 non-detect in original sample, detected in field duplicate, results qualified as estimates.

L-CA-DUP-2 @ L-TP-3D: chromium detected in original sample and non-detect in field duplicate, results qualified as estimates.

Field duplicate RPD exceeds control limit (20%) for ferric iron (37%), results qualified as estimates. Ferrous iron detected in original sample and non-detect in field duplicate, results qualified as estimates. Field duplicate RPD exceeds control limit (20%) for sulfate (21%), results qualified as estimates.

L-CA-DUP-3: L-MW-33(D): Field duplicate RPD exceeds control limit (20%) for chloride (21%), ferric and ferrous iron (22%, 34%), results qualified as estimates. Radium-226 non-detect in original sample and detected in field duplicate, results qualified as estimate. Sulfide non-detect in original sample and detected in field duplicate, results qualified as estimates.

Lab duplicate max RPD: 10%: alkalinity, TDS; 15%: chloride, fluoride, sulfate; 20%: ferrous iron, sulfide.

3543187: Lab duplicate exceeds max RPD for TDS, associated with unrelated sample, no qualification necessary.

MS/MSD:

3543942/3543943: MS recovery low for mercury, RPD outside control limit, associated with unrelated sample, no qualification necessary.

3544959: MS recovery high for calcium and sodium, associated with unrelated sample, no qualification necessary.

3544960/3544961: MS recovery low for calcium and boron, MSD and RPD within control limits, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MS/MSD cont.:

3544960/3544961: MS recovery low for sodium, MSD and RPD within control limits, no qualification necessary.

3545080/3545081: MS/MSD recovery low for sodium, associated with unrelated sample, no qualification necessary.

3545082: MS recovery high for calcium and magnesium, associated with unrelated sample, no qualification necessary.

3546717/3546718: MS recovery low for boron, calcium and sodium, MSD and RPD within control limits, no qualification necessary.

3546719: MS recovery low for calcium, associated with sample -013. Result qualified as estimate.

3549218/3549219: MS recovery low for calcium, MSD and RPD within control limits, no qualification necessary.

3542501/3542502: MS and MSD recovery low for sulfide, associated with unrelated sample, no qualification necessary.

3542898/3542899: MS and MSD recovery low for sulfide, associated with unrelated sample, no qualification necessary.

3551059/3551060: MS, MSD and RPD outside control limits for sulfate, associated with unrelated sample, no qualification necessary.

3551061: MS recovery high for sulfate, associated with unrelated sample, no qualification necessary.

3552626/3552627: MS recovery high for sulfate, MSD and RPD within control limits, no qualification necessary.

3552631/3552632: MS and MSD recovery high for chloride, fluoride and sulfate. Associated with sample -028, results qualified as estimates. Fluoride detected as non-detect, no qualification necessary.

3552636/3552637: MS and MSD recovery high for sulfate, associated with sample -029. Result is non-detect, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-AMW-8	TDS	530	J	Analyzed outside of hold time controls
"	Iron, ferrous	0.38	J	"
L-CA-FB-1	"	0.20	UJ	"
L-LMW-4S	"	0.68	J	"
L-MW-24	Iron	50.0	U	Detected in method blank, result < RL
L-MW-26	"	50.0	U	"
L-AM-1S	Molybdenum	20.0	U	"
L-CA-FB-2	"	20.0	U	"
L-CA-FB-3	"	20.0	U	"
L-AM-1S	"	20.0	U	Detected in field blank, result > RL and < 10x blank
L-AM-1S	Chromium	1.0	U	"
L-TP-1D	Molybdenum	20.0	U	"
L-AMW-8	TDS	530	J	"
L-S-1	Chromium	0.31	J	Detected in original sample, non-detect in field duplicate
L-CA-DUP-1	"	0.30	UJ	"
L-S-1	Iron, Ferric	0.11	J	Field DUP RPD exceeds control limits
L-CA-DUP-1	"	0.054	J	"
L-S-1	Iron, ferrous	0.044	J	Field DUP RPD exceeds control limits, outside hold time
L-CA-DUP-1	"	0.082	J	"
L-S-1	Radium-226	0.934 ± 0.570	J	Detected in original sample, non-detect in field duplicate
L-CA-DUP-1	"	1.38	UJ	"
L-S-1	Radium-228	0.973	UJ	Non-detect in original sample, detected in field duplicate
L-CA-DUP-1	"	1.03 ± 0.445	J	"
L-TP-3D	Chromium	0.33	J	Detected in original sample, non-detect in field duplicate
L-CA-DUP-2	"	0.3	UJ	"
L-TP-3D	Iron, Ferric	3.0	J	Field DUP RPD exceeds control limits
L-CA-DUP-2	"	4.4	J	"
L-TP-3D	Iron, Ferrous	1.2	J	Detected in original sample, non-detect in field duplicate, outside hold time
L-CA-DUP-2	"	0.041	UJ	"
L-TP-3D	Sulfate	445	J	Field DUP RPD exceeds control limit
L-CA-DUP-2	"	549	J	"
L-LMW-2S	Iron, Ferrous	0.068	J	Analyzed outside of hold time controls

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-MW-33(D)	Chloride	28	J	Field DUP RPD exceeds control limit
L-CA-DUP-3	"	22.8	J	"
L-MW-33(D)	Iron, Ferric	2.8	J	"
L-CA-DUP-3	"	3.5	J	"
L-MW-33(D)	Iron, Ferrous	2.7	J	Field DUP RPD exceeds control limit, outside hold time
L-CA-DUP-3	"	1.9	J	"
L-MW-33(D)	Radium-226	1.13	UJ	Non-detect in original sample, detected in field duplicate
L-CA-DUP-3	"	0.680 ± 0.476	J	"
L-MW-33(D)	Sulfide	0.016	UJ	"
L-CA-DUP-3	"	0.019	J	"
LA-CA-DUP-1	Calcium	138000	J-	MS recovery low
L-AM-1D	Chloride	49.7	J+	MS and MSD recovery high
L-AM-1D	Sulfate	351	J+	"
L-TP-2M	Iron, Ferrous	0.28	J	Analyzed outside of hold time controls
L-TP-2D	"	0.24	J	"
L-LMW-8S	"	0.18	J	"
L-LMW-7S	"	0.71	J	"
L-TP-3M	"	3.5	J	"
L-BMW-1S	"	1.5	J	"
L-BMW-2S	"	0.041	UJ	"
L-MW-24	"	0.044	J	"
L-MW-26	"	0.068	J	"
L-MW-34(D)	"	1.2	J	"
L-MW-35(D)	"	1.2	J	"
L-TP-1D	"	1.2	J	"
L-TP-4D	"	1.1	J	"
L-AM-1S	"	0.65	J	"
L-AM-1D	"	1.1	J	"
L-CA-FB-2	"	0.041	UJ	"
L-CA-FB-3	"	0.041	UJ	"
L-LMW-1S	"	1.0	UJ	"
L-TP-4D	Molybdenum	20	U	Detected in method blank, result < RL

Signature: Date: 1/29/2025

Pace Analytical Services, LLC
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August 08, 2024

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

RE: Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on July 26, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Indianapolis
- Pace Analytical Services - Kansas City

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.

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CERTIFICATIONS

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Washington Dept of Ecology #: C1081
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60457489001	**L-UMW-1D**	Water	07/25/24 11:23	07/26/24 06:00
60457489002	**L-UMW-4D**	Water	07/25/24 10:41	07/26/24 06:00
60457489003	**L-UMW-DUP-1**	Water	07/25/24 00:00	07/26/24 06:00
60457489004	**L-UMW-FB-1**	Water	07/25/24 11:11	07/26/24 06:00

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60457489001	**L-UMW-1D**	EPA 300.0	KBB	1	PASI-I
		SM 2540C	KVI	1	PASI-K
60457489002	**L-UMW-4D**	EPA 300.0	KBB	1	PASI-I
		SM 2540C	KVI	1	PASI-K
60457489003	**L-UMW-DUP-1**	EPA 300.0	KBB	1	PASI-I
		SM 2540C	KVI	1	PASI-K
60457489004	**L-UMW-FB-1**	EPA 300.0	KBB	1	PASI-I
		SM 2540C	KVI	1	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Sample: L-UMW-1D **Lab ID: 60457489001** Collected: 07/25/24 11:23 Received: 07/26/24 06:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Indianapolis								
Fluoride	**0.22**	mg/L	0.10	0.017	1		08/07/24 05:32	16984-48-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**600**	mg/L	10.0	10.0	1		07/29/24 11:09		

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ANALYTICAL RESULTS

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Sample: L-UMW-4D **Lab ID: 60457489002** Collected: 07/25/24 10:41 Received: 07/26/24 06:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Indianapolis								
Fluoride	**0.31**	mg/L	0.10	0.017	1		08/07/24 02:02	16984-48-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**565**	mg/L	10.0	10.0	1		07/29/24 11:09		

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ANALYTICAL RESULTS

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Sample: L-UMW-DUP-1 **Lab ID: 60457489003** Collected: 07/25/24 00:00 Received: 07/26/24 06:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Indianapolis								
Fluoride	**0.22**	mg/L	0.10	0.017	1		08/07/24 00:58	16984-48-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**565**	mg/L	10.0	10.0	1		07/29/24 11:10		

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ANALYTICAL RESULTS

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Sample: L-UMW-FB-1 **Lab ID: 60457489004** Collected: 07/25/24 11:11 Received: 07/26/24 06:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Indianapolis								
Fluoride	**<0.017**	mg/L	0.10	0.017	1		08/07/24 04:59	16984-48-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		07/29/24 11:10		

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QUALITY CONTROL DATA

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

QC Batch: 803216
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 60457489001, 60457489002, 60457489003, 60457489004

METHOD BLANK: 3673645 Matrix: Water
Associated Lab Samples: 60457489001, 60457489002, 60457489003, 60457489004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.017	0.10	0.017	08/06/24 14:05	

LABORATORY CONTROL SAMPLE: 3673646

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3673647 3673648

Parameter	Units	60457489002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.31	1	1	1.4	1.4	108	107	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3673649 3673650

Parameter	Units	50379543008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	<0.10	1	1	1.1	1.1	105	105	80-120	0	15	

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

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QUALITY CONTROL DATA

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

QC Batch: 903386
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60457489001, 60457489002, 60457489003, 60457489004

METHOD BLANK: 3575477 Matrix: Water
Associated Lab Samples: 60457489001, 60457489002, 60457489003, 60457489004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	07/29/24 11:07	

LABORATORY CONTROL SAMPLE: 3575478

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	964	96	80-120	

SAMPLE DUPLICATE: 3575479

Parameter	Units	60457398003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	402	372	8	10	

SAMPLE DUPLICATE: 3575481

Parameter	Units	60457489002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	565	598	6	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-VERIFICATION
Pace Project No.: 60457489

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60457489001	**L-UMW-1D**	EPA 300.0	803216		
60457489002	**L-UMW-4D**	EPA 300.0	803216		
60457489003	**L-UMW-DUP-1**	EPA 300.0	803216		
60457489004	**L-UMW-FB-1**	EPA 300.0	803216		
60457489001	**L-UMW-1D**	SM 2540C	903386		
60457489002	**L-UMW-4D**	SM 2540C	903386		
60457489003	**L-UMW-DUP-1**	SM 2540C	903386		
60457489004	**L-UMW-FB-1**	SM 2540C	903386		

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WO# : 60457489

60457489

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

Client Name: Rocksmith

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: IR9 **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: AF 7/26

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Rocksmith Geoengineering, LLC	Report To:	Mark Haddock	Attention:	
Address:	5233 Roanoke Drive	Copy To:	Jeffery Ingram, Grant Morey	Company Name:	Rocksmith
	St. Charles, MO 63304			Address:	
Email To:	mark.haddock@rocksmithgeo.com	Purchase Order No.:	COC #5	Pace Quote Reference:	
Phone:	314-974-5678 Fax:	Project Name:	Ameren LCPA - Verification Sampling	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	COC#5	Pace Profile #:	15856, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Requested Analysis Filtered (Y/N)

AF

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

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Total Dissolved Solids	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	L-UMW-1D	WT	G			7-25-24	1123		1	1									✓	✓		
2	L-UMW-4D	WT	G			7-25-24	1041		1	1									✓	✓		
3	L-UMW-DUP-1	WT	G			7-25-24	—		1	1									✓	✓		
4	L-UMW-FB-1	WT	G			7-25-24	1111		1	1									✓	✓		
5	L-UMW-MS-1	WT	G			7-25-24	1041		1	1									✓	✓		Collected @ L-UMW-4D
6	L-UMW-MSD-1	WT	G			7-25-24	1041		1	1									✓	✓		
7		WT	G																			
8		WT	G																			
9		WT	G																			
10		WT	G																			
11		WT	G																			
12		WT	G																			

~~6045426S~~

6045 7489

Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		7-25-24	1600		7/26	0600	1.1°

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Grant Morey

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 07/25/24

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

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

AF

Client: Rocksmith

Profile/EZ # ~~Append to 604574265~~ 19956-1

Site: Ameren LCPH-Verification

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												
2																				3												
3																				1												
4																				1												
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass				Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1B	1L NAOH plastic	I	Wipe/Swab
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2B	500mL NAOH plastic	R	Terracore Kit
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic	U	Summa Can
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S	500mL H2SO4 plastic		
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate	Matrix	
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic		
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic	NAL	Non-aqueous Liquid
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic	OL	OIL
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate	WP	Wipe
				BP4U	125mL unpreserved plastic	DW	Drinking Water
				BP4N	125mL HNO3 plastic		
				BP4S	125mL H2SO4 plastic		
				WPDU	16oz unpresserved plstic		

Work Order Number: 60457469

Internal Transfer Chain of Custody

WO# : 50379266

50379266

☐ Rush Multiplier____X

☒ Samples Pre-Logged into eCOC

State Of Origin: MO

Cert. Needed: ☐ Ye...

Workorder: 60457489 **Workorder Name:** AMEREN LCPA-VERIFICATION **Owner Received Date:** 7/26/2024 **Results Requested By:** 8/9/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Indianapolis 7726 Moller Road Indianapolis, IN 46268 Phone (317)875-5894

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: 300.0 Fluoride												LAB USE ONLY
1	L-UMW-1D	PS	7/25/2024 11:23	60457489001	Water	1						X												001
2	L-UMW-4D	RQS	7/25/2024 10:41	60457489002	Water	3						X												MS/MSD 002
3	L-UMW-DUP-1	PS	7/25/2024 00:00	60457489003	Water	1						X												003
4	L-UMW-FB-1	PS	7/25/2024 11:11	60457489004	Water	1						X												004
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1			Fedex	
2	Fedex	81124 900	Mallos	81124 900
3				

Comments

KS sample location: 6090-R7-S6B

KS receiving: Sample split is Required

Cooler Temperature on Receipt 12.5 °C | **Custody Seal** (Y) or N | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*

This chain of custody is considered complete as is since this information is available in the owner laboratory.

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 811124 1153 mw

1. **Courier:** ☑ FED EX ☐ UPS ☐ CLIENT ☐ PACE ☐ NOW/JETT ☐ OTHER _____
2. **Custody Seal on Cooler/Box Present:** ☑ Yes ☐ No
   (If yes)Seals Intact: ☑ Yes ☐ No **(leave blank if no seals were present)**
3. **Thermometer:** 1 2 3 4 5 6 7 8 9 (A) B C D E F G H I
4. **Cooler Temperature(s):** 12.5 / 12.5 | | | |
   (Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEIVED (use Comments below to add more)

5. **Packing Material:** ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____
6. **Ice Type:** ☑ Wet ☐ Blue ☐ None
7. **Was the PM notified of out of temp cooler?:** ☑ Yes ☐ No
   Cooler temp should be above freezing to 6°C

All discrepancies will be written out in the comments section below.

	Yes	No		Yes	No	N/A
USDA Regulated Soils? (HI, ID, NY, WA, OR,CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, or Puerto Rico)		✓	All containers needing acid/base preservation have been pH CHECKED?: **Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCl.** **Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9)** Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:			Present	Absent	N/A
			Residual Chlorine Check (SVOC 625 Pest/PCB 608)			✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?		✓	Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials Sent ✓
Sample Label (IDs/Dates/Times) Match COC?: Except TCs, which only require sample ID	✓		Trip Blank Present?		✓	
Extra labels on Terracore Vials? (soils only)			Trip Blank Custody Seals?:			✓

COMMENTS:

COC PAGE ____ of ____

Sample Container Count

** Place a PINK dot on containers that are out of conformance **

COC Line Item	WGFU	WGKU BG1U	MeOH (only) SBS DI R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U DG9U	VG9T	AMBER GLASS: AG0U	AG1H	AG1U	AG3U	AG3S	AG3SF	AG3B	PLASTIC: BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	OTHER: CG3H	CG3F	Syringe Kit			Matrix	Nitric Red HNO3 <2	Sulfuric Yellow H2SO4 <2	Sodium Hydroxide Green NaOH >10	Sodium Hydroxide/ ZnAc Black NaOH/ZnAc >9
1																		1											G				
2																		3															
3																		1															
4																		T											L				
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

Container Codes

Glass

DG9H	40mL HCl amber voa vial	BG1T	1L Na Thiosulfate clear glass	BP1B	1L NaOH plastic
DG9P	40mL TSP amber vial	BG1U	1L unpreserved glass	BP1N	1L HNO3 plastic
DG9S	40mL H2SO4 amber vial	CG3H	250mL HCl Clear Glass	BP1S	1L H2SO4 plastic
DG9T	40mL Na Thio amber vial	CG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered
CG3F	250mL clear glass HCl, Field Filter	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic
BG1H	1L HCl clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic
BG1S	1L H2SO4 clear glass	AG3B	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic

Plastic

NT3U	Non Teflon 250mL unpreserved plastic
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic

Miscellaneous

Syringe Kit	LL Cr+6 sampling kit
ZPLC	Ziploc Bag
R	Terracore Kit
SP5T	120mL Coliform Sodium Thiosulfate
GN	General Container
U	Summa Can (air sample)
WT	Water
SL	Solid
OL:	Oil
NAL	Non-aqueous liquid
WP	Wipe

Memorandum

August 14, 2024

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23007-24
CC:	Mark Haddock, Jeffrey Ingram		
From:	Jack Rasmussen	**Email:**	jack.rasmussen@rocksmithgeo.com
RE:	**Data Validation Summary, Labadie Energy Center – LCPA Verification – Data Package 60457489**		

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

- None.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren LEC - LCPA- Verification
Project Number: 23007-24
Reviewer: J. Rasmussen
Validation Date: 8/14/2024

Laboratory: Pace Analytical Services
SDG #: 60457489
Analytical Method (type and no.): SM2540C (TDS); EPA 300.0 (Fluoride)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names L-UMW-1D, L-UMW-4D, L-UMW-DUP-1, L-UMW-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			07/25/2024
b) Sampling team indicated?	x			GTM/JTR
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See notes.
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?		x		See notes.
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?		x		No lab narrative.

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	L-UMW-DUP-1 @ L-UMW-1D
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Fluoride RPD: 0% TDS RPD: 6%
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	TDS Max RPD: 10%
d) Were lab dup. precision criteria met (note RPD)?	☒	☐	☐	

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

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

Comments/Notes:

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Date: 08/14/2024

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

January 06, 2025

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

RE: Project: AMEREN LCPA
Pace Project No.: 60463453

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between October 30, 2024 and November 02, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

REV-1, Report revised to remove parameters not required under the CCR Rule

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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(913)599-5665

CERTIFICATIONS

Project: AMEREN LCPA
Pace Project No.: 60463453

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Arkansas Certification #: 88-00679
Colorado Division of Oil and Public Safety
Illinois Certification #: 2000302023-6
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 LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60463453001	**L-UMW-2D**	Water	10/28/24 14:08	10/30/24 06:50
60463453002	**L-UMW-7D**	Water	10/29/24 14:30	10/30/24 06:50
60463453003	**L-BMW-1D**	Water	10/28/24 12:40	10/30/24 06:50
60463453004	**L-BMW-2D**	Water	10/28/24 10:35	10/30/24 06:50
60463453005	**L-UMW-DUP-1**	Water	10/28/24 08:00	10/30/24 06:50
60463453006	**L-UMW-4D**	Water	10/31/24 13:51	11/01/24 05:52
60463453007	**L-UMW-8D**	Water	10/30/24 11:30	11/01/24 05:52
60463453008	**L-UMW-9D**	Water	10/30/24 13:15	11/01/24 05:52
60463453009	**L-UMW-FB-1**	Water	10/30/24 12:00	11/01/24 05:52
60463453010	**L-UMW-MS-1**	Water	10/30/24 13:15	11/01/24 05:52
60463453011	**L-UMW-MSD-1**	Water	10/30/24 13:15	11/01/24 05:52
60463453012	**L-UMW-1D**	Water	11/01/24 10:25	11/02/24 05:36
60463453013	**L-UMW-3D**	Water	11/01/24 08:58	11/02/24 05:36
60463453014	**L-UMW-5D**	Water	11/01/24 12:55	11/02/24 05:36
60463453015	**L-UMW-6D**	Water	11/01/24 11:42	11/02/24 05:36
60463453016	**L-UMW-DUP-2**	Water	11/01/24 00:00	11/02/24 05:36
60463453017	**L-UMW-FB-2**	Water	11/01/24 12:10	11/02/24 05:36

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60463453001	**L-UMW-2D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453002	**L-UMW-7D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453003	**L-BMW-1D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453004	**L-BMW-2D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453005	**L-UMW-DUP-1**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453006	**L-UMW-4D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP, MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453007	**L-UMW-8D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP, MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453008	**L-UMW-9D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453009	**L-UMW-FB-1**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP, MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453010	**L-UMW-MS-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60463453011	**L-UMW-MSD-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60463453012	**L-UMW-1D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453013	**L-UMW-3D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453014	**L-UMW-5D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP, MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453015	**L-UMW-6D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	JGP, MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453016	**L-UMW-DUP-2**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463453017	**L-UMW-FB-2**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-2D **Lab ID: 60463453001** Collected: 10/28/24 14:08 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**147**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:02	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:02	7440-41-7	
Boron	**976**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:02	7440-42-8	
Calcium	**148000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:02	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:02	7440-48-4	
Iron	**5360**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:02	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:02	7439-92-1	
Lithium	**31.5**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:02	7439-93-2	
Magnesium	**28100**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:02	7439-95-4	
Manganese	**619**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:02	7439-96-5	
Molybdenum	**20.6**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:02	7439-98-7	
Potassium	**7570**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:02	7440-09-7	
Sodium	**49500**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:02	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/25/24 15:45	12/02/24 13:11	7440-36-0	
Arsenic	**0.78J**	ug/L	1.0	0.13	1	11/25/24 15:45	12/02/24 13:11	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/25/24 15:45	12/02/24 13:11	7440-43-9	
Chromium	**0.45J**	ug/L	1.0	0.30	1	11/25/24 15:45	12/02/24 13:11	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/25/24 15:45	12/02/24 13:11	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/25/24 15:45	12/02/24 13:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:08	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**429**	mg/L	20.0	10.5	1		11/11/24 13:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**707**	mg/L	13.3	13.3	1		11/04/24 14:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**42.6**	mg/L	20.0	10.5	20		11/20/24 10:18	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 10:00	16984-48-8	R1
Sulfate	**150**	mg/L	20.0	11.0	20		11/20/24 10:18	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-7D **Lab ID: 60463453002** Collected: 10/29/24 14:30 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**115**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:04	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:04	7440-41-7	
Boron	**808**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:04	7440-42-8	
Calcium	**101000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:04	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:04	7440-48-4	
Iron	**10200**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:04	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:04	7439-92-1	
Lithium	**20.7**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:04	7439-93-2	
Magnesium	**17800**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:04	7439-95-4	
Manganese	**1110**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:04	7439-96-5	
Molybdenum	**82.8**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:04	7439-98-7	
Potassium	**3860**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:04	7440-09-7	
Sodium	**13700**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:04	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:03	7440-36-0	
Arsenic	**25.3**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:03	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:03	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:03	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:03	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:11	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**380**	mg/L	40.0	21.0	2		11/11/24 14:46		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**399**	mg/L	10.0	10.0	1		11/05/24 13:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**7.6**	mg/L	1.0	0.53	1		11/20/24 11:53	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 11:53	16984-48-8	
Sulfate	**12.6**	mg/L	1.0	0.55	1		11/20/24 11:53	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-BMW-1D **Lab ID: 60463453003** Collected: 10/28/24 12:40 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**888**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:05	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:05	7440-41-7	
Boron	**71.2J**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:05	7440-42-8	
Calcium	**113000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:05	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:05	7440-48-4	
Iron	**9060**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:05	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:05	7439-92-1	
Lithium	**27.4**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:05	7439-93-2	
Magnesium	**24900**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:05	7439-95-4	
Manganese	**556**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:05	7439-96-5	
Molybdenum	**1.5J**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:05	7439-98-7	
Potassium	**3950**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:05	7440-09-7	
Sodium	**7070**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:05	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:05	7440-36-0	
Arsenic	**2.5**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:05	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:05	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:05	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:05	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:13	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**397**	mg/L	40.0	21.0	2		11/11/24 13:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**431**	mg/L	10.0	10.0	1		11/04/24 14:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**7.4**	mg/L	1.0	0.53	1		11/20/24 12:12	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 12:12	16984-48-8	
Sulfate	**19.7**	mg/L	1.0	0.55	1		11/20/24 12:12	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-BMW-2D **Lab ID: 60463453004** Collected: 10/28/24 10:35 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**346**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:07	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:07	7440-41-7	
Boron	**64.1J**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:07	7440-42-8	
Calcium	**149000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:07	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:07	7440-48-4	
Iron	**7950**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:07	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:07	7439-92-1	
Lithium	**45.5**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:07	7439-93-2	
Magnesium	**29500**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:07	7439-95-4	
Manganese	**310**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:07	7439-96-5	
Molybdenum	**1.5J**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:07	7439-98-7	
Potassium	**3690**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:07	7440-09-7	
Sodium	**6240**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:08	7440-36-0	
Arsenic	**36.4**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:08	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:08	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:08	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:08	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:15	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**457**	mg/L	40.0	21.0	2		11/11/24 13:46		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**540**	mg/L	10.0	10.0	1		11/04/24 14:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.2**	mg/L	1.0	0.53	1		11/20/24 13:27	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 13:27	16984-48-8	
Sulfate	**51.9**	mg/L	10.0	5.5	10		11/20/24 13:46	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-DUP-1 **Lab ID: 60463453005** Collected: 10/28/24 08:00 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**143**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:09	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:09	7440-41-7	
Boron	**952**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:09	7440-42-8	
Calcium	**143000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:09	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:09	7440-48-4	
Iron	**5520**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:09	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:09	7439-92-1	
Lithium	**30.3**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:09	7439-93-2	
Magnesium	**27300**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:09	7439-95-4	
Manganese	**603**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:09	7439-96-5	
Molybdenum	**19.6J**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:09	7439-98-7	
Potassium	**7280**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:09	7440-09-7	
Sodium	**47600**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:10	7440-36-0	
Arsenic	**0.84J**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:10	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:10	7440-43-9	
Chromium	**0.37J**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:10	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:10	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:22	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**421**	mg/L	40.0	21.0	2		11/11/24 13:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**684**	mg/L	13.3	13.3	1		11/04/24 14:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**39.9**	mg/L	5.0	2.6	5		11/20/24 14:24	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 14:05	16984-48-8	
Sulfate	**162**	mg/L	10.0	5.5	10		11/20/24 14:43	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-4D **Lab ID: 60463453006** Collected: 10/31/24 13:51 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**77.2**	ug/L	5.0	0.64	1	11/04/24 13:07	11/15/24 12:29	7440-39-3	
Beryllium	**0.14J**	ug/L	1.0	0.12	1	11/04/24 13:07	11/15/24 12:29	7440-41-7	
Boron	**9930**	ug/L	100	6.4	1	11/04/24 13:07	11/15/24 12:29	7440-42-8	
Calcium	**66100**	ug/L	200	26.9	1	11/04/24 13:07	11/15/24 12:29	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/15/24 12:29	7440-48-4	
Iron	**231**	ug/L	50.0	9.1	1	11/04/24 13:07	11/15/24 12:29	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/15/24 12:29	7439-92-1	
Lithium	**29.3**	ug/L	10.0	3.7	1	11/04/24 13:07	11/15/24 12:29	7439-93-2	
Magnesium	**6660**	ug/L	50.0	20.1	1	11/04/24 13:07	11/15/24 12:29	7439-95-4	
Manganese	**279**	ug/L	5.0	0.39	1	11/04/24 13:07	11/15/24 12:29	7439-96-5	
Molybdenum	**435**	ug/L	20.0	1.0	1	11/04/24 13:07	11/15/24 12:29	7439-98-7	
Potassium	**9140**	ug/L	500	69.7	1	11/04/24 13:07	11/15/24 12:29	7440-09-7	
Sodium	**91500**	ug/L	500	115	1	11/04/24 13:07	11/15/24 12:29	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/20/24 18:14	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/04/24 12:51	11/20/24 18:14	7440-38-2	
Cadmium	**0.12J**	ug/L	0.50	0.050	1	11/04/24 12:51	11/20/24 18:14	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/25/24 15:45	11/27/24 17:59	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/20/24 18:14	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/20/24 18:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:54	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**70.7**	mg/L	20.0	10.5	1		11/13/24 17:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**566**	mg/L	10.0	10.0	1		11/07/24 14:08		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**26.7**	mg/L	10.0	5.3	10		11/22/24 16:29	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.12	1		11/20/24 13:49	16984-48-8	
Sulfate	**296**	mg/L	100	55.0	100		11/22/24 16:41	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-8D **Lab ID: 60463453007** Collected: 10/30/24 11:30 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**110**	ug/L	5.0	0.64	1	11/04/24 13:07	11/15/24 12:09	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/15/24 12:09	7440-41-7	
Boron	**325**	ug/L	100	6.4	1	11/04/24 13:07	11/15/24 12:09	7440-42-8	
Calcium	**31700**	ug/L	200	26.9	1	11/04/24 13:07	11/15/24 12:09	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/15/24 12:09	7440-48-4	
Iron	**4470**	ug/L	50.0	9.1	1	11/04/24 13:07	11/15/24 12:09	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/15/24 12:09	7439-92-1	
Lithium	**12.4**	ug/L	10.0	3.7	1	11/04/24 13:07	11/15/24 12:09	7439-93-2	
Magnesium	**7530**	ug/L	50.0	20.1	1	11/04/24 13:07	11/15/24 12:09	7439-95-4	
Manganese	**198**	ug/L	5.0	0.39	1	11/04/24 13:07	11/15/24 12:09	7439-96-5	
Molybdenum	**13.3J**	ug/L	20.0	1.0	1	11/04/24 13:07	11/15/24 12:09	7439-98-7	
Potassium	**3130**	ug/L	500	69.7	1	11/04/24 13:07	11/15/24 12:09	7440-09-7	
Sodium	**4390**	ug/L	500	115	1	11/04/24 13:07	11/15/24 12:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/20/24 18:17	7440-36-0	
Arsenic	**29.0**	ug/L	1.0	0.13	1	11/04/24 12:51	11/20/24 18:17	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 12:51	11/20/24 18:17	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.30	1	11/25/24 15:45	11/27/24 18:05	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/20/24 18:17	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/20/24 18:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:57	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**123**	mg/L	20.0	10.5	1		11/13/24 15:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**149**	mg/L	5.0	5.0	1		11/06/24 16:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**1.1**	mg/L	1.0	0.53	1		11/20/24 14:03	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.12	1		11/20/24 14:03	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/20/24 14:03	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-9D **Lab ID: 60463453008** Collected: 10/30/24 13:15 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**487**	ug/L	5.0	0.64	1	11/04/24 12:51	11/18/24 11:25	7440-39-3	
Beryllium	**0.29J**	ug/L	1.0	0.12	1	11/04/24 12:51	11/18/24 11:25	7440-41-7	
Boron	**76.9J**	ug/L	100	6.4	1	11/04/24 12:51	11/18/24 11:25	7440-42-8	
Calcium	**116000**	ug/L	200	26.9	1	11/04/24 12:51	11/18/24 11:25	7440-70-2	M1
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 12:51	11/18/24 11:25	7440-48-4	
Iron	**24200**	ug/L	50.0	9.1	1	11/04/24 12:51	11/18/24 11:25	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 12:51	11/18/24 11:25	7439-92-1	
Lithium	**19.9**	ug/L	10.0	3.7	1	11/04/24 12:51	11/18/24 11:25	7439-93-2	
Magnesium	**30400**	ug/L	50.0	20.1	1	11/04/24 12:51	11/18/24 11:25	7439-95-4	
Manganese	**394**	ug/L	5.0	0.39	1	11/04/24 12:51	11/18/24 11:25	7439-96-5	
Molybdenum	**1.3J**	ug/L	20.0	1.0	1	11/04/24 12:51	11/18/24 11:25	7439-98-7	
Potassium	**4110**	ug/L	500	69.7	1	11/04/24 12:51	11/18/24 11:25	7440-09-7	
Sodium	**14100**	ug/L	500	115	1	11/04/24 12:51	11/18/24 11:25	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/25/24 15:45	12/05/24 16:57	7440-36-0	
Arsenic	**29.2**	ug/L	1.0	0.13	1	11/25/24 15:45	12/06/24 16:29	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/25/24 15:45	12/05/24 16:57	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.30	1	11/25/24 15:45	12/05/24 16:57	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/25/24 15:45	12/05/24 16:57	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/25/24 15:45	12/05/24 16:57	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:59	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**439**	mg/L	40.0	21.0	2		11/13/24 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**472**	mg/L	10.0	10.0	1		11/06/24 16:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**27.6**	mg/L	10.0	5.3	10		11/22/24 16:54	16887-00-6	M1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 15:12	16984-48-8	
Sulfate	**0.61J**	mg/L	1.0	0.55	1		11/20/24 15:12	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-FB-1 **Lab ID: 60463453009** Collected: 10/30/24 12:00 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	11/04/24 12:51	11/15/24 11:46	7440-39-3	
Beryllium	**0.17J**	ug/L	1.0	0.12	1	11/04/24 12:51	11/15/24 11:46	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	11/04/24 12:51	11/15/24 11:46	7440-42-8	
Calcium	**132J**	ug/L	200	26.9	1	11/04/24 12:51	11/15/24 11:46	7440-70-2	B
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 12:51	11/15/24 11:46	7440-48-4	
Iron	**14.2J**	ug/L	50.0	9.1	1	11/04/24 12:51	11/15/24 11:46	7439-89-6	B
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 12:51	11/15/24 11:46	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/04/24 12:51	11/15/24 11:46	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	11/04/24 12:51	11/15/24 11:46	7439-95-4	
Manganese	**0.47J**	ug/L	5.0	0.39	1	11/04/24 12:51	11/15/24 11:46	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/04/24 12:51	11/15/24 11:46	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	11/04/24 12:51	11/15/24 11:46	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	11/04/24 12:51	11/15/24 11:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/20/24 18:38	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/04/24 12:51	11/20/24 18:38	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 12:51	11/20/24 18:38	7440-43-9	
Chromium	**0.48J**	ug/L	1.0	0.30	1	11/25/24 15:45	11/27/24 18:08	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/20/24 18:38	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/20/24 18:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 15:06	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		11/13/24 15:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/06/24 16:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/20/24 14:17	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 14:17	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/20/24 14:17	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-1D **Lab ID: 60463453012** Collected: 11/01/24 10:25 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**507**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 12:46	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 12:46	7440-41-7	
Boron	**427**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 12:46	7440-42-8	
Calcium	**149000**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 12:46	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 12:46	7440-48-4	
Iron	**20000**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 12:46	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 12:46	7439-92-1	
Lithium	**25.8**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 12:46	7439-93-2	
Magnesium	**35800**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 12:46	7439-95-4	
Manganese	**449**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 12:46	7439-96-5	
Molybdenum	**1.7J**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 12:46	7439-98-7	
Potassium	**6170**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 12:46	7440-09-7	
Sodium	**19500**	ug/L	500	115	1	11/04/24 13:07	11/18/24 12:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 15:32	7440-36-0	
Arsenic	**49.8**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 15:32	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 15:32	7440-43-9	
Chromium	**0.37J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:30	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 15:32	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 15:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 13:11	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**556**	mg/L	40.0	21.0	2		11/13/24 18:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**627**	mg/L	13.3	13.3	1		11/07/24 14:08		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**9.4**	mg/L	1.0	0.53	1		11/19/24 18:35	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/24 18:35	16984-48-8	
Sulfate	**27.4**	mg/L	2.0	1.1	2		11/19/24 18:49	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-3D **Lab ID: 60463453013** Collected: 11/01/24 08:58 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**62.1**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 12:51	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 12:51	7440-41-7	
Boron	**9550**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 12:51	7440-42-8	P6
Calcium	**77800**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 12:51	7440-70-2	P6
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 12:51	7440-48-4	
Iron	**381**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 12:51	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 12:51	7439-92-1	
Lithium	**18.6**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 12:51	7439-93-2	
Magnesium	**6380**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 12:51	7439-95-4	
Manganese	**168**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 12:51	7439-96-5	
Molybdenum	**250**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 12:51	7439-98-7	
Potassium	**8200**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 12:51	7440-09-7	
Sodium	**58400**	ug/L	500	115	1	11/04/24 13:07	11/18/24 12:51	7440-23-5	P6
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 15:43	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 15:43	7440-38-2	
Cadmium	**0.099J**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 15:43	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 15:43	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 15:43	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 13:13	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**77.1**	mg/L	20.0	10.5	1		11/13/24 18:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**537**	mg/L	10.0	10.0	1		11/07/24 14:08		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**29.0**	mg/L	20.0	10.5	20		11/19/24 12:14	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/24 11:56	16984-48-8	M1
Sulfate	**281**	mg/L	20.0	11.0	20		11/19/24 12:14	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-5D **Lab ID: 60463453014** Collected: 11/01/24 12:55 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**82.2**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 12:53	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 12:53	7440-41-7	
Boron	**10700**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 12:53	7440-42-8	
Calcium	**91200**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 12:53	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 12:53	7440-48-4	
Iron	**26.7J**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 12:53	7439-89-6	B
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 12:53	7439-92-1	
Lithium	**21.8**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 12:53	7439-93-2	
Magnesium	**92.4**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 12:53	7439-95-4	
Manganese	**11.4**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 12:53	7439-96-5	
Molybdenum	**644**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 12:53	7439-98-7	
Potassium	**13900**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 12:53	7440-09-7	
Sodium	**84400**	ug/L	500	115	1	11/04/24 13:07	11/18/24 12:53	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/20/24 18:44	7440-36-0	
Arsenic	**16.9**	ug/L	1.0	0.13	1	11/04/24 12:51	11/20/24 18:44	7440-38-2	
Cadmium	**0.19J**	ug/L	0.50	0.050	1	11/04/24 12:51	11/20/24 18:44	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/25/24 15:45	11/27/24 18:10	7440-47-3	
Selenium	**0.22J**	ug/L	1.0	0.18	1	11/04/24 12:51	11/20/24 18:44	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/20/24 18:44	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 13:16	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**83.0**	mg/L	20.0	10.5	1		11/13/24 18:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**641**	mg/L	10.0	10.0	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**28.8**	mg/L	20.0	10.5	20		11/19/24 14:07	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/24 13:48	16984-48-8	
Sulfate	**380**	mg/L	20.0	11.0	20		11/19/24 14:07	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-6D **Lab ID: 60463453015** Collected: 11/01/24 11:42 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**73.6**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 12:54	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 12:54	7440-41-7	
Boron	**9340**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 12:54	7440-42-8	
Calcium	**117000**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 12:54	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 12:54	7440-48-4	
Iron	**566**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 12:54	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 12:54	7439-92-1	
Lithium	**12.4**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 12:54	7439-93-2	
Magnesium	**2990**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 12:54	7439-95-4	
Manganese	**326**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 12:54	7439-96-5	
Molybdenum	**564**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 12:54	7439-98-7	
Potassium	**14800**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 12:54	7440-09-7	
Sodium	**156000**	ug/L	500	115	1	11/04/24 13:07	11/18/24 12:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/20/24 18:47	7440-36-0	
Arsenic	**15.7**	ug/L	1.0	0.13	1	11/04/24 12:51	11/20/24 18:47	7440-38-2	
Cadmium	**0.18J**	ug/L	0.50	0.050	1	11/04/24 12:51	11/20/24 18:47	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/25/24 15:45	11/27/24 18:13	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/20/24 18:47	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/20/24 18:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 13:18	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**144**	mg/L	20.0	10.5	1		11/13/24 18:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**925**	mg/L	13.3	13.3	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.9**	mg/L	2.0	1.1	2		11/19/24 15:42	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/24 15:23	16984-48-8	
Sulfate	**487**	mg/L	100	55.0	100		11/19/24 16:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-DUP-2 **Lab ID: 60463453016** Collected: 11/01/24 00:00 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**529**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 12:56	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 12:56	7440-41-7	
Boron	**462**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 12:56	7440-42-8	
Calcium	**155000**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 12:56	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 12:56	7440-48-4	
Iron	**20300**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 12:56	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 12:56	7439-92-1	
Lithium	**28.4**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 12:56	7439-93-2	
Magnesium	**37600**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 12:56	7439-95-4	
Manganese	**454**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 12:56	7439-96-5	
Molybdenum	**1.9J**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 12:56	7439-98-7	
Potassium	**6420**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 12:56	7440-09-7	
Sodium	**20100**	ug/L	500	115	1	11/04/24 13:07	11/18/24 12:56	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 15:45	7440-36-0	
Arsenic	**49.9**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 15:45	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 15:45	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:38	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 15:45	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 15:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 13:20	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**571**	mg/L	40.0	21.0	2		11/13/24 19:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**619**	mg/L	13.3	13.3	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.9**	mg/L	1.0	0.53	1		11/19/24 16:19	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/24 16:19	16984-48-8	
Sulfate	**25.6**	mg/L	10.0	5.5	10		11/19/24 16:38	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-FB-2 **Lab ID: 60463453017** Collected: 11/01/24 12:10 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 13:03	7440-39-3	
Beryllium	**0.30J**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 13:03	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 13:03	7440-42-8	
Calcium	**156J**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 13:03	7440-70-2	B
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 13:03	7440-48-4	
Iron	**15.6J**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 13:03	7439-89-6	B
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 13:03	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 13:03	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 13:03	7439-95-4	
Manganese	**1.8J**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 13:03	7439-96-5	B
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 13:03	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 13:03	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	11/04/24 13:07	11/18/24 13:03	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 15:48	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 15:48	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 15:48	7440-43-9	
Chromium	**0.47J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:41	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 15:48	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 15:48	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 13:27	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		11/13/24 19:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**8.5**	mg/L	5.0	5.0	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/19/24 17:16	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/19/24 17:16	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/19/24 17:16	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 917263
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005, 60463453006, 60463453007, 60463453008, 60463453009

METHOD BLANK: 3632065 Matrix: Water
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005, 60463453006, 60463453007, 60463453008, 60463453009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	11/22/24 14:04	

LABORATORY CONTROL SAMPLE: 3632066

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632067 3632068

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.1	5.0	103	100	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632069 3632070

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.2	5.0	103	99	75-125	4	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 917265
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

METHOD BLANK: 3632071 Matrix: Water
Associated Lab Samples: 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	11/22/24 13:00	

LABORATORY CONTROL SAMPLE: 3632072

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632073 3632074

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.1	5.2	102	105	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632075 3632076

Parameter	Units	60464396010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	1.7	1.6	34	33	75-125	5	20	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 914554
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005

METHOD BLANK: 3620890 Matrix: Water
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/14/24 10:57	
Beryllium	ug/L	<0.12	1.0	0.12	11/14/24 10:57	
Boron	ug/L	<6.4	100	6.4	11/14/24 10:57	
Calcium	ug/L	36.1J	200	26.9	11/14/24 10:57	
Cobalt	ug/L	<1.2	5.0	1.2	11/14/24 10:57	
Iron	ug/L	<9.1	50.0	9.1	11/14/24 10:57	
Lead	ug/L	<3.8	10.0	3.8	11/14/24 10:57	
Lithium	ug/L	<3.7	10.0	3.7	11/14/24 10:57	
Magnesium	ug/L	<20.1	50.0	20.1	11/14/24 10:57	
Manganese	ug/L	<0.39	5.0	0.39	11/14/24 10:57	
Molybdenum	ug/L	<1.0	20.0	1.0	11/14/24 10:57	
Potassium	ug/L	<69.7	500	69.7	11/14/24 10:57	
Sodium	ug/L	235J	500	115	11/14/24 10:57	

LABORATORY CONTROL SAMPLE: 3620891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	914	91	85-115	
Beryllium	ug/L	1000	936	94	85-115	
Boron	ug/L	1000	865	87	85-115	
Calcium	ug/L	10000	9330	93	85-115	
Cobalt	ug/L	1000	947	95	85-115	
Iron	ug/L	10000	9170	92	85-115	
Lead	ug/L	1000	937	94	85-115	
Lithium	ug/L	1000	907	91	85-115	
Magnesium	ug/L	10000	9050	90	85-115	
Manganese	ug/L	1000	945	95	85-115	
Molybdenum	ug/L	1000	930	93	85-115	
Potassium	ug/L	10000	9000	90	85-115	
Sodium	ug/L	10000	9460	95	85-115	

MATRIX SPIKE SAMPLE: 3620894

Parameter	Units	60463456004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L		1000	962	96	70-130	
Beryllium	ug/L		1000	970	97	70-130	
Boron	ug/L	<6.4	1000	906	90	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

MATRIX SPIKE SAMPLE: 3620894

Parameter	Units	60463456004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	50.8J	10000	9750	97	70-130	
Cobalt	ug/L		1000	993	99	70-130	
Iron	ug/L	<9.1	10000	9680	97	70-130	
Lead	ug/L		1000	979	98	70-130	
Lithium	ug/L		1000	954	95	70-130	
Magnesium	ug/L	<20.1	10000	9350	93	70-130	
Manganese	ug/L	<0.39	1000	990	99	70-130	
Molybdenum	ug/L		1000	976	98	70-130	
Potassium	ug/L	<69.7	10000	9350	93	70-130	
Sodium	ug/L	160J	10000	9880	97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621100 3621101

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	1440	1000	1000	2410	2490	97	105	70-130	3	20	
Beryllium	ug/L	<0.12	1000	1000	1020	1060	102	106	70-130	4	20	
Boron	ug/L	59.1J	1000	1000	1010	1030	95	97	70-130	2	20	
Calcium	ug/L	139000	10000	10000	148000	153000	89	137	70-130	3	20	M1
Cobalt	ug/L	<1.2	1000	1000	988	1030	99	103	70-130	4	20	
Iron	ug/L	8290	10000	10000	18000	18900	97	106	70-130	5	20	
Lead	ug/L	<3.8	1000	1000	980	1020	98	102	70-130	4	20	
Lithium	ug/L	23.2	1000	1000	1030	1050	100	103	70-130	3	20	
Magnesium	ug/L	34100	10000	10000	43800	45300	97	111	70-130	3	20	
Manganese	ug/L	241	1000	1000	1240	1290	100	105	70-130	4	20	
Molybdenum	ug/L	<1.0	1000	1000	1010	1050	101	105	70-130	4	20	
Potassium	ug/L	4140	10000	10000	14200	14500	100	103	70-130	2	20	
Sodium	ug/L	10900	10000	10000	21000	21500	100	105	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 914985
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453006, 60463453007

METHOD BLANK: 3622752 Matrix: Water
Associated Lab Samples: 60463453006, 60463453007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/15/24 12:16	
Beryllium	ug/L	<0.12	1.0	0.12	11/15/24 12:16	
Boron	ug/L	<6.4	100	6.4	11/15/24 12:16	
Calcium	ug/L	139J	200	26.9	11/15/24 12:16	
Cobalt	ug/L	<1.2	5.0	1.2	11/15/24 12:16	
Iron	ug/L	<9.1	50.0	9.1	11/15/24 12:16	
Lead	ug/L	<3.8	10.0	3.8	11/15/24 12:16	
Lithium	ug/L	<3.7	10.0	3.7	11/15/24 12:16	
Magnesium	ug/L	<20.1	50.0	20.1	11/15/24 12:16	
Manganese	ug/L	<0.39	5.0	0.39	11/15/24 12:16	
Molybdenum	ug/L	<1.0	20.0	1.0	11/15/24 12:16	
Potassium	ug/L	79.8J	500	69.7	11/15/24 12:16	
Sodium	ug/L	<115	500	115	11/15/24 12:16	

LABORATORY CONTROL SAMPLE: 3622753

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1040	104	85-115	
Beryllium	ug/L	1000	1060	106	85-115	
Boron	ug/L	1000	1000	100	85-115	
Calcium	ug/L	10000	10700	107	85-115	
Cobalt	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	10700	107	85-115	
Lead	ug/L	1000	1080	108	85-115	
Lithium	ug/L	1000	1050	105	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	1080	108	85-115	
Molybdenum	ug/L	1000	1060	106	85-115	
Potassium	ug/L	10000	10400	104	85-115	
Sodium	ug/L	10000	10600	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622754 3622755

Parameter	Units	60463456005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L		1000	1000	1390	1430	98	101	70-130	3	20	
Beryllium	ug/L		1000	1000	1030	1080	103	108	70-130	5	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622754 3622755

Parameter	Units	60463456005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	88.8J	1000	1000	1040	1070	95	98	70-130	3	20	
Calcium	ug/L	152000	10000	10000	157000	157000	51	54	70-130	0	20	M1
Cobalt	ug/L		1000	1000	1020	1070	102	107	70-130	4	20	
Iron	ug/L	34.1J	10000	10000	10200	10800	102	107	70-130	5	20	
Lead	ug/L		1000	1000	991	1030	99	103	70-130	4	20	
Lithium	ug/L		1000	1000	1030	1070	101	105	70-130	4	20	
Magnesium	ug/L	12900	10000	10000	22100	22400	92	95	70-130	1	20	
Manganese	ug/L	6.3	1000	1000	1030	1080	102	107	70-130	5	20	
Molybdenum	ug/L		1000	1000	1020	1070	102	107	70-130	4	20	
Potassium	ug/L	5060	10000	10000	14700	15000	96	99	70-130	2	20	
Sodium	ug/L	11000	10000	10000	20700	20900	96	99	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 914987
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453008, 60463453009

METHOD BLANK: 3622757 Matrix: Water
Associated Lab Samples: 60463453008, 60463453009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/15/24 11:38	
Beryllium	ug/L	<0.12	1.0	0.12	11/15/24 11:38	
Boron	ug/L	<6.4	100	6.4	11/15/24 11:38	
Calcium	ug/L	122J	200	26.9	11/15/24 11:38	
Cobalt	ug/L	<1.2	5.0	1.2	11/15/24 11:38	
Iron	ug/L	10.8J	50.0	9.1	11/15/24 11:38	
Lead	ug/L	<3.8	10.0	3.8	11/15/24 11:38	
Lithium	ug/L	<3.7	10.0	3.7	11/15/24 11:38	
Magnesium	ug/L	<20.1	50.0	20.1	11/15/24 11:38	
Manganese	ug/L	<0.39	5.0	0.39	11/15/24 11:38	
Molybdenum	ug/L	<1.0	20.0	1.0	11/15/24 11:38	
Potassium	ug/L	<69.7	500	69.7	11/15/24 11:38	
Sodium	ug/L	<115	500	115	11/15/24 11:38	

LABORATORY CONTROL SAMPLE: 3622758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Beryllium	ug/L	1000	1060	106	85-115	
Boron	ug/L	1000	999	100	85-115	
Calcium	ug/L	10000	10700	107	85-115	
Cobalt	ug/L	1000	1090	109	85-115	
Iron	ug/L	10000	10700	107	85-115	
Lead	ug/L	1000	1070	107	85-115	
Lithium	ug/L	1000	1050	105	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	1080	108	85-115	
Molybdenum	ug/L	1000	1050	105	85-115	
Potassium	ug/L	10000	10300	103	85-115	
Sodium	ug/L	10000	10500	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622759 3622760

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	487	1000	1000	1490	1540	100	105	70-130	3	20	
Beryllium	ug/L	0.29J	1000	1000	1030	1040	103	104	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622759 3622760

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	76.9J	1000	1000	1050	1080	97	100	70-130	3	20	
Calcium	ug/L	116000	10000	10000	127000	130000	107	142	70-130	3	20	M1
Cobalt	ug/L	<1.2	1000	1000	1020	1030	102	103	70-130	1	20	
Iron	ug/L	24200	10000	10000	34400	35200	102	110	70-130	2	20	
Lead	ug/L	<3.8	1000	1000	1020	1050	102	105	70-130	3	20	
Lithium	ug/L	19.9	1000	1000	1040	1070	102	105	70-130	3	20	
Magnesium	ug/L	30400	10000	10000	40600	41600	102	112	70-130	3	20	
Manganese	ug/L	394	1000	1000	1410	1430	102	104	70-130	1	20	
Molybdenum	ug/L	1.3J	1000	1000	1030	1040	102	104	70-130	1	20	
Potassium	ug/L	4110	10000	10000	14200	14800	101	106	70-130	4	20	
Sodium	ug/L	14100	10000	10000	24500	24900	104	108	70-130	2	20	

SAMPLE DUPLICATE: 3630022

Parameter	Units	60463710002 Result	Dup Result	RPD	Max RPD	Qualifiers
Barium	ug/L		202	1	20	
Beryllium	ug/L		<0.12		20	
Boron	ug/L	126	121	4	20	
Calcium	ug/L	216000	214000	1	20	
Cobalt	ug/L		5.4	1	20	
Iron	ug/L	334	329	2	19	
Lead	ug/L		<3.8		27	
Lithium	ug/L		55.1	5	20	
Magnesium	ug/L	49400	48500	2	20	
Manganese	ug/L	3180	3120	2	12	
Molybdenum	ug/L		<1.0		20	
Potassium	ug/L	7270	7070	3	20	
Sodium	ug/L	13000	12700	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915063
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

METHOD BLANK: 3622965 Matrix: Water
Associated Lab Samples: 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/18/24 12:42	
Beryllium	ug/L	<0.12	1.0	0.12	11/18/24 12:42	
Boron	ug/L	<6.4	100	6.4	11/18/24 12:42	
Calcium	ug/L	157J	200	26.9	11/18/24 12:42	
Cobalt	ug/L	<1.2	5.0	1.2	11/18/24 12:42	
Iron	ug/L	25.6J	50.0	9.1	11/18/24 12:42	
Lead	ug/L	<3.8	10.0	3.8	11/18/24 12:42	
Lithium	ug/L	<3.7	10.0	3.7	11/18/24 12:42	
Magnesium	ug/L	<20.1	50.0	20.1	11/18/24 12:42	
Manganese	ug/L	0.42J	5.0	0.39	11/18/24 12:42	
Molybdenum	ug/L	<1.0	20.0	1.0	11/18/24 12:42	
Potassium	ug/L	<69.7	500	69.7	11/18/24 12:42	
Sodium	ug/L	<115	500	115	11/18/24 12:42	

LABORATORY CONTROL SAMPLE: 3622966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	983	98	85-115	
Beryllium	ug/L	1000	999	100	85-115	
Boron	ug/L	1000	932	93	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1020	102	85-115	
Lithium	ug/L	1000	981	98	85-115	
Magnesium	ug/L	10000	9790	98	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Molybdenum	ug/L	1000	996	100	85-115	
Potassium	ug/L	10000	9720	97	85-115	
Sodium	ug/L	10000	9940	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622967 3622968

Parameter	Units	60463453012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	507	1000	1000	1480	1330	97	82	70-130	11	20	
Beryllium	ug/L	<0.12	1000	1000	1010	843	101	84	70-130	18	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622967 3622968

Parameter	Units	60463453012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	427	1000	1000	1380	1220	95	79	70-130	12	20	
Calcium	ug/L	149000	10000	10000	159000	160000	96	108	70-130	1	20	
Cobalt	ug/L	<1.2	1000	1000	998	823	100	82	70-130	19	20	
Iron	ug/L	20000	10000	10000	29700	28600	96	86	70-130	4	20	
Lead	ug/L	<3.8	1000	1000	981	820	98	82	70-130	18	20	
Lithium	ug/L	25.8	1000	1000	1010	850	99	82	70-130	17	20	
Magnesium	ug/L	35800	10000	10000	45700	44500	98	87	70-130	3	20	
Manganese	ug/L	449	1000	1000	1450	1280	100	83	70-130	13	20	
Molybdenum	ug/L	1.7J	1000	1000	1010	830	101	83	70-130	20	20	
Potassium	ug/L	6170	10000	10000	16100	14500	100	83	70-130	11	20	
Sodium	ug/L	19500	10000	10000	29300	27800	98	83	70-130	5	20	

MATRIX SPIKE SAMPLE: 3622969

Parameter	Units	60463474031 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	584	1000	1580	100	70-130	
Beryllium	ug/L	<0.12	1000	1050	105	70-130	
Boron	ug/L	316	1000	1280	96	70-130	
Calcium	ug/L	187000	10000	196000	90	70-130	
Cobalt	ug/L	2.4J	1000	1030	103	70-130	
Iron	ug/L	7160	10000	17500	104	70-130	
Lead	ug/L	<3.8	1000	1010	101	70-130	
Lithium	ug/L	36.6	1000	1060	102	70-130	
Magnesium	ug/L	37800	10000	47700	99	70-130	
Manganese	ug/L	1130	1000	2140	102	70-130	
Molybdenum	ug/L	1.8J	1000	1040	104	70-130	
Potassium	ug/L	7070	10000	17400	103	70-130	
Sodium	ug/L	49800	10000	60000	102	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 914791
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60463453001

METHOD BLANK: 3621770 Matrix: Water
Associated Lab Samples: 60463453001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	12/02/24 12:58	
Arsenic	ug/L	<0.13	1.0	0.13	12/02/24 12:58	
Cadmium	ug/L	0.071J	0.50	0.050	12/02/24 12:58	
Chromium	ug/L	<0.30	1.0	0.30	12/02/24 12:58	
Selenium	ug/L	<0.18	1.0	0.18	12/02/24 12:58	
Thallium	ug/L	<0.14	1.0	0.14	12/02/24 12:58	

LABORATORY CONTROL SAMPLE: 3621771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.5	99	85-115	
Arsenic	ug/L	40	39.2	98	85-115	
Cadmium	ug/L	40	40.4	101	85-115	
Chromium	ug/L	40	41.4	104	85-115	
Selenium	ug/L	40	39.2	98	85-115	
Thallium	ug/L	40	35.2	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621772 3621773

Parameter	Units	60463488002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	39.3	37.0	97	91	70-130	6	20	
Arsenic	ug/L	1.9	40	40	40.9	39.0	98	93	70-130	5	20	
Cadmium	ug/L	ND	40	40	37.0	35.0	92	88	70-130	5	20	
Chromium	ug/L	ND	40	40	35.6	33.8	87	83	70-130	5	20	
Selenium	ug/L	1.8	40	40	37.3	36.7	89	87	70-130	2	20	
Thallium	ug/L	ND	40	40	37.1	35.0	93	88	70-130	6	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 914802
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453002, 60463453003, 60463453004, 60463453005

METHOD BLANK: 3621806 Matrix: Water
Associated Lab Samples: 60463453002, 60463453003, 60463453004, 60463453005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	11/27/24 12:58	
Arsenic	ug/L	<0.13	1.0	0.13	11/27/24 12:58	
Cadmium	ug/L	<0.050	0.50	0.050	11/27/24 12:58	
Chromium	ug/L	<0.30	1.0	0.30	11/27/24 12:58	
Selenium	ug/L	<0.18	1.0	0.18	11/27/24 12:58	
Thallium	ug/L	<0.14	1.0	0.14	11/27/24 12:58	

LABORATORY CONTROL SAMPLE: 3621807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.0	98	85-115	
Arsenic	ug/L	40	39.0	98	85-115	
Cadmium	ug/L	40	39.3	98	85-115	
Chromium	ug/L	40	40.1	100	85-115	
Selenium	ug/L	40	40.2	100	85-115	
Thallium	ug/L	40	38.3	96	85-115	

MATRIX SPIKE SAMPLE: 3621808

Parameter	Units	60463474003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	38.4	96	70-130	
Arsenic	ug/L	11.7	40	50.5	97	70-130	
Cadmium	ug/L	0.097J	40	37.3	93	70-130	
Chromium	ug/L	<0.30	40	38.3	95	70-130	
Selenium	ug/L	2.0	40	39.6	94	70-130	
Thallium	ug/L	<0.14	40	39.7	99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621809 3621810

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	38.0	38.3	95	96	70-130	1	20	
Arsenic	ug/L	1.2	40	40	39.6	39.3	96	95	70-130	1	20	
Cadmium	ug/L	<0.050	40	40	37.3	37.5	93	94	70-130	0	20	
Chromium	ug/L	<0.30	40	40	39.2	38.9	98	97	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.7	37.9	94	95	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621809 3621810

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Thallium	ug/L	<0.14	40	40	39.5	39.4	99	99	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915004
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453006, 60463453007, 60463453009, 60463453014, 60463453015

METHOD BLANK: 3622795 Matrix: Water
Associated Lab Samples: 60463453006, 60463453007, 60463453008, 60463453009, 60463453014, 60463453015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	11/20/24 18:05	
Arsenic	ug/L	<0.13	1.0	0.13	11/20/24 18:05	
Cadmium	ug/L	<0.050	0.50	0.050	11/20/24 18:05	
Selenium	ug/L	<0.18	1.0	0.18	11/20/24 18:05	
Thallium	ug/L	<0.14	1.0	0.14	11/20/24 18:05	

LABORATORY CONTROL SAMPLE: 3622796

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.7	99	85-115	
Arsenic	ug/L	40	40.2	101	85-115	
Cadmium	ug/L	40	40.7	102	85-115	
Selenium	ug/L	40	40.7	102	85-115	
Thallium	ug/L	40	41.6	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622797 3622798

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	39.1	38.5	98	96	70-130	1	20	
Arsenic	ug/L	30.4	40	40	70.0	68.7	99	96	70-130	2	20	
Cadmium	ug/L	<0.050	40	40	38.9	38.8	97	97	70-130	0	20	
Selenium	ug/L	<0.18	40	40	38.8	38.4	97	96	70-130	1	20	
Thallium	ug/L	<0.14	40	40	41.7	41.0	104	103	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915093
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453012, 60463453013, 60463453016, 60463453017

METHOD BLANK: 3623041 Matrix: Water
Associated Lab Samples: 60463453012, 60463453013, 60463453016, 60463453017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	11/27/24 15:27	
Arsenic	ug/L	<0.13	1.0	0.13	11/27/24 15:27	
Cadmium	ug/L	<0.050	0.50	0.050	11/27/24 15:27	
Selenium	ug/L	<0.18	1.0	0.18	11/27/24 15:27	
Thallium	ug/L	<0.14	1.0	0.14	11/27/24 15:27	

LABORATORY CONTROL SAMPLE: 3623042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.7	97	85-115	
Arsenic	ug/L	40	37.8	94	85-115	
Cadmium	ug/L	40	38.9	97	85-115	
Selenium	ug/L	40	39.2	98	85-115	
Thallium	ug/L	40	37.5	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3623043 3623044

Parameter	Units	60463453013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	39.2	38.6	98	96	70-130	2	20	
Arsenic	ug/L	1.9	40	40	40.9	40.6	97	97	70-130	1	20	
Cadmium	ug/L	0.099J	40	40	38.4	37.4	96	93	70-130	2	20	
Selenium	ug/L	<0.18	40	40	38.0	37.3	95	93	70-130	2	20	
Thallium	ug/L	<0.14	40	40	40.3	39.7	101	99	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 917667
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453006, 60463453007, 60463453008, 60463453009, 60463453014, 60463453015

METHOD BLANK: 3634125 Matrix: Water
Associated Lab Samples: 60463453006, 60463453007, 60463453008, 60463453009, 60463453014, 60463453015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	12/05/24 16:46	
Arsenic	ug/L	<0.13	1.0	0.13	12/06/24 16:19	
Cadmium	ug/L	<0.050	0.50	0.050	12/05/24 16:46	
Chromium	ug/L	<0.30	1.0	0.30	11/27/24 17:35	
Selenium	ug/L	<0.18	1.0	0.18	12/05/24 16:46	
Thallium	ug/L	<0.14	1.0	0.14	12/05/24 16:46	

LABORATORY CONTROL SAMPLE: 3634126

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.7	97	85-115	
Arsenic	ug/L	40	39.3	98	85-115	
Cadmium	ug/L	40	39.1	98	85-115	
Chromium	ug/L	40	40.3	101	85-115	
Selenium	ug/L	40	38.5	96	85-115	
Thallium	ug/L	40	39.5	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3634127 3634128

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	80	80	73.9	72.2	92	90	70-130	2	20	
Arsenic	ug/L	30.4	80	80	106	103	96	92	70-130	3	20	
Cadmium	ug/L	<0.050	80	80	72.5	70.4	91	88	70-130	3	20	
Chromium	ug/L	0.33J	80	80	75.7	73.9	94	92	70-130	2	20	
Selenium	ug/L	<0.18	80	80	72.8	70.7	91	88	70-130	3	20	
Thallium	ug/L	<0.14	80	80	74.9	74.0	94	93	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 918123
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453012, 60463453013, 60463453016, 60463453017

METHOD BLANK: 3635783 Matrix: Water
Associated Lab Samples: 60463453012, 60463453013, 60463453016, 60463453017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	12/03/24 13:05	

LABORATORY CONTROL SAMPLE: 3635784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	40.1	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3635785 3635786

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	0.36J	40	40	38.0	37.9	94	94	70-130	0	20	

MATRIX SPIKE SAMPLE: 3635787

Parameter	Units	60463474029 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	0.33J	40	38.4	95	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915877 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005

METHOD BLANK: 3626396 Matrix: Water
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/11/24 12:30	

LABORATORY CONTROL SAMPLE: 3626397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3626398

Parameter	Units	60462617001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	278	274	2	10	H1

SAMPLE DUPLICATE: 3626399

Parameter	Units	60463456004 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 LCPA
Pace Project No.: 60463453

QC Batch: 916260
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453007, 60463453008, 60463453009

METHOD BLANK: 3627536 Matrix: Water
Associated Lab Samples: 60463453007, 60463453008, 60463453009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/13/24 14:02	

LABORATORY CONTROL SAMPLE: 3627537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	487	97	90-110	

SAMPLE DUPLICATE: 3627538

Parameter	Units	60463474019 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	469	485	3	10	

SAMPLE DUPLICATE: 3627539

Parameter	Units	60463453008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	439	445	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 916261 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453006, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

METHOD BLANK: 3627540 Matrix: Water
Associated Lab Samples: 60463453006, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/13/24 16:41	

LABORATORY CONTROL SAMPLE: 3627541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	485	97	90-110	

SAMPLE DUPLICATE: 3627542

Parameter	Units	60463456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	415	423	2	10	

SAMPLE DUPLICATE: 3627543

Parameter	Units	60463710002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	648	630	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915015
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453001, 60463453003, 60463453004, 60463453005

METHOD BLANK: 3622827 Matrix: Water
Associated Lab Samples: 60463453001, 60463453003, 60463453004, 60463453005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/04/24 14:53	

LABORATORY CONTROL SAMPLE: 3622828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	986	99	80-120	

SAMPLE DUPLICATE: 3622829

Parameter	Units	60463342004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	211	210	0	10	

SAMPLE DUPLICATE: 3622830

Parameter	Units	60463453004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	540	544	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915200
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60463453002

METHOD BLANK: 3623358 Matrix: Water
Associated Lab Samples: 60463453002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/05/24 13:36	

LABORATORY CONTROL SAMPLE: 3623359

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

SAMPLE DUPLICATE: 3623360

Parameter	Units	60463474005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	536	534	0	10	

SAMPLE DUPLICATE: 3623361

Parameter	Units	60463474006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	613	601	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915374
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453007, 60463453008, 60463453009

METHOD BLANK: 3623979 Matrix: Water
Associated Lab Samples: 60463453007, 60463453008, 60463453009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/06/24 16:21	

LABORATORY CONTROL SAMPLE: 3623980

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

SAMPLE DUPLICATE: 3623981

Parameter	Units	60463589002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	858	840	2	10	

SAMPLE DUPLICATE: 3623982

Parameter	Units	60463453008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	472	498	5	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 915563 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453006, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

METHOD BLANK: 3624813 Matrix: Water
Associated Lab Samples: 60463453006, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/07/24 14:07	

LABORATORY CONTROL SAMPLE: 3624814

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

SAMPLE DUPLICATE: 3624815

Parameter	Units	60463456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	453	452	0	10	

SAMPLE DUPLICATE: 3624816

Parameter	Units	60463710002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	769	775	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 916711
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60463453012

METHOD BLANK: 3629868 Matrix: Water
Associated Lab Samples: 60463453012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/19/24 09:52	
Fluoride	mg/L	<0.12	0.20	0.12	11/19/24 09:52	
Sulfate	mg/L	<0.55	1.0	0.55	11/19/24 09:52	CL

LABORATORY CONTROL SAMPLE: 3629869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	4.9	98	90-110	CL

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629870 3629871

Parameter	Units	60464071004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	156	100	100	244	249	88	93	80-120	2	15	
Fluoride	mg/L	ND	50	50	49.8	53.0	100	106	80-120	6	15	
Sulfate	mg/L	247	100	100	355	362	108	115	80-120	2	15	CL

MATRIX SPIKE SAMPLE: 3629872

Parameter	Units	60464126004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1160	2500	3350	88	80-120	
Fluoride	mg/L	ND	1250	1260	101	80-120	
Sulfate	mg/L	3400	2500	6300	116	80-120	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 916713
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

METHOD BLANK: 3629879 Matrix: Water
Associated Lab Samples: 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/19/24 11:10	
Fluoride	mg/L	<0.12	0.20	0.12	11/19/24 11:10	
Sulfate	mg/L	<0.55	1.0	0.55	11/19/24 11:10	

LABORATORY CONTROL SAMPLE: 3629880

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	102	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629881 3629882

Parameter	Units	60463453013 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	100	100	126	124	97	95	80-120	2	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.1	2.9	121	113	80-120	7	15	M1
Sulfate	mg/L	281	100	100	384	415	103	134	80-120	8	15	E,M1

MATRIX SPIKE SAMPLE: 3629883

Parameter	Units	60464166001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	146	100	208	62	80-120	M1
Fluoride	mg/L	ND	2.5	2.3	92	80-120	
Sulfate	mg/L	93.1J	100	149	56	80-120	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 916715
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005

METHOD BLANK: 3629889 Matrix: Water
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/20/24 09:18	
Fluoride	mg/L	<0.12	0.20	0.12	11/20/24 09:18	
Sulfate	mg/L	<0.55	1.0	0.55	11/20/24 09:18	

LABORATORY CONTROL SAMPLE: 3629890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	101	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	4.6	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629891 3629892

Parameter	Units	60463453001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	42.6	100	100	134	156	92	113	80-120	15	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.2	2.8	88	112	80-120	24	15	R1
Sulfate	mg/L	150	100	100	257	283	106	133	80-120	10	15	M1

MATRIX SPIKE SAMPLE: 3629893

Parameter	Units	60463474007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	31.8	100	125	93	80-120	
Fluoride	mg/L	<0.12	2.5	2.4	95	80-120	
Sulfate	mg/L	532	250	868	134	80-120	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 917017
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463453006, 60463453007, 60463453008, 60463453009

METHOD BLANK: 3630913 Matrix: Water
Associated Lab Samples: 60463453006, 60463453007, 60463453008, 60463453009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/20/24 02:40	
Fluoride	mg/L	<0.12	0.20	0.12	11/20/24 02:40	
Sulfate	mg/L	<0.55	1.0	0.55	11/20/24 02:40	

LABORATORY CONTROL SAMPLE: 3630914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629886 3629887

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.1	5	5	7.7	7.6	93	90	80-120	2	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.0	2.9	116	114	80-120	2	15	
Sulfate	mg/L	21.5	25	25	45.9	45.9	98	98	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629888 3630917

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	25.5	100	100	115	134	90	109	80-120	15	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.9	3.4	150	132	80-120	12	15	M1
Sulfate	mg/L	164	100	100	270	296	105	132	80-120	9	15	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3630915 3630919

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	27.6	50	50	67.2	67.1	79	79	80-120	0	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	3.1	2.9	120	115	80-120	4	15	
Sulfate	mg/L	0.61J	5	5	5.8	5.7	104	101	80-120	3	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60463453

SAMPLE DUPLICATE: 3630916

Parameter	Units	60463474005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.1	3.0	1	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	21.5	21.8	2	15	

SAMPLE DUPLICATE: 3630918

Parameter	Units	60463474006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	25.5	22.5	12	15	
Fluoride	mg/L	<0.12	0.14J		15	
Sulfate	mg/L	164	162	1	15	

SAMPLE DUPLICATE: 3630920

Parameter	Units	60463453008 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	27.6	28.7	4	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	0.61J	0.60J		15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-2D **Lab ID: 60463453001** Collected: 10/28/24 14:08 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.171 ± 0.644 (1.18) C:NA T:86%**	pCi/L	11/26/24 11:20	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.17 ± 0.501 (0.782) C:73% T:80%**	pCi/L	11/21/24 11:58	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-7D **Lab ID: 60463453002** Collected: 10/29/24 14:30 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**-0.432 ± 0.583 (1.28) C:NA T:91%**	pCi/L	11/26/24 11:20	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.656 ± 0.411 (0.765) C:73% T:87%**	pCi/L	11/21/24 11:58	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-BMW-1D **Lab ID: 60463453003** Collected: 10/28/24 12:40 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.382 ± 0.536 (0.908) C:NA T:96%**	pCi/L	11/26/24 11:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.10 ± 0.461 (0.721) C:74% T:85%**	pCi/L	11/21/24 11:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-BMW-2D **Lab ID: 60463453004** Collected: 10/28/24 10:35 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.273 ± 0.491 (0.865) C:NA T:91%**	pCi/L	11/26/24 11:20	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.616 ± 0.374 (0.682) C:74% T:85%**	pCi/L	11/21/24 11:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-DUP-1 **Lab ID: 60463453005** Collected: 10/28/24 08:00 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**-0.245 ± 0.614 (1.27) C:NA T:89%**	pCi/L	11/26/24 11:20	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.70 ± 0.553 (0.699) C:75% T:82%**	pCi/L	11/21/24 11:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-4D **Lab ID: 60463453006** Collected: 10/31/24 13:51 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.448 (0.890) C:NA T:90%**	pCi/L	11/26/24 11:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.599 ± 0.397 (0.746) C:76% T:78%**	pCi/L	11/21/24 11:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-8D **Lab ID: 60463453007** Collected: 10/30/24 11:30 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0529 ± 0.538 (1.03) C:NA T:92%**	pCi/L	11/26/24 11:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.943 ± 0.491 (0.844) C:69% T:78%**	pCi/L	11/21/24 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-9D **Lab ID: 60463453008** Collected: 10/30/24 13:15 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.135 ± 0.423 (0.783) C:NA T:101%**	pCi/L	11/26/24 11:39	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.48 ± 0.572 (0.841) C:68% T:85%**	pCi/L	11/21/24 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-FB-1 **Lab ID: 60463453009** Collected: 10/30/24 12:00 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.000 ± 0.409 (0.838) C:NA T:93%**	pCi/L	11/26/24 11:39	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.767 ± 0.446 (0.809) C:73% T:86%**	pCi/L	11/21/24 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-MS-1 **Lab ID: 60463453010** Collected: 10/30/24 13:15 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**121.30 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/26/24 11:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**86.64 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/21/24 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-MSD-1 **Lab ID: 60463453011** Collected: 10/30/24 13:15 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**118.37 %REC 2.44RPD ± NA (NA) C:NA T:NA**	pCi/L	11/26/24 11:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**93.16 %REC 7.26RPD ± NA (NA) C:NA T:NA**	pCi/L	11/21/24 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-1D **Lab ID: 60463453012** Collected: 11/01/24 10:25 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.409 ± 0.533 (0.891) C:NA T:94%**	pCi/L	11/26/24 11:39	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.78 ± 0.557 (0.670) C:74% T:90%**	pCi/L	11/21/24 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-3D **Lab ID: 60463453013** Collected: 11/01/24 08:58 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0558 ± 0.501 (1.01) C:NA T:89%**	pCi/L	11/26/24 11:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.45 ± 0.603 (0.946) C:67% T:80%**	pCi/L	11/21/24 15:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-5D **Lab ID: 60463453014** Collected: 11/01/24 12:55 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.201 ± 0.709 (1.31) C:NA T:91%**	pCi/L	11/26/24 11:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.296 ± 0.397 (0.848) C:75% T:82%**	pCi/L	11/21/24 15:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-6D **Lab ID: 60463453015** Collected: 11/01/24 11:42 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.344 ± 0.636 (1.12) C:NA T:87%**	pCi/L	11/26/24 11:39	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.683 ± 0.447 (0.831) C:70% T:79%**	pCi/L	11/21/24 15:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-DUP-2 **Lab ID: 60463453016** Collected: 11/01/24 00:00 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.394 ± 0.531 (0.893) C:NA T:96%**	pCi/L	11/26/24 11:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.93 ± 0.612 (0.758) C:71% T:88%**	pCi/L	11/21/24 15:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

Sample: L-UMW-FB-2 **Lab ID: 60463453017** Collected: 11/01/24 12:10 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.104 ± 0.289 (0.683) C:NA T:96%**	pCi/L	11/26/24 11:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.158 ± 0.359 (0.798) C:69% T:90%**	pCi/L	11/21/24 15:03	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 708372
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005, 60463453006, 60463453007, 60463453008, 60463453009, 60463453010, 60463453011, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

METHOD BLANK: 3449106
Matrix: Water
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005, 60463453006, 60463453007, 60463453008, 60463453009, 60463453010, 60463453011, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.296 ± 0.329 (0.682) C:75% T:89%	pCi/L	11/21/24 11:58	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60463453

QC Batch: 708371
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005, 60463453006, 60463453007, 60463453008, 60463453009, 60463453010, 60463453011, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

METHOD BLANK: 3449105
Matrix: Water
Associated Lab Samples: 60463453001, 60463453002, 60463453003, 60463453004, 60463453005, 60463453006, 60463453007, 60463453008, 60463453009, 60463453010, 60463453011, 60463453012, 60463453013, 60463453014, 60463453015, 60463453016, 60463453017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.256 ± 0.267 (0.397) C:NA T:94%	pCi/L	11/26/24 11:20	

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

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QUALIFIERS

Project: AMEREN LCPA
Pace Project No.: 60463453

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463453001	**L-UMW-2D**	EPA 200.7	914554	EPA 200.7	914652
60463453002	**L-UMW-7D**	EPA 200.7	914554	EPA 200.7	914652
60463453003	**L-BMW-1D**	EPA 200.7	914554	EPA 200.7	914652
60463453004	**L-BMW-2D**	EPA 200.7	914554	EPA 200.7	914652
60463453005	**L-UMW-DUP-1**	EPA 200.7	914554	EPA 200.7	914652
60463453006	**L-UMW-4D**	EPA 200.7	914985	EPA 200.7	915106
60463453007	**L-UMW-8D**	EPA 200.7	914985	EPA 200.7	915106
60463453008	**L-UMW-9D**	EPA 200.7	914987	EPA 200.7	915082
60463453009	**L-UMW-FB-1**	EPA 200.7	914987	EPA 200.7	915082
60463453012	**L-UMW-1D**	EPA 200.7	915063	EPA 200.7	915104
60463453013	**L-UMW-3D**	EPA 200.7	915063	EPA 200.7	915104
60463453014	**L-UMW-5D**	EPA 200.7	915063	EPA 200.7	915104
60463453015	**L-UMW-6D**	EPA 200.7	915063	EPA 200.7	915104
60463453016	**L-UMW-DUP-2**	EPA 200.7	915063	EPA 200.7	915104
60463453017	**L-UMW-FB-2**	EPA 200.7	915063	EPA 200.7	915104
60463453001	**L-UMW-2D**	EPA 200.8	914791	EPA 200.8	917743
60463453002	**L-UMW-7D**	EPA 200.8	914802	EPA 200.8	914813
60463453003	**L-BMW-1D**	EPA 200.8	914802	EPA 200.8	914813
60463453004	**L-BMW-2D**	EPA 200.8	914802	EPA 200.8	914813
60463453005	**L-UMW-DUP-1**	EPA 200.8	914802	EPA 200.8	914813
60463453006	**L-UMW-4D**	EPA 200.8	915004	EPA 200.8	915079
60463453006	**L-UMW-4D**	EPA 200.8	917667	EPA 200.8	917745
60463453007	**L-UMW-8D**	EPA 200.8	915004	EPA 200.8	915079
60463453007	**L-UMW-8D**	EPA 200.8	917667	EPA 200.8	917745
60463453008	**L-UMW-9D**	EPA 200.8	917667	EPA 200.8	917745
60463453009	**L-UMW-FB-1**	EPA 200.8	915004	EPA 200.8	915079
60463453009	**L-UMW-FB-1**	EPA 200.8	917667	EPA 200.8	917745
60463453012	**L-UMW-1D**	EPA 200.8	915093	EPA 200.8	915187
60463453012	**L-UMW-1D**	EPA 200.8	918123	EPA 200.8	918155
60463453013	**L-UMW-3D**	EPA 200.8	915093	EPA 200.8	915187
60463453013	**L-UMW-3D**	EPA 200.8	918123	EPA 200.8	918155
60463453014	**L-UMW-5D**	EPA 200.8	915004	EPA 200.8	915079
60463453014	**L-UMW-5D**	EPA 200.8	917667	EPA 200.8	917745
60463453015	**L-UMW-6D**	EPA 200.8	915004	EPA 200.8	915079
60463453015	**L-UMW-6D**	EPA 200.8	917667	EPA 200.8	917745
60463453016	**L-UMW-DUP-2**	EPA 200.8	915093	EPA 200.8	915187
60463453016	**L-UMW-DUP-2**	EPA 200.8	918123	EPA 200.8	918155
60463453017	**L-UMW-FB-2**	EPA 200.8	915093	EPA 200.8	915187

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463453017	**L-UMW-FB-2**	EPA 200.8	918123	EPA 200.8	918155
60463453001	**L-UMW-2D**	EPA 7470	917263	EPA 7470	917417
60463453002	**L-UMW-7D**	EPA 7470	917263	EPA 7470	917417
60463453003	**L-BMW-1D**	EPA 7470	917263	EPA 7470	917417
60463453004	**L-BMW-2D**	EPA 7470	917263	EPA 7470	917417
60463453005	**L-UMW-DUP-1**	EPA 7470	917263	EPA 7470	917417
60463453006	**L-UMW-4D**	EPA 7470	917263	EPA 7470	917417
60463453007	**L-UMW-8D**	EPA 7470	917263	EPA 7470	917417
60463453008	**L-UMW-9D**	EPA 7470	917263	EPA 7470	917417
60463453009	**L-UMW-FB-1**	EPA 7470	917263	EPA 7470	917417
60463453012	**L-UMW-1D**	EPA 7470	917265	EPA 7470	917415
60463453013	**L-UMW-3D**	EPA 7470	917265	EPA 7470	917415
60463453014	**L-UMW-5D**	EPA 7470	917265	EPA 7470	917415
60463453015	**L-UMW-6D**	EPA 7470	917265	EPA 7470	917415
60463453016	**L-UMW-DUP-2**	EPA 7470	917265	EPA 7470	917415
60463453017	**L-UMW-FB-2**	EPA 7470	917265	EPA 7470	917415
60463453001	**L-UMW-2D**	EPA 903.1	708371		
60463453002	**L-UMW-7D**	EPA 903.1	708371		
60463453003	**L-BMW-1D**	EPA 903.1	708371		
60463453004	**L-BMW-2D**	EPA 903.1	708371		
60463453005	**L-UMW-DUP-1**	EPA 903.1	708371		
60463453006	**L-UMW-4D**	EPA 903.1	708371		
60463453007	**L-UMW-8D**	EPA 903.1	708371		
60463453008	**L-UMW-9D**	EPA 903.1	708371		
60463453009	**L-UMW-FB-1**	EPA 903.1	708371		
60463453010	**L-UMW-MS-1**	EPA 903.1	708371		
60463453011	**L-UMW-MSD-1**	EPA 903.1	708371		
60463453012	**L-UMW-1D**	EPA 903.1	708371		
60463453013	**L-UMW-3D**	EPA 903.1	708371		
60463453014	**L-UMW-5D**	EPA 903.1	708371		
60463453015	**L-UMW-6D**	EPA 903.1	708371		
60463453016	**L-UMW-DUP-2**	EPA 903.1	708371		
60463453017	**L-UMW-FB-2**	EPA 903.1	708371		
60463453001	**L-UMW-2D**	EPA 904.0	708372		
60463453002	**L-UMW-7D**	EPA 904.0	708372		
60463453003	**L-BMW-1D**	EPA 904.0	708372		
60463453004	**L-BMW-2D**	EPA 904.0	708372		
60463453005	**L-UMW-DUP-1**	EPA 904.0	708372		
60463453006	**L-UMW-4D**	EPA 904.0	708372		
60463453007	**L-UMW-8D**	EPA 904.0	708372		
60463453008	**L-UMW-9D**	EPA 904.0	708372		
60463453009	**L-UMW-FB-1**	EPA 904.0	708372		
60463453010	**L-UMW-MS-1**	EPA 904.0	708372		
60463453011	**L-UMW-MSD-1**	EPA 904.0	708372		
60463453012	**L-UMW-1D**	EPA 904.0	708372		
60463453013	**L-UMW-3D**	EPA 904.0	708372		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463453014	**L-UMW-5D**	EPA 904.0	708372		
60463453015	**L-UMW-6D**	EPA 904.0	708372		
60463453016	**L-UMW-DUP-2**	EPA 904.0	708372		
60463453017	**L-UMW-FB-2**	EPA 904.0	708372		
60463453001	**L-UMW-2D**	SM 2320B	915877		
60463453002	**L-UMW-7D**	SM 2320B	915877		
60463453003	**L-BMW-1D**	SM 2320B	915877		
60463453004	**L-BMW-2D**	SM 2320B	915877		
60463453005	**L-UMW-DUP-1**	SM 2320B	915877		
60463453006	**L-UMW-4D**	SM 2320B	916261		
60463453007	**L-UMW-8D**	SM 2320B	916260		
60463453008	**L-UMW-9D**	SM 2320B	916260		
60463453009	**L-UMW-FB-1**	SM 2320B	916260		
60463453012	**L-UMW-1D**	SM 2320B	916261		
60463453013	**L-UMW-3D**	SM 2320B	916261		
60463453014	**L-UMW-5D**	SM 2320B	916261		
60463453015	**L-UMW-6D**	SM 2320B	916261		
60463453016	**L-UMW-DUP-2**	SM 2320B	916261		
60463453017	**L-UMW-FB-2**	SM 2320B	916261		
60463453001	**L-UMW-2D**	SM 2540C	915015		
60463453002	**L-UMW-7D**	SM 2540C	915200		
60463453003	**L-BMW-1D**	SM 2540C	915015		
60463453004	**L-BMW-2D**	SM 2540C	915015		
60463453005	**L-UMW-DUP-1**	SM 2540C	915015		
60463453006	**L-UMW-4D**	SM 2540C	915563		
60463453007	**L-UMW-8D**	SM 2540C	915374		
60463453008	**L-UMW-9D**	SM 2540C	915374		
60463453009	**L-UMW-FB-1**	SM 2540C	915374		
60463453012	**L-UMW-1D**	SM 2540C	915563		
60463453013	**L-UMW-3D**	SM 2540C	915563		
60463453014	**L-UMW-5D**	SM 2540C	915563		
60463453015	**L-UMW-6D**	SM 2540C	915563		
60463453016	**L-UMW-DUP-2**	SM 2540C	915563		
60463453017	**L-UMW-FB-2**	SM 2540C	915563		
60463453001	**L-UMW-2D**	EPA 300.0	916715		
60463453002	**L-UMW-7D**	EPA 300.0	916715		
60463453003	**L-BMW-1D**	EPA 300.0	916715		
60463453004	**L-BMW-2D**	EPA 300.0	916715		
60463453005	**L-UMW-DUP-1**	EPA 300.0	916715		
60463453006	**L-UMW-4D**	EPA 300.0	917017		
60463453007	**L-UMW-8D**	EPA 300.0	917017		
60463453008	**L-UMW-9D**	EPA 300.0	917017		
60463453009	**L-UMW-FB-1**	EPA 300.0	917017		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60463453

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463453012	**L-UMW-1D**	EPA 300.0	916711		
60463453013	**L-UMW-3D**	EPA 300.0	916713		
60463453014	**L-UMW-5D**	EPA 300.0	916713		
60463453015	**L-UMW-6D**	EPA 300.0	916713		
60463453016	**L-UMW-DUP-2**	EPA 300.0	916713		
60463453017	**L-UMW-FB-2**	EPA 300.0	916713		

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WO# : 60463453

60463453

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

Client Name: Rocksmith Heveng

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

Cooler Temperature (°C): **As-read** 6.8/11.2 **Corr. Factor** -0.1 **Corrected** 0.7/1.1

Temperature should be above freezing to 6°C 17.2/18.5 17.1/18.4

Date and initials of person examining contents: AV 10/30/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 883727	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60463453

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC #1	Invoice To:	Mark Haddock
Project Name:	AMEREN LCPA	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 3 3 3 1

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

Identify Container Preservative Type***: 1 1 3 2 2 2 3 2

*** 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

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non conformance identified for sample:
L-UMW-1D	WT																		
L-UMW-2D	WT	G			10/28/24	1408	6	-	-	✓	✓	✓	✓	✓	✓	✓	✓		
L-UMW-3D	WT																		
L-UMW-4D	WT																		
L-UMW-5D	WT																		
L-UMW-6D	WT																		
L-UMW-7D	WT				10/29/24	1430	6	-	-	✓	✓	✓	✓	✓	✓	✓	✓		
L-UMW-8D	WT																		
L-UMW-9D	WT																		
L-BMW-1D	WT	G			10/28/24	1240	6	-	-	✓	✓	✓	✓	✓	✓	✓	✓		

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3162889

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: 3,4 | Thermometer ID: T248 | Correction Factor (°C): -0.1 | Obs. Temp. (°C): 0.8/1.2/17.2/18.5 | Corrected Temp. (°C): 0.7/1.1/17.1/18.4 | On Ice:

Relinquished by/Company: (Signature) John Rasmussen	Date/Time: 10/29/24 1600	Received by/Company: (Signature)	Date/Time: 10/30/24 0650	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

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

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

6M63453

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 1		
Project Name:	AMEREN LCPA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
Specify Container Size **										1	1	3	3	3	3	3	1	
Identify Container Preservative Type***										1	1	3	2	2	2	3	2	
L-BMW-2D	WT	G			10/28/24	1035	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-DUP-1	WT	G			10/28/24	~~1105~~	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-DUP-2	WT																	
L-UMW-FB-1	WT																	
L-UMW-FB-2	WT																	
L-UMW-MS-1	WT																	
L-UMW-MSD-1	WT																	

**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

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3162889

Preservation non-conformance identified for sample

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
4	T298	-0.1	0.8/1.2/12.2/18.5	0.7/1.1/12.1/18.4	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	10/29/24 1600	ASI	10/30/24 0650	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024

Client: Rocksmith Geceng Profile/PO#: 3162889

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													2						1			2	1									
2	WT																															
3																																
4																																
5																																
6																																
7	WT												2						1			2	1									
8																																
9																																
10	WT												2						1			2	1									
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463453

2/2

Client: Rocksmith Geoeng

Profile/EZ#: 3162869

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												2						1			2	1									
2	↓												2						1			2	1									
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 6046345 3

WO# : 60463453

60463453

DC#_Title: ENV-FRM-LENE-0009_Sample Co		
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-298 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 1.1/2.0 **Corr. Factor** -0.1 **Corrected** 1.0/1.9

Temperature should be above freezing to 6°C 17.4 17.3

Date and initials of person examining contents: 4/11/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	Container ID for L-UMW-4D is L-UMW-3D.
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☑No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 8E727	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60463453

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC #1		
Project Name:	AMEREN LCPA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
L-UMW-1D	WT	G			11/1/24	1025	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-2D	WT																	
L-UMW-3D	WT	G																
L-UMW-4D	WT				11/1/24	0858	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-5D	WT	G			11/1/24	1255	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-6D	WT	G			11/1/24	1142	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-UMW-7D	WT																	
L-UMW-8D	WT																	
L-UMW-9D	WT																	
L-BMW-1D	WT																	

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

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162889

Preservation non conformance identified for sample.

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
	T298	-0.1	1.1	1.0	

Relinquished by/Company: (Signature) Rocksmith	Date/Time: 11/1/24 1600	Received by/Company: (Signature)	Date/Time: 11-2 0536	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

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

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

60463453

Scan QR Code for instructions

Company Name	Rocksmith Geoengineering, LLC
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043
Customer Project #:	COC# 1
Project Name:	AMEREN LCPA
Site Collection Info/Facility ID (as applicable):	

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 #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Date Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units
L-BMW-2D	WT								
L-UMW-DUP-1	WT	G			[illegible]	[illegible]	[illegible]		
L-UMW-DUP-2	WT	G			11/1/24	—	6		
L-UMW-FB-1	WT								
L-UMW-FB-2	WT	G			11/1/24	1210	6		
L-UMW-MS-1	WT								
L-UMW-MSD-1	WT								

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228
✓	✓	✓	~~✓~~	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓

**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

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162889

Sample Comment

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo and 200.8 Metals - Sb,As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By: (Printed Name) John Rasmussen

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
				1.0	

	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	11/1/24 1600		11-2 0536
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other

Page: 2 of 2

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

1/2

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Rocksmith Geoeng Profile/EZ #

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												2						1			2	1									
2																																
3																																
4	WT												2						1			2	1									
5	↓												2						1			2	1									
6													2						1			2	1									
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463453

2/2

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Rocksmith Geoeng Profile/EZ #

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																																
2																																
3	WT												2						1			2	1									
4																																
5	WT												2						1			2	1									
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463453

E207

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60463453 **Workorder Name:** AMEREN LCPA

Owner Received Date: 10/30/2024 **Results Requested By:** 11/15/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4	TOX	LAB USE ONLY
1	L-UMW-2D	PS	10/28/2024 14:08	60463453001	Water	1	X	-01
2	L-UMW-7D	PS	10/29/2024 14:30	60463453002	Water	1	X	-02
3	L-BMW-1D	PS	10/28/2024 12:40	60463453003	Water	1	X	-03
4	L-BMW-2D	PS	10/28/2024 10:35	60463453004	Water	1	X	-04
5	L-UMW-DUP-1	PS	10/28/2024 08:00	60463453005	Water	1	X	-05
6	L-UMW-4D	PS	10/31/2024 13:51	60463453006	Water	1	X	-06
7	L-UMW-8D	PS	10/30/2024 11:30	60463453007	Water	1	X	-07
8	L-UMW-9D	RQS	10/30/2024 13:15	60463453008	Water	3	X	-08
9	L-UMW-FB-1	PS	10/30/2024 12:00	60463453009	Water	1	X	-09
10	L-LUMW-1D	PS	11/1/2024 10:25	60463453012	Water	1	X	-10
11	L-UMW-3D	PS	11/1/2024 08:58	60463453013	Water	1	X	-11
12	L-UMW-5D	PS	11/1/2024 12:55	60463453014	Water	1	X	-12
13	L-UMW-6D	PS	11/1/2024 11:42	60463453015	Water	1	X	-13
14	L-UMW-DUP-2	PS	11/1/2024 00:00	60463453016	Water	1	X	-14
15	L-UMW-FB-2	PS	11/1/2024 12:10	60463453017	Water	1	X	-15

L1795732

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres. Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RA Screen <0.5 mR/hr:	Y N		

MSAG 5.0+0.5253

					Comments
Transfers	Released By	Date/Time	Received By	Date/Time	
1			E: Dorsey 17	11-5-24 / 0900	KS sample location: 6091-R14-S4B
2					
3					

Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.*

L1745732

Fed Ex tracking #	Gun ID	Temperature
4033 6452 3298	MSA9	5.0 + 0.3 = 5.3
4033 6452 3265	MSA9	3.9 + 0.3 = 4.2
~~84~~ ~~38~~		
4033 6452 3287	MSA9	4.9 + 0.3 = 5.2
4033 6452 3276	MSA9	5.5 + 0.3 = 5.8

EI: Dossett

Name

11-5-24

Date

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60463453 **Workorder Name:** AMEREN LCPA

Owner Received Date: 10/30/2024 **Results Requested By:** 11/15/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis Radium 226	Radium 228											LAB USE ONLY
1	L-UMW-2D	PS	10/28/2024 14:08	60463453001	Water	2						X	X											001
2	L-UMW-7D	PS	10/29/2024 14:30	60463453002	Water	2						X	X											002
3	L-BMW-1D	PS	10/28/2024 12:40	60463453003	Water	2						X	X											003
4	L-BMW-2D	PS	10/28/2024 10:35	60463453004	Water	2						X	X											004
5	L-UMW-DUP-1	PS	10/28/2024 08:00	60463453005	Water	2						X	X											005
6	L-UMW-4D	PS	10/31/2024 13:51	60463453006	Water	2						X	X											006
7	L-UMW-8D	PS	10/30/2024 11:30	60463453007	Water	2						X	X											007
8	L-UMW-9D	RQS	10/30/2024 13:15	60463453008	Water	2						X	X											008
9	L-UMW-FB-1	PS	10/30/2024 12:00	60463453009	Water	2						X	X											009
10	L-UMW-MS-1	PS	10/30/2024 13:15	60463453010	Water	2						X	X											010
11	L-UMW-MSD-1	PS	10/30/2024 13:15	60463453011	Water	2						X	X											011
12	L-LUMW-1D	PS	11/1/2024 10:25	60463453012	Water	2						X	X											012
13	L-UMW-3D	PS	11/1/2024 08:58	60463453013	Water	2						X	X											013
14	L-UMW-5D	PS	11/1/2024 12:55	60463453014	Water	2						X	X											014
15	L-UMW-6D	PS	11/1/2024 11:42	60463453015	Water	2						X	X											015
16	L-UMW-DUP-2	PS	11/1/2024 00:00	60463453016	Water	2						X	X											016
17	L-UMW-FB-2	PS	11/1/2024 12:10	60463453017	Water	2						X	X											017

WO# : 30732692

30732692

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			[illegible]	11/7/24930	KS sample location: 60-R01-S4A
2					
3					

Cooler Temperature on Receipt ___ °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Samples Intact (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

WO# : 30732692

PM: MAR Due Date: 12/02/24

CLIENT: PACE_60_LEKS

DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-Greensburg

Effective Date: 01/04/2024

WO# : 30732692

PM: MAR Due Date: 12/02/24

CLIENT: PACE_60_LEKS

Client Name: Pace-KS

Initial / Date

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 403364527997

Examined By: PS 11/18/24

Labeled By: PS 11/18/24

Temped By: —

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

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

Cooler Temperature: Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Comments:	Yes	No	NA	pH paper Lot# 10D1041 / D.P.D. Residual Chlorine Lot # —
Chain of Custody Present	—			1.
Chain of Custody Filled Out:	—			2.
-Were client corrections present on COC		—		
Chain of Custody Relinquished		—		3.
Sampler Name & Signature on COC:		—		4.
Sample Labels match COC:	—			5.
-Includes date/time/ID				
Matrix:	WT			
Samples Arrived within Hold Time:	—			6.
Short Hold Time Analysis (<72hr remaining):		—		7.
Rush Turn Around Time Requested:		—		8.
Sufficient Volume:	—			9.
Correct Containers Used:	—			10.
-Pace Containers Used	—			
Containers Intact:	—			11.
Orthophosphate field filtered:			—	12.
Hex Cr Aqueous samples field filtered:			—	13.
Organic Samples checked for dichlorination			—	14:
Filtered volume received for dissolved tests:			—	15:
All containers checked for preservation:	—			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				pH<2
All containers meet method preservation requirements:	—			Initial when completed: PS / Date/Time of Preservation / Lot# of added Preservative
8260C/D: Headspace in VOA Vials (> 6mm)			—	17.
624.1: Headspace in VOA Vials (0mm)			—	18.
Radon: Headspace in RAD Vials (0mm)			—	19.
Trip Blank Present:			—	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	—			Initial when completed: PS / Date: 11/7/24 / Survey Meter SN: 25014380

Comments:

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Qualtrax ID: 55680

Page 1 of 1

Memorandum

January 22, 2025

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23007-24
CC:	Mark Haddock, Jeffrey Ingram		
From:	Jack Rasmussen	**Email:**	jack.rasmussen@rocksmithgeo.com
RE:	**Data Validation Summary, Labadie Energy Center – LCPA – Data Package 60463453**		

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

- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When a 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 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 Manager: J. Ingram
Project Name: Ameren LCPA
Project Number: 23007-24
Reviewer: J. Rasmussen
Validation Date: 01/22/2025

Laboratory: Pace Analytical
SDG #: 60463453
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 4500-S-2 (Sulfide); EPA 903.1/904.0 (Radium 226+228)
Sample Names L-UMW-1D, L-UMW-3D, L-UMW-4D, L-UMW-5D, L-UMW-6D, L-UMW-DUP-1, L-UMW-DUP-2, L-UMW-FB-1, L-UMW-MS-1, L-UMW-MSD-1, L-UMW-7D, L-UMW-8D, L-UMW-9D, L-UMW-FB-2, L-UMW-2D, L-BMW-2D, L-BMW-1D

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			10/30/24-11/02/24
b) Sampling team indicated?	x			JTR/JDQ
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

General:

Chloride, sulfate, and/or alkalinity were diluted in several samples; no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks:

3620890: calcium (36.1J) and sodium (235J), associated with samples -001 through -005. All results > 10x and RL, no qualification necessary.

3622752: calcium (139J) and potassium (79.8J). Associated with samples -006 and -007. All results > 10x blank and RL, no qualification necessary.

3622757: calcium (122J), and iron (10.8J). Associated with sample -008 and -009. -008 results > 10x blank and RL. -009 calcium (132J) < 10x blank and RL, Iron (14.2J) < 10x blank and RL; results qualified as non-detect (U).

3622965: calcium (157J), iron (25.6J), and manganese (0.42J). Associated with samples -012 through -017. -014 iron (26.7J) < 10x blank and < RL, result qualified as non-detect. -017 calcium (156J), iron (15.6J), and manganese (1.8J) results < 10x blank and RL, results qualified as non-detect. All other results > 10x blank and RL, non qualification necessary.

3621770: cadmium (0.071J), associated with sample -001. Result is non-detect, no qualification necessary.

Field Blanks:

L-UMW-FB-1 @ L-UMW-8D: beryllium (0.17J), calcium (132J), iron (14.2J), manganese (0.47J), and chromium (0.48J). Beryllium was not detected in parent sample, result qualified as estimate. Chromium was detected < 10x blank and RL, result qualified as non-detect. All other results > 10x blank and RL, no qualification necessary.

L-UMW-FB-2 @ L-UMW-6D: beryllium (0.30J), calcium (156J), iron (15.6J), manganese (18.J), chromium (0.47J) and total dissolved solids (8.5). All results non-detect or > RL and 10x blank, no qualification necessary.

Duplicates:

L-UMW-DUP-1 @ L-UMW-2D: RPD exceeds control limit (20%) for radium-228 (37%), results qualified as estimates.

L-UMW-DUP-2 @ L-UMW-1D: All analytes within control limit.

Max RPD for lab duplicates: 20%, metals; 15%, chloride fluoride, sulfate; 10%, alkalinity, TDS.

MSD/MSD:

3632075/3632076: MS/MSD recovery low for mercury, RPD within control. Associated with unrelated sample, no qualification necessary.

3621100/3621101: MSD recovery high for calcium, MS recovery and RPD within control. Associated with unrelated sample, no qualification necessary.

3622754/3622755: MS/MSD recovery low for calcium, RPD within control. Associated with unrelated sample, no qualification necessary.

3622759/3622760: MSD recovery high for calcium, MS recovery and RPD within control. Associated with sample -008. No qualification necessary.

3629881/3629882: MS recovery high for fluoride, MSD and RPD within control. MSD recovery high for sulfate, MS recovery and RPD within control. Associated with sample -013, no qualification necessary.

3629883: MS recovery low for chloride and sulfate. Associated with unrelated sample, no qualification necessary.

3629891/3629892: RPD out of control for fluoride, MS/MSD recovery within control. MSD recovery high for sulfate, MS recovery and RPD within control. Associated with sample -001, no qualification necessary.

3629893: MS recovery high for sulfate. Associated with unrelated sample, no qualification necessary.

3629888/3630917: MS/MSD recovery high for fluoride, RPD within control. MSD recovery high for sulfate, MS recovery and RPD within control. Associated with unrelated sample, no qualification necessary.

3630915/3630919: MS/MSD recovery low for chloride, RPD within control. Associated with sample -008, result qualified as estimate.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-FB-1	Calcium	200	U	Results < 10x method blank and < RL
"	Iron	50	U	"
L-UMW-5D	Iron	50	U	"
L-UMW-FB-2	Calcium	200	U	"
"	Iron	50	U	"
"	Manganese	5	U	"
L-UMW-9D	Chloride	27.6	J-	MS/MSD low, RPD okay
L-UMW-8D	Chromium	1.0	U	Detected in field blank, result < 10x blank and RL
L-UMW-2D	Radium-228	1.17	J	Field duplicate RPD exceeds control limit
L-UMW-DUP-1	"	1.7	J	"

Signature: _____ Date: 01/22/2025

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

January 06, 2025

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

RE: Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between October 30, 2024 and November 02, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

REV-1, Report revised to remove parameters not required under the CCR Rule.

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 LCPA-CA
Pace Project No.: 60463474

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Arkansas Certification #: 88-00679
Colorado Division of Oil and Public Safety
Illinois Certification #: 2000302023-6
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 LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60463474005	**L-TP-1D**	Water	10/29/24 09:15	10/30/24 06:50
60463474006	**L-TP-3M**	Water	10/29/24 13:10	10/30/24 06:50
60463474007	**L-TP-3D**	Water	10/29/24 12:20	10/30/24 06:50
60463474008	**L-TP-4D**	Water	10/29/24 10:45	10/30/24 06:50
60463474009	**L-MS-2**	Water	10/29/24 13:10	10/30/24 06:50
60463474010	**L-MSD-2**	Water	10/29/24 13:20	10/30/24 06:50
60463474011	**L-CA-DUP-1**	Water	10/29/24 08:00	10/30/24 06:50
60463474012	**L-CA-DUP-2**	Water	10/29/24 08:00	10/30/24 06:50
60463474013	**L-MS-1**	Water	10/29/24 09:15	10/30/24 06:50
60463474014	**L-MSD-1**	Water	10/29/24 09:15	10/30/24 06:50
60463474015	**L-AMW-8**	Water	10/31/24 11:55	11/01/24 05:52
60463474018	**L-MW-24**	Water	10/30/24 12:10	11/01/24 05:52
60463474020	**L-CA-DUP-3**	Water	10/30/24 00:00	11/01/24 05:52
60463474021	**L-CA-FB-1**	Water	10/30/24 09:49	11/01/24 05:52
60463474022	**L-CA-FB-2**	Water	10/30/24 12:48	11/01/24 05:52
60463474023	**L-CA-FB-3**	Water	10/31/24 12:30	11/01/24 05:52
60463474024	**L-MW-33(D)**	Water	10/30/24 09:24	11/01/24 05:52
60463474025	**L-MW-34(D)**	Water	10/30/24 10:40	11/01/24 05:52
60463474026	**L-MW-35(D)**	Water	10/30/24 13:32	11/01/24 05:52
60463474027	**L-S-1**	Water	10/30/24 15:37	11/01/24 05:52
60463474028	**L-TP-2M**	Water	11/01/24 09:56	11/02/24 05:36
60463474029	**L-TP-2D**	Water	11/01/24 11:51	11/02/24 05:36
60463474031	**L-AM-1S**	Water	11/01/24 13:31	11/02/24 05:36
60463474032	**L-AM-1D**	Water	11/01/24 14:25	11/02/24 05:36
60463474016	**L-LMW-1S**	Water	10/30/24 09:45	11/01/24 05:52
60463474030	**L-LMW-2S**	Water	11/01/24 13:45	11/02/24 05:36
60463474017	**L-LMW-4S**	Water	10/30/24 16:25	11/01/24 05:52
60463474003	**L-LMW-7S**	Water	10/29/24 11:45	10/30/24 06:50
60463474004	**L-LMW-8S**	Water	10/29/24 13:02	10/30/24 06:50
60463474001	**L-BMW-1S**	Water	10/28/24 11:42	10/30/24 06:50
60463474002	**L-BMW-2S**	Water	10/28/24 09:40	10/30/24 06:50
60463474019	**L-MW-26**	Water	10/30/24 14:38	11/01/24 05:52

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60463474005	**L-TP-1D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474006	**L-TP-3M**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474007	**L-TP-3D**	EPA 200.7	MRV	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474008	**L-TP-4D**	EPA 200.7	MRV	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474009	**L-MS-2**	EPA 903.1	REH1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	ZPC	1	PASI-PA
60463474010	**L-MSD-2**	EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60463474011	**L-CA-DUP-1**	EPA 200.7	MRV	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474012	**L-CA-DUP-2**	EPA 200.7	MRV	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474013	**L-MS-1**	EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60463474014	**L-MSD-1**	EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60463474015	**L-AMW-8**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474018	**L-MW-24**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474020	**L-CA-DUP-3**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474021	**L-CA-FB-1**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474022	**L-CA-FB-2**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474023	**L-CA-FB-3**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474024	**L-MW-33(D)**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474025	**L-MW-34(D)**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474026	**L-MW-35(D)**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474027	**L-S-1**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474028	**L-TP-2M**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474029	**L-TP-2D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474031	**L-AM-1S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474032	**L-AM-1D**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474016	**L-LMW-1S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474030	**L-LMW-2S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474017	**L-LMW-4S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474003	**L-LMW-7S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474004	**L-LMW-8S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474001	**L-BMW-1S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474002	**L-BMW-2S**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	AAA	3	PASI-K
60463474019	**L-MW-26**	EPA 200.7	ARMN	13	PASI-K
		EPA 200.8	MLD	6	PASI-K
		EPA 7470	MLD	1	PASI-K
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2320B	TML	1	PASI-K
		SM 2540C	TML	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	AAA	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-1D **Lab ID: 60463474005** Collected: 10/29/24 09:15 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**1440**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:31	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:31	7440-41-7	
Boron	**59.1J**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:31	7440-42-8	
Calcium	**139000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:31	7440-70-2	M1,P6
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:31	7440-48-4	
Iron	**8290**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:31	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:31	7439-92-1	
Lithium	**23.2**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:31	7439-93-2	
Magnesium	**34100**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:31	7439-95-4	
Manganese	**241**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:31	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:31	7439-98-7	
Potassium	**4140**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:31	7440-09-7	
Sodium	**10900**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:31	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:49	7440-36-0	
Arsenic	**1.2**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:49	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:49	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:49	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:49	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:49	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:34	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**506**	mg/L	40.0	21.0	2		11/11/24 15:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**536**	mg/L	10.0	10.0	1		11/05/24 13:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.1**	mg/L	1.0	0.53	1		11/20/24 09:54	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 09:54	16984-48-8	
Sulfate	**21.5**	mg/L	5.0	2.8	5		11/22/24 15:11	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-3M **Lab ID: 60463474006** Collected: 10/29/24 13:10 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**263**	ug/L	5.0	0.64	1	10/31/24 09:09	11/13/24 10:51	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/13/24 10:51	7440-41-7	
Boron	**4440**	ug/L	100	6.4	1	10/31/24 09:09	11/13/24 10:51	7440-42-8	
Calcium	**118000**	ug/L	200	26.9	1	10/31/24 09:09	11/13/24 10:51	7440-70-2	M1
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/13/24 10:51	7440-48-4	
Iron	**8840**	ug/L	50.0	9.1	1	10/31/24 09:09	11/13/24 10:51	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/13/24 10:51	7439-92-1	
Lithium	**35.8**	ug/L	10.0	3.7	1	10/31/24 09:09	11/13/24 10:51	7439-93-2	
Magnesium	**24400**	ug/L	50.0	20.1	1	10/31/24 09:09	11/13/24 10:51	7439-95-4	
Manganese	**1390**	ug/L	5.0	0.39	1	10/31/24 09:09	11/13/24 10:51	7439-96-5	
Molybdenum	**207**	ug/L	20.0	1.0	1	10/31/24 09:09	11/13/24 10:51	7439-98-7	
Potassium	**5680**	ug/L	500	69.7	1	10/31/24 09:09	11/13/24 10:51	7440-09-7	
Sodium	**55800**	ug/L	500	115	1	10/31/24 09:09	11/13/24 10:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/27/24 15:02	7440-36-0	
Arsenic	**0.36J**	ug/L	1.0	0.13	1	11/04/24 12:51	11/27/24 15:02	7440-38-2	
Cadmium	**0.074J**	ug/L	0.50	0.050	1	11/04/24 12:51	11/27/24 15:02	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:10	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/27/24 15:02	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/27/24 15:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 13:04	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**332**	mg/L	40.0	21.0	2		11/11/24 15:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**613**	mg/L	13.3	13.3	1		11/05/24 13:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.5**	mg/L	20.0	10.5	20		11/20/24 11:03	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 10:49	16984-48-8	M1
Sulfate	**164**	mg/L	20.0	11.0	20		11/20/24 11:03	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-3D **Lab ID: 60463474007** Collected: 10/29/24 12:20 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**75.7**	ug/L	5.0	0.64	1	10/31/24 09:09	11/07/24 13:37	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/07/24 13:37	7440-41-7	
Boron	**9310**	ug/L	100	6.4	1	10/31/24 09:09	11/07/24 13:37	7440-42-8	
Calcium	**98800**	ug/L	200	26.9	1	10/31/24 09:09	11/07/24 13:37	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/07/24 13:37	7440-48-4	
Iron	**4540**	ug/L	50.0	9.1	1	10/31/24 09:09	11/07/24 13:37	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/07/24 13:37	7439-92-1	
Lithium	**31.1**	ug/L	10.0	3.7	1	10/31/24 09:09	11/07/24 13:37	7439-93-2	
Magnesium	**21100**	ug/L	50.0	20.1	1	10/31/24 09:09	11/07/24 13:37	7439-95-4	
Manganese	**178**	ug/L	5.0	0.39	1	10/31/24 09:09	11/07/24 13:37	7439-96-5	
Molybdenum	**497**	ug/L	20.0	1.0	1	10/31/24 09:09	11/07/24 13:37	7439-98-7	
Potassium	**6980**	ug/L	500	69.7	1	10/31/24 09:09	11/07/24 13:37	7440-09-7	
Sodium	**119000**	ug/L	500	115	1	10/31/24 09:09	11/07/24 13:37	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/27/24 15:13	7440-36-0	
Arsenic	**6.5**	ug/L	1.0	0.13	1	11/04/24 12:51	11/27/24 15:13	7440-38-2	
Cadmium	**0.19J**	ug/L	0.50	0.050	1	11/04/24 12:51	11/27/24 15:13	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:17	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/27/24 15:13	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/27/24 15:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:40	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**119**	mg/L	20.0	10.5	1		11/11/24 16:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**869**	mg/L	13.3	13.3	1		11/05/24 13:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**31.8**	mg/L	20.0	10.5	20		11/20/24 18:29	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 18:10	16984-48-8	
Sulfate	**532**	mg/L	50.0	27.5	50		11/20/24 18:48	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-4D **Lab ID: 60463474008** Collected: 10/29/24 10:45 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**388**	ug/L	5.0	0.64	1	10/31/24 09:09	11/07/24 13:39	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/07/24 13:39	7440-41-7	
Boron	**6840**	ug/L	100	6.4	1	10/31/24 09:09	11/07/24 13:39	7440-42-8	
Calcium	**127000**	ug/L	200	26.9	1	10/31/24 09:09	11/07/24 13:39	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/07/24 13:39	7440-48-4	
Iron	**5730**	ug/L	50.0	9.1	1	10/31/24 09:09	11/07/24 13:39	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/07/24 13:39	7439-92-1	
Lithium	**25.3**	ug/L	10.0	3.7	1	10/31/24 09:09	11/07/24 13:39	7439-93-2	
Magnesium	**32500**	ug/L	50.0	20.1	1	10/31/24 09:09	11/07/24 13:39	7439-95-4	
Manganese	**352**	ug/L	5.0	0.39	1	10/31/24 09:09	11/07/24 13:39	7439-96-5	
Molybdenum	**4.1J**	ug/L	20.0	1.0	1	10/31/24 09:09	11/07/24 13:39	7439-98-7	
Potassium	**4990**	ug/L	500	69.7	1	10/31/24 09:09	11/07/24 13:39	7440-09-7	
Sodium	**28600**	ug/L	500	115	1	10/31/24 09:09	11/07/24 13:39	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/27/24 15:16	7440-36-0	
Arsenic	**7.5**	ug/L	1.0	0.13	1	11/04/24 12:51	11/27/24 15:16	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 12:51	11/27/24 15:16	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:23	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/27/24 15:16	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/27/24 15:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:43	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**312**	mg/L	20.0	10.5	1		11/11/24 16:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**628**	mg/L	13.3	13.3	1		11/05/24 13:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**16.1**	mg/L	1.0	0.53	1		11/20/24 20:41	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 20:41	16984-48-8	
Sulfate	**221**	mg/L	20.0	11.0	20		11/20/24 21:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-DUP-1 **Lab ID: 60463474011** Collected: 10/29/24 08:00 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**381**	ug/L	5.0	0.64	1	10/31/24 09:09	11/07/24 13:41	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/07/24 13:41	7440-41-7	
Boron	**6720**	ug/L	100	6.4	1	10/31/24 09:09	11/07/24 13:41	7440-42-8	
Calcium	**124000**	ug/L	200	26.9	1	10/31/24 09:09	11/07/24 13:41	7440-70-2	M1
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/07/24 13:41	7440-48-4	
Iron	**5580**	ug/L	50.0	9.1	1	10/31/24 09:09	11/07/24 13:41	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/07/24 13:41	7439-92-1	
Lithium	**22.6**	ug/L	10.0	3.7	1	10/31/24 09:09	11/07/24 13:41	7439-93-2	
Magnesium	**31800**	ug/L	50.0	20.1	1	10/31/24 09:09	11/07/24 13:41	7439-95-4	
Manganese	**343**	ug/L	5.0	0.39	1	10/31/24 09:09	11/07/24 13:41	7439-96-5	
Molybdenum	**3.4J**	ug/L	20.0	1.0	1	10/31/24 09:09	11/07/24 13:41	7439-98-7	
Potassium	**4770**	ug/L	500	69.7	1	10/31/24 09:09	11/07/24 13:41	7440-09-7	
Sodium	**28100**	ug/L	500	115	1	10/31/24 09:09	11/07/24 13:41	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/27/24 15:18	7440-36-0	
Arsenic	**7.6**	ug/L	1.0	0.13	1	11/04/24 12:51	11/27/24 15:18	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 12:51	11/27/24 15:18	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:25	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/27/24 15:18	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/27/24 15:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:50	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**316**	mg/L	20.0	10.5	1		11/11/24 16:19		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**631**	mg/L	13.3	13.3	1		11/05/24 13:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.3**	mg/L	1.0	0.53	1		11/20/24 21:19	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 21:19	16984-48-8	
Sulfate	**218**	mg/L	20.0	11.0	20		11/20/24 21:56	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-DUP-2 **Lab ID: 60463474012** Collected: 10/29/24 08:00 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**74.7**	ug/L	5.0	0.64	1	10/31/24 09:09	11/07/24 13:44	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/07/24 13:44	7440-41-7	
Boron	**9100**	ug/L	100	6.4	1	10/31/24 09:09	11/07/24 13:44	7440-42-8	
Calcium	**97300**	ug/L	200	26.9	1	10/31/24 09:09	11/07/24 13:44	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/07/24 13:44	7440-48-4	
Iron	**4520**	ug/L	50.0	9.1	1	10/31/24 09:09	11/07/24 13:44	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/07/24 13:44	7439-92-1	
Lithium	**31.1**	ug/L	10.0	3.7	1	10/31/24 09:09	11/07/24 13:44	7439-93-2	
Magnesium	**20900**	ug/L	50.0	20.1	1	10/31/24 09:09	11/07/24 13:44	7439-95-4	
Manganese	**175**	ug/L	5.0	0.39	1	10/31/24 09:09	11/07/24 13:44	7439-96-5	
Molybdenum	**491**	ug/L	20.0	1.0	1	10/31/24 09:09	11/07/24 13:44	7439-98-7	
Potassium	**6790**	ug/L	500	69.7	1	10/31/24 09:09	11/07/24 13:44	7440-09-7	
Sodium	**117000**	ug/L	500	115	1	10/31/24 09:09	11/07/24 13:44	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 12:51	11/27/24 15:21	7440-36-0	
Arsenic	**6.5**	ug/L	1.0	0.13	1	11/04/24 12:51	11/27/24 15:21	7440-38-2	
Cadmium	**0.18J**	ug/L	0.50	0.050	1	11/04/24 12:51	11/27/24 15:21	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:28	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 12:51	11/27/24 15:21	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 12:51	11/27/24 15:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:52	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**121**	mg/L	20.0	10.5	1		11/11/24 16:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**853**	mg/L	13.3	13.3	1		11/05/24 13:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**29.3**	mg/L	10.0	5.3	10		11/20/24 22:34	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 22:15	16984-48-8	
Sulfate	**497**	mg/L	100	55.0	100		11/20/24 22:53	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-AMW-8 **Lab ID: 60463474015** Collected: 10/31/24 11:55 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**111**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:28	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:28	7440-41-7	
Boron	**6890**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:28	7440-42-8	
Calcium	**67200**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:28	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:28	7440-48-4	
Iron	**2390**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:28	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:28	7439-92-1	
Lithium	**20.7**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:28	7439-93-2	
Magnesium	**11900**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:28	7439-95-4	
Manganese	**327**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:28	7439-96-5	
Molybdenum	**285**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:28	7439-98-7	
Potassium	**5880**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:28	7440-09-7	
Sodium	**78100**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:28	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:31	7440-36-0	
Arsenic	**0.16J**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:31	7440-38-2	
Cadmium	**0.11J**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:31	7440-43-9	
Chromium	**1.7**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:31	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:31	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:14	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**98.1**	mg/L	20.0	10.5	1		11/13/24 16:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**544**	mg/L	10.0	10.0	1		11/06/24 16:24		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**30.0**	mg/L	20.0	10.5	20		11/13/24 12:20	16887-00-6	
Fluoride	**0.21**	mg/L	0.20	0.12	1		11/13/24 11:23	16984-48-8	
Sulfate	**274**	mg/L	20.0	11.0	20		11/13/24 12:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-24 **Lab ID: 60463474018** Collected: 10/30/24 12:10 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**175**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:35	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:35	7440-41-7	
Boron	**110**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:35	7440-42-8	
Calcium	**124000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:35	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:35	7440-48-4	
Iron	**37.1J**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:35	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:35	7439-92-1	
Lithium	**23.3**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:35	7439-93-2	
Magnesium	**24100**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:35	7439-95-4	
Manganese	**24.2**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:35	7439-96-5	
Molybdenum	**1.3J**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:35	7439-98-7	
Potassium	**5780**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:35	7440-09-7	
Sodium	**7590**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:35	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.19J**	ug/L	1.0	0.12	1	11/15/24 13:24	12/03/24 13:11	7440-36-0	
Arsenic	**0.91J**	ug/L	1.0	0.13	1	11/15/24 13:24	12/03/24 13:11	7440-38-2	
Cadmium	**0.066J**	ug/L	0.50	0.050	1	11/15/24 13:24	12/03/24 13:11	7440-43-9	
Chromium	**0.39J**	ug/L	1.0	0.30	1	11/15/24 13:24	12/03/24 13:11	7440-47-3	
Selenium	**12.4**	ug/L	1.0	0.18	1	11/15/24 13:24	12/03/24 13:11	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/15/24 13:24	12/03/24 13:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:26	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**377**	mg/L	20.0	10.5	1		11/11/24 17:54		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**454**	mg/L	10.0	10.0	1		11/06/24 16:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**5.3**	mg/L	1.0	0.53	1		11/13/24 13:55	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 13:55	16984-48-8	
Sulfate	**29.0**	mg/L	2.0	1.1	2		11/13/24 14:13	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-DUP-3 **Lab ID: 60463474020** Collected: 10/30/24 00:00 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**99.4**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:39	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:39	7440-41-7	
Boron	**8960**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:39	7440-42-8	
Calcium	**108000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:39	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:39	7440-48-4	
Iron	**6300**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:39	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:39	7439-92-1	
Lithium	**36.6**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:39	7439-93-2	
Magnesium	**25000**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:39	7439-95-4	
Manganese	**287**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:39	7439-96-5	
Molybdenum	**719**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:39	7439-98-7	
Potassium	**7050**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:39	7440-09-7	
Sodium	**81000**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:39	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:38	7440-36-0	
Arsenic	**3.4**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:38	7440-38-2	
Cadmium	**0.27J**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:38	7440-43-9	
Chromium	**1.7**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:38	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:38	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:30	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**198**	mg/L	20.0	10.5	1		11/13/24 14:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**749**	mg/L	13.3	13.3	1		11/06/24 16:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.9**	mg/L	10.0	5.3	10		11/13/24 16:07	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 15:10	16984-48-8	
Sulfate	**357**	mg/L	50.0	27.5	50		11/13/24 16:26	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-FB-1 **Lab ID: 60463474021** Collected: 10/30/24 09:49 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:46	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:46	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:46	7440-42-8	
Calcium	**143J**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:46	7440-70-2	B
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:46	7440-48-4	
Iron	**33.5J**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:46	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:46	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:46	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:46	7439-95-4	
Manganese	**0.77J**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:46	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:46	7439-98-7	
Potassium	**109J**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:46	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:44	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:44	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:44	7440-43-9	
Chromium	**1.9**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:44	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:44	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:44	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:33	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		11/13/24 14:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**7.0**	mg/L	5.0	5.0	1		11/06/24 16:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/14/24 04:23	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/14/24 04:23	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/14/24 04:23	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-FB-2 **Lab ID: 60463474022** Collected: 10/30/24 12:48 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:48	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:48	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:48	7440-42-8	
Calcium	**220**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:48	7440-70-2	B
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:48	7440-48-4	
Iron	**24.6J**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:48	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:48	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:48	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:48	7439-95-4	
Manganese	**0.52J**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:48	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:48	7439-98-7	
Potassium	**109J**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:48	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:48	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:47	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:47	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:47	7440-43-9	
Chromium	**1.9**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:47	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:47	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:35	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		11/13/24 14:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/06/24 16:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/13/24 21:08	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 21:08	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/13/24 21:08	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-FB-3 **Lab ID: 60463474023** Collected: 10/31/24 12:30 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:49	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:49	7440-41-7	
Boron	**<6.4**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:49	7440-42-8	
Calcium	**136J**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:49	7440-70-2	B
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:49	7440-48-4	
Iron	**32.8J**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:49	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:49	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:49	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:49	7439-95-4	
Manganese	**0.65J**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:49	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:49	7439-98-7	
Potassium	**119J**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:49	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:49	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:49	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:49	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:49	7440-43-9	
Chromium	**1.9**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:49	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:49	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:49	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:37	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		11/13/24 16:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/07/24 14:07		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/13/24 21:27	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 21:27	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/13/24 21:27	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-33(D) **Lab ID: 60463474024** Collected: 10/30/24 09:24 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**143**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:51	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:51	7440-41-7	
Boron	**8010**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:51	7440-42-8	
Calcium	**148000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:51	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:51	7440-48-4	
Iron	**7090**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:51	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:51	7439-92-1	
Lithium	**37.0**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:51	7439-93-2	
Magnesium	**29200**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:51	7439-95-4	
Manganese	**392**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:51	7439-96-5	
Molybdenum	**661**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:51	7439-98-7	
Potassium	**8350**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:51	7440-09-7	
Sodium	**108000**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:51	7440-36-0	
Arsenic	**3.2**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:51	7440-38-2	
Cadmium	**0.26J**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:51	7440-43-9	
Chromium	**1.9**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:51	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:51	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:40	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**98.1**	mg/L	20.0	10.5	1		11/13/24 14:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**176**	mg/L	20.0	20.0	1		11/06/24 16:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**27.2**	mg/L	20.0	10.5	20		11/13/24 22:05	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 21:46	16984-48-8	
Sulfate	**671**	mg/L	50.0	27.5	50		11/13/24 22:24	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-34(D) **Lab ID: 60463474025** Collected: 10/30/24 10:40 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**102**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:53	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:53	7440-41-7	
Boron	**9190**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:53	7440-42-8	
Calcium	**110000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:53	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:53	7440-48-4	
Iron	**6280**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:53	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:53	7439-92-1	
Lithium	**35.7**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:53	7439-93-2	
Magnesium	**25400**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:53	7439-95-4	
Manganese	**291**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:53	7439-96-5	
Molybdenum	**738**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:53	7439-98-7	
Potassium	**7190**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:53	7440-09-7	
Sodium	**81900**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:53	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:22	7440-36-0	
Arsenic	**3.3**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:22	7440-38-2	
Cadmium	**0.27J**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:22	7440-43-9	
Chromium	**1.6**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:22	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:22	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:22	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:42	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**197**	mg/L	20.0	10.5	1		11/13/24 14:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**773**	mg/L	13.3	13.3	1		11/06/24 16:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.0**	mg/L	10.0	5.3	10		11/13/24 23:39	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 22:43	16984-48-8	
Sulfate	**376**	mg/L	50.0	27.5	50		11/13/24 23:58	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-35(D) **Lab ID: 60463474026** Collected: 10/30/24 13:32 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**57.6**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:55	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:55	7440-41-7	
Boron	**6760**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:55	7440-42-8	
Calcium	**121000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:55	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:55	7440-48-4	
Iron	**5750**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:55	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:55	7439-92-1	
Lithium	**27.3**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:55	7439-93-2	
Magnesium	**27500**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:55	7439-95-4	
Manganese	**415**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:55	7439-96-5	
Molybdenum	**387**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:55	7439-98-7	
Potassium	**5470**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:55	7440-09-7	
Sodium	**64600**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:55	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:24	7440-36-0	
Arsenic	**0.14J**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:24	7440-38-2	
Cadmium	**0.15J**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:24	7440-43-9	
Chromium	**1.9**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:24	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 13:07	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**387**	mg/L	20.0	10.5	1		11/13/24 14:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**695**	mg/L	13.3	13.3	1		11/06/24 16:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.3**	mg/L	1.0	0.53	1		11/14/24 00:17	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/14/24 00:17	16984-48-8	
Sulfate	**167**	mg/L	20.0	11.0	20		11/14/24 00:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-S-1 **Lab ID: 60463474027** Collected: 10/30/24 15:37 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**373**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:56	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:56	7440-41-7	
Boron	**93.7J**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:56	7440-42-8	
Calcium	**152000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:56	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:56	7440-48-4	
Iron	**37.4J**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:56	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:56	7439-92-1	
Lithium	**24.7**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:56	7439-93-2	
Magnesium	**21100**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:56	7439-95-4	
Manganese	**196**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:56	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:56	7439-98-7	
Potassium	**27200**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:56	7440-09-7	
Sodium	**5500**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:56	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.16J**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:16	7440-36-0	
Arsenic	**0.49J**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:16	7440-38-2	
Cadmium	**0.089J**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:16	7440-43-9	
Chromium	**1.7**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:16	7440-47-3	
Selenium	**8.5**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:16	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:16	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 10:56	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**495**	mg/L	20.0	10.5	1		11/13/24 15:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**527**	mg/L	13.3	13.3	1		11/06/24 16:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.4**	mg/L	1.0	0.53	1		11/14/24 00:55	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/14/24 00:55	16984-48-8	
Sulfate	**21.5**	mg/L	1.0	0.55	1		11/14/24 00:55	14808-79-8	E

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-2M **Lab ID: 60463474028** Collected: 11/01/24 09:56 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**132**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 13:05	7440-39-3	
Beryllium	**0.33J**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 13:05	7440-41-7	
Boron	**1430**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 13:05	7440-42-8	
Calcium	**106000**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 13:05	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 13:05	7440-48-4	
Iron	**3770**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 13:05	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 13:05	7439-92-1	
Lithium	**33.9**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 13:05	7439-93-2	
Magnesium	**16200**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 13:05	7439-95-4	
Manganese	**467**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 13:05	7439-96-5	
Molybdenum	**82.8**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 13:05	7439-98-7	
Potassium	**6740**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 13:05	7440-09-7	
Sodium	**71800**	ug/L	500	115	1	11/04/24 13:07	11/18/24 13:05	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 15:50	7440-36-0	
Arsenic	**0.40J**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 15:50	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 15:50	7440-43-9	
Chromium	**0.39J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:43	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 15:50	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 15:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/14/24 15:22	11/15/24 10:01	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**275**	mg/L	20.0	10.5	1		11/13/24 17:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**592**	mg/L	13.3	13.3	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**29.8**	mg/L	10.0	5.3	10		11/14/24 16:48	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/14/24 16:29	16984-48-8	
Sulfate	**211**	mg/L	20.0	11.0	20		11/14/24 17:07	14808-79-8	CH

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-2D **Lab ID: 60463474029** Collected: 11/01/24 11:51 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**122**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 13:06	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 13:06	7440-41-7	
Boron	**2440**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 13:06	7440-42-8	
Calcium	**102000**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 13:06	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 13:06	7440-48-4	
Iron	**3980**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 13:06	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 13:06	7439-92-1	
Lithium	**39.5**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 13:06	7439-93-2	
Magnesium	**18000**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 13:06	7439-95-4	
Manganese	**360**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 13:06	7439-96-5	
Molybdenum	**124**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 13:06	7439-98-7	
Potassium	**5770**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 13:06	7440-09-7	
Sodium	**64200**	ug/L	500	115	1	11/04/24 13:07	11/18/24 13:06	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.20J**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 15:56	7440-36-0	
Arsenic	**10.8**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 15:56	7440-38-2	
Cadmium	**0.058J**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 15:56	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:49	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 15:56	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 15:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/14/24 15:22	11/15/24 10:04	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**264**	mg/L	20.0	10.5	1		11/13/24 17:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**581**	mg/L	10.0	10.0	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**35.7**	mg/L	10.0	5.3	10		11/14/24 18:22	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.12	1		11/14/24 18:03	16984-48-8	
Sulfate	**194**	mg/L	20.0	11.0	20		11/14/24 18:41	14808-79-8	CH

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-AM-1S **Lab ID: 60463474031** Collected: 11/01/24 13:31 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**584**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 13:10	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 13:10	7440-41-7	
Boron	**316**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 13:10	7440-42-8	
Calcium	**187000**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 13:10	7440-70-2	
Cobalt	**2.4J**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 13:10	7440-48-4	
Iron	**7160**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 13:10	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 13:10	7439-92-1	
Lithium	**36.6**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 13:10	7439-93-2	
Magnesium	**37800**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 13:10	7439-95-4	
Manganese	**1130**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 13:10	7439-96-5	
Molybdenum	**1.8J**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 13:10	7439-98-7	
Potassium	**7070**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 13:10	7440-09-7	
Sodium	**49800**	ug/L	500	115	1	11/04/24 13:07	11/18/24 13:10	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 16:01	7440-36-0	
Arsenic	**2.0**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 16:01	7440-38-2	
Cadmium	**0.11J**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 16:01	7440-43-9	
Chromium	**0.34J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 14:00	7440-47-3	
Selenium	**0.49J**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 16:01	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 16:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/14/24 15:22	11/15/24 10:08	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**599**	mg/L	20.0	10.5	1		11/13/24 18:21		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**788**	mg/L	13.3	13.3	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**115**	mg/L	20.0	10.5	20		11/14/24 19:56	16887-00-6	M1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/14/24 19:38	16984-48-8	
Sulfate	**14.9**	mg/L	1.0	0.55	1		11/14/24 19:38	14808-79-8	CH,M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-AM-1D **Lab ID: 60463474032** Collected: 11/01/24 14:25 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**69.2**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 13:13	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 13:13	7440-41-7	
Boron	**7540**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 13:13	7440-42-8	
Calcium	**110000**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 13:13	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 13:13	7440-48-4	
Iron	**5730**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 13:13	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 13:13	7439-92-1	
Lithium	**33.5**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 13:13	7439-93-2	
Magnesium	**13100**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 13:13	7439-95-4	
Manganese	**285**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 13:13	7439-96-5	
Molybdenum	**329**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 13:13	7439-98-7	
Potassium	**8560**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 13:13	7440-09-7	
Sodium	**106000**	ug/L	500	115	1	11/04/24 13:07	11/18/24 13:13	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 16:04	7440-36-0	
Arsenic	**4.0**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 16:04	7440-38-2	
Cadmium	**0.12J**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 16:04	7440-43-9	
Chromium	**0.64J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 14:02	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 16:04	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 16:04	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/14/24 15:22	11/15/24 10:10	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**175**	mg/L	20.0	10.5	1		11/13/24 18:28		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**732**	mg/L	13.3	13.3	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**55.2**	mg/L	20.0	10.5	20		11/14/24 21:49	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/14/24 20:53	16984-48-8	
Sulfate	**358**	mg/L	20.0	11.0	20		11/14/24 21:49	14808-79-8	CH

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-1S **Lab ID: 60463474016** Collected: 10/30/24 09:45 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**125**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:30	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:30	7440-41-7	
Boron	**772**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:30	7440-42-8	
Calcium	**99700**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:30	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:30	7440-48-4	
Iron	**663**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:30	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:30	7439-92-1	
Lithium	**13.1**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:30	7439-93-2	
Magnesium	**16000**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:30	7439-95-4	
Manganese	**454**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:30	7439-96-5	
Molybdenum	**3.0J**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:30	7439-98-7	
Potassium	**4330**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:30	7440-09-7	
Sodium	**7700**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:30	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:33	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:33	7440-38-2	
Cadmium	**0.063J**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:33	7440-43-9	
Chromium	**1.7**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:33	7440-47-3	
Selenium	**3.0**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:33	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:16	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**314**	mg/L	20.0	10.5	1		11/11/24 17:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**364**	mg/L	10.0	10.0	1		11/06/24 16:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.1**	mg/L	1.0	0.53	1		11/13/24 12:39	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 12:39	16984-48-8	
Sulfate	**22.5**	mg/L	10.0	5.5	10		11/13/24 12:58	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-2S **Lab ID: 60463474030** Collected: 11/01/24 13:45 Received: 11/02/24 05:36 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**45.4**	ug/L	5.0	0.64	1	11/04/24 13:07	11/18/24 13:08	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 13:07	11/18/24 13:08	7440-41-7	
Boron	**3490**	ug/L	100	6.4	1	11/04/24 13:07	11/18/24 13:08	7440-42-8	
Calcium	**73800**	ug/L	200	26.9	1	11/04/24 13:07	11/18/24 13:08	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 13:07	11/18/24 13:08	7440-48-4	
Iron	**32.0J**	ug/L	50.0	9.1	1	11/04/24 13:07	11/18/24 13:08	7439-89-6	B
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 13:07	11/18/24 13:08	7439-92-1	
Lithium	**14.4**	ug/L	10.0	3.7	1	11/04/24 13:07	11/18/24 13:08	7439-93-2	
Magnesium	**97.8**	ug/L	50.0	20.1	1	11/04/24 13:07	11/18/24 13:08	7439-95-4	
Manganese	**1.9J**	ug/L	5.0	0.39	1	11/04/24 13:07	11/18/24 13:08	7439-96-5	B
Molybdenum	**209**	ug/L	20.0	1.0	1	11/04/24 13:07	11/18/24 13:08	7439-98-7	
Potassium	**9330**	ug/L	500	69.7	1	11/04/24 13:07	11/18/24 13:08	7440-09-7	
Sodium	**68100**	ug/L	500	115	1	11/04/24 13:07	11/18/24 13:08	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/05/24 09:05	11/27/24 15:59	7440-36-0	
Arsenic	**39.6**	ug/L	1.0	0.13	1	11/05/24 09:05	11/27/24 15:59	7440-38-2	
Cadmium	**0.072J**	ug/L	0.50	0.050	1	11/05/24 09:05	11/27/24 15:59	7440-43-9	
Chromium	**0.33J**	ug/L	1.0	0.30	1	12/02/24 10:42	12/03/24 13:54	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/05/24 09:05	11/27/24 15:59	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/05/24 09:05	11/27/24 15:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/14/24 15:22	11/15/24 10:06	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**41.0**	mg/L	20.0	10.5	1		11/13/24 18:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**506**	mg/L	10.0	10.0	1		11/07/24 14:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**20.0**	mg/L	1.0	0.53	1		11/14/24 19:00	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/14/24 19:00	16984-48-8	
Sulfate	**326**	mg/L	20.0	11.0	20		11/14/24 19:19	14808-79-8	CH

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-4S **Lab ID: 60463474017** Collected: 10/30/24 16:25 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**161**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:32	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:32	7440-41-7	
Boron	**2950**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:32	7440-42-8	
Calcium	**168000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:32	7440-70-2	
Cobalt	**2.6J**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:32	7440-48-4	
Iron	**5850**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:32	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:32	7439-92-1	
Lithium	**32.2**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:32	7439-93-2	
Magnesium	**26900**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:32	7439-95-4	
Manganese	**1540**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:32	7439-96-5	
Molybdenum	**62.3**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:32	7439-98-7	
Potassium	**6830**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:32	7440-09-7	
Sodium	**64800**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:32	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/15/24 13:24	12/03/24 13:02	7440-36-0	
Arsenic	**18.1**	ug/L	1.0	0.13	1	11/15/24 13:24	12/03/24 13:02	7440-38-2	
Cadmium	**0.057J**	ug/L	0.50	0.050	1	11/15/24 13:24	12/03/24 13:02	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.30	1	11/15/24 13:24	12/03/24 13:02	7440-47-3	
Selenium	**0.41J**	ug/L	1.0	0.18	1	11/15/24 13:24	12/03/24 13:02	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/15/24 13:24	12/03/24 13:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:24	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**506**	mg/L	40.0	21.0	2		11/11/24 17:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**777**	mg/L	13.3	13.3	1		11/06/24 16:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**86.4**	mg/L	20.0	10.5	20		11/13/24 13:36	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 13:17	16984-48-8	
Sulfate	**106**	mg/L	20.0	11.0	20		11/13/24 13:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-7S **Lab ID: 60463474003** Collected: 10/29/24 11:45 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**222**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:28	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:28	7440-41-7	
Boron	**4870**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:28	7440-42-8	
Calcium	**162000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:28	7440-70-2	
Cobalt	**2.5J**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:28	7440-48-4	
Iron	**2840**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:28	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:28	7439-92-1	
Lithium	**39.9**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:28	7439-93-2	
Magnesium	**30400**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:28	7439-95-4	
Manganese	**966**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:28	7439-96-5	
Molybdenum	**69.9**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:28	7439-98-7	
Potassium	**6820**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:28	7440-09-7	
Sodium	**38200**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:28	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:38	7440-36-0	
Arsenic	**11.7**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:38	7440-38-2	
Cadmium	**0.097J**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:38	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:38	7440-47-3	
Selenium	**2.0**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:38	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:29	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**473**	mg/L	20.0	10.5	1		11/11/24 15:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**697**	mg/L	13.3	13.3	1		11/05/24 13:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**9.2**	mg/L	1.0	0.53	1		11/20/24 16:55	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 16:55	16984-48-8	
Sulfate	**149**	mg/L	20.0	11.0	20		11/20/24 17:14	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-8S **Lab ID: 60463474004** Collected: 10/29/24 13:02 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**161**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:29	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:29	7440-41-7	
Boron	**721**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:29	7440-42-8	
Calcium	**82300**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:29	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:29	7440-48-4	
Iron	**426**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:29	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:29	7439-92-1	
Lithium	**16.6**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:29	7439-93-2	
Magnesium	**12900**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:29	7439-95-4	
Manganese	**71.2**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:29	7439-96-5	
Molybdenum	**53.5**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:29	7439-98-7	
Potassium	**4360**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:29	7440-09-7	
Sodium	**26700**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:29	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:43	7440-36-0	
Arsenic	**3.0**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:43	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:43	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:43	7440-47-3	
Selenium	**1.5**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:43	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:43	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:31	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**294**	mg/L	20.0	10.5	1		11/11/24 15:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**349**	mg/L	10.0	10.0	1		11/05/24 13:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**1.2**	mg/L	1.0	0.53	1		11/20/24 17:32	16887-00-6	
Fluoride	**0.21**	mg/L	0.20	0.12	1		11/20/24 17:32	16984-48-8	
Sulfate	**24.7**	mg/L	20.0	11.0	20		11/20/24 17:51	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-BMW-1S **Lab ID: 60463474001** Collected: 10/28/24 11:42 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**329**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:24	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:24	7440-41-7	
Boron	**84.8J**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:24	7440-42-8	
Calcium	**202000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:24	7440-70-2	
Cobalt	**1.7J**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:24	7440-48-4	
Iron	**27000**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:24	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:24	7439-92-1	
Lithium	**17.2**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:24	7439-93-2	
Magnesium	**36700**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:24	7439-95-4	
Manganese	**2570**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:24	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:24	7439-98-7	
Potassium	**5040**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:24	7440-09-7	
Sodium	**10900**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:24	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:30	7440-36-0	
Arsenic	**18.0**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:30	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:30	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:30	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:30	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:24	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**628**	mg/L	40.0	21.0	2		11/11/24 14:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**744**	mg/L	13.3	13.3	1		11/04/24 14:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.5**	mg/L	1.0	0.53	1		11/20/24 15:01	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 15:01	16984-48-8	
Sulfate	**95.1**	mg/L	10.0	5.5	10		11/20/24 15:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-BMW-2S **Lab ID: 60463474002** Collected: 10/28/24 09:40 Received: 10/30/24 06:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**236**	ug/L	5.0	0.64	1	10/31/24 09:09	11/14/24 11:26	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	10/31/24 09:09	11/14/24 11:26	7440-41-7	
Boron	**45.4J**	ug/L	100	6.4	1	10/31/24 09:09	11/14/24 11:26	7440-42-8	
Calcium	**121000**	ug/L	200	26.9	1	10/31/24 09:09	11/14/24 11:26	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	10/31/24 09:09	11/14/24 11:26	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	10/31/24 09:09	11/14/24 11:26	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	10/31/24 09:09	11/14/24 11:26	7439-92-1	
Lithium	**17.6**	ug/L	10.0	3.7	1	10/31/24 09:09	11/14/24 11:26	7439-93-2	
Magnesium	**17600**	ug/L	50.0	20.1	1	10/31/24 09:09	11/14/24 11:26	7439-95-4	
Manganese	**3.4J**	ug/L	5.0	0.39	1	10/31/24 09:09	11/14/24 11:26	7439-96-5	
Molybdenum	**1.9J**	ug/L	20.0	1.0	1	10/31/24 09:09	11/14/24 11:26	7439-98-7	
Potassium	**5320**	ug/L	500	69.7	1	10/31/24 09:09	11/14/24 11:26	7440-09-7	
Sodium	**4600**	ug/L	500	115	1	10/31/24 09:09	11/14/24 11:26	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.20J**	ug/L	1.0	0.12	1	11/01/24 09:00	11/27/24 13:32	7440-36-0	
Arsenic	**0.41J**	ug/L	1.0	0.13	1	11/01/24 09:00	11/27/24 13:32	7440-38-2	
Cadmium	**0.051J**	ug/L	0.50	0.050	1	11/01/24 09:00	11/27/24 13:32	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	11/01/24 09:00	11/27/24 13:32	7440-47-3	
Selenium	**7.0**	ug/L	1.0	0.18	1	11/01/24 09:00	11/27/24 13:32	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/01/24 09:00	11/27/24 13:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/22/24 09:30	11/22/24 14:27	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**353**	mg/L	20.0	10.5	1		11/11/24 14:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**436**	mg/L	10.0	10.0	1		11/04/24 14:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**1.8**	mg/L	1.0	0.53	1		11/20/24 15:39	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/20/24 15:39	16984-48-8	
Sulfate	**13.7**	mg/L	1.0	0.55	1		11/20/24 15:39	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-26 **Lab ID: 60463474019** Collected: 10/30/24 14:38 Received: 11/01/24 05:52 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**226**	ug/L	5.0	0.64	1	11/04/24 08:52	11/14/24 17:37	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	11/04/24 08:52	11/14/24 17:37	7440-41-7	
Boron	**61.4J**	ug/L	100	6.4	1	11/04/24 08:52	11/14/24 17:37	7440-42-8	
Calcium	**157000**	ug/L	200	26.9	1	11/04/24 08:52	11/14/24 17:37	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	11/04/24 08:52	11/14/24 17:37	7440-48-4	
Iron	**46.2J**	ug/L	50.0	9.1	1	11/04/24 08:52	11/14/24 17:37	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	11/04/24 08:52	11/14/24 17:37	7439-92-1	
Lithium	**28.6**	ug/L	10.0	3.7	1	11/04/24 08:52	11/14/24 17:37	7439-93-2	
Magnesium	**27600**	ug/L	50.0	20.1	1	11/04/24 08:52	11/14/24 17:37	7439-95-4	
Manganese	**79.2**	ug/L	5.0	0.39	1	11/04/24 08:52	11/14/24 17:37	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/04/24 08:52	11/14/24 17:37	7439-98-7	
Potassium	**4900**	ug/L	500	69.7	1	11/04/24 08:52	11/14/24 17:37	7440-09-7	
Sodium	**7530**	ug/L	500	115	1	11/04/24 08:52	11/14/24 17:37	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.12J**	ug/L	1.0	0.12	1	11/04/24 08:30	11/27/24 14:36	7440-36-0	
Arsenic	**0.47J**	ug/L	1.0	0.13	1	11/04/24 08:30	11/27/24 14:36	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	11/04/24 08:30	11/27/24 14:36	7440-43-9	
Chromium	**2.1**	ug/L	1.0	0.30	1	11/04/24 08:30	11/27/24 14:36	7440-47-3	
Selenium	**6.2**	ug/L	1.0	0.18	1	11/04/24 08:30	11/27/24 14:36	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	11/04/24 08:30	11/27/24 14:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	11/13/24 15:31	11/14/24 11:28	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**469**	mg/L	20.0	10.5	1		11/13/24 14:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**572**	mg/L	13.3	13.3	1		11/06/24 16:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**17.7**	mg/L	1.0	0.53	1		11/13/24 14:32	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/13/24 14:32	16984-48-8	
Sulfate	**28.5**	mg/L	20.0	11.0	20		11/13/24 14:51	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916232
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025

METHOD BLANK: 3627404 Matrix: Water
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	11/14/24 11:05	

LABORATORY CONTROL SAMPLE: 3627405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627406 3627407

Parameter	Units	60463710002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L		5	5	4.9	5.0	99	99	75-125	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916234
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474026, 60463474027

METHOD BLANK: 3627417 Matrix: Water
Associated Lab Samples: 60463474026, 60463474027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	11/14/24 13:02	

LABORATORY CONTROL SAMPLE: 3627418

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627419 3627420

Parameter	Units	60463456005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L		5	5	4.5	4.7	91	93	75-125	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916446
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3628566 Matrix: Water
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	11/15/24 09:50	

LABORATORY CONTROL SAMPLE: 3628567

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3628568 3628569

Parameter	Units	60463638002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.0	4.9	100	98	75-125	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 917263
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005, 60463474007, 60463474008, 60463474011, 60463474012

METHOD BLANK: 3632065 Matrix: Water
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005, 60463474007, 60463474008, 60463474011, 60463474012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	11/22/24 14:04	

LABORATORY CONTROL SAMPLE: 3632066

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632067 3632068

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.1	5.0	103	100	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632069 3632070

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.2	5.0	103	99	75-125	4	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 917265
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60463474006

METHOD BLANK: 3632071 Matrix: Water
Associated Lab Samples: 60463474006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	11/22/24 13:00	

LABORATORY CONTROL SAMPLE: 3632072

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632073 3632074

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	5.1	5.2	102	105	75-125	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3632075 3632076

Parameter	Units	60464396010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	1.7	1.6	34	33	75-125	5	20	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 914554
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005

METHOD BLANK: 3620890 Matrix: Water
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/14/24 10:57	
Beryllium	ug/L	<0.12	1.0	0.12	11/14/24 10:57	
Boron	ug/L	<6.4	100	6.4	11/14/24 10:57	
Calcium	ug/L	36.1J	200	26.9	11/14/24 10:57	
Cobalt	ug/L	<1.2	5.0	1.2	11/14/24 10:57	
Iron	ug/L	<9.1	50.0	9.1	11/14/24 10:57	
Lead	ug/L	<3.8	10.0	3.8	11/14/24 10:57	
Lithium	ug/L	<3.7	10.0	3.7	11/14/24 10:57	
Magnesium	ug/L	<20.1	50.0	20.1	11/14/24 10:57	
Manganese	ug/L	<0.39	5.0	0.39	11/14/24 10:57	
Molybdenum	ug/L	<1.0	20.0	1.0	11/14/24 10:57	
Potassium	ug/L	<69.7	500	69.7	11/14/24 10:57	
Sodium	ug/L	235J	500	115	11/14/24 10:57	

LABORATORY CONTROL SAMPLE: 3620891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	914	91	85-115	
Beryllium	ug/L	1000	936	94	85-115	
Boron	ug/L	1000	865	87	85-115	
Calcium	ug/L	10000	9330	93	85-115	
Cobalt	ug/L	1000	947	95	85-115	
Iron	ug/L	10000	9170	92	85-115	
Lead	ug/L	1000	937	94	85-115	
Lithium	ug/L	1000	907	91	85-115	
Magnesium	ug/L	10000	9050	90	85-115	
Manganese	ug/L	1000	945	95	85-115	
Molybdenum	ug/L	1000	930	93	85-115	
Potassium	ug/L	10000	9000	90	85-115	
Sodium	ug/L	10000	9460	95	85-115	

MATRIX SPIKE SAMPLE: 3620894

Parameter	Units	60463456004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L		1000	962	96	70-130	
Beryllium	ug/L		1000	970	97	70-130	
Boron	ug/L	<6.4	1000	906	90	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

MATRIX SPIKE SAMPLE: 3620894

Parameter	Units	60463456004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	50.8J	10000	9750	97	70-130	
Cobalt	ug/L		1000	993	99	70-130	
Iron	ug/L	<9.1	10000	9680	97	70-130	
Lead	ug/L		1000	979	98	70-130	
Lithium	ug/L		1000	954	95	70-130	
Magnesium	ug/L	<20.1	10000	9350	93	70-130	
Manganese	ug/L	<0.39	1000	990	99	70-130	
Molybdenum	ug/L		1000	976	98	70-130	
Potassium	ug/L	<69.7	10000	9350	93	70-130	
Sodium	ug/L	160J	10000	9880	97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621100 3621101

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	1440	1000	1000	2410	2490	97	105	70-130	3	20	
Beryllium	ug/L	<0.12	1000	1000	1020	1060	102	106	70-130	4	20	
Boron	ug/L	59.1J	1000	1000	1010	1030	95	97	70-130	2	20	
Calcium	ug/L	139000	10000	10000	148000	153000	89	137	70-130	3	20	M1
Cobalt	ug/L	<1.2	1000	1000	988	1030	99	103	70-130	4	20	
Iron	ug/L	8290	10000	10000	18000	18900	97	106	70-130	5	20	
Lead	ug/L	<3.8	1000	1000	980	1020	98	102	70-130	4	20	
Lithium	ug/L	23.2	1000	1000	1030	1050	100	103	70-130	3	20	
Magnesium	ug/L	34100	10000	10000	43800	45300	97	111	70-130	3	20	
Manganese	ug/L	241	1000	1000	1240	1290	100	105	70-130	4	20	
Molybdenum	ug/L	<1.0	1000	1000	1010	1050	101	105	70-130	4	20	
Potassium	ug/L	4140	10000	10000	14200	14500	100	103	70-130	2	20	
Sodium	ug/L	10900	10000	10000	21000	21500	100	105	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 914616
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474006, 60463474007, 60463474008, 60463474011, 60463474012

METHOD BLANK: 3621105 Matrix: Water
Associated Lab Samples: 60463474006, 60463474007, 60463474008, 60463474011, 60463474012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/13/24 10:47	
Beryllium	ug/L	<0.12	1.0	0.12	11/13/24 10:47	
Boron	ug/L	<6.4	100	6.4	11/13/24 10:47	
Calcium	ug/L	<26.9	200	26.9	11/13/24 10:47	
Cobalt	ug/L	<1.2	5.0	1.2	11/13/24 10:47	
Iron	ug/L	<9.1	50.0	9.1	11/13/24 10:47	
Lead	ug/L	<3.8	10.0	3.8	11/13/24 10:47	
Lithium	ug/L	<3.7	10.0	3.7	11/13/24 10:47	
Magnesium	ug/L	<20.1	50.0	20.1	11/13/24 10:47	
Manganese	ug/L	<0.39	5.0	0.39	11/13/24 10:47	
Molybdenum	ug/L	<1.0	20.0	1.0	11/13/24 10:47	
Potassium	ug/L	<69.7	500	69.7	11/13/24 10:47	
Sodium	ug/L	<115	500	115	11/13/24 10:47	

LABORATORY CONTROL SAMPLE: 3621106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Beryllium	ug/L	1000	1050	105	85-115	
Boron	ug/L	1000	983	98	85-115	
Calcium	ug/L	10000	10500	105	85-115	
Cobalt	ug/L	1000	1090	109	85-115	
Iron	ug/L	10000	10800	108	85-115	
Lead	ug/L	1000	1070	107	85-115	
Lithium	ug/L	1000	1030	103	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Manganese	ug/L	1000	1090	109	85-115	
Molybdenum	ug/L	1000	1070	107	85-115	
Potassium	ug/L	10000	10100	101	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621107 3621108

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	263	1000	1000	1230	1260	97	100	70-130	2	20	
Beryllium	ug/L	<0.12	1000	1000	1020	1050	102	105	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621107 3621108

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	4440	1000	1000	5260	5400	82	96	70-130	3	20	
Calcium	ug/L	118000	10000	10000	123000	126000	56	78	70-130	2	20	M1
Cobalt	ug/L	<1.2	1000	1000	1020	1050	102	105	70-130	3	20	
Iron	ug/L	8840	10000	10000	18600	19300	98	105	70-130	4	20	
Lead	ug/L	<3.8	1000	1000	996	1020	100	102	70-130	3	20	
Lithium	ug/L	35.8	1000	1000	1030	1070	99	104	70-130	5	20	
Magnesium	ug/L	24400	10000	10000	33300	33900	89	95	70-130	2	20	
Manganese	ug/L	1390	1000	1000	2350	2410	96	102	70-130	3	20	
Molybdenum	ug/L	207	1000	1000	1230	1270	103	106	70-130	3	20	
Potassium	ug/L	5680	10000	10000	15400	16000	97	104	70-130	4	20	
Sodium	ug/L	55800	10000	10000	63700	65500	79	97	70-130	3	20	

MATRIX SPIKE SAMPLE: 3621109

Parameter	Units	60463474011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	381	1000	1310	93	70-130	
Beryllium	ug/L	<0.12	1000	1000	100	70-130	
Boron	ug/L	6720	1000	7540	82	70-130	
Calcium	ug/L	124000	10000	131000	66	70-130	M1
Cobalt	ug/L	<1.2	1000	994	99	70-130	
Iron	ug/L	5580	10000	15400	98	70-130	
Lead	ug/L	<3.8	1000	977	98	70-130	
Lithium	ug/L	22.6	1000	1000	98	70-130	
Magnesium	ug/L	31800	10000	40500	87	70-130	
Manganese	ug/L	343	1000	1320	98	70-130	
Molybdenum	ug/L	3.4J	1000	1010	101	70-130	
Potassium	ug/L	4770	10000	14700	99	70-130	
Sodium	ug/L	28100	10000	37000	89	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 914962
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027

METHOD BLANK: 3622660 Matrix: Water
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/18/24 11:37	
Beryllium	ug/L	<0.12	1.0	0.12	11/18/24 11:37	
Boron	ug/L	<6.4	100	6.4	11/18/24 11:37	
Calcium	ug/L	116J	200	26.9	11/18/24 11:37	
Cobalt	ug/L	<1.2	5.0	1.2	11/18/24 11:37	
Iron	ug/L	<9.1	50.0	9.1	11/18/24 11:37	
Lead	ug/L	<3.8	10.0	3.8	11/18/24 11:37	
Lithium	ug/L	<3.7	10.0	3.7	11/18/24 11:37	
Magnesium	ug/L	<20.1	50.0	20.1	11/18/24 11:37	
Manganese	ug/L	<0.39	5.0	0.39	11/18/24 11:37	
Molybdenum	ug/L	<1.0	20.0	1.0	11/18/24 11:37	
Potassium	ug/L	<69.7	500	69.7	11/18/24 11:37	
Sodium	ug/L	<115	500	115	11/18/24 11:37	

LABORATORY CONTROL SAMPLE: 3622661

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	973	97	85-115	
Beryllium	ug/L	1000	982	98	85-115	
Boron	ug/L	1000	922	92	85-115	
Calcium	ug/L	10000	10000	100	85-115	
Cobalt	ug/L	1000	992	99	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1000	100	85-115	
Lithium	ug/L	1000	960	96	85-115	
Magnesium	ug/L	10000	9730	97	85-115	
Manganese	ug/L	1000	987	99	85-115	
Molybdenum	ug/L	1000	957	96	85-115	
Potassium	ug/L	10000	9620	96	85-115	
Sodium	ug/L	10000	10000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622662 3622663

Parameter	Units	60463713002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	ND	1000	1000	990	1000	99	100	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622662 3622663

Parameter	Units	60463713002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	ND	1000	1000	1000	1010	100	101	70-130	1	20	
Boron	ug/L	ND	1000	1000	946	963	94	95	70-130	2	20	
Calcium	ug/L	ND	10000	10000	10200	10400	101	102	70-130	1	20	
Cobalt	ug/L	ND	1000	1000	1010	1030	101	103	70-130	1	20	
Iron	ug/L	101	10000	10000	9910	10100	98	100	70-130	2	20	
Lead	ug/L	ND	1000	1000	1020	1020	102	102	70-130	1	20	
Lithium	ug/L	ND	1000	1000	980	998	98	100	70-130	2	20	
Magnesium	ug/L	ND	10000	10000	9910	10000	99	100	70-130	1	20	
Manganese	ug/L	ND	1000	1000	1000	1010	100	101	70-130	1	20	
Molybdenum	ug/L	ND	1000	1000	979	987	98	99	70-130	1	20	
Potassium	ug/L	ND	10000	10000	9820	10000	97	99	70-130	2	20	
Sodium	ug/L	1260	10000	10000	11300	11400	101	102	70-130	1	20	

MATRIX SPIKE SAMPLE: 3622664

Parameter	Units	60463474017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	161	1000	1120	96	70-130	
Beryllium	ug/L	<0.12	1000	995	99	70-130	
Boron	ug/L	2950	1000	3890	94	70-130	
Calcium	ug/L	168000	10000	179000	106	70-130	
Cobalt	ug/L	2.6J	1000	997	99	70-130	
Iron	ug/L	5850	10000	15800	100	70-130	
Lead	ug/L	<3.8	1000	970	97	70-130	
Lithium	ug/L	32.2	1000	1010	97	70-130	
Magnesium	ug/L	26900	10000	36600	96	70-130	
Manganese	ug/L	1540	1000	2520	98	70-130	
Molybdenum	ug/L	62.3	1000	1050	98	70-130	
Potassium	ug/L	6830	10000	16600	97	70-130	
Sodium	ug/L	64800	10000	74500	97	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915063
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3622965 Matrix: Water
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/18/24 12:42	
Beryllium	ug/L	<0.12	1.0	0.12	11/18/24 12:42	
Boron	ug/L	<6.4	100	6.4	11/18/24 12:42	
Calcium	ug/L	157J	200	26.9	11/18/24 12:42	
Cobalt	ug/L	<1.2	5.0	1.2	11/18/24 12:42	
Iron	ug/L	25.6J	50.0	9.1	11/18/24 12:42	
Lead	ug/L	<3.8	10.0	3.8	11/18/24 12:42	
Lithium	ug/L	<3.7	10.0	3.7	11/18/24 12:42	
Magnesium	ug/L	<20.1	50.0	20.1	11/18/24 12:42	
Manganese	ug/L	0.42J	5.0	0.39	11/18/24 12:42	
Molybdenum	ug/L	<1.0	20.0	1.0	11/18/24 12:42	
Potassium	ug/L	<69.7	500	69.7	11/18/24 12:42	
Sodium	ug/L	<115	500	115	11/18/24 12:42	

LABORATORY CONTROL SAMPLE: 3622966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	983	98	85-115	
Beryllium	ug/L	1000	999	100	85-115	
Boron	ug/L	1000	932	93	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1020	102	85-115	
Lithium	ug/L	1000	981	98	85-115	
Magnesium	ug/L	10000	9790	98	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Molybdenum	ug/L	1000	996	100	85-115	
Potassium	ug/L	10000	9720	97	85-115	
Sodium	ug/L	10000	9940	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622967 3622968

Parameter	Units	60463453012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	507	1000	1000	1480	1330	97	82	70-130	11	20	
Beryllium	ug/L	<0.12	1000	1000	1010	843	101	84	70-130	18	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622967 3622968

Parameter	Units	60463453012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	427	1000	1000	1380	1220	95	79	70-130	12	20	
Calcium	ug/L	149000	10000	10000	159000	160000	96	108	70-130	1	20	
Cobalt	ug/L	<1.2	1000	1000	998	823	100	82	70-130	19	20	
Iron	ug/L	20000	10000	10000	29700	28600	96	86	70-130	4	20	
Lead	ug/L	<3.8	1000	1000	981	820	98	82	70-130	18	20	
Lithium	ug/L	25.8	1000	1000	1010	850	99	82	70-130	17	20	
Magnesium	ug/L	35800	10000	10000	45700	44500	98	87	70-130	3	20	
Manganese	ug/L	449	1000	1000	1450	1280	100	83	70-130	13	20	
Molybdenum	ug/L	1.7J	1000	1000	1010	830	101	83	70-130	20	20	
Potassium	ug/L	6170	10000	10000	16100	14500	100	83	70-130	11	20	
Sodium	ug/L	19500	10000	10000	29300	27800	98	83	70-130	5	20	

MATRIX SPIKE SAMPLE: 3622969

Parameter	Units	60463474031 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	584	1000	1580	100	70-130	
Beryllium	ug/L	<0.12	1000	1050	105	70-130	
Boron	ug/L	316	1000	1280	96	70-130	
Calcium	ug/L	187000	10000	196000	90	70-130	
Cobalt	ug/L	2.4J	1000	1030	103	70-130	
Iron	ug/L	7160	10000	17500	104	70-130	
Lead	ug/L	<3.8	1000	1010	101	70-130	
Lithium	ug/L	36.6	1000	1060	102	70-130	
Magnesium	ug/L	37800	10000	47700	99	70-130	
Manganese	ug/L	1130	1000	2140	102	70-130	
Molybdenum	ug/L	1.8J	1000	1040	104	70-130	
Potassium	ug/L	7070	10000	17400	103	70-130	
Sodium	ug/L	49800	10000	60000	102	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 914802
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005

METHOD BLANK: 3621806 Matrix: Water
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	11/27/24 12:58	
Arsenic	ug/L	<0.13	1.0	0.13	11/27/24 12:58	
Cadmium	ug/L	<0.050	0.50	0.050	11/27/24 12:58	
Chromium	ug/L	<0.30	1.0	0.30	11/27/24 12:58	
Selenium	ug/L	<0.18	1.0	0.18	11/27/24 12:58	
Thallium	ug/L	<0.14	1.0	0.14	11/27/24 12:58	

LABORATORY CONTROL SAMPLE: 3621807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.0	98	85-115	
Arsenic	ug/L	40	39.0	98	85-115	
Cadmium	ug/L	40	39.3	98	85-115	
Chromium	ug/L	40	40.1	100	85-115	
Selenium	ug/L	40	40.2	100	85-115	
Thallium	ug/L	40	38.3	96	85-115	

MATRIX SPIKE SAMPLE: 3621808

Parameter	Units	60463474003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	38.4	96	70-130	
Arsenic	ug/L	11.7	40	50.5	97	70-130	
Cadmium	ug/L	0.097J	40	37.3	93	70-130	
Chromium	ug/L	<0.30	40	38.3	95	70-130	
Selenium	ug/L	2.0	40	39.6	94	70-130	
Thallium	ug/L	<0.14	40	39.7	99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621809 3621810

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	38.0	38.3	95	96	70-130	1	20	
Arsenic	ug/L	1.2	40	40	39.6	39.3	96	95	70-130	1	20	
Cadmium	ug/L	<0.050	40	40	37.3	37.5	93	94	70-130	0	20	
Chromium	ug/L	<0.30	40	40	39.2	38.9	98	97	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.7	37.9	94	95	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621809 3621810

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Thallium	ug/L	<0.14	40	40	39.5	39.4	99	99	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 914966
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474015, 60463474016, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027

METHOD BLANK: 3622678 Matrix: Water
Associated Lab Samples: 60463474015, 60463474016, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	11/27/24 14:00	
Arsenic	ug/L	<0.13	1.0	0.13	11/27/24 14:00	
Cadmium	ug/L	<0.050	0.50	0.050	11/27/24 14:00	
Chromium	ug/L	<0.30	1.0	0.30	11/27/24 14:00	
Selenium	ug/L	<0.18	1.0	0.18	11/27/24 14:00	
Thallium	ug/L	<0.14	1.0	0.14	11/27/24 14:00	

LABORATORY CONTROL SAMPLE: 3622679

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.7	99	85-115	
Arsenic	ug/L	40	39.8	100	85-115	
Cadmium	ug/L	40	40.8	102	85-115	
Chromium	ug/L	40	41.5	104	85-115	
Selenium	ug/L	40	42.9	107	85-115	
Thallium	ug/L	40	37.8	94	85-115	

MATRIX SPIKE SAMPLE: 3622680

Parameter	Units	60463474027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	0.16J	40	38.7	96	70-130	
Arsenic	ug/L	0.49J	40	39.4	97	70-130	
Cadmium	ug/L	0.089J	40	38.0	95	70-130	
Chromium	ug/L	1.7	40	41.0	98	70-130	
Selenium	ug/L	8.5	40	46.1	94	70-130	
Thallium	ug/L	<0.14	40	40.0	100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622681 3622682

Parameter	Units	60463456005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L		40	40	38.3	38.2	95	95	70-130	0	20	
Arsenic	ug/L		40	40	39.0	38.3	96	95	70-130	2	20	
Cadmium	ug/L		40	40	37.7	37.4	94	93	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622681 3622682

Parameter	Units	60463456005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L		40	40	41.7	40.7	99	97	70-130	2	20	
Selenium	ug/L		40	40	38.6	37.7	95	93	70-130	2	20	
Thallium	ug/L		40	40	39.6	38.9	99	97	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915008
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474006, 60463474007, 60463474008, 60463474011, 60463474012

METHOD BLANK: 3622808 Matrix: Water
Associated Lab Samples: 60463474006, 60463474007, 60463474008, 60463474011, 60463474012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	11/27/24 14:58	
Arsenic	ug/L	<0.13	1.0	0.13	11/27/24 14:58	
Cadmium	ug/L	<0.050	0.50	0.050	11/27/24 14:58	
Selenium	ug/L	<0.18	1.0	0.18	11/27/24 14:58	
Thallium	ug/L	<0.14	1.0	0.14	11/27/24 14:58	

LABORATORY CONTROL SAMPLE: 3622809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.4	98	85-115	
Arsenic	ug/L	40	38.3	96	85-115	
Cadmium	ug/L	40	39.7	99	85-115	
Selenium	ug/L	40	39.0	97	85-115	
Thallium	ug/L	40	38.7	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622810 3622811

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	38.4	38.7	96	97	70-130	1	20	
Arsenic	ug/L	0.36J	40	40	38.8	38.8	96	96	70-130	0	20	
Cadmium	ug/L	0.074J	40	40	37.5	37.8	93	94	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.5	37.4	94	93	70-130	0	20	
Thallium	ug/L	<0.14	40	40	39.8	40.2	100	100	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915093
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3623041 Matrix: Water
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	11/27/24 15:27	
Arsenic	ug/L	<0.13	1.0	0.13	11/27/24 15:27	
Cadmium	ug/L	<0.050	0.50	0.050	11/27/24 15:27	
Selenium	ug/L	<0.18	1.0	0.18	11/27/24 15:27	
Thallium	ug/L	<0.14	1.0	0.14	11/27/24 15:27	

LABORATORY CONTROL SAMPLE: 3623042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.7	97	85-115	
Arsenic	ug/L	40	37.8	94	85-115	
Cadmium	ug/L	40	38.9	97	85-115	
Selenium	ug/L	40	39.2	98	85-115	
Thallium	ug/L	40	37.5	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3623043 3623044

Parameter	Units	60463453013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	39.2	38.6	98	96	70-130	2	20	
Arsenic	ug/L	1.9	40	40	40.9	40.6	97	97	70-130	1	20	
Cadmium	ug/L	0.099J	40	40	38.4	37.4	96	93	70-130	2	20	
Selenium	ug/L	<0.18	40	40	38.0	37.3	95	93	70-130	2	20	
Thallium	ug/L	<0.14	40	40	40.3	39.7	101	99	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916601
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474017, 60463474018

METHOD BLANK: 3629236 Matrix: Water
Associated Lab Samples: 60463474017, 60463474018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	12/03/24 12:56	
Arsenic	ug/L	<0.13	1.0	0.13	12/03/24 12:56	
Cadmium	ug/L	<0.050	0.50	0.050	12/03/24 12:56	
Chromium	ug/L	<0.30	1.0	0.30	12/03/24 12:56	
Selenium	ug/L	<0.18	1.0	0.18	12/03/24 12:56	
Thallium	ug/L	<0.14	1.0	0.14	12/03/24 12:56	

LABORATORY CONTROL SAMPLE: 3629237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.7	102	85-115	
Arsenic	ug/L	40	40.5	101	85-115	
Cadmium	ug/L	40	41.9	105	85-115	
Chromium	ug/L	40	42.3	106	85-115	
Selenium	ug/L	40	40.8	102	85-115	
Thallium	ug/L	40	39.5	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629238 3629239

Parameter	Units	60463474017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	37.7	34.1	94	85	70-130	10	20	
Arsenic	ug/L	18.1	40	40	53.5	48.8	89	77	70-130	9	20	
Cadmium	ug/L	0.057J	40	40	37.2	33.8	93	84	70-130	10	20	
Chromium	ug/L	0.38J	40	40	37.3	33.9	92	84	70-130	10	20	
Selenium	ug/L	0.41J	40	40	35.9	33.7	89	83	70-130	6	20	
Thallium	ug/L	<0.14	40	40	38.4	34.5	96	86	70-130	11	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 918123
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474006, 60463474007, 60463474008, 60463474011, 60463474012, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3635783 Matrix: Water
Associated Lab Samples: 60463474006, 60463474007, 60463474008, 60463474011, 60463474012, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	ug/L	<0.30	1.0	0.30	12/03/24 13:05	

LABORATORY CONTROL SAMPLE: 3635784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	40	40.1	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3635785 3635786

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	0.36J	40	40	38.0	37.9	94	94	70-130	0	20	

MATRIX SPIKE SAMPLE: 3635787

Parameter	Units	60463474029 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	0.33J	40	38.4	95	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915877
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474001, 60463474002, 60463474003

METHOD BLANK: 3626396 Matrix: Water
Associated Lab Samples: 60463474001, 60463474002, 60463474003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/11/24 12:30	

LABORATORY CONTROL SAMPLE: 3626397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3626398

Parameter	Units	60462617001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	278	274	2	10	H1

SAMPLE DUPLICATE: 3626399

Parameter	Units	60463456004 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 LCPA-CA
Pace Project No.: 60463474

QC Batch: 915879
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474011, 60463474012, 60463474016, 60463474017, 60463474018

METHOD BLANK: 3626404 Matrix: Water
Associated Lab Samples: 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474011, 60463474012, 60463474016, 60463474017, 60463474018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/11/24 15:22	

LABORATORY CONTROL SAMPLE: 3626405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	494	99	90-110	

SAMPLE DUPLICATE: 3626406

Parameter	Units	60463474005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	506	510	1	10	

SAMPLE DUPLICATE: 3626407

Parameter	Units	60463474006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	332	325	2	10	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916260
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474015, 60463474019, 60463474020, 60463474021, 60463474022, 60463474024, 60463474025, 60463474026, 60463474027

METHOD BLANK: 3627536 Matrix: Water
Associated Lab Samples: 60463474015, 60463474019, 60463474020, 60463474021, 60463474022, 60463474024, 60463474025, 60463474026, 60463474027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/13/24 14:02	

LABORATORY CONTROL SAMPLE: 3627537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	487	97	90-110	

SAMPLE DUPLICATE: 3627538

Parameter	Units	60463474019 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	469	485	3	10	

SAMPLE DUPLICATE: 3627539

Parameter	Units	60463453008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	439	445	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916261
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474023, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3627540 Matrix: Water
Associated Lab Samples: 60463474023, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/13/24 16:41	

LABORATORY CONTROL SAMPLE: 3627541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	485	97	90-110	

SAMPLE DUPLICATE: 3627542

Parameter	Units	60463456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	415	423	2	10	

SAMPLE DUPLICATE: 3627543

Parameter	Units	60463710002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	648	630	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915015
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474001, 60463474002

METHOD BLANK: 3622827 Matrix: Water
Associated Lab Samples: 60463474001, 60463474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/04/24 14:53	

LABORATORY CONTROL SAMPLE: 3622828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	986	99	80-120	

SAMPLE DUPLICATE: 3622829

Parameter	Units	60463342004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	211	210	0	10	

SAMPLE DUPLICATE: 3622830

Parameter	Units	60463453004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	540	544	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915200
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474003, 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474011, 60463474012

METHOD BLANK: 3623358 Matrix: Water
Associated Lab Samples: 60463474003, 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474011, 60463474012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/05/24 13:36	

LABORATORY CONTROL SAMPLE: 3623359

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

SAMPLE DUPLICATE: 3623360

Parameter	Units	60463474005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	536	534	0	10	

SAMPLE DUPLICATE: 3623361

Parameter	Units	60463474006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	613	601	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915374
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474024, 60463474025, 60463474026, 60463474027

METHOD BLANK: 3623979 Matrix: Water
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474024, 60463474025, 60463474026, 60463474027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/06/24 16:21	

LABORATORY CONTROL SAMPLE: 3623980

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

SAMPLE DUPLICATE: 3623981

Parameter	Units	60463589002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	858	840	2	10	

SAMPLE DUPLICATE: 3623982

Parameter	Units	60463453008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	472	498	5	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 915563 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474023, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3624813 Matrix: Water
Associated Lab Samples: 60463474023, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/07/24 14:07	

LABORATORY CONTROL SAMPLE: 3624814

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

SAMPLE DUPLICATE: 3624815

Parameter	Units	60463456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	453	452	0	10	

SAMPLE DUPLICATE: 3624816

Parameter	Units	60463710002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	769	775	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916152
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027

METHOD BLANK: 3627172 Matrix: Water
Associated Lab Samples: 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020, 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/13/24 02:02	
Fluoride	mg/L	<0.12	0.20	0.12	11/13/24 02:02	
Sulfate	mg/L	<0.55	1.0	0.55	11/13/24 02:02	

LABORATORY CONTROL SAMPLE: 3627173

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	2.6	102	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627174 3627175

Parameter	Units	60463456005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.5	5	5	8.3	8.7	96	104	80-120	4	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.5	2.7	99	107	80-120	8	15	
Sulfate	mg/L	7.4	5	5	12.6	13.1	105	114	80-120	4	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627177 3627178

Parameter	Units	60463710002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	10.3	10	10	18.2	18.1	79	79	80-120	0	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	2.3	2.4	93	97	80-120	4	15	
Sulfate	mg/L	95.7	100	100	202	198	107	102	80-120	2	15	

SAMPLE DUPLICATE: 3627176

Parameter	Units	60463456005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.5	4.1	16	15	D6
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	7.4	7.3	1	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

SAMPLE DUPLICATE: 3627179

Parameter	Units	60463710002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	10.3	10.2	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	95.7	94.1	2	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916325
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3627881 Matrix: Water
Associated Lab Samples: 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/14/24 09:43	
Fluoride	mg/L	<0.12	0.20	0.12	11/14/24 09:43	
Sulfate	mg/L	<0.55	1.0	0.55	11/14/24 09:43	

LABORATORY CONTROL SAMPLE: 3627882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	5.4	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627883 3627884

Parameter	Units	60463710004 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	7.3	6.7	103	92	80-120	8	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.8	2.5	109	96	80-120	12	15	
Sulfate	mg/L	30.2	100	100	168	173	138	143	80-120	3	15	M1

MATRIX SPIKE SAMPLE: 3627885

Parameter	Units	60463474031 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	115	100	194	79	80-120	M1
Fluoride	mg/L	<0.12	2.5	2.4	97	80-120	
Sulfate	mg/L	14.9	5	21.4	131	80-120	CH,E,M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 916715
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474007, 60463474008, 60463474011, 60463474012

METHOD BLANK: 3629889 Matrix: Water
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474007, 60463474008, 60463474011, 60463474012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/20/24 09:18	
Fluoride	mg/L	<0.12	0.20	0.12	11/20/24 09:18	
Sulfate	mg/L	<0.55	1.0	0.55	11/20/24 09:18	

LABORATORY CONTROL SAMPLE: 3629890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	101	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	4.6	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629891 3629892

Parameter	Units	60463453001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	42.6	100	100	134	156	92	113	80-120	15	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.2	2.8	88	112	80-120	24	15	R1
Sulfate	mg/L	150	100	100	257	283	106	133	80-120	10	15	M1

MATRIX SPIKE SAMPLE: 3629893

Parameter	Units	60463474007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	31.8	100	125	93	80-120	
Fluoride	mg/L	<0.12	2.5	2.4	95	80-120	
Sulfate	mg/L	532	250	868	134	80-120	M1

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 917017
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60463474005, 60463474006

METHOD BLANK: 3630913 Matrix: Water
Associated Lab Samples: 60463474005, 60463474006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/20/24 02:40	
Fluoride	mg/L	<0.12	0.20	0.12	11/20/24 02:40	
Sulfate	mg/L	<0.55	1.0	0.55	11/20/24 02:40	

LABORATORY CONTROL SAMPLE: 3630914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629886 3629887

Parameter	Units	60463474005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.1	5	5	7.7	7.6	93	90	80-120	2	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.0	2.9	116	114	80-120	2	15	
Sulfate	mg/L	21.5	25	25	45.9	45.9	98	98	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3629888 3630917

Parameter	Units	60463474006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	25.5	100	100	115	134	90	109	80-120	15	15	
Fluoride	mg/L	<0.12	2.5	2.5	3.9	3.4	150	132	80-120	12	15	M1
Sulfate	mg/L	164	100	100	270	296	105	132	80-120	9	15	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3630915 3630919

Parameter	Units	60463453008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	27.6	50	50	67.2	67.1	79	79	80-120	0	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	3.1	2.9	120	115	80-120	4	15	
Sulfate	mg/L	0.61J	5	5	5.8	5.7	104	101	80-120	3	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

SAMPLE DUPLICATE: 3630916

Parameter	Units	60463474005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.1	3.0	1	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	21.5	21.8	2	15	

SAMPLE DUPLICATE: 3630918

Parameter	Units	60463474006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	25.5	22.5	12	15	
Fluoride	mg/L	<0.12	0.14J		15	
Sulfate	mg/L	164	162	1	15	

SAMPLE DUPLICATE: 3630920

Parameter	Units	60463453008 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	27.6	28.7	4	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	0.61J	0.60J		15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-1D **Lab ID: 60463474005** Collected: 10/29/24 09:15 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.52 ± 0.743 (0.978) C:NA T:89%**	pCi/L	11/26/24 13:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.76 ± 0.753 (0.820) C:73% T:86%**	pCi/L	11/25/24 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**4.28 ± 1.50 (1.80)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-3M **Lab ID: 60463474006** Collected: 10/29/24 13:10 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.235 ± 0.604 (1.08) C:NA T:86%**	pCi/L	11/26/24 13:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.01 ± 0.639 (0.847) C:74% T:83%**	pCi/L	11/25/24 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.25 ± 1.24 (1.93)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-3D **Lab ID: 60463474007** Collected: 10/29/24 12:20 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.202 ± 0.685 (1.39) C:NA T:89%**	pCi/L	11/26/24 13:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.04 ± 0.483 (0.806) C:77% T:77%**	pCi/L	11/25/24 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.04 ± 1.17 (2.20)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-4D **Lab ID: 60463474008** Collected: 10/29/24 10:45 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.41 ± 1.02 (1.54) C:NA T:85%**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.76 ± 0.598 (0.844) C:76% T:83%**	pCi/L	11/25/24 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**3.17 ± 1.62 (2.38)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MS-2 **Lab ID: 60463474009** Collected: 10/29/24 13:10 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**92.96 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**90.15 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/25/24 11:07	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MSD-2 **Lab ID: 60463474010** Collected: 10/29/24 13:20 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**104.76 %REC 11.94RPD ± NA (NA) C:NA T:NA**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**71.34 %REC 23.29RPD ± NA (NA) C:NA T:NA**	pCi/L	11/25/24 11:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-DUP-1 **Lab ID: 60463474011** Collected: 10/29/24 08:00 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**2.25 ± 0.845 (0.776) C:NA T:90%**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.13 ± 0.503 (0.808) C:75% T:83%**	pCi/L	11/25/24 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**3.38 ± 1.35 (1.58)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-DUP-2 **Lab ID: 60463474012** Collected: 10/29/24 08:00 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.125 ± 0.549 (1.04) C:NA T:90%**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.947 ± 0.415 (0.665) C:76% T:87%**	pCi/L	11/25/24 11:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.07 ± 0.964 (1.71)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MS-1 **Lab ID: 60463474013** Collected: 10/29/24 09:15 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**115.65 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**71.82 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/25/24 11:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MSD-1 **Lab ID: 60463474014** Collected: 10/29/24 09:15 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**105.04 %REC 9.62RPD ± NA (NA) C:NA T:NA**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**69.25 %REC 3.65RPD ± NA (NA) C:NA T:NA**	pCi/L	11/25/24 11:08	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-AMW-8 **Lab ID: 60463474015** Collected: 10/31/24 11:55 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.596 ± 0.514 (0.764) C:NA T:92%**	pCi/L	11/26/24 14:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.979 ± 0.482 (0.827) C:71% T:82%**	pCi/L	11/25/24 14:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.58 ± 0.996 (1.59)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-24 **Lab ID: 60463474018** Collected: 10/30/24 12:10 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.256 ± 0.390 (0.672) C:NA T:95%**	pCi/L	11/26/24 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.745 ± 0.460 (0.859) C:72% T:81%**	pCi/L	11/25/24 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.00 ± 0.850 (1.53)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-DUP-3 **Lab ID: 60463474020** Collected: 10/30/24 00:00 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.934 ± 0.470 (0.158) C:NA T:96%**	pCi/L	11/26/24 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.14 ± 0.487 (0.765) C:72% T:81%**	pCi/L	11/25/24 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.07 ± 0.957 (0.923)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-FB-1 **Lab ID: 60463474021** Collected: 10/30/24 09:49 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.116 ± 0.679 (1.33) C:NA T:94%**	pCi/L	11/20/24 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.341 ± 0.267 (0.519) C:89% T:94%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.341 ± 0.946 (1.85)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-FB-2 **Lab ID: 60463474022** Collected: 10/30/24 12:48 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.180 ± 0.539 (1.000) C:NA T:91%**	pCi/L	11/20/24 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.522 ± 0.303 (0.537) C:88% T:90%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.702 ± 0.842 (1.54)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-CA-FB-3 **Lab ID: 60463474023** Collected: 10/31/24 12:30 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0667 ± 0.654 (1.30) C:NA T:91%**	pCi/L	11/20/24 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.926 ± 0.367 (0.553) C:94% T:92%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.926 ± 1.02 (1.85)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-33(D) **Lab ID: 60463474024** Collected: 10/30/24 09:24 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.669 (1.28) C:NA T:94%**	pCi/L	11/20/24 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.44 ± 0.509 (0.749) C:94% T:87%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.44 ± 1.18 (2.03)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-34(D) **Lab ID: 60463474025** Collected: 10/30/24 10:40 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.414 ± 0.813 (1.43) C:NA T:87%**	pCi/L	11/20/24 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.796 ± 0.422 (0.755) C:90% T:90%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.21 ± 1.24 (2.19)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-35(D) **Lab ID: 60463474026** Collected: 10/30/24 13:32 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.942 ± 0.815 (1.26) C:NA T:85%**	pCi/L	11/20/24 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.868 ± 0.503 (0.949) C:84% T:84%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.81 ± 1.32 (2.21)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-S-1 **Lab ID: 60463474027** Collected: 10/30/24 15:37 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.967 ± 0.944 (1.51) C:NA T:87%**	pCi/L	11/20/24 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.397 ± 0.343 (0.693) C:88% T:92%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.36 ± 1.29 (2.20)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-2M **Lab ID: 60463474028** Collected: 11/01/24 09:56 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.298 ± 0.652 (1.16) C:NA T:91%**	pCi/L	11/20/24 13:58	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.02 ± 0.392 (0.572) C:90% T:90%**	pCi/L	11/19/24 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.32 ± 1.04 (1.73)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-TP-2D **Lab ID: 60463474029** Collected: 11/01/24 11:51 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.491 ± 0.792 (1.65) C:NA T:85%**	pCi/L	11/20/24 13:58	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.972 ± 0.390 (0.582) C:89% T:88%**	pCi/L	11/19/24 14:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.972 ± 1.18 (2.23)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-AM-1S **Lab ID: 60463474031** Collected: 11/01/24 13:31 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.127 ± 0.770 (1.43) C:NA T:88%**	pCi/L	11/20/24 13:58	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.983 ± 0.405 (0.633) C:89% T:87%**	pCi/L	11/19/24 14:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.11 ± 1.18 (2.06)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-AM-1D **Lab ID: 60463474032** Collected: 11/01/24 14:25 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.186 ± 0.655 (1.32) C:NA T:89%**	pCi/L	11/20/24 13:58	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.34 ± 0.515 (0.822) C:92% T:90%**	pCi/L	11/19/24 14:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.34 ± 1.17 (2.14)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-1S **Lab ID: 60463474016** Collected: 10/30/24 09:45 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.105 ± 0.384 (0.829) C:NA T:97%**	pCi/L	11/26/24 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.02 ± 0.436 (0.677) C:69% T:90%**	pCi/L	11/25/24 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.02 ± 0.820 (1.51)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-2S **Lab ID: 60463474030** Collected: 11/01/24 13:45 Received: 11/02/24 05:36 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.126 ± 0.675 (1.26) C:NA T:92%**	pCi/L	11/20/24 13:58	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.495 ± 0.346 (0.667) C:90% T:89%**	pCi/L	11/19/24 14:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.621 ± 1.02 (1.93)**	pCi/L	11/20/24 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-4S **Lab ID: 60463474017** Collected: 10/30/24 16:25 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.174 ± 0.495 (0.919) C:NA T:90%**	pCi/L	11/26/24 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.431 ± 0.361 (0.713) C:73% T:83%**	pCi/L	11/25/24 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.605 ± 0.856 (1.63)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-7S **Lab ID: 60463474003** Collected: 10/29/24 11:45 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0617 ± 0.716 (1.39) C:NA T:93%**	pCi/L	11/26/24 13:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.709 ± 0.453 (0.858) C:72% T:81%**	pCi/L	11/25/24 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.709 ± 1.17 (2.25)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-LMW-8S **Lab ID: 60463474004** Collected: 10/29/24 13:02 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0528 ± 0.577 (1.13) C:NA T:93%**	pCi/L	11/26/24 13:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.642 ± 0.452 (0.878) C:77% T:83%**	pCi/L	11/25/24 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.642 ± 1.03 (2.01)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-BMW-1S **Lab ID: 60463474001** Collected: 10/28/24 11:42 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.366 ± 0.508 (0.859) C:NA T:93%**	pCi/L	11/26/24 13:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.10 ± 0.661 (0.864) C:76% T:83%**	pCi/L	11/25/24 11:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.47 ± 1.17 (1.72)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-BMW-2S **Lab ID: 60463474002** Collected: 10/28/24 09:40 Received: 10/30/24 06:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.115 ± 0.477 (0.910) C:NA T:96%**	pCi/L	11/26/24 13:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.575 ± 0.403 (0.781) C:74% T:87%**	pCi/L	11/25/24 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.690 ± 0.880 (1.69)**	pCi/L	11/27/24 10:44	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Sample: L-MW-26 **Lab ID: 60463474019** Collected: 10/30/24 14:38 Received: 11/01/24 05:52 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.337 ± 0.350 (0.522) C:NA T:95%**	pCi/L	11/26/24 14:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.425 ± 0.398 (0.814) C:74% T:89%**	pCi/L	11/25/24 14:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.762 ± 0.748 (1.34)**	pCi/L	11/27/24 10:44	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 708089
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474009, 60463474010, 60463474011, 60463474012, 60463474013, 60463474014, 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020

METHOD BLANK: 3447542
Matrix: Water
Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474009, 60463474010, 60463474011, 60463474012, 60463474013, 60463474014, 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.686 ± 0.431 (0.816) C:74% T:88%	pCi/L	11/25/24 11:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 708369
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3449095 Matrix: Water
Associated Lab Samples: 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0881 ± 0.273 (0.621) C:NA T:93%	pCi/L	11/20/24 13:46	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 708370 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

METHOD BLANK: 3449096 Matrix: Water
Associated Lab Samples: 60463474021, 60463474022, 60463474023, 60463474024, 60463474025, 60463474026, 60463474027, 60463474028, 60463474029, 60463474030, 60463474031, 60463474032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.164 ± 0.250 (0.540) C:94% T:91%	pCi/L	11/19/24 14:46	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

QC Batch: 708088 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474009, 60463474010, 60463474011, 60463474012, 60463474013, 60463474014, 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020

METHOD BLANK: 3447540 Matrix: Water

Associated Lab Samples: 60463474001, 60463474002, 60463474003, 60463474004, 60463474005, 60463474006, 60463474007, 60463474008, 60463474009, 60463474010, 60463474011, 60463474012, 60463474013, 60463474014, 60463474015, 60463474016, 60463474017, 60463474018, 60463474019, 60463474020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.119 ± 0.258 (0.475) C:NA T:96%	pCi/L	11/26/24 13:53	

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QUALIFIERS

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463474001	**L-BMW-1S**	EPA 200.7	914554	EPA 200.7	914652
60463474002	**L-BMW-2S**	EPA 200.7	914554	EPA 200.7	914652
60463474003	**L-LMW-7S**	EPA 200.7	914554	EPA 200.7	914652
60463474004	**L-LMW-8S**	EPA 200.7	914554	EPA 200.7	914652
60463474005	**L-TP-1D**	EPA 200.7	914554	EPA 200.7	914652
60463474006	**L-TP-3M**	EPA 200.7	914616	EPA 200.7	914651
60463474007	**L-TP-3D**	EPA 200.7	914616	EPA 200.7	914651
60463474008	**L-TP-4D**	EPA 200.7	914616	EPA 200.7	914651
60463474011	**L-CA-DUP-1**	EPA 200.7	914616	EPA 200.7	914651
60463474012	**L-CA-DUP-2**	EPA 200.7	914616	EPA 200.7	914651
60463474015	**L-AMW-8**	EPA 200.7	914962	EPA 200.7	915011
60463474016	**L-LMW-1S**	EPA 200.7	914962	EPA 200.7	915011
60463474017	**L-LMW-4S**	EPA 200.7	914962	EPA 200.7	915011
60463474018	**L-MW-24**	EPA 200.7	914962	EPA 200.7	915011
60463474019	**L-MW-26**	EPA 200.7	914962	EPA 200.7	915011
60463474020	**L-CA-DUP-3**	EPA 200.7	914962	EPA 200.7	915011
60463474021	**L-CA-FB-1**	EPA 200.7	914962	EPA 200.7	915011
60463474022	**L-CA-FB-2**	EPA 200.7	914962	EPA 200.7	915011
60463474023	**L-CA-FB-3**	EPA 200.7	914962	EPA 200.7	915011
60463474024	**L-MW-33(D)**	EPA 200.7	914962	EPA 200.7	915011
60463474025	**L-MW-34(D)**	EPA 200.7	914962	EPA 200.7	915011
60463474026	**L-MW-35(D)**	EPA 200.7	914962	EPA 200.7	915011
60463474027	**L-S-1**	EPA 200.7	914962	EPA 200.7	915011
60463474028	**L-TP-2M**	EPA 200.7	915063	EPA 200.7	915104
60463474029	**L-TP-2D**	EPA 200.7	915063	EPA 200.7	915104
60463474030	**L-LMW-2S**	EPA 200.7	915063	EPA 200.7	915104
60463474031	**L-AM-1S**	EPA 200.7	915063	EPA 200.7	915104
60463474032	**L-AM-1D**	EPA 200.7	915063	EPA 200.7	915104
60463474001	**L-BMW-1S**	EPA 200.8	914802	EPA 200.8	914813
60463474002	**L-BMW-2S**	EPA 200.8	914802	EPA 200.8	914813
60463474003	**L-LMW-7S**	EPA 200.8	914802	EPA 200.8	914813
60463474004	**L-LMW-8S**	EPA 200.8	914802	EPA 200.8	914813
60463474005	**L-TP-1D**	EPA 200.8	914802	EPA 200.8	914813
60463474006	**L-TP-3M**	EPA 200.8	915008	EPA 200.8	915083
60463474006	**L-TP-3M**	EPA 200.8	918123	EPA 200.8	918155
60463474007	**L-TP-3D**	EPA 200.8	915008	EPA 200.8	915083
60463474007	**L-TP-3D**	EPA 200.8	918123	EPA 200.8	918155
60463474008	**L-TP-4D**	EPA 200.8	915008	EPA 200.8	915083
60463474008	**L-TP-4D**	EPA 200.8	918123	EPA 200.8	918155
60463474011	**L-CA-DUP-1**	EPA 200.8	915008	EPA 200.8	915083
60463474011	**L-CA-DUP-1**	EPA 200.8	918123	EPA 200.8	918155
60463474012	**L-CA-DUP-2**	EPA 200.8	915008	EPA 200.8	915083

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463474012	**L-CA-DUP-2**	EPA 200.8	918123	EPA 200.8	918155
60463474015	**L-AMW-8**	EPA 200.8	914966	EPA 200.8	914977
60463474016	**L-LMW-1S**	EPA 200.8	914966	EPA 200.8	914977
60463474017	**L-LMW-4S**	EPA 200.8	916601	EPA 200.8	916645
60463474018	**L-MW-24**	EPA 200.8	916601	EPA 200.8	916645
60463474019	**L-MW-26**	EPA 200.8	914966	EPA 200.8	914977
60463474020	**L-CA-DUP-3**	EPA 200.8	914966	EPA 200.8	914977
60463474021	**L-CA-FB-1**	EPA 200.8	914966	EPA 200.8	914977
60463474022	**L-CA-FB-2**	EPA 200.8	914966	EPA 200.8	914977
60463474023	**L-CA-FB-3**	EPA 200.8	914966	EPA 200.8	914977
60463474024	**L-MW-33(D)**	EPA 200.8	914966	EPA 200.8	914977
60463474025	**L-MW-34(D)**	EPA 200.8	914966	EPA 200.8	914977
60463474026	**L-MW-35(D)**	EPA 200.8	914966	EPA 200.8	914977
60463474027	**L-S-1**	EPA 200.8	914966	EPA 200.8	914977
60463474028	**L-TP-2M**	EPA 200.8	915093	EPA 200.8	915187
60463474028	**L-TP-2M**	EPA 200.8	918123	EPA 200.8	918155
60463474029	**L-TP-2D**	EPA 200.8	915093	EPA 200.8	915187
60463474029	**L-TP-2D**	EPA 200.8	918123	EPA 200.8	918155
60463474030	**L-LMW-2S**	EPA 200.8	915093	EPA 200.8	915187
60463474030	**L-LMW-2S**	EPA 200.8	918123	EPA 200.8	918155
60463474031	**L-AM-1S**	EPA 200.8	915093	EPA 200.8	915187
60463474031	**L-AM-1S**	EPA 200.8	918123	EPA 200.8	918155
60463474032	**L-AM-1D**	EPA 200.8	915093	EPA 200.8	915187
60463474032	**L-AM-1D**	EPA 200.8	918123	EPA 200.8	918155
60463474001	**L-BMW-1S**	EPA 7470	917263	EPA 7470	917417
60463474002	**L-BMW-2S**	EPA 7470	917263	EPA 7470	917417
60463474003	**L-LMW-7S**	EPA 7470	917263	EPA 7470	917417
60463474004	**L-LMW-8S**	EPA 7470	917263	EPA 7470	917417
60463474005	**L-TP-1D**	EPA 7470	917263	EPA 7470	917417
60463474006	**L-TP-3M**	EPA 7470	917265	EPA 7470	917415
60463474007	**L-TP-3D**	EPA 7470	917263	EPA 7470	917417
60463474008	**L-TP-4D**	EPA 7470	917263	EPA 7470	917417
60463474011	**L-CA-DUP-1**	EPA 7470	917263	EPA 7470	917417
60463474012	**L-CA-DUP-2**	EPA 7470	917263	EPA 7470	917417
60463474015	**L-AMW-8**	EPA 7470	916232	EPA 7470	916329
60463474016	**L-LMW-1S**	EPA 7470	916232	EPA 7470	916329
60463474017	**L-LMW-4S**	EPA 7470	916232	EPA 7470	916329
60463474018	**L-MW-24**	EPA 7470	916232	EPA 7470	916329
60463474019	**L-MW-26**	EPA 7470	916232	EPA 7470	916329
60463474020	**L-CA-DUP-3**	EPA 7470	916232	EPA 7470	916329

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463474021	**L-CA-FB-1**	EPA 7470	916232	EPA 7470	916329
60463474022	**L-CA-FB-2**	EPA 7470	916232	EPA 7470	916329
60463474023	**L-CA-FB-3**	EPA 7470	916232	EPA 7470	916329
60463474024	**L-MW-33(D)**	EPA 7470	916232	EPA 7470	916329
60463474025	**L-MW-34(D)**	EPA 7470	916232	EPA 7470	916329
60463474026	**L-MW-35(D)**	EPA 7470	916234	EPA 7470	916330
60463474027	**L-S-1**	EPA 7470	916234	EPA 7470	916330
60463474028	**L-TP-2M**	EPA 7470	916446	EPA 7470	916489
60463474029	**L-TP-2D**	EPA 7470	916446	EPA 7470	916489
60463474030	**L-LMW-2S**	EPA 7470	916446	EPA 7470	916489
60463474031	**L-AM-1S**	EPA 7470	916446	EPA 7470	916489
60463474032	**L-AM-1D**	EPA 7470	916446	EPA 7470	916489
60463474001	**L-BMW-1S**	EPA 903.1	708088		
60463474002	**L-BMW-2S**	EPA 903.1	708088		
60463474003	**L-LMW-7S**	EPA 903.1	708088		
60463474004	**L-LMW-8S**	EPA 903.1	708088		
60463474005	**L-TP-1D**	EPA 903.1	708088		
60463474006	**L-TP-3M**	EPA 903.1	708088		
60463474007	**L-TP-3D**	EPA 903.1	708088		
60463474008	**L-TP-4D**	EPA 903.1	708088		
60463474009	**L-MS-2**	EPA 903.1	708088		
60463474010	**L-MSD-2**	EPA 903.1	708088		
60463474011	**L-CA-DUP-1**	EPA 903.1	708088		
60463474012	**L-CA-DUP-2**	EPA 903.1	708088		
60463474013	**L-MS-1**	EPA 903.1	708088		
60463474014	**L-MSD-1**	EPA 903.1	708088		
60463474015	**L-AMW-8**	EPA 903.1	708088		
60463474016	**L-LMW-1S**	EPA 903.1	708088		
60463474017	**L-LMW-4S**	EPA 903.1	708088		
60463474018	**L-MW-24**	EPA 903.1	708088		
60463474019	**L-MW-26**	EPA 903.1	708088		
60463474020	**L-CA-DUP-3**	EPA 903.1	708088		
60463474021	**L-CA-FB-1**	EPA 903.1	708369		
60463474022	**L-CA-FB-2**	EPA 903.1	708369		
60463474023	**L-CA-FB-3**	EPA 903.1	708369		
60463474024	**L-MW-33(D)**	EPA 903.1	708369		
60463474025	**L-MW-34(D)**	EPA 903.1	708369		
60463474026	**L-MW-35(D)**	EPA 903.1	708369		
60463474027	**L-S-1**	EPA 903.1	708369		
60463474028	**L-TP-2M**	EPA 903.1	708369		
60463474029	**L-TP-2D**	EPA 903.1	708369		
60463474030	**L-LMW-2S**	EPA 903.1	708369		
60463474031	**L-AM-1S**	EPA 903.1	708369		
60463474032	**L-AM-1D**	EPA 903.1	708369		
60463474001	**L-BMW-1S**	EPA 904.0	708089		
60463474002	**L-BMW-2S**	EPA 904.0	708089		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463474003	**L-LMW-7S**	EPA 904.0	708089		
60463474004	**L-LMW-8S**	EPA 904.0	708089		
60463474005	**L-TP-1D**	EPA 904.0	708089		
60463474006	**L-TP-3M**	EPA 904.0	708089		
60463474007	**L-TP-3D**	EPA 904.0	708089		
60463474008	**L-TP-4D**	EPA 904.0	708089		
60463474009	**L-MS-2**	EPA 904.0	708089		
60463474010	**L-MSD-2**	EPA 904.0	708089		
60463474011	**L-CA-DUP-1**	EPA 904.0	708089		
60463474012	**L-CA-DUP-2**	EPA 904.0	708089		
60463474013	**L-MS-1**	EPA 904.0	708089		
60463474014	**L-MSD-1**	EPA 904.0	708089		
60463474015	**L-AMW-8**	EPA 904.0	708089		
60463474016	**L-LMW-1S**	EPA 904.0	708089		
60463474017	**L-LMW-4S**	EPA 904.0	708089		
60463474018	**L-MW-24**	EPA 904.0	708089		
60463474019	**L-MW-26**	EPA 904.0	708089		
60463474020	**L-CA-DUP-3**	EPA 904.0	708089		
60463474021	**L-CA-FB-1**	EPA 904.0	708370		
60463474022	**L-CA-FB-2**	EPA 904.0	708370		
60463474023	**L-CA-FB-3**	EPA 904.0	708370		
60463474024	**L-MW-33(D)**	EPA 904.0	708370		
60463474025	**L-MW-34(D)**	EPA 904.0	708370		
60463474026	**L-MW-35(D)**	EPA 904.0	708370		
60463474027	**L-S-1**	EPA 904.0	708370		
60463474028	**L-TP-2M**	EPA 904.0	708370		
60463474029	**L-TP-2D**	EPA 904.0	708370		
60463474030	**L-LMW-2S**	EPA 904.0	708370		
60463474031	**L-AM-1S**	EPA 904.0	708370		
60463474032	**L-AM-1D**	EPA 904.0	708370		
60463474001	**L-BMW-1S**	Total Radium Calculation	712374		
60463474002	**L-BMW-2S**	Total Radium Calculation	712374		
60463474003	**L-LMW-7S**	Total Radium Calculation	712374		
60463474004	**L-LMW-8S**	Total Radium Calculation	712374		
60463474005	**L-TP-1D**	Total Radium Calculation	712374		
60463474006	**L-TP-3M**	Total Radium Calculation	712374		
60463474007	**L-TP-3D**	Total Radium Calculation	712374		
60463474008	**L-TP-4D**	Total Radium Calculation	712374		
60463474011	**L-CA-DUP-1**	Total Radium Calculation	712374		
60463474012	**L-CA-DUP-2**	Total Radium Calculation	712374		
60463474015	**L-AMW-8**	Total Radium Calculation	712374		
60463474016	**L-LMW-1S**	Total Radium Calculation	712374		
60463474017	**L-LMW-4S**	Total Radium Calculation	712374		
60463474018	**L-MW-24**	Total Radium Calculation	712374		
60463474019	**L-MW-26**	Total Radium Calculation	712374		
60463474020	**L-CA-DUP-3**	Total Radium Calculation	712374		
60463474021	**L-CA-FB-1**	Total Radium Calculation	710924		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463474022	**L-CA-FB-2**	Total Radium Calculation	710924		
60463474023	**L-CA-FB-3**	Total Radium Calculation	710924		
60463474024	**L-MW-33(D)**	Total Radium Calculation	710924		
60463474025	**L-MW-34(D)**	Total Radium Calculation	710924		
60463474026	**L-MW-35(D)**	Total Radium Calculation	710924		
60463474027	**L-S-1**	Total Radium Calculation	710924		
60463474028	**L-TP-2M**	Total Radium Calculation	710924		
60463474029	**L-TP-2D**	Total Radium Calculation	710924		
60463474030	**L-LMW-2S**	Total Radium Calculation	710924		
60463474031	**L-AM-1S**	Total Radium Calculation	710924		
60463474032	**L-AM-1D**	Total Radium Calculation	710924		
60463474001	**L-BMW-1S**	SM 2320B	915877		
60463474002	**L-BMW-2S**	SM 2320B	915877		
60463474003	**L-LMW-7S**	SM 2320B	915877		
60463474004	**L-LMW-8S**	SM 2320B	915879		
60463474005	**L-TP-1D**	SM 2320B	915879		
60463474006	**L-TP-3M**	SM 2320B	915879		
60463474007	**L-TP-3D**	SM 2320B	915879		
60463474008	**L-TP-4D**	SM 2320B	915879		
60463474011	**L-CA-DUP-1**	SM 2320B	915879		
60463474012	**L-CA-DUP-2**	SM 2320B	915879		
60463474015	**L-AMW-8**	SM 2320B	916260		
60463474016	**L-LMW-1S**	SM 2320B	915879		
60463474017	**L-LMW-4S**	SM 2320B	915879		
60463474018	**L-MW-24**	SM 2320B	915879		
60463474019	**L-MW-26**	SM 2320B	916260		
60463474020	**L-CA-DUP-3**	SM 2320B	916260		
60463474021	**L-CA-FB-1**	SM 2320B	916260		
60463474022	**L-CA-FB-2**	SM 2320B	916260		
60463474023	**L-CA-FB-3**	SM 2320B	916261		
60463474024	**L-MW-33(D)**	SM 2320B	916260		
60463474025	**L-MW-34(D)**	SM 2320B	916260		
60463474026	**L-MW-35(D)**	SM 2320B	916260		
60463474027	**L-S-1**	SM 2320B	916260		
60463474028	**L-TP-2M**	SM 2320B	916261		
60463474029	**L-TP-2D**	SM 2320B	916261		
60463474030	**L-LMW-2S**	SM 2320B	916261		
60463474031	**L-AM-1S**	SM 2320B	916261		
60463474032	**L-AM-1D**	SM 2320B	916261		
60463474001	**L-BMW-1S**	SM 2540C	915015		
60463474002	**L-BMW-2S**	SM 2540C	915015		
60463474003	**L-LMW-7S**	SM 2540C	915200		
60463474004	**L-LMW-8S**	SM 2540C	915200		
60463474005	**L-TP-1D**	SM 2540C	915200		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463474006	**L-TP-3M**	SM 2540C	915200		
60463474007	**L-TP-3D**	SM 2540C	915200		
60463474008	**L-TP-4D**	SM 2540C	915200		
60463474011	**L-CA-DUP-1**	SM 2540C	915200		
60463474012	**L-CA-DUP-2**	SM 2540C	915200		
60463474015	**L-AMW-8**	SM 2540C	915374		
60463474016	**L-LMW-1S**	SM 2540C	915374		
60463474017	**L-LMW-4S**	SM 2540C	915374		
60463474018	**L-MW-24**	SM 2540C	915374		
60463474019	**L-MW-26**	SM 2540C	915374		
60463474020	**L-CA-DUP-3**	SM 2540C	915374		
60463474021	**L-CA-FB-1**	SM 2540C	915374		
60463474022	**L-CA-FB-2**	SM 2540C	915374		
60463474023	**L-CA-FB-3**	SM 2540C	915563		
60463474024	**L-MW-33(D)**	SM 2540C	915374		
60463474025	**L-MW-34(D)**	SM 2540C	915374		
60463474026	**L-MW-35(D)**	SM 2540C	915374		
60463474027	**L-S-1**	SM 2540C	915374		
60463474028	**L-TP-2M**	SM 2540C	915563		
60463474029	**L-TP-2D**	SM 2540C	915563		
60463474030	**L-LMW-2S**	SM 2540C	915563		
60463474031	**L-AM-1S**	SM 2540C	915563		
60463474032	**L-AM-1D**	SM 2540C	915563		
60463474001	**L-BMW-1S**	EPA 300.0	916715		
60463474002	**L-BMW-2S**	EPA 300.0	916715		
60463474003	**L-LMW-7S**	EPA 300.0	916715		
60463474004	**L-LMW-8S**	EPA 300.0	916715		
60463474005	**L-TP-1D**	EPA 300.0	917017		
60463474006	**L-TP-3M**	EPA 300.0	917017		
60463474007	**L-TP-3D**	EPA 300.0	916715		
60463474008	**L-TP-4D**	EPA 300.0	916715		
60463474011	**L-CA-DUP-1**	EPA 300.0	916715		
60463474012	**L-CA-DUP-2**	EPA 300.0	916715		
60463474015	**L-AMW-8**	EPA 300.0	916152		
60463474016	**L-LMW-1S**	EPA 300.0	916152		
60463474017	**L-LMW-4S**	EPA 300.0	916152		
60463474018	**L-MW-24**	EPA 300.0	916152		
60463474019	**L-MW-26**	EPA 300.0	916152		
60463474020	**L-CA-DUP-3**	EPA 300.0	916152		
60463474021	**L-CA-FB-1**	EPA 300.0	916152		
60463474022	**L-CA-FB-2**	EPA 300.0	916152		
60463474023	**L-CA-FB-3**	EPA 300.0	916152		
60463474024	**L-MW-33(D)**	EPA 300.0	916152		
60463474025	**L-MW-34(D)**	EPA 300.0	916152		
60463474026	**L-MW-35(D)**	EPA 300.0	916152		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60463474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60463474027	**L-S-1**	EPA 300.0	916152		
60463474028	**L-TP-2M**	EPA 300.0	916325		
60463474029	**L-TP-2D**	EPA 300.0	916325		
60463474030	**L-LMW-2S**	EPA 300.0	916325		
60463474031	**L-AM-1S**	EPA 300.0	916325		
60463474032	**L-AM-1D**	EPA 300.0	916325		

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WO# : 60463474

60463474

Pace ANALYTICAL SERVICES	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: T298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 1.5/1.2/1.0 **Corr. Factor** -0.1 **Corrected** 1.4/1.1/0.9

Date and initials of person examining contents: AV 10/30/24

Temperature should be above freezing to 6°C 0.8/18.5/17.2 0.7/18.4/17.1

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: BE727	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2	Invoice To:	Mark Haddock
Project Name:	AMEREN LCPA-CA	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 3 3 3 1

Identify Container Preservative Type***: 1 1 3 2 2 2 3 2

**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

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cal/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample:
L-AMW-8	WT																		
L-BMW-1S	WT	G			10/28/24	1142	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-BMW-2S	WT	G			10/28/24	0940	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-LMW-1S	WT																		
L-LMW-2S	WT																		
L-LMW-4S	WT																		
L-LMW-7S	WT	G			10/24/24	1145	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-LMW-8S	WT	G			10/29/24	1302	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-MW-24	WT																		
L-MW-26	WT																		

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162926

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name): Jeff Irwin

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: 6 Thermometer ID: TL98 Correction Factor (°C): -0.1 Obs. Temp. (°C): 1.4/1.1/0.9/0.7 Corrected Temp. (°C): 1.3/1.0/0.8/0.6 On Ice: Y

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Jeff Irwin/Rocksmith	10/29/24 1600		10/30/24 0650
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other

Page: 1 of

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

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60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 3 3 3 1

Identify Container Preservative Type***: 1 1 3 2 2 2 3 2

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
L-MW-33(D)	WT																	
L-MW-34(D)	WT																	
L-MW-35(D)	WT																	
L-S-1	WT																	
L-TP-1D	WT	G	-	-	10/29/24	0915	G	-	-	1	1	1	1	1	1	1	1	
L-TP-2M	WT																	
L-TP-2D	WT																	
L-TP-3M	WT	G			10/29/24	1310	G	-	-	1	1	1	1	1	1	1	1	
L-TP-3D	WT	G	-	-	10/29/24	1220	G	-	-	1	1	1	1	1	1	1	1	
L-TP-4D	WT	G	-	-	10/29/24	1045	G	-	-	1	1	1	1	1	1	1	1	

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3162926

Preservation non-conformance identified for sample

**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

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By:
(Printed Name): Jeff Ingram
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C) Corrected Temp. (°C) On Ice:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

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

CHAIN-OF-CUSTODY Analytical Request Document

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60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC #2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
Specify Container Size **										1	1	3	3	3	3	3	1	
Identify Container Preservative Type***										1	1	3	2	2	2	2	2	
L-MS-2 - TP-3m	WT	G	—	—	10/29/24	1310	6	-	-	1	1	1	1	1	1	1	1	
L-MSD-2 - TP-3m	WT	G	—	—	10/29/24	1310	6	-	-	1	1	1	1	1	1	1	1	

**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

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162926

Preservation non-conformance identified for sample

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) Josh Ingram

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:

	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Relinquished by/Company: (Signature) Russell Smith	10/29/24 1600		10/30 0650	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

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

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60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 3 3 3 1

Identify Container Preservative Type***: 1 1 3 2 2 2 3 2

**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. Tniosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
L-AM-1S	WT																	
L-AM-1D	WT																	
L-CA-DUP-1	WT	G	—	—	10/29/24	—	6	-	-	1	1	1	1	1	1	1	1	
L-CA-DUP-2	WT	G	—	-	10/29/24	—	6	-	—	1	1	1	1	1	1	1	1	
L-CA-DUP-3	WT																	
L-CA-FB-1	WT																	
L-CA-FB-2	WT																	
L-CA-FB-3	WT																	
L-MS-1 - TP-1	WT	G	—	-	10/29/24	0915	6			1	1	1	1	1	1	1		
L-MSD-1 - TP-1	WT	G	-	-	10/29/24	0915	6			1	1	1	1	1	1	1		

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162926

Preservation non-conformance identified for sample.

Additional Instructions from Pace®:
***App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B**
****App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg**
*****UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness**

Collected By:
(Printed Name)
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C) Corrected Temp. (°C) On Ice:

Relinquished by/Company: (Signature)	Date/Time: 1600/10/29/24	Received by/Company: (Signature)	Date/Time: 10/30 0650	Tracking Number:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of	

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1/4

Client: Rocksmith Geoeng Profile# 3162926

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																																
2	WT												2						1			2	1									
3	↓												2						1			2	1									
4																																
5																																
6																																
7	WT												2						1			2	1									
8	↓												2						1			2	1									
9																																
10																																
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

2/4

Client: Rocksmith Geoeng Profile/EZ # 3162926

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																																
2																																
3																																
4																																
5	WT					(MS/MSD)							6						3			2	3									
6																																
7																																
8	WT					(MS/MSD)							6						3			2	3									
9	↓												2						1			2	1									
10	↓												2						1			2	1									
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024

3/4

Client: Rocksmith Geoeng Profile/EZ # 3162926

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																					2		(Only 109 RAD)								
2	↓																					2										
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

4/4

Client: Locksmith Geoeng Profile/EZ # 3162926

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																																
2																																
3																																
4	WT												2						1			2	1									
5	WT												2						1			2	1									
6																																
7																																
8																																
9	WT																					2								(Only 1 09 RAD)		
10	↓																					2										
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

WO# : 60463474

60463474

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Cor		
	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: T298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.0/1.4/1.5 **Corr. Factor** -0.1 **Corrected** 0.9/1.3/1.4 14.4/13.5/15.3

Temperature should be above freezing to 6°C 14.5/13.5/15.3

Date and initials of person examining contents: PM 11/1/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 88727	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

Specify Container Size **: 1 1 3 3 3 3 3 1

Identify Container Preservative Type***: 1 1 3 2 2 2 3 2

** 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

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228
L-AMW-8	WT	G			10/31/24	1155	6			✓	✓	✓	✓	✓	✓	✓	✓
L-BMW-1S	WT																
L-BMW-2S	WT																
L-LMW-1S	WT	G			10/30/24	0945	6			✓	✓	✓	✓	✓	✓	✓	✓
L-LMW-2S	WT																
L-LMW-4S	WT	G			10/30/24	1625	6			✓	✓	✓	✓	✓	✓	✓	✓
L-LMW-7S	WT																
L-LMW-8S	WT																
L-MW-24	WT	G			10/30/24	1242	6			✓	✓	✓	✓	✓	✓	✓	✓
L-MW-26	WT	G			10/30/24	1438	6			✓	✓	✓	✓	✓	✓	✓	✓

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3162926

Sample Comment

Preservation non conformance identified for sample.

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp (°C)	Corrected Temp. (°C)	On Ice:
6	T298	-0.1	0.9/1.3/1.4	1.4/1.4/1.3	Y

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Rocksmith	10/31/24 1600		10/31/24 0552
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number: 15-3

Delivered by: [ ] In-Person [ ] Courier
[ ] FedEX [ ] UPS [ ] Other

Page: 1 of 3

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

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

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

6C463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2	Invoice To:	Mark Haddock
Project Name:	AMEREN LCPA-CA	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
L-AM-1S	WT																	
L-AM-1D	WT																	
L-CA-DUP-1	WT																	
L-CA-DUP-2	WT																	
L-CA-DUP-3	WT	G			10/30/24	—	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-CA-FB-1	WT	G			10/30/24	0949	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-CA-FB-2	WT	G			10/30/24	1248	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-CA-FB-3	WT	G			10/31/24	1230	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-MS-1	WT																	
L-MSD-1	WT																	

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

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162926

Preservation non-conformance identified for sample

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
6	T298	-0.1	0.9/1.3/1.4/1.4/3.5		

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Rocksmith	10/31/24 / 1600		11/1/24 0552
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number: 153

Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other

Page: 2 of 3

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

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

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

60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

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

Analysis:

Specify Container Size **

Identify Container Preservative Type***

**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

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162926

* 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)**	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample:
L-MW-33(D)	WT	G			10/30/24	0924	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-MW-34(D)	WT	G			10/30/24	1040	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-MW-35(D)	WT	G			10/30/24	1332	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-S-1	WT	G			10/30/24	1537	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-TP-1D	WT																		
L-TP-2M	WT																		
L-TP-2D	WT																		
L-TP-3M	WT																		
L-TP-3D	WT																		
L-TP-4D	WT																		

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
6	T298	-0.1	0.9/1.3/1.4/14.4/13.5		

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	10/31/24 1600		11/1/24	15.3
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 11/1/24 0552	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 3 of 3

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

ENV-FRM-CORQ-0019_v02_110123 ©

1/3

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Rocksmith Geoeng Profile/EZ #

Site: Notes Append to 60463474

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												2						1			2	1									
2																																
3																																
4	WT												2						1			2	1									
5																																
6	WT												2						1			2	1									
7																																
8																																
9	WT												2						1			2	1									
10	WT												2						1			2	1									
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Rocksmith Geoeng Profile/EZ #

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																																
2																																
3																																
4																																
5	WT												2						1			2	1									
6	WT												2						1			2	1									
7	WT												2						1			2	1									
8	WT												2						1			2	1									
9																																
10																																
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
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Plastic	
BP1B	1L NAOH plastic
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BP1U	1L unpreserved plastic
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BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

3/3

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Rocksmith Geoeng Profile/EZ #

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												2						1			2	1									
2	WT												2						1			2	1									
3	WT												2						1			2	1									
4	WT												2						1			2	1									
5																																
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Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 6046347 4

WO# : 60463474

60463474

Pace	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: T298 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): As-read 0.4/1.1 **Corr. Factor** -0.1 **Corrected** 0.3/1.1

Temperature should be above freezing to 6°C 17.4 17.3

Date and initials of person examining contents: AV 11/4/24

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 88727	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

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

60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043
Customer Project #:	COC# 2
Project Name:	AMEREN LCPA-CA
Site Collection Info/Facility ID (as applicable):	
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 #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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)

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

Lab Use Only

Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15857
Prelog / Bottle Ord. ID: EZ 3162926

Preservation non conformance identified for sample:

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
L-MW-33(D)	WT																	
L-MW-34(D)	WT																	
L-MW-35(D)	WT																	
L-S-1	WT																	
L-TP-1D	WT																	
L-TP-2M	WT	G			11/1/24	0956	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-TP-2D	WT	G			11/1/24	1151	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-TP-3M	WT																	
L-TP-3D	WT																	
L-TP-4D	WT																	

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
	T298	-0.1	0.4	0.3	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Rocksmith	11/1/24 1600		11-2 0536
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In- Person [ ] Courier
[ ] FedEX [ ] UPS [ ] Other

Page: 1 of 3

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

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

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

60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2		
Project Name:	AMEREN LCPA-CA	Invoice To:	Mark Haddock
		Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
L-AMW-8	WT																		
L-BMW-1S	WT																		
L-BMW-2S	WT																		
L-LMW-1S	WT																		
L-LMW-2S	WT	G			11/1/24	1345	6			✓	✓	✓	✓	✓	✓	✓	✓		
L-LMW-4S	WT																		
L-LMW-7S	WT																		
L-LMW-8S	WT																		
L-MW-24	WT																		
L-MW-26	WT																		

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

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162926

Additional Instructions from Pace®:
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
				0.3	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	11/1/24 1600		11-2 0536	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 3

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

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

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

60463474

Scan QR Code for instructions

Company Name:	Rocksmith Geoengineering, LLC	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	
Customer Project #:	COC# 2	Invoice To:	Mark Haddock
Project Name:	AMEREN LCPA-CA	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # 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 *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Chloride/Fluoride/Sulfate	TDS / Alkalinity	COD / TOC	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8/7470)*	UWL Metals (200.7)***	TOX	Radium 226 & Radium 228	Sample Comment
L-AM-1S	WT	G			11/1/24	1331	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-AM-1D	WT	G			11/1/24	1425	6			✓	✓	✓	✓	✓	✓	✓	✓	
L-CA-DUP-1	WT																	
L-CA-DUP-2	WT																	
L-CA-DUP-3	WT																	
L-CA-FB-1	WT																	
L-CA-FB-2	WT																	
L-CA-FB-3	WT																	
L-MS-1	WT																	
L-MSD-1	WT																	

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) 9mL, (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

Lab Use Only

Proj. Mgr: Jamie Church

AcctNum / Client ID:

Table #:

Profile / Template: 15857

Prelog / Bottle Ord. ID: EZ 3162926

Preservation non-conformance identified for sample

Additional Instructions from Pace®:
**App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**App IV Metals - EPA 200.7 -Ba,Be,Co,Pb,Li,Mo & 200.8 Metals - Sb, As,Cd,Cr,Se,Tl +7470 Hg
***UWL Metals - 200.7: Al, Cu, Ni, Ag, Zn + Hardness

Collected By: (Printed Name) John Rasmussen

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
				0.3	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Rocksmith	11/1/24 1600		11-2 0536	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 3 of 3

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Rocksmith Geoeng Profile/EZ #

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																																
2																																
3																																
4																																
5																																
6	WT												2						1			2	1									
7	L												2						1			2	1									
8																																
9																																
10																																
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Rocksmith Geoeng Profile/EZ #

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																																
2																																
3																																
4																																
5	WT												2						1			2	1									
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
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Plastic	
BP1B	1L NAOH plastic
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BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
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BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

DC#_Title: ENV-FRM-LENE-0001 v07_Sample Container Count
Effective Date: 7/12/2024
Client: Locksmith Brewing Profile/EZ #

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												2						1			2	1									
2	WT												2						1			2	1									
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

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

Plastic	
BP1B	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2B	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3B	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

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

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

Work Order Number: 60463474

E209

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☐ No

Workorder: 60463474 **Workorder Name:** AMEREN LCPA-CA

Owner Received Date: 10/30/2024 **Results Requested By:** 11/15/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: H2SO4						Requested Analysis: TOX											LAB USE ONLY
1	L-BMW-1S	PS	10/28/2024 11:42	60463474001	Water	1						X											-01
2	L-BMW-2S	PS	10/28/2024 09:40	60463474002	Water	1						X											-02
3	L-LMW-7S	PS	10/29/2024 11:45	60463474003	Water	1						X											-03
4	L-LMW-8S	PS	10/29/2024 13:02	60463474004	Water	1						X											-04
5	L-TP-1D	RQS	10/29/2024 09:15	60463474005	Water	1						X											-05
6	L-TP-3M	RQS	10/29/2024 13:10	60463474006	Water	1						X											-06
7	L-TP-3D	PS	10/29/2024 12:20	60463474007	Water	1						X											-07
8	L-TP-4D	PS	10/29/2024 10:45	60463474008	Water	1						X											-08
9	L-CA-DUP-1	PS	10/29/2024 08:00	60463474011	Water	1						X											-09
10	L-CA-DUP-2	PS	10/29/2024 08:00	60463474012	Water	1						X											-10
11	L-AMW-8	PS	10/31/2024 11:55	60463474015	Water	1						X											-11
12	L-LMW-1S	PS	10/30/2024 09:45	60463474016	Water	1						X											-12
13	L-LMW-4S	PS	10/30/2024 16:25	60463474017	Water	1						X											-13
14	L-MW-24	PS	10/30/2024 12:10	60463474018	Water	1						X											-14
15	L-MW-26	PS	10/30/2024 14:38	60463474019	Water	1						X											-15
16	L-CA-DUP-3	PS	10/30/2024 00:00	60463474020	Water	1						X											-16
17	L-CA-FB-1	PS	10/30/2024 09:49	60463474021	Water	1						X											-17
18	L-CA-FB-2	PS	10/30/2024 12:48	60463474022	Water	1						X											-18
19	L-CA-FB-3	PS	10/31/2024 12:30	60463474023	Water	1						X											-19

LA915M

Sample Receipt Checklist

		If Applicable	
COC Seal Present/Intact:	Y ✓ N	VOA Zero Headspace:	Y N
COC Signed/Accurate:	Y N	Pres. Correct/Check:	Y N
Bottles arrive intact:	Y N	multi	
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RA Screen <0.5 mR/hr:	Y N		

Internal Transfer Chain of Custody

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60463474 **Workorder Name:** AMEREN LCPA-CA

Owner Received Date: 10/30/2024 **Results Requested By:** 11/15/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

U705744

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers H2SO4	TOX	LAB USE ONLY
20	L-MW-33(D)	PS	10/30/2024 09:24	60463474024	Water	1	X	-20
21	L-MW-34(D)	PS	10/30/2024 10:40	60463474025	Water	1	X	-21
22	L-MW-35(D)	PS	10/30/2024 13:32	60463474026	Water	1	X	-22
23	L-S-1	PS	10/30/2024 15:37	60463474027	Water	1	X	-23
24	L-TP-2M	PS	11/1/2024 09:56	60463474028	Water	1	X	-24
25	L-TP-2D	PS	11/1/2024 11:51	60463474029	Water	1	X	-25
26	L-LMW-2S	PS	11/1/2024 13:45	60463474030	Water	1	X	-26
27	L-AM-1S	PS	11/1/2024 13:31	60463474031	Water	1	X	-27
28	L-AM-1D	PS	11/1/2024 14:25	60463474032	Water	1	X	-28

Transfers	Released By	Date/Time	Received By	Date/Time
1			Ei Daniel II	11-5-24 / 0900
2				
3				

Comments

KS sample location: 6091-R14-S4B

Cooler Temperature on Receipt °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Fed Ex tracking #	Gun ID	Temperature
4033 6452 3298	MSA9	5.0 + 0.3 = 5.3
4033 6452 3265	MSA9	3.9 + 0.3 = 4.2
~~8~~ ~~38~~		
4033 6452 3287	MSA9	4.9 + 0.3 = 5.2
4033 6452 3276	MSA9	5.5 + 0.3 = 5.8

EI: Dossett

Name

11-5-24

Date

L1795744

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60463474 **Workorder Name:** AMEREN LCPA-CA

Owner Received Date: 10/30/2024 **Results Requested By:** 11/15/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis Radium 226	Radium 228											LAB USE ONLY
1	L-BMW-1S	PS	10/28/2024 11:42	60463474001	Water	2						X	X											001
2	L-BMW-2S	PS	10/28/2024 09:40	60463474002	Water	2						X	X											002
3	L-LMW-7S	PS	10/29/2024 11:45	60463474003	Water	2						X	X											003
4	L-LMW-8S	PS	10/29/2024 13:02	60463474004	Water	2						X	X											004
5	L-TP-1D	RQS	10/29/2024 09:15	60463474005	Water	2						X	X											005
6	L-TP-3M	RQS	10/29/2024 13:10	60463474006	Water	2						X	X											006
7	L-TP-3D	PS	10/29/2024 12:20	60463474007	Water	2						X	X											007
8	L-TP-4D	PS	10/29/2024 10:45	60463474008	Water	2						X	X											008
9	L-MS-2-TP-3M	PS	10/29/2024 13:10	60463474009	Water	2						X	X											009
10	L-MSD-2-TP-3M	PS	10/29/2024 13:20	60463474010	Water	2						X	X											010
11	L-CA-DUP-1	PS	10/29/2024 08:00	60463474011	Water	2						X	X											011
12	L-CA-DUP-2	PS	10/29/2024 08:00	60463474012	Water	2						X	X											012
13	L-MS-1-TP-1D	PS	10/29/2024 09:15	60463474013	Water	2						X	X											013
14	L-MSD-1-TP-1D	PS	10/29/2024 09:15	60463474014	Water	2						X	X											014
15	L-AMW-8	PS	10/31/2024 11:55	60463474015	Water	2						X	X											015
16	L-LMW-1S	PS	10/30/2024 09:45	60463474016	Water	2						X	X											016
17	L-LMW-4S	PS	10/30/2024 16:25	60463474017	Water	2						X	X											017
18	L-MW-24	PS	10/30/2024 12:10	60463474018	Water	2						X	X											018
19	L-MW-26	PS	10/30/2024 14:38	60463474019	Water	2						X	X											019

WO# : 30732130

30732130

Internal Transfer Chain of Custody

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60463474 Workorder Name: AMEREN LCPA-CA

Owner Received Date: 10/30/2024 Results Requested By: 11/15/2024

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis Radium 226	Radium 228											LAB USE ONLY
20	L-CA-DUP-3	PS	10/30/2024 00:00	60463474020	Water	2						X	X											020
21	L-CA-FB-1	PS	10/30/2024 09:49	60463474021	Water	2						X	X											021
22	L-CA-FB-2	PS	10/30/2024 12:48	60463474022	Water	2						X	X											022
23	L-CA-FB-3	PS	10/31/2024 12:30	60463474023	Water	2						X	X											023
24	L-MW-33(D)	PS	10/30/2024 09:24	60463474024	Water	2						X	X											024
25	L-MW-34(D)	PS	10/30/2024 10:40	60463474025	Water	2						X	X											025
26	L-MW-35(D)	PS	10/30/2024 13:32	60463474026	Water	2						X	X											026
27	L-S-1	PS	10/30/2024 15:37	60463474027	Water	2						X	X											027
28	L-TP-2M	PS	11/1/2024 09:56	60463474028	Water	2						X	X											028
29	L-TP-2D	PS	11/1/2024 11:51	60463474029	Water	2						X	X											029
30	L-LMW-2S	PS	11/1/2024 13:45	60463474030	Water	2						X	X											030
31	L-AM-1S	PS	11/1/2024 13:31	60463474031	Water	2						X	X											031
32	L-AM-1D	PS	11/1/2024 14:25	60463474032	Water	2						X	X											032

WO#:30732130
PM: MAR Due Date: 12/02/24
CLIENT: PACE_60_LEKS

					Comments
Transfers	Released By	Date/Time	Received By	Date/Time	KS sample location: 60-R01-S4B
1			RLP 2V2	11/7/24 930	
2					
3					

Cooler Temperature on Receipt ___ °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 30732130
PM: MAR Due Date: 12/02/24
CLIENT: PACE_60_LEKS

DC#_Title: ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt-Greensburg

Effective Date: 01/04/2024

WO#: 30732130

PM: MAR Due Date: 12/02/24

CLIENT: PACE_60_LEKS

Client Name: Pace-KS

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 403364523953 | 403364523920

Initial / Date

Examined By: PS 11/6/24 PS 11/7/24

Labeled By: PS 11/6/24 11/7/24

Temped By: —

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

Thermometer Used: —

Type of Ice: Wet Blue (None)

Cooler Temperature: Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

pH paper Lot# 10D1041

D.P.D. Residual Chlorine Lot # —

Comments:	Yes	No	NA	
Chain of Custody Present	✓			1.
Chain of Custody Filled Out:	✓			2.
-Were client corrections present on COC		✓		
Chain of Custody Relinquished		✓		3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID				
Matrix:	WT			
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous samples field filtered:			✓	13.
Organic Samples checked for dichlorination			✓	14:
Filtered volume received for dissolved tests:			✓	15:
All containers checked for preservation:	✓			16. PS 11/7/24
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				pH<2
All containers meet method preservation requirements:	✓			Initial when completed PS Date/Time of Preservation
				Lot# of added Preservative
8260C/D: Headspace in VOA Vials (> 6mm)			✓	17.
624.1: Headspace in VOA Vials (0mm)			✓	18.
Radon: Headspace in RAD Vials (0mm)			✓	19.
Trip Blank Present:			✓	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	✓			Initial when completed PS Date: 11/6/24 Survey Meter SN: 25014380

Comments:
- Did not ~~receive~~ PS 11/6/24 receive 2 coolers = 403364523975 and 403364523986
- Received some bottles for 60463474. 11/6/24 at 10:00
- Received remaining bottles 11/7/24 9:30

Note: For NC compliance samples with discrepancies a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Qualtrax ID: 55680

Memorandum

January 22, 2025

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23007-24
CC:	Mark Haddock, Jeffrey Ingram		
From:	Jack Rasmussen	**Email:**	jack.rasmussen@rocksmithgeo.com
RE:	**Data Validation Summary, Labadie Energy Center – LCPA-CA – Data Package 6043474**		

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

- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When a 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).
- 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 instrument calibration did not meet control standards or analyte concentration exceeded calibration limits, associated results were qualified as estimates (J).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren LCPA-CA
Project Number: 23007-24
Reviewer: J. Rasmussen
Validation Date: 01/22/2025

Laboratory: Pace Analytical
SDG #: 60463474
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 4500-S-2 (Sulfide); EPA 903.1/904.0 (Radium 226+228)
Sample Names L-LMW-2S, L-TP-2M, L-TP-2D, L-AMW-8, L-CA-FB-1, L-LMW-4S, L-MW-33(D), L-S-1, L-LMW-8S, L-LMW-7S, L-TP-3M, L-TP-3D, L-CA-DUP-1, L-CA-DUP-2, L-CA-DUP-3, L-MS-1, L-MSD-1, L-BMW-1S, L-BMW-2S, L-LMW-1S, L-MW-24, L-MW-26, L-MW-34(D), L-MW-35(D), L-TP-1D, L-TP-4D, L-AM-1S, L-AM-1D, L-CA-FB-2, L-CA-FB-3, L-MS-2, L-MSD-2

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			10/28/2024-11/02/2024
b) Sampling team indicated?	x			JTR/JDQ
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

General:

Alkalinity and sulfate diluted in some samples, no qualification necessary.

Calibration outside acceptance limits for sulfate in some samples, results are biased high and qualified as estimates.

Analyte concentration exceeded the calibration range for sulfate @ L-S-1. The result is qualified as an estimate.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks:

3620890: calcium (36.1J) and sodium (235J), associated with samples -01 through -005. All results > 10x blank, no qualification necessary.

3622660: calcium (116J) associated with -015 through -027. -021 calcium detected < 10x blank and RL,

results qualified as non detect. -022 calcium detected < 10x blank and > than RL, results qualified as estimate.

-023 calcium detected < 10x blank and RL, results qualified as non detect

All other results > 10x blank.

3622965: calcium (157J), iron (25.6J), and manganese (0.42J). Associated with samples -028 through -032.

-030 iron and manganese results < 10x blank and RL, results qualified as non-detect. All other results > 10x blank, no qualification necessary.

Field Blank:

L-CA-FB-1 @ L-MW-33(D): calcium (143J), iron (33.5J), manganese (0.77J), potassium (109J), chromium (1.9), and TDS (7.0).

Chromium detected < 10x blank and > RL, result qualified as estimate. All other results > 10x blank.

L-CA-FB-2 @ L-MW-24: calcium (220), iron (24.6J), manganese (0.52J), potassium (109J), and chromium (1.9).

Iron and chromium detected < 10x blank and RL, results qualified as non detect.

All other results > 10x blank and RL, no qualification necessary.

L-CA-FB-3 @ L-AMW-8: calcium (136J), iron (32.8J), manganese (0.65J), potassium (119J), and chromium (1.9).

Chromium detected < 10x blank and > RL, result qualified as estimate.

Duplicates:

L-CA-DUP-1 @ TP-4D: radium-226 detected in DUP and not in parent sample, control limit exceeded for radium-228 (31%), results qualified as estimates.

L-CA-DUP-2 @ TP-3D: chromium detected in DUP and not in parent sample, results qualified as estimates.

L-CA-DUP-3 @ L-MW-34(D): radium-226 detected in DUP and not in parent sample, Radium-228 RPD (25%) exceeds control limit, results qualified as estimates.

MS/MSD:

3632075/3632076: MS/MSD recovery low for mercury, RPD within control. Associated with unrelated sample, no qualification necessary.

3621100/3621101: MSD recovery high for calcium, MS recovery and RPD within control. Associated with sample -005 no qualification necessary.

3621107/3621108: MS recovery low, MSD recovery and RPD within control. Associated with sample -006, no qualification necessary.

3627883/3627884: MS/MSD recovery high for sulfate, RPD within control. Associated with unrelated sample, no qualification necessary.

3627885: MS recovery low for chloride, MS recovery high for sulfate. Associated with sample -031, result qualified as estimate.

3629891/3629892: RPD outside control for fluoride, MS/MSD recovery OK. MSD recovery high for sulfate, MS recovery and RPD OK.

Associated with unrelated sample, no qualification necessary.

3629893: MS recovery high for sulfate. Associated with sample -007 result qualified as estimate.

3629888/3630917: MS/MSD recovery high for fluoride, RPD within control. MSD recovery high for sulfate, MS recovery and RPD OK.

Associated with -006, fluoride result non-detect, no qualification needed; sulfate result, no qualification needed.

3630915/3630919: MS/MSD recovery low for fluoride, RPD within control. Associated with unrelated sample, no qualification necessary.

3621109: MS recovery low for calcium, associated with sample -011. Result qualified as estimate

3627177/3627178: MS/MSD recovery low for chloride, RPD within limits. Associated with unrelated sample, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-CA-FB-1	Calcium	200	U	Result < 10x blank and RL
L-CA-FB-2	"	220	J	Result < 10x blank > RL
L-CA-FB-3	"	200	U	Result < 10x blank and RL
L-LMW-2S	Iron	50	U	"
"	Manganese	5.0	U	"
L-MW-33D	Chromium	1.9	J	Result < 10x blank > RL
L-MW-24	Iron	50	U	Result < 10x blank and RL
"	Chromium	1.0	U	"
L-AMW-8	"	1.7	J	Result < 10x blank > RL
L-S-1	Sulfate	21.5	J	Analyte exceeds calibration range
L-TP-2D	"	194	J+	Calibration outside acceptance limit
L-AM-1S	"	14.9	J+	"
L-AM-1D	"	358	J+	"
L-LMW-2S	"	326	J+	"
L-CA-DUP-2	Chromium	0.33	J	Detected in DUP and not in parent sample
TP-3D	"	0.30	UJ	"
L-CA-DUP-1	Radium-226	2.25	J	Detected in DUP and not in parent sample
L-TP-4D	"	1.54	UJ	"
L-CA-DUP-3	Radium-228	1.14	J	Field duplicate RPD exceeds control limit
L-MW-34D	"	0.796	J	"
L-AM-1S	Chloride	115	J-	MS recovery low
"	Sulfate	14.9	J+	MS recovery high
L-TP-3D	"	532	J+	"
L-CA-DUP-1	Calcium	124000	J-	MS recovery low
L-TP-2M	Sulfate	211	J+	Calibration outside acceptance limit
L-CA-DUP-3	Radium-226	0.934	J	Detected in DUP and not in parent sample
L-MW-34(D)	"	1.43	UJ	"
L-CA-DUP-1	Radium-228	1.13	J	Field duplicate RPD exceeds control limit
L-TP-4D	"	1.76	J	"

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Date: 01/22/2025

Appendix B

November 2023 Assessment Monitoring Statistical Evaluation

Memorandum
April 24, 2024

To:	Bill Kutosky – Ameren Missouri	**Project Number:**	23007
CC:	Ameren Missouri - Susan Knowles, Craig Giesmann, Charlie Henderson		
From:	Rocksmith Geoengineering - Jeff Ingram, R.G., Mark Haddock, P.E., R.G., Mark Sandfort, P.E., R.G., Grant Morey	**Email:**	Jeff.Ingram@Rocksmithgeo.com
RE:	**Assessment Monitoring Statistical Evaluation – LCPA Surface Impoundment Labadie Energy Center, Franklin County, Missouri**		

1.0 INTRODUCTION

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the November 2023 sampling event at the LCPA Surface Impoundment at the Labadie Energy Center located in Franklin County, Missouri. Included in the memorandum is a brief summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

2.0 STATISTICAL EVALUATION

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Statistical Analysis Plan (SAP). An outlier analysis was conducted, and no new outliers were identified during this statistical evaluation.

An analysis of the outliers removed from the dataset to-date was completed and one statistical outlier that was previously removed was added back into to dataset prior to the calculation of confidence limits:

- Fluoride
    - L-UMW-4D at Non-Detect [<0.12 milligrams per liter (mg/L)] on 10/27/2022: Removed in May 2023 as an outlier because the result was statistically lower than other fluoride values at the same well. Based on subsequent sampling results, the low result was confirmed and is no longer an outlier.

Arsenic at L-UWM-1D is a new SSL based on the lower confidence band from the trend analysis exceeding the GWPS. Other SSLs identified in the last statistical evaluation remain. SSLs at the LCPA Surface Impoundment as of November 2023 are as follows:

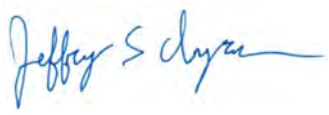
- Arsenic at well L-UMW-1D
- Molybdenum at wells L-UMW-3D(R), L-UMW-4D, L-UMW-5D, L-UMW-6D and L-UMW-7D

3.0 CLOSING

Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

Sincerely,

Rocksmith Geoengineering, LLC



Jeff Ingram, R.G.
Senior Geologist, Partner

Mark Sandfort, P.E., R.G.
Principal Engineer, Senior Partner

Attachments

Tables

Table 1 – LCPA Groundwater Protection Standards

Appendices

Appendix A – Sanitas Confidence Interval Statistical Output

Appendix B – Sanitas Trending Confidence Bands Statistical Output

Tables

Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring [6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	44.2	44.2
Barium	µg/L	2000	2000	1290
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	DQR
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.3074
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	47.4	47.4
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	4.14
Selenium	µg/L	50	50	DQR
Thallium	µg/L	2	2	DQR

Notes:
1. µg/L - micrograms per liter.
2. mg/L - milligrams per liter.
3. pCi/L - picocuries per liter.
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results through May 2023 from monitoring wells BMW-1D and BMW-2D.

ROCKSMITH GEOENGINEERING

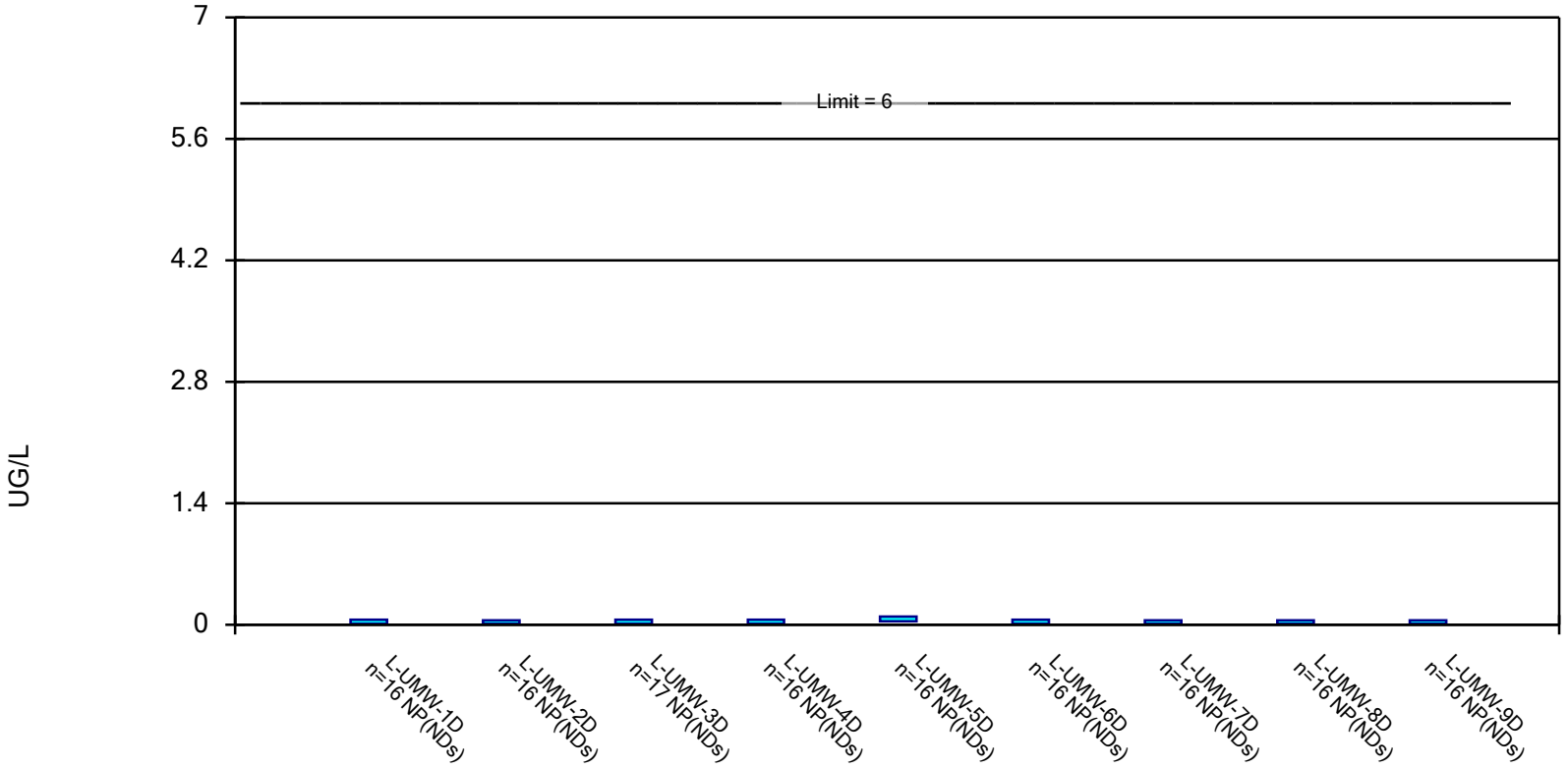
Prepared by: GTM
Checked by: JSI
Reviewed by: MNH

Appendix A
Sanitas Confidence Interval Statistical Output

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



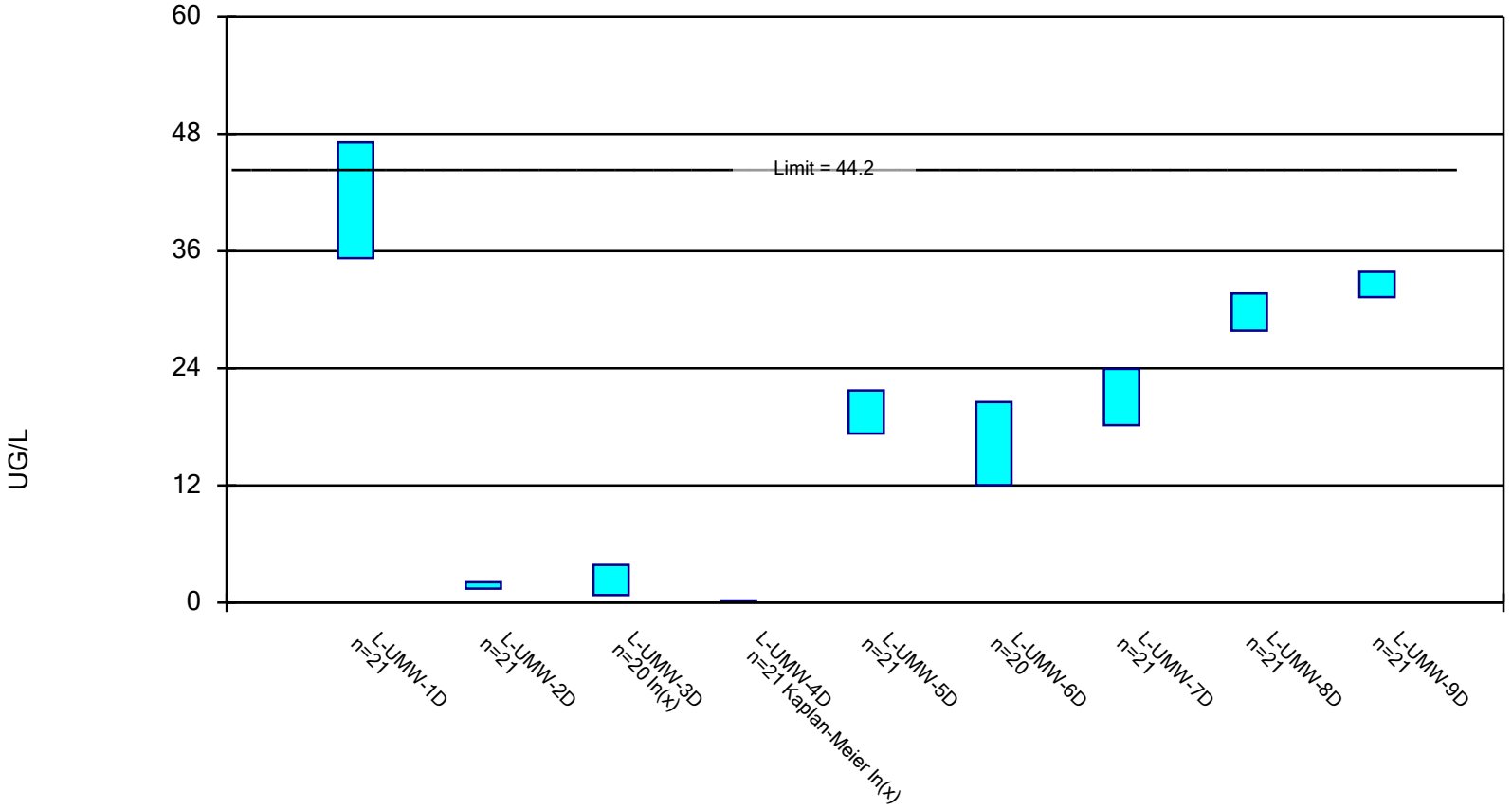
Constituent: ANTIMONY, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric Confidence Interval

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



Constituent: ARSENIC, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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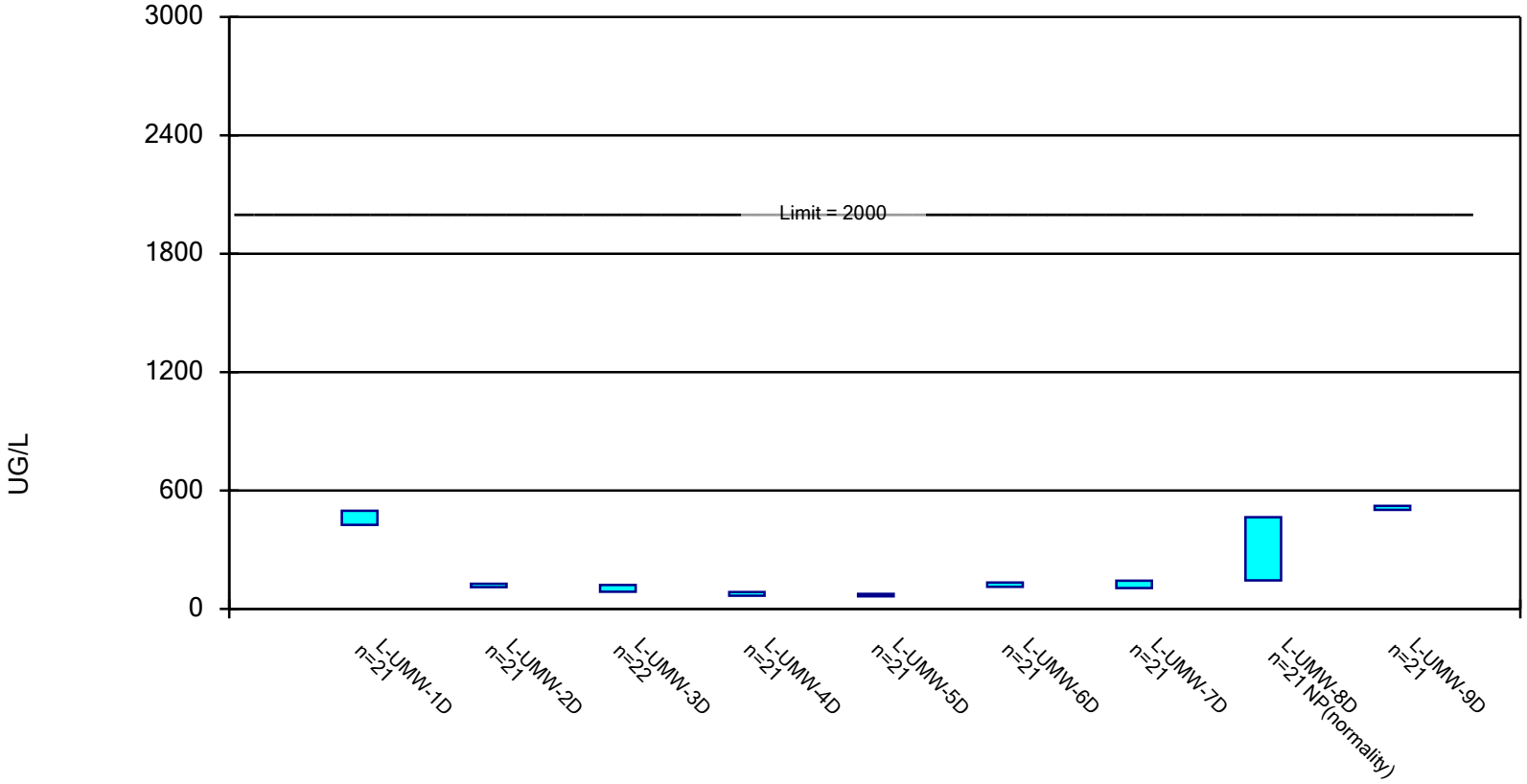


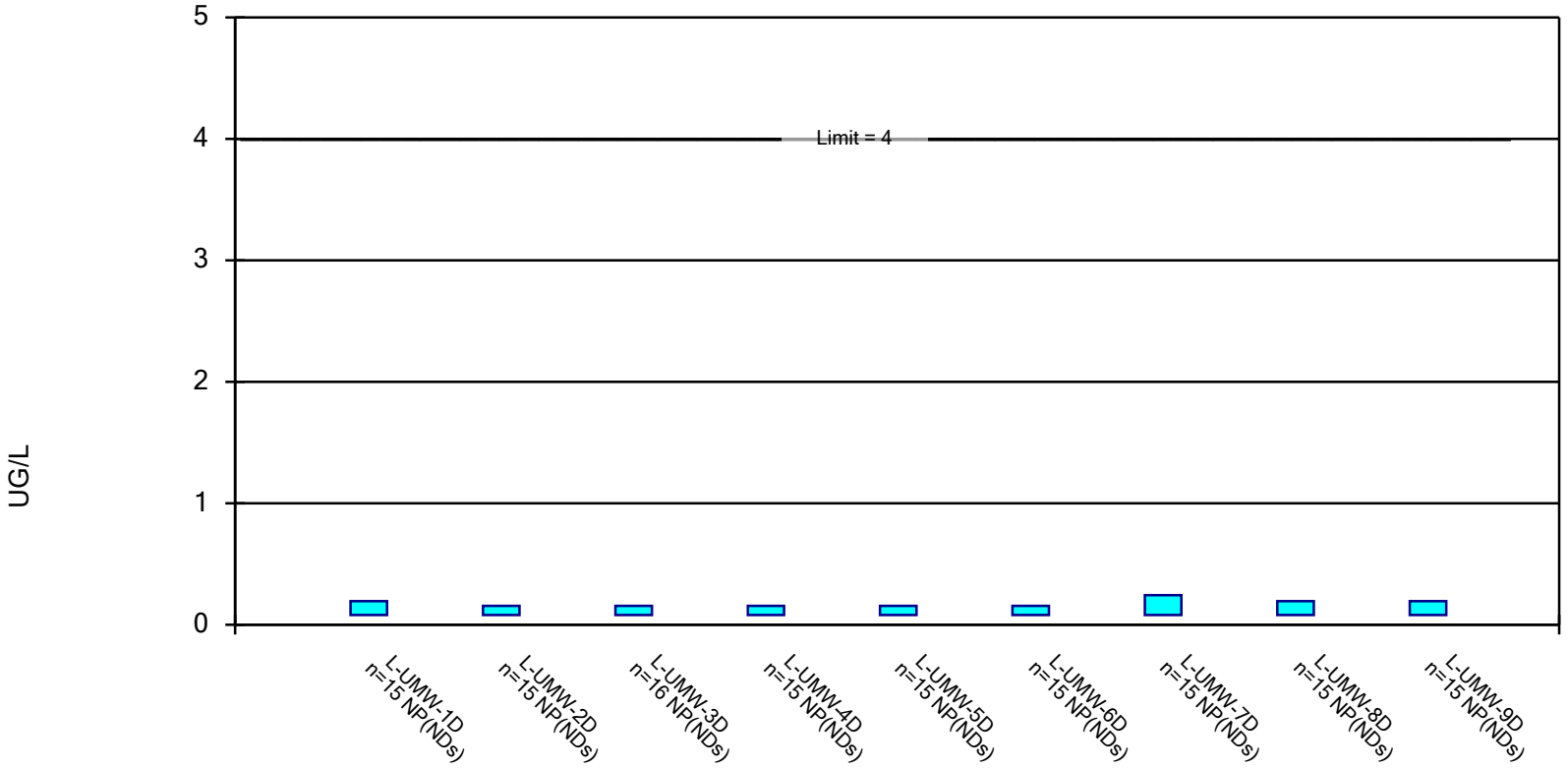
Constituent: BARIUM, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



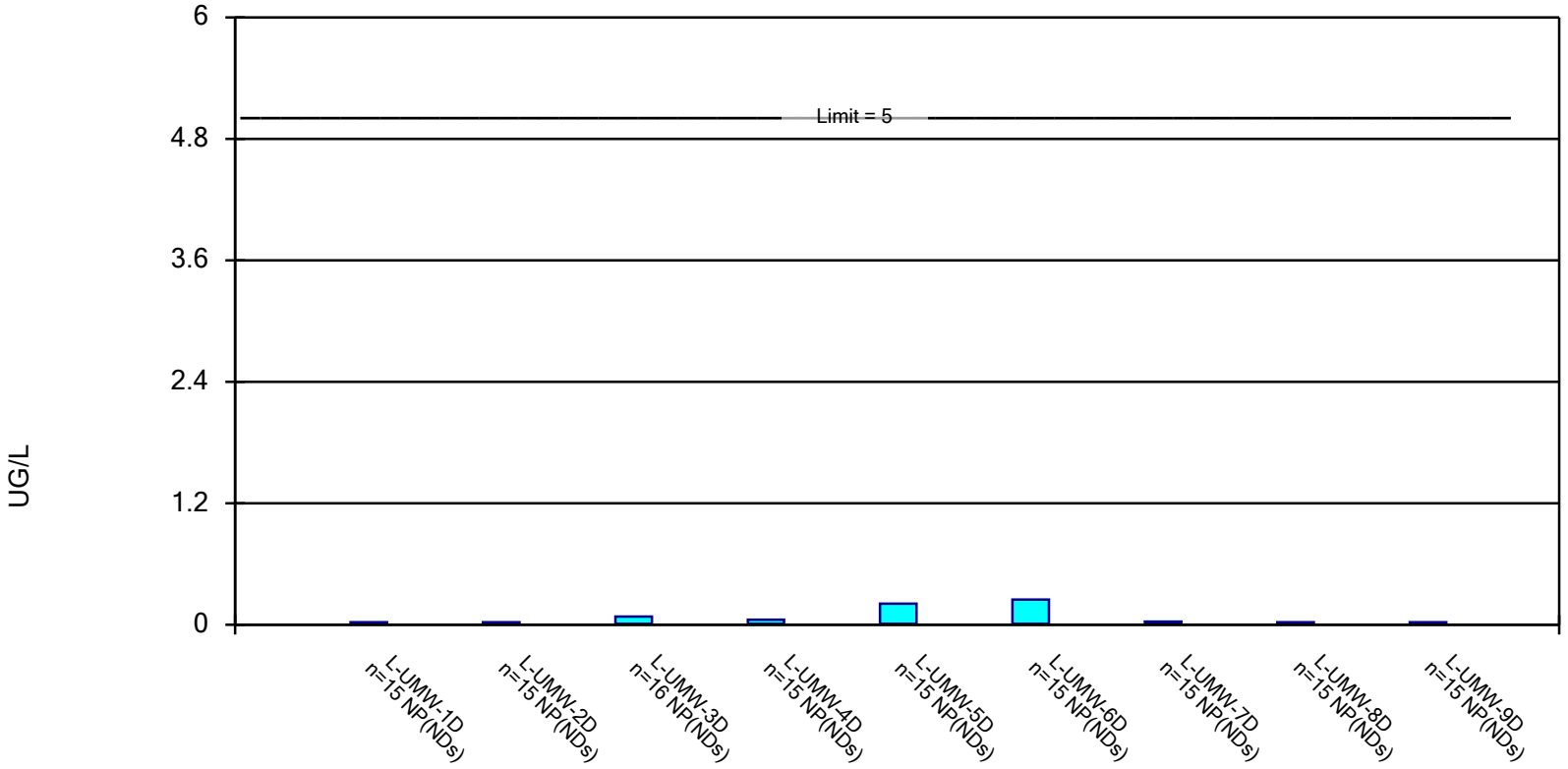
Constituent: BERYLLIUM, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



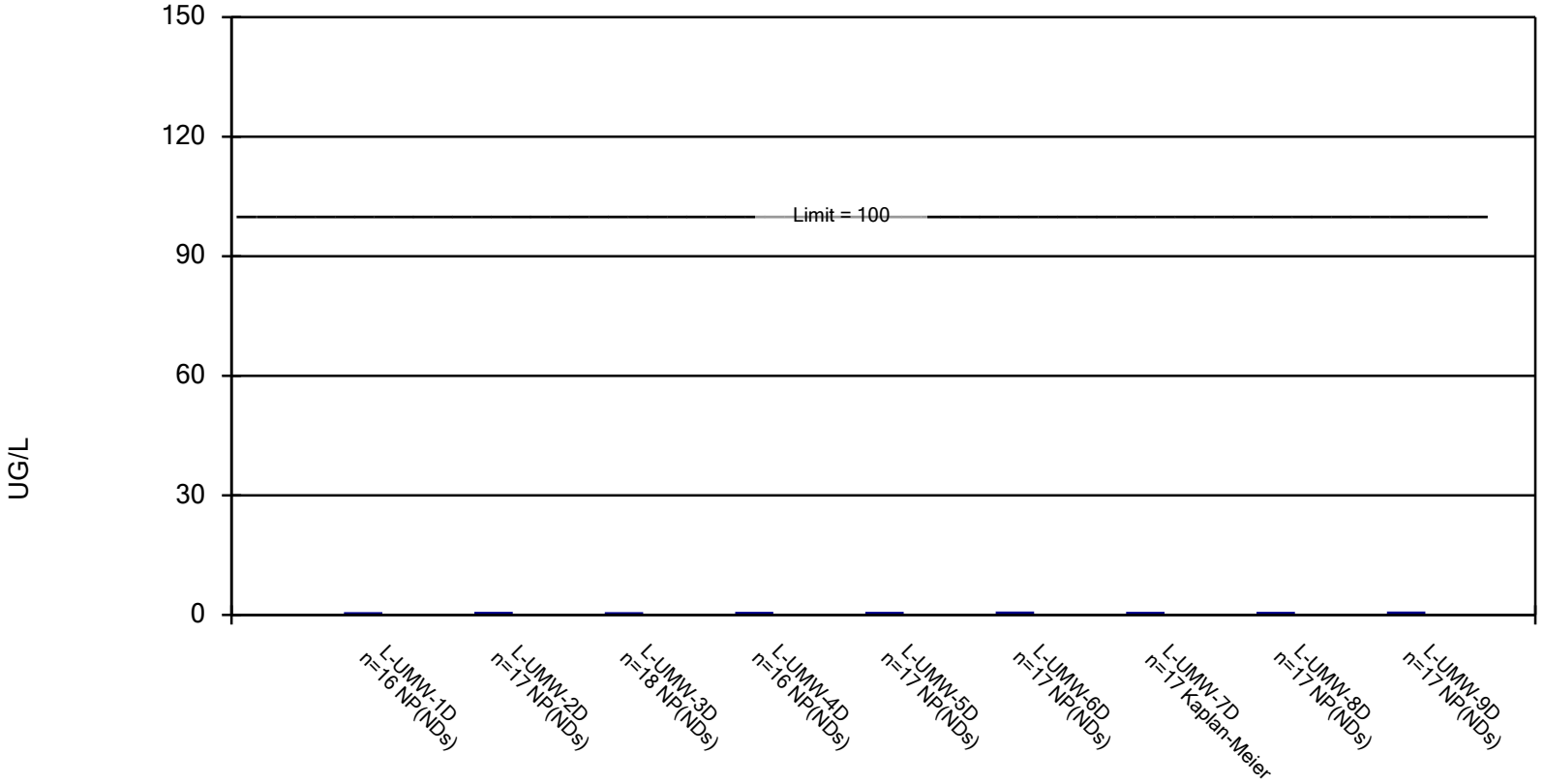
Constituent: CADMIUM, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: CHROMIUM, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

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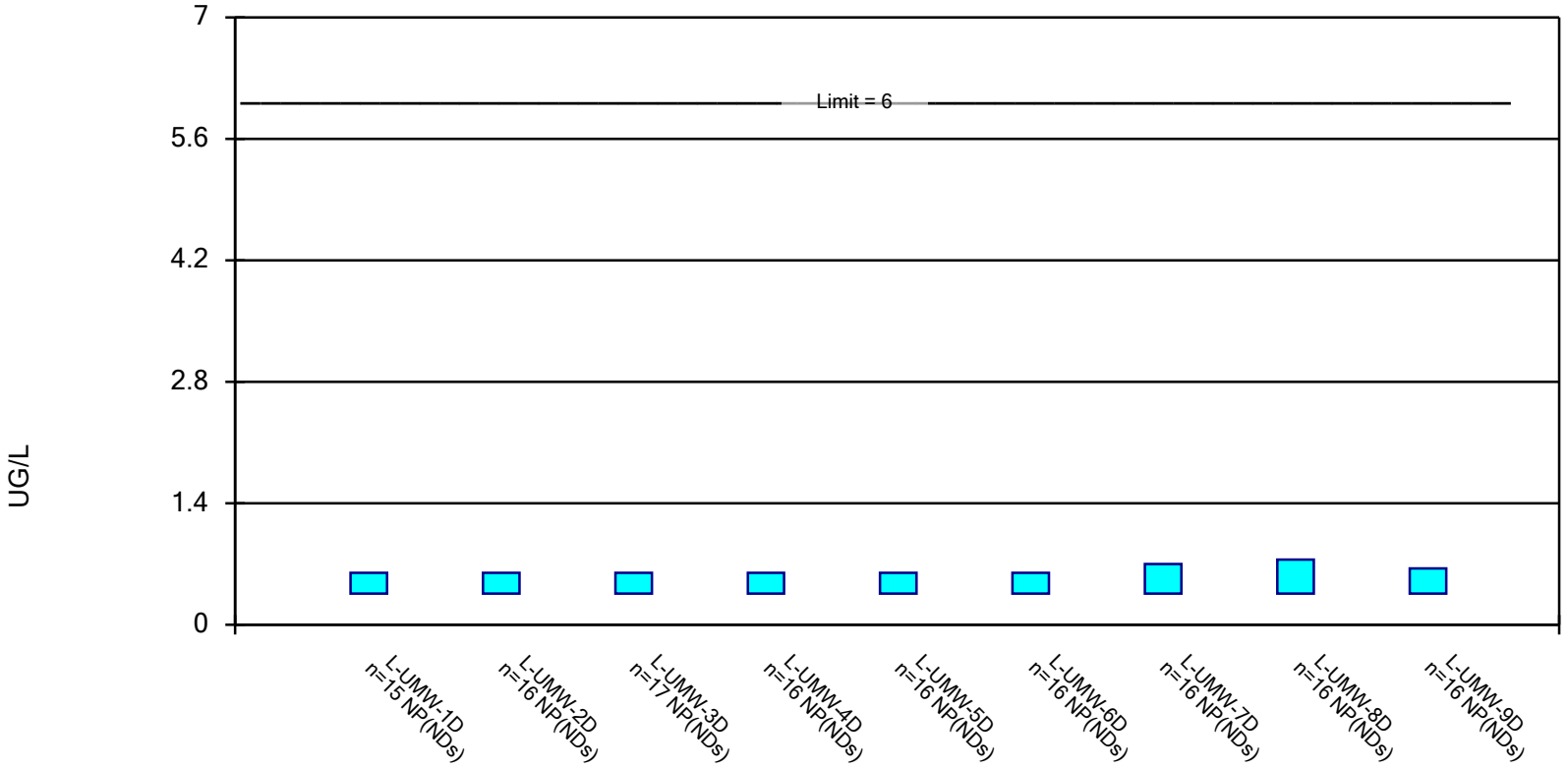
Non-Parametric Confidence Interval

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



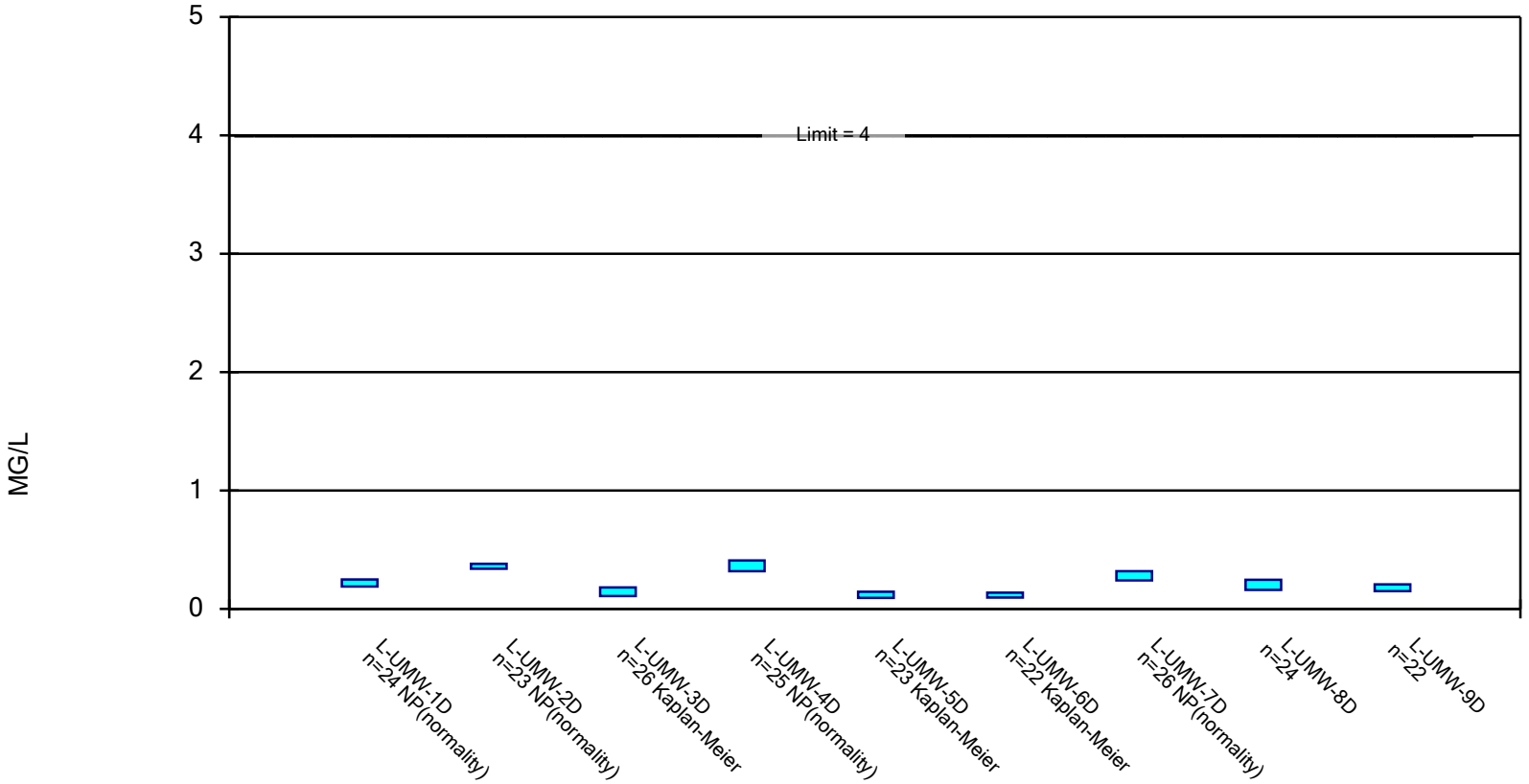
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



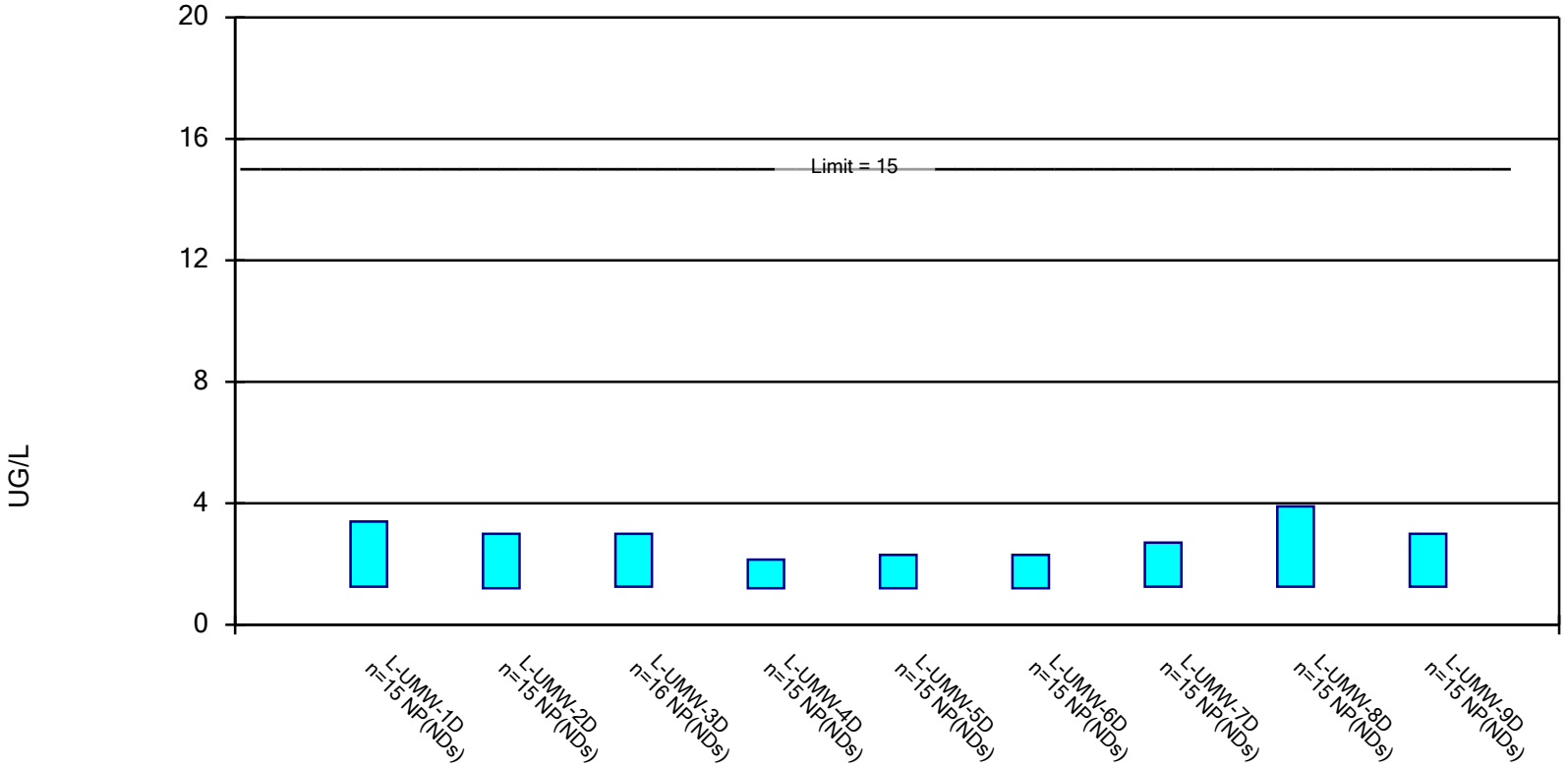
Constituent: FLUORIDE, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



Constituent: LEAD, TOTAL Analysis Run 4/17/2024 9:43 AM

Labadie E.C. Client: Ameren Data: LEC DATA

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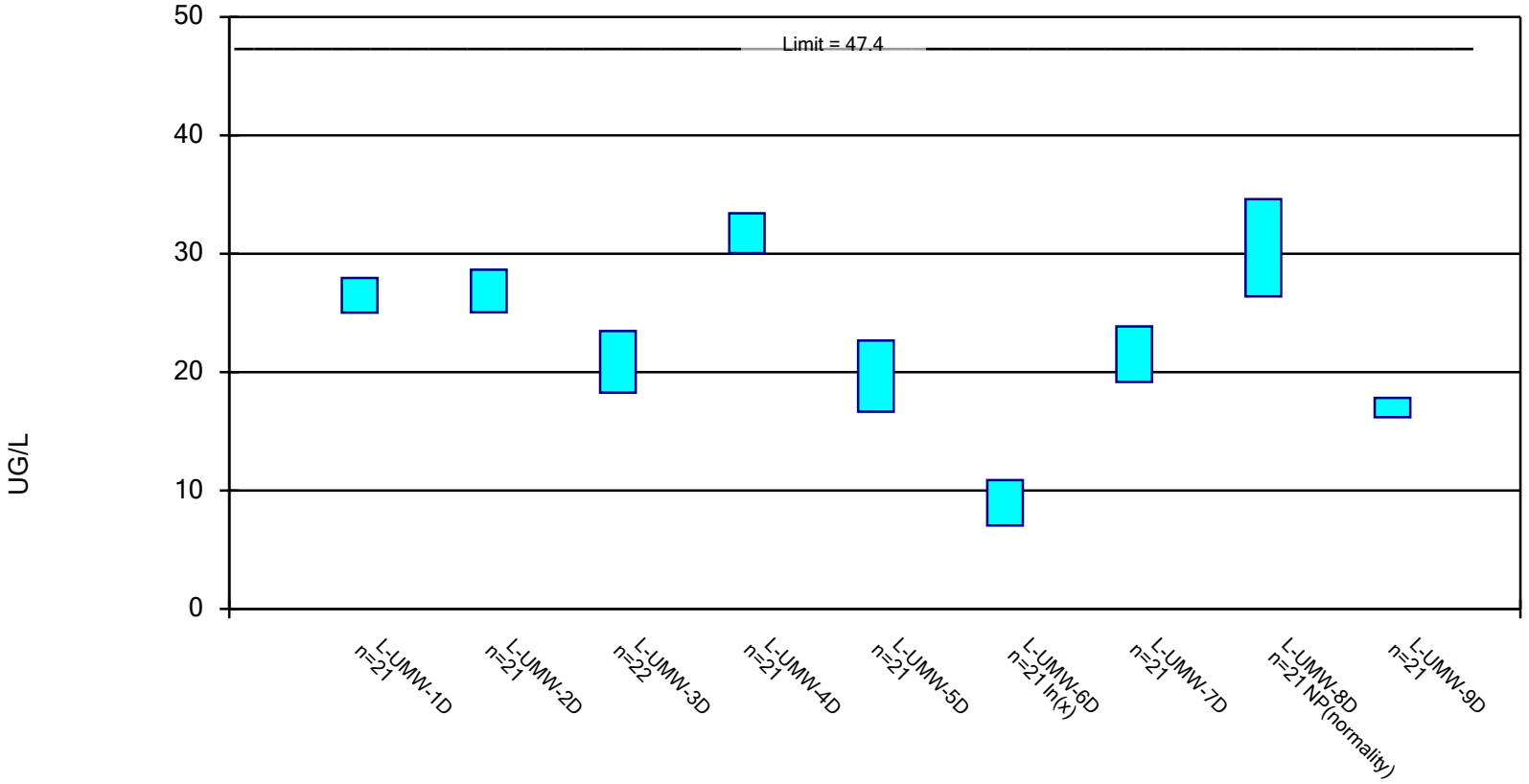
Parametric and Non-Parametric (NP) Confidence Interval

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



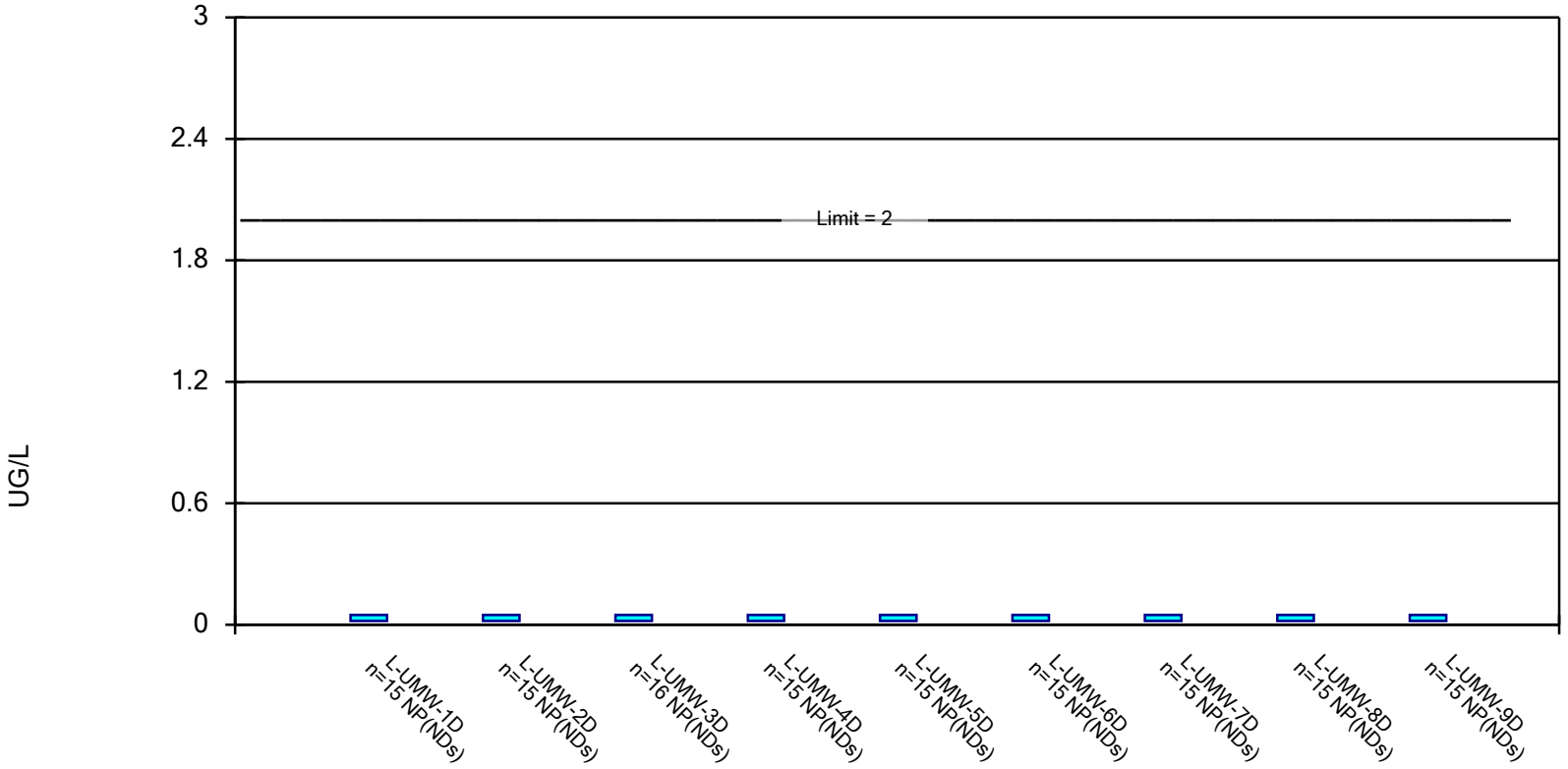
Constituent: LITHIUM, TOTAL Analysis Run 4/17/2024 9:44 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



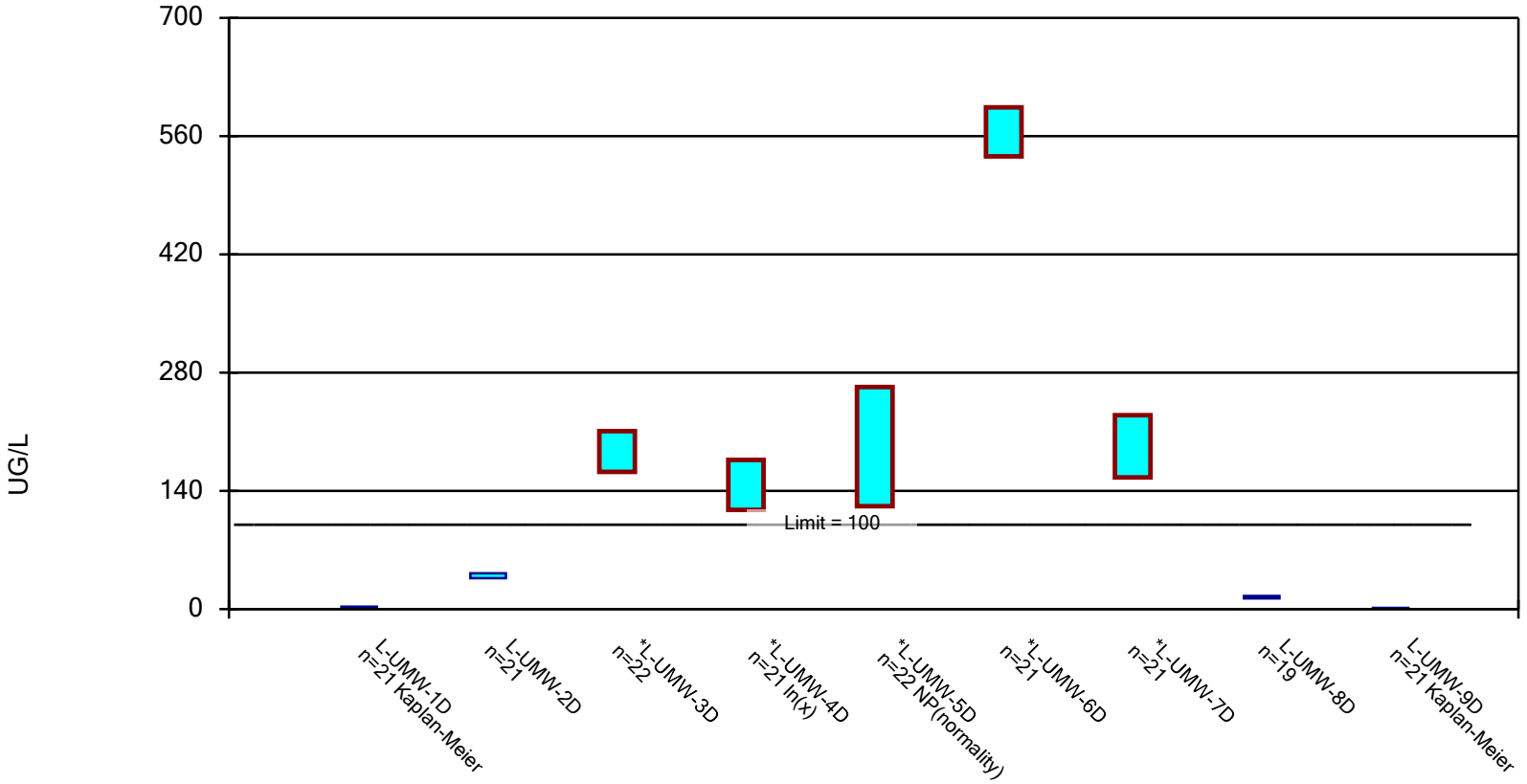
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:44 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



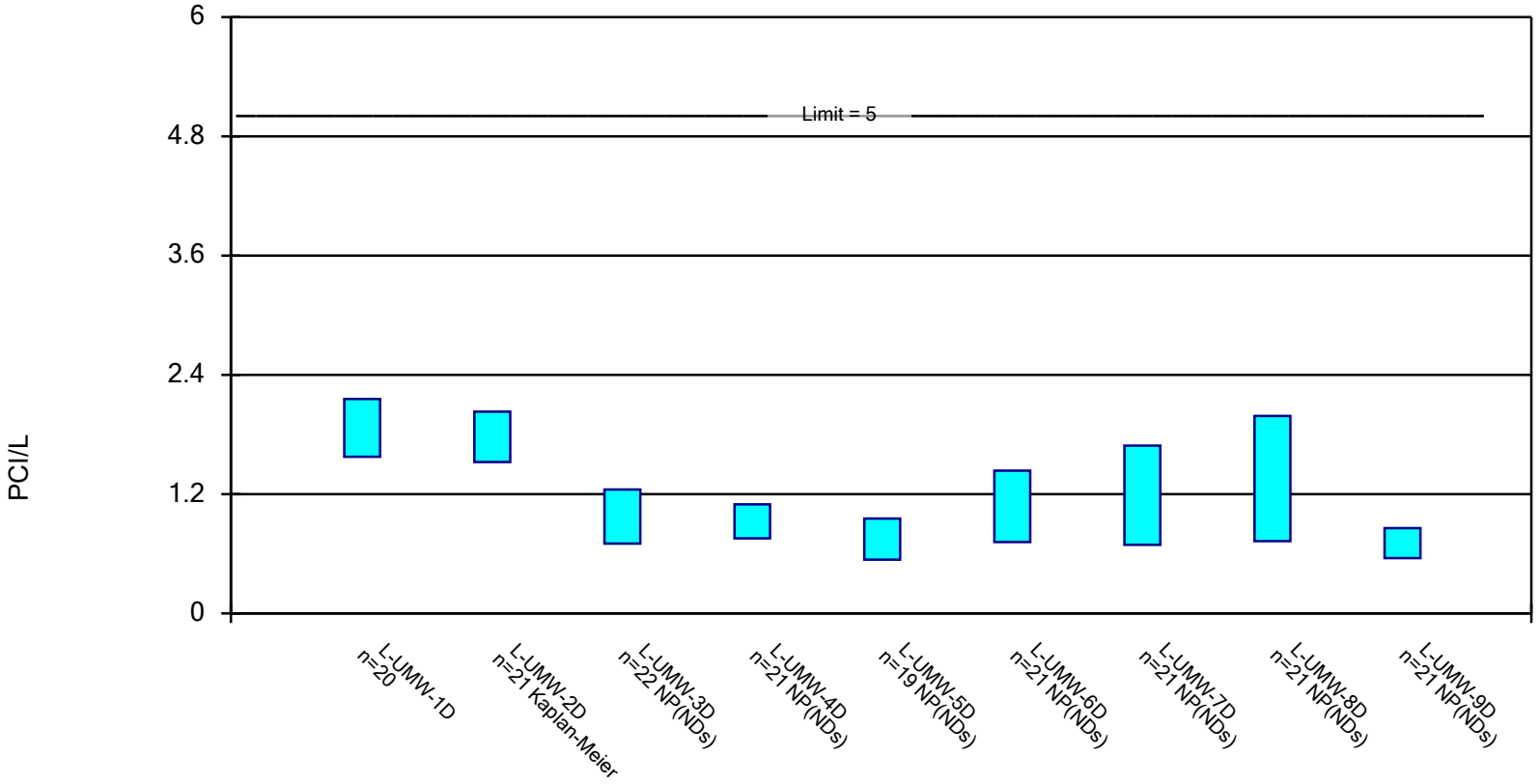
Constituent: MOLYBDENUM, TOTAL Analysis Run 4/17/2024 9:44 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



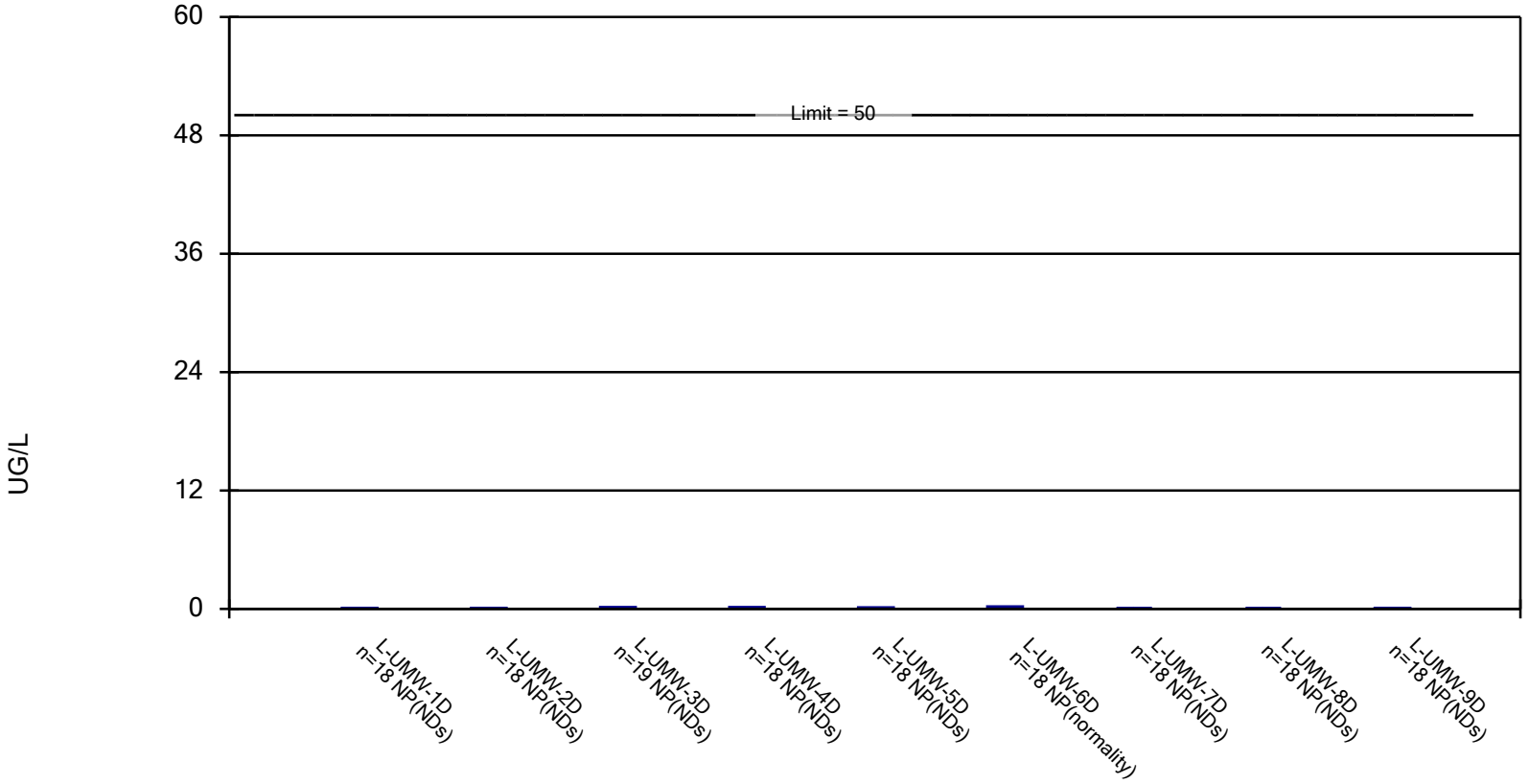
Constituent: Radium [226 + 228] Analysis Run 4/17/2024 9:44 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



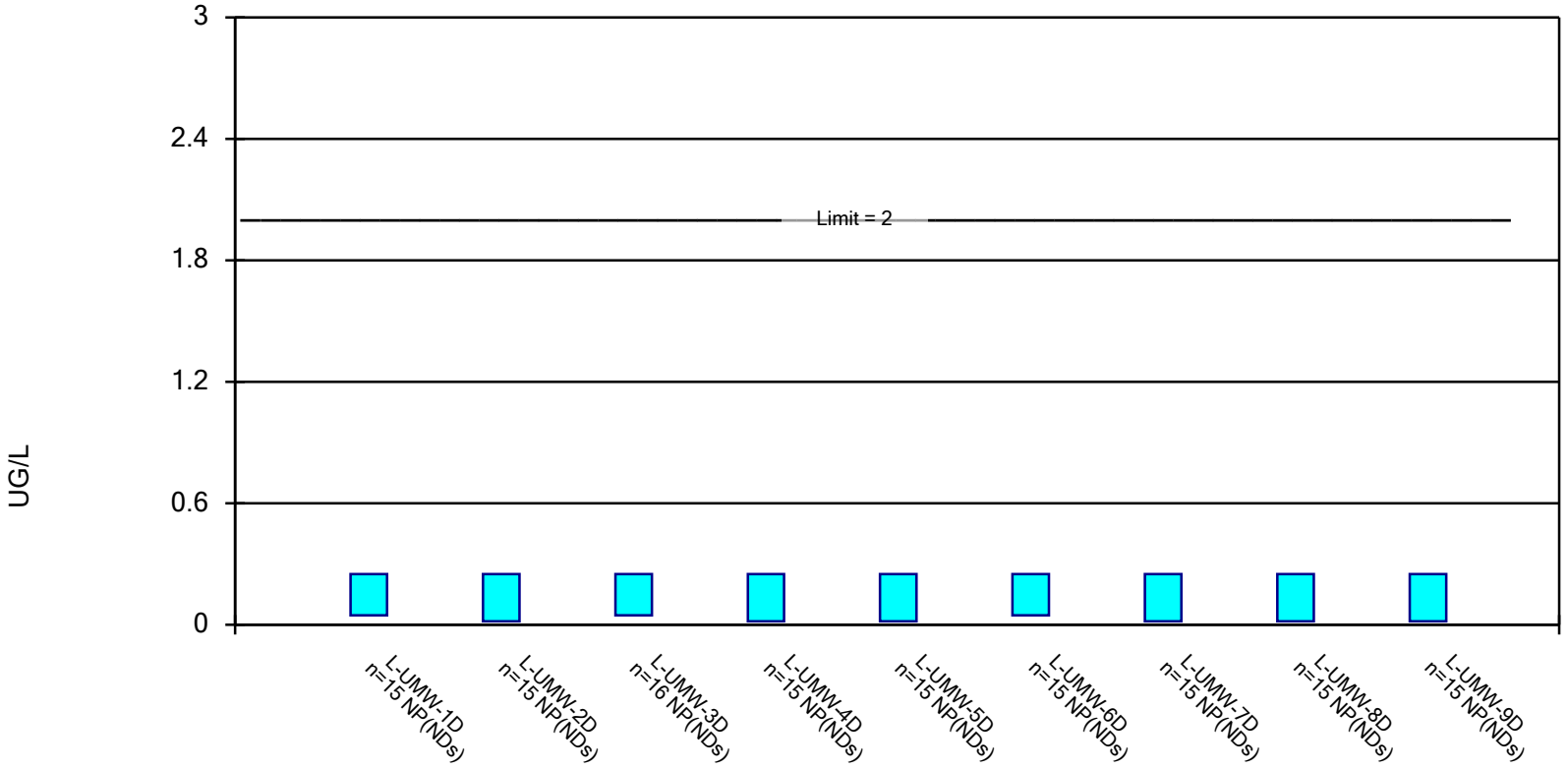
Constituent: SELENIUM, TOTAL Analysis Run 4/17/2024 9:44 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



Constituent: THALLIUM, TOTAL Analysis Run 4/17/2024 9:44 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/17/2024, 9:54 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0.06	0.013	6	No	16	87.5	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0.05	0.013	6	No	16	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.06	0.013	6	No	17	88.24	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.06	0.013	6	No	16	93.75	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.094	0.039	6	No	16	62.5	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.06	0.013	6	No	16	93.75	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0.05	0.013	6	No	16	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0.05	0.013	6	No	16	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0.05	0.013	6	No	16	93.75	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	L-UMW-1D	47.12	35.28	44.2	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-2D	2.088	1.443	44.2	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-3D	3.848	0.7834	44.2	No	20	5	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.1424	0.09929	44.2	No	21	33.33	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-5D	21.74	17.31	44.2	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-6D	20.56	12.02	44.2	No	20	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-7D	23.93	18.18	44.2	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-8D	31.68	27.87	44.2	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-9D	33.89	31.31	44.2	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-1D	498.2	426.4	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-2D	127.4	110.1	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-3D	121.9	86.45	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-4D	85.19	67.35	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-5D	76.37	64.23	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-6D	133.4	111.9	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-7D	142.5	105.9	2000	No	21	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-8D	465	145	2000	No	21	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	L-UMW-9D	522.7	502.6	2000	No	21	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0.195	0.08	4	No	15	86.67	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0.155	0.08	4	No	15	93.33	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0.155	0.08	4	No	16	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0.155	0.08	4	No	15	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0.155	0.08	4	No	15	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0.155	0.08	4	No	15	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0.245	0.08	4	No	15	80	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0.195	0.08	4	No	15	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0.195	0.08	4	No	15	93.33	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.0265	0.009	5	No	15	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.0265	0.009	5	No	15	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.082	0.009	5	No	16	62.5	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0.05	0.009	5	No	15	86.67	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0.21	0.009	5	No	15	80	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.25	0.009	5	No	15	66.67	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0.031	0.009	5	No	15	86.67	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.0265	0.009	5	No	15	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.0265	0.009	5	No	15	100	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.36	0.039	100	No	16	56.25	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0.5	0.039	100	No	17	64.71	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0.37	0.069	100	No	18	72.22	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	0.49	0.11	100	No	16	68.75	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0.5	0.067	100	No	17	70.59	No	0.01	NP (NDs)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/17/2024, 9:54 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	0.54	0.079	100	No	17	58.82	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	0.4757	0.1537	100	No	17	47.06	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	0.48	0.064	100	No	17	58.82	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0.53	0.064	100	No	17	64.71	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-1D	0.6	0.36	6	No	15	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-2D	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-3D	0.6	0.36	6	No	17	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-4D	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-5D	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-6D	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-7D	0.7	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-8D	0.75	0.36	6	No	16	93.75	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-9D	0.65	0.36	6	No	16	100	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.25	0.19	4	No	24	12.5	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0.38	0.34	4	No	23	17.39	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.1807	0.1086	4	No	26	34.62	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.41	0.32	4	No	25	8	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.1461	0.09432	4	No	23	30.43	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0.1383	0.09532	4	No	22	31.82	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0.32	0.24	4	No	26	11.54	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.2467	0.1617	4	No	24	8.333	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.2068	0.1505	4	No	22	9.091	No	0.01	Param.
LEAD, TOTAL (UG/L)	L-UMW-1D	3.4	1.25	15	No	15	73.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-2D	3	1.2	15	No	15	80	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-3D	3	1.25	15	No	16	81.25	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-4D	2.15	1.2	15	No	15	100	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-5D	2.3	1.2	15	No	15	86.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-6D	2.3	1.2	15	No	15	86.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-7D	2.7	1.25	15	No	15	80	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-8D	3.9	1.25	15	No	15	80	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-9D	3	1.25	15	No	15	60	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	L-UMW-1D	27.95	25.01	47.4	No	21	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-2D	28.64	25.04	47.4	No	21	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-3D	23.46	18.27	47.4	No	22	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-4D	33.42	30.05	47.4	No	21	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-5D	22.66	16.65	47.4	No	21	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-6D	10.88	7.043	47.4	No	21	4.762	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-7D	23.85	19.16	47.4	No	21	4.762	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-8D	34.6	26.4	47.4	No	21	0	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	L-UMW-9D	17.82	16.19	47.4	No	21	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	L-UMW-1D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-2D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-4D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-5D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-6D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-7D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-8D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-9D	0.048	0.0195	2	No	15	100	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	3.077	1.226	100	No	21	23.81	No	0.01	Param.

Confidence Interval

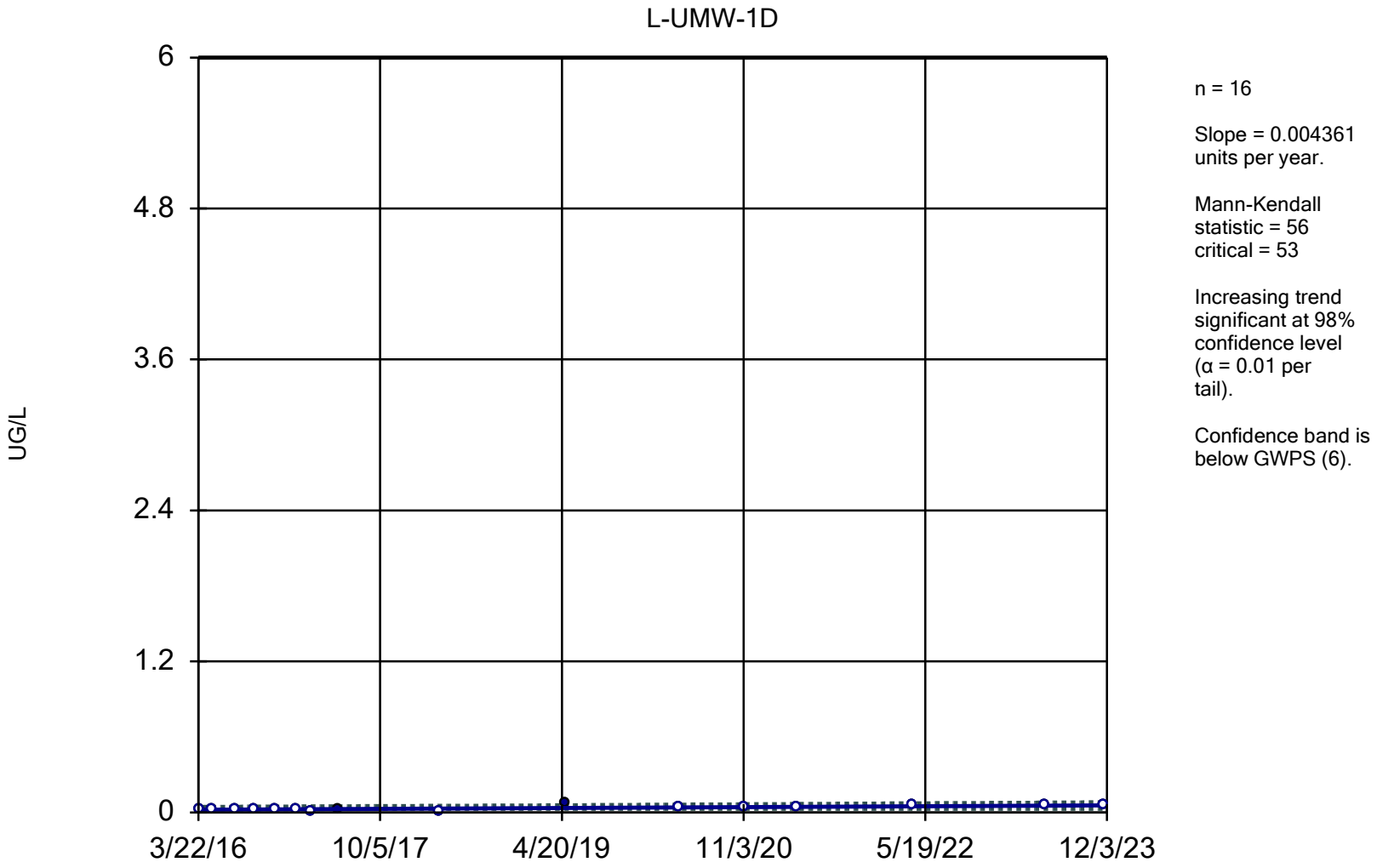
Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/17/2024, 9:54 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	42.63	36.84	100	No	21	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-3D**	**210.6**	**162.3**	**100**	**Yes**	**22**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-4D**	**176.5**	**117.5**	**100**	**Yes**	**21**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**263**	**122**	**100**	**Yes**	**22**	**0**	**No**	**0.01**	**NP (normality)**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-6D**	**593.8**	**535.8**	**100**	**Yes**	**21**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-7D**	**229.5**	**155.8**	**100**	**Yes**	**21**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	15.46	12.58	100	No	19	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	1.532	0.8321	100	No	21	47.62	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-1D	2.159	1.577	5	No	20	15	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-2D	2.029	1.523	5	No	21	28.57	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-3D	1.248	0.704	5	No	22	72.73	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-4D	1.097	0.7545	5	No	21	71.43	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.956	0.542	5	No	19	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-6D	1.437	0.7185	5	No	21	57.14	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-7D	1.689	0.689	5	No	21	71.43	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-8D	1.986	0.727	5	No	21	52.38	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-9D	0.857	0.5575	5	No	21	90.48	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0.11	0.043	50	No	18	94.44	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0.11	0.043	50	No	18	94.44	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0.19	0.09	50	No	19	57.89	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0.19	0.043	50	No	18	94.44	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0.15	0.09	50	No	18	61.11	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0.26	0.18	50	No	18	22.22	No	0.01	NP (normality)
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0.091	0.089	50	No	18	83.33	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0.09	0.087	50	No	18	94.44	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0.09	0.043	50	No	18	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-1D	0.25	0.0465	2	No	15	86.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-2D	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-3D	0.25	0.0465	2	No	16	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-4D	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-5D	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-6D	0.25	0.0465	2	No	15	93.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-7D	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-8D	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-9D	0.25	0.018	2	No	15	100	No	0.01	NP (NDs)

Appendix B
Sanitas Trending Confidence Bands Statistical Output

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



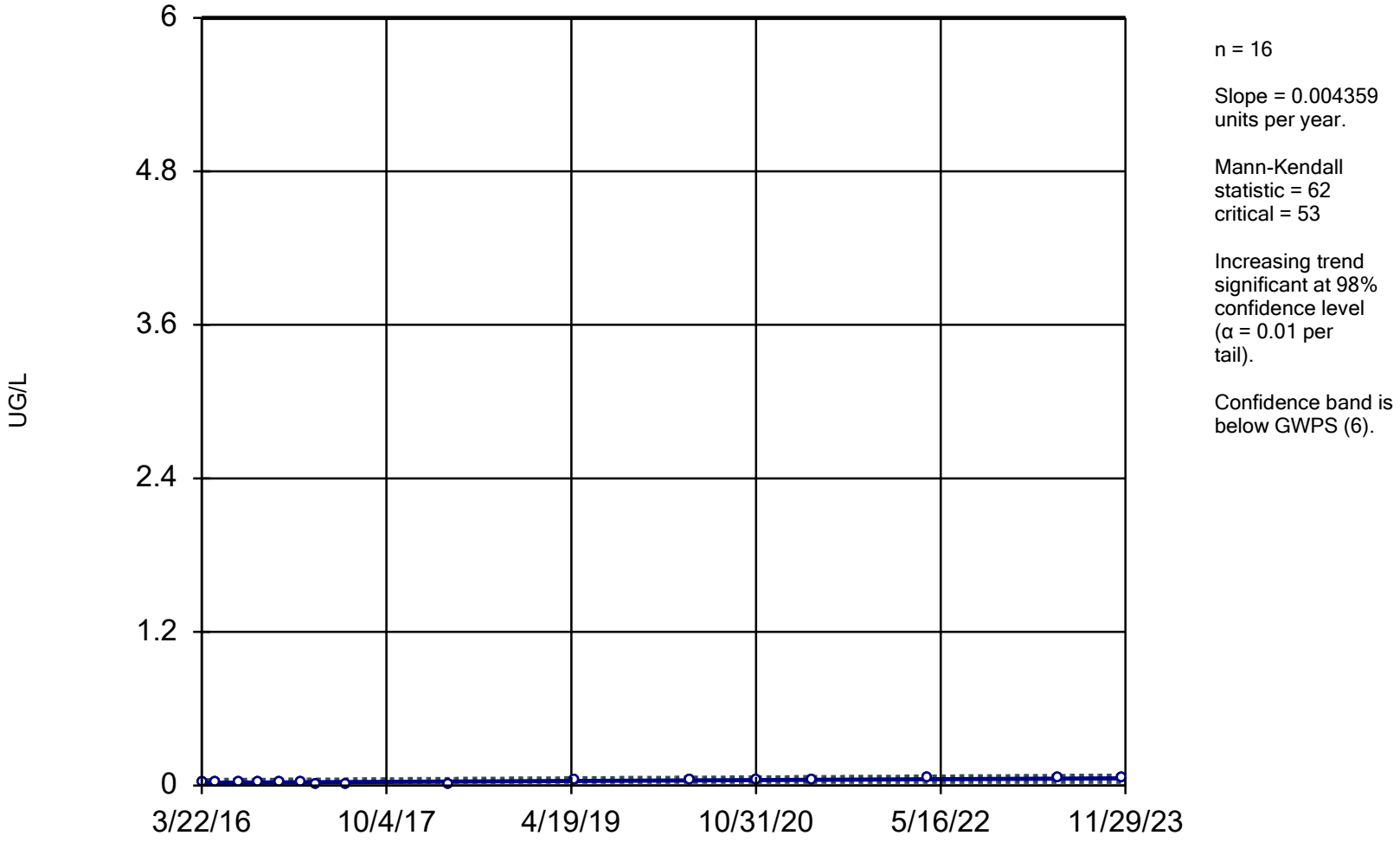
Constituent: ANTIMONY, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 16

Slope = 0.004359 units per year.

Mann-Kendall statistic = 62
critical = 53

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

Confidence band is below GWPS (6).

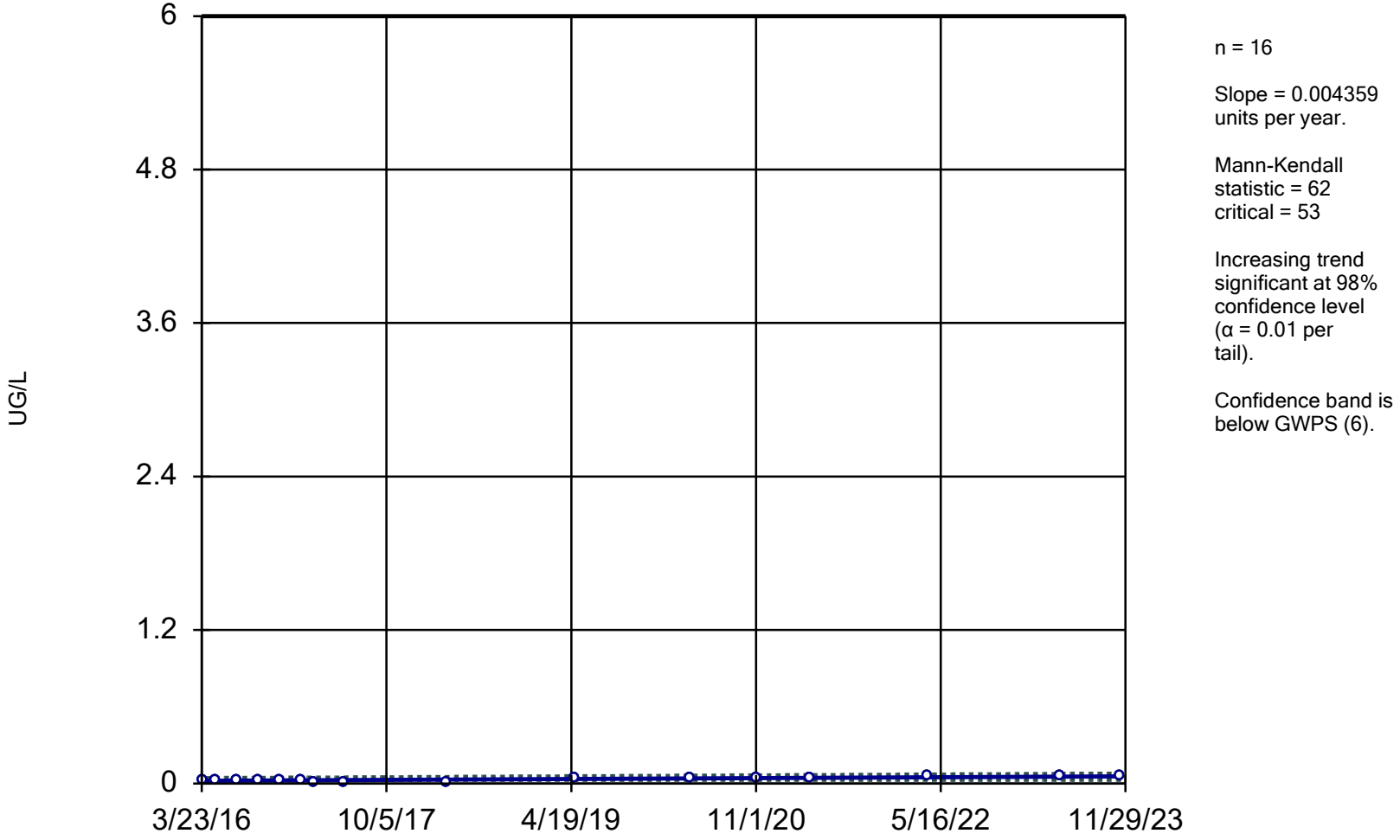
Constituent: ANTIMONY, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 16

Slope = 0.004359 units per year.

Mann-Kendall statistic = 62
critical = 53

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

Confidence band is below GWPS (6).

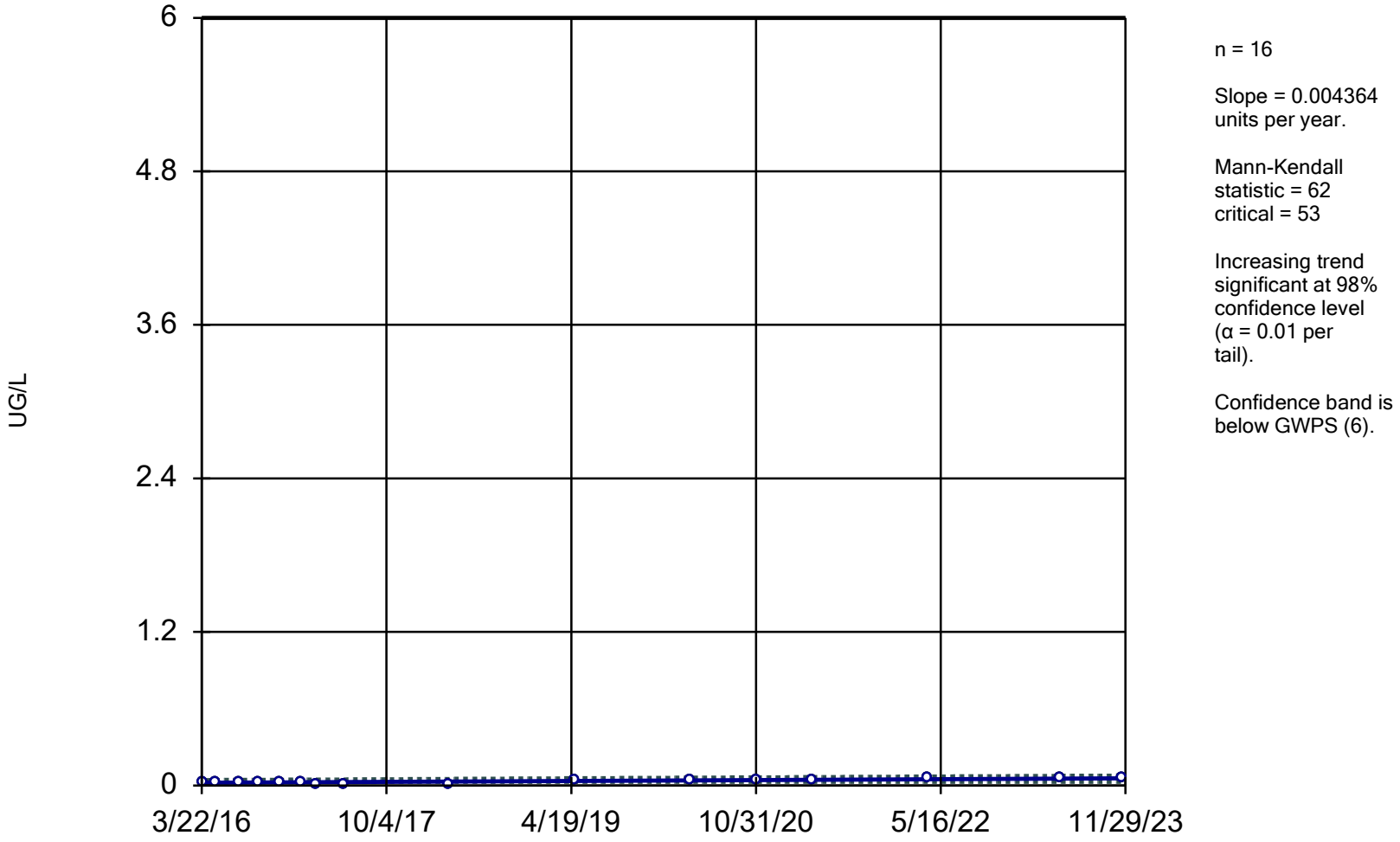
Constituent: ANTIMONY, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 16

Slope = 0.004364 units per year.

Mann-Kendall statistic = 62
critical = 53

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

Confidence band is below GWPS (6).

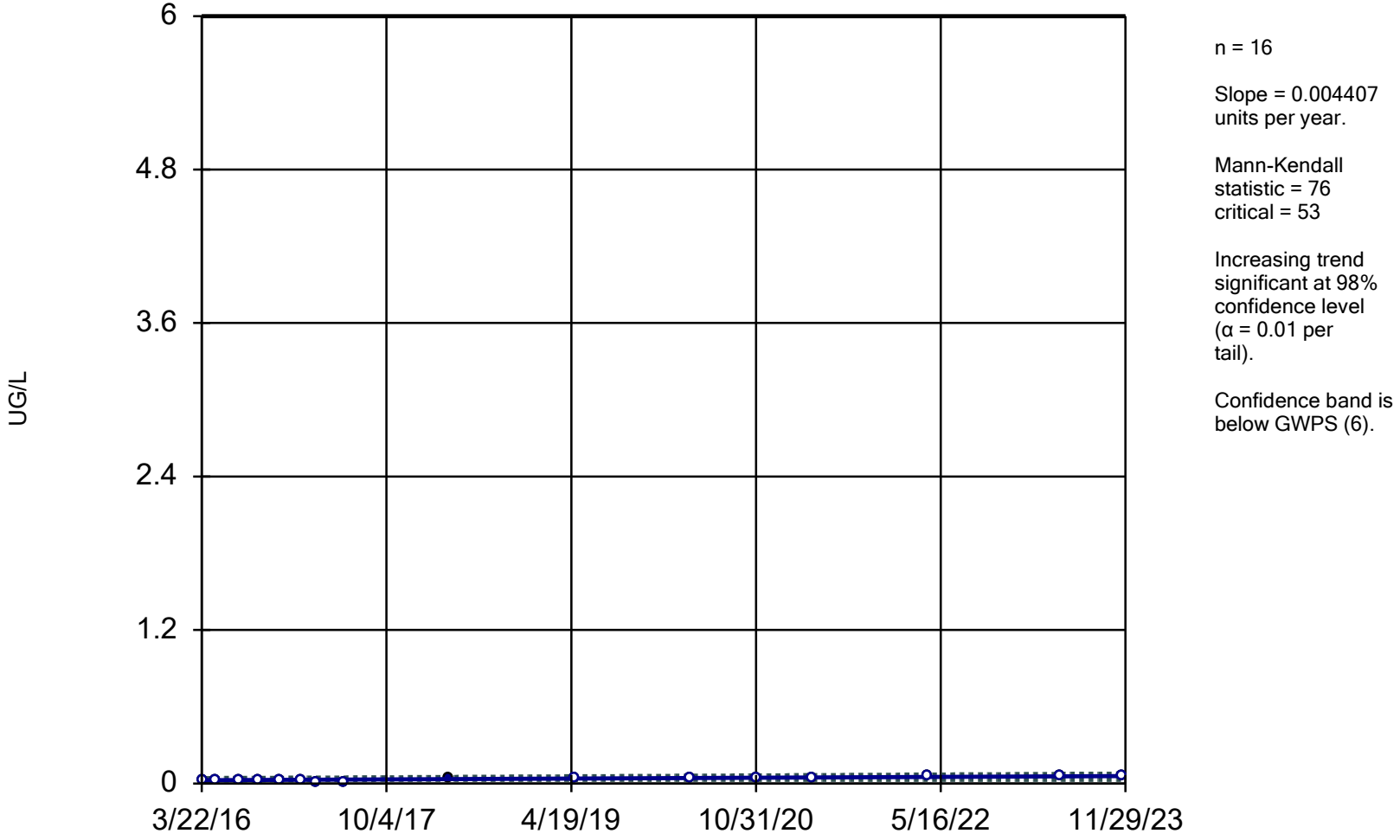
Constituent: ANTIMONY, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 16

Slope = 0.004407 units per year.

Mann-Kendall statistic = 76
critical = 53

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

Confidence band is below GWPS (6).

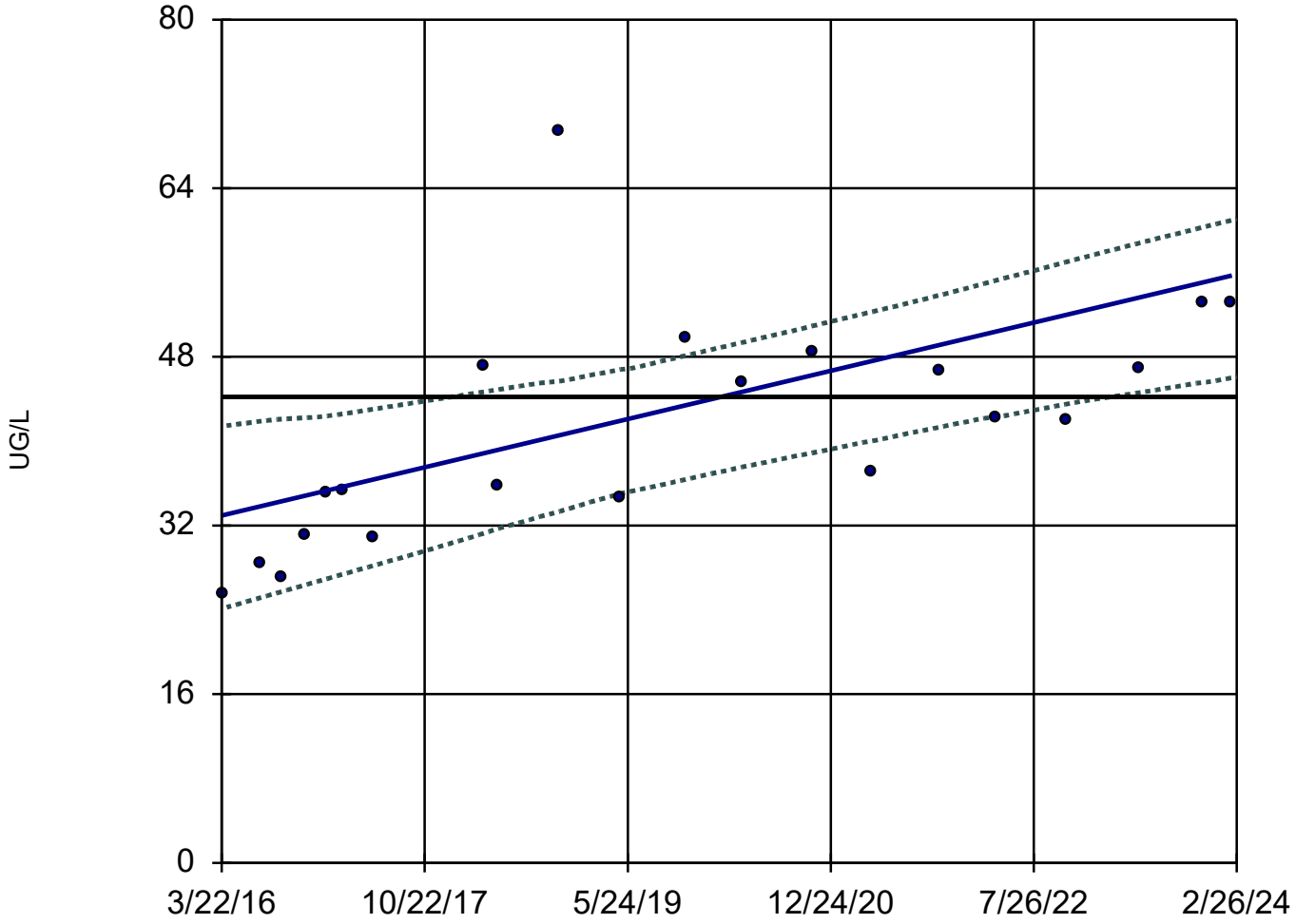
Constituent: ANTIMONY, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 21

Slope = 2.885 units per year.

Mann-Kendall statistic = 121 critical = 78

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

Confidence band intersects GWPS (44.2) on 01/28/18 and 03/17/23.

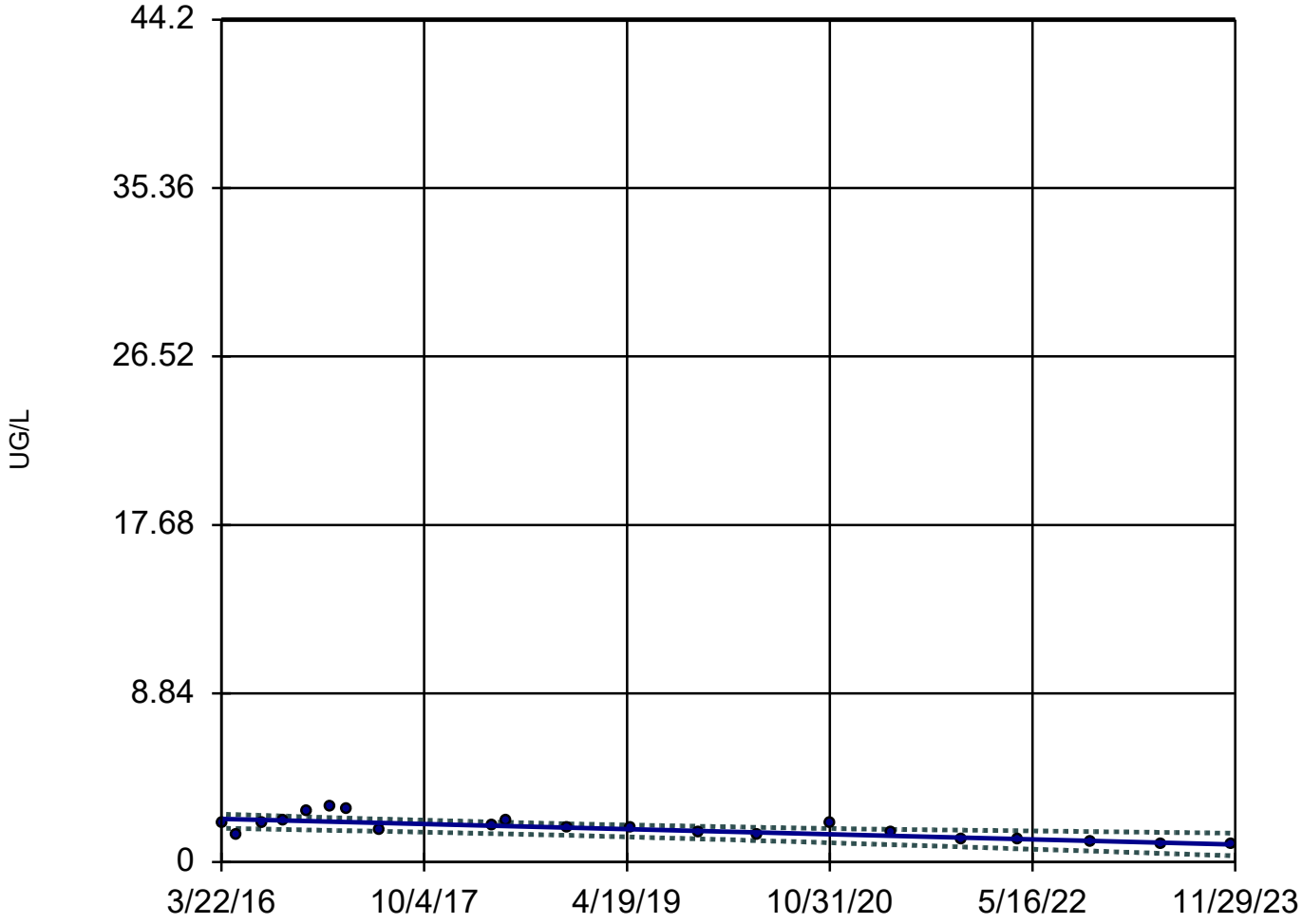
Constituent: ARSENIC, TOTAL Analysis Run 4/17/2024 10:06 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 21

Slope = -0.1756 units per year.

Mann-Kendall statistic = -120 critical = -78

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

Confidence band is below GWPS (44.2).

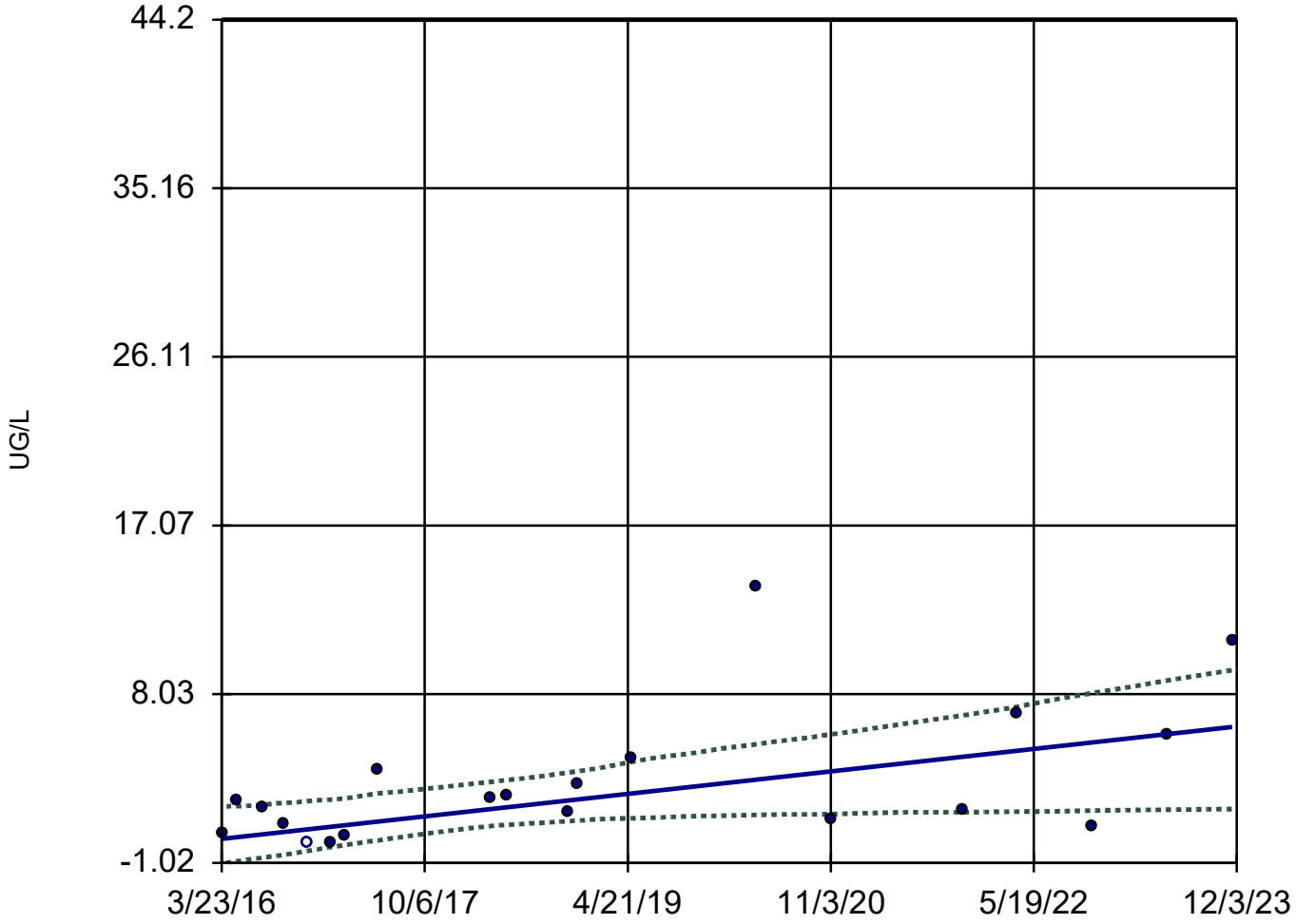
Constituent: ARSENIC, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-3D



n = 20

Slope = 0.7818 units per year.

Mann-Kendall statistic = 76
critical = 73

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

Confidence band is below GWPS (44.2).

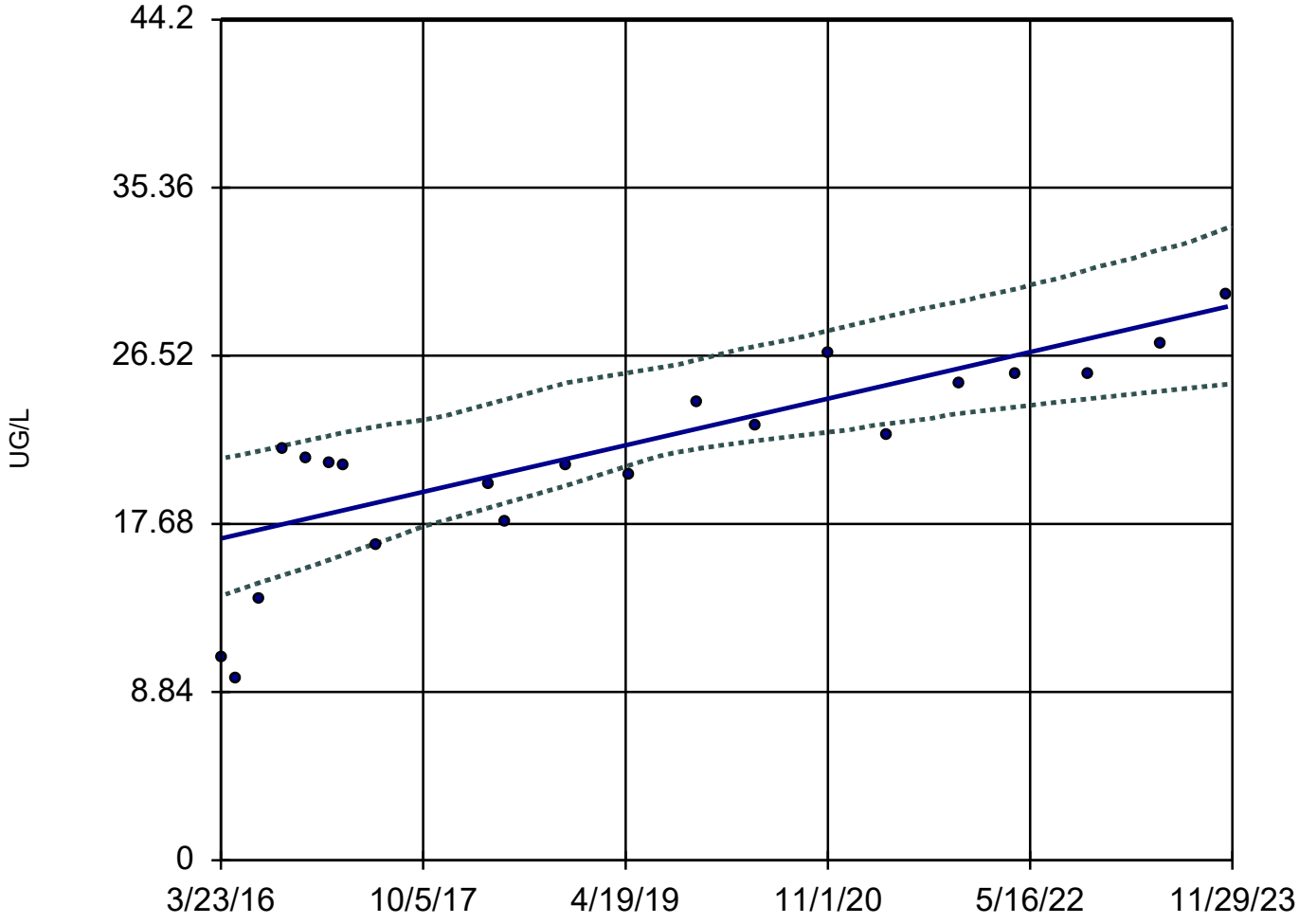
Constituent: ARSENIC, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 21

Slope = 1.592 units per year.

Mann-Kendall statistic = 139 critical = 78

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

Confidence band is below GWPS (44.2).

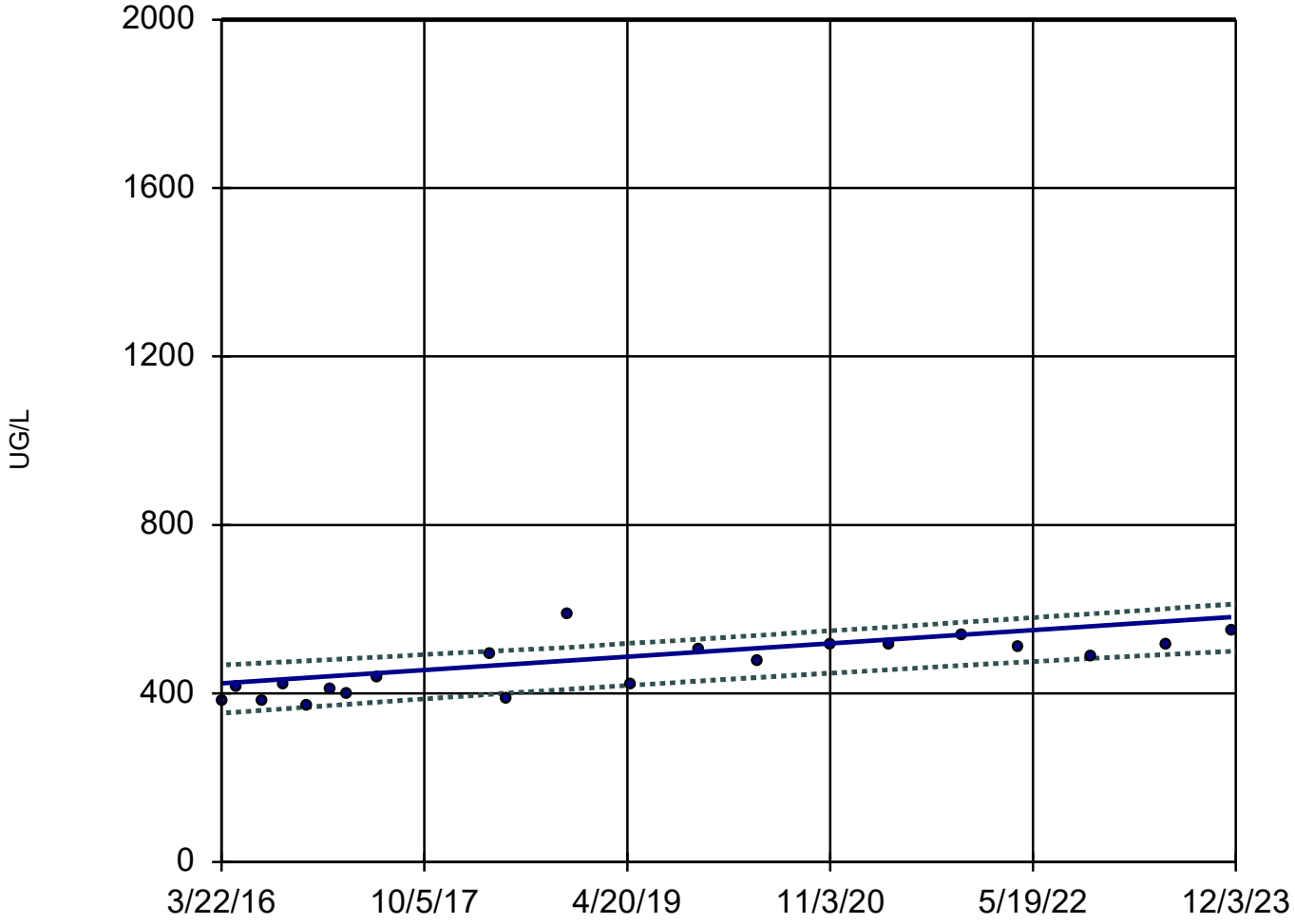
Constituent: ARSENIC, TOTAL Analysis Run 4/17/2024 9:55 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 21

Slope = 20.48 units per year.

Mann-Kendall statistic = 128
critical = 78

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

Confidence band is below GWPS (2000).

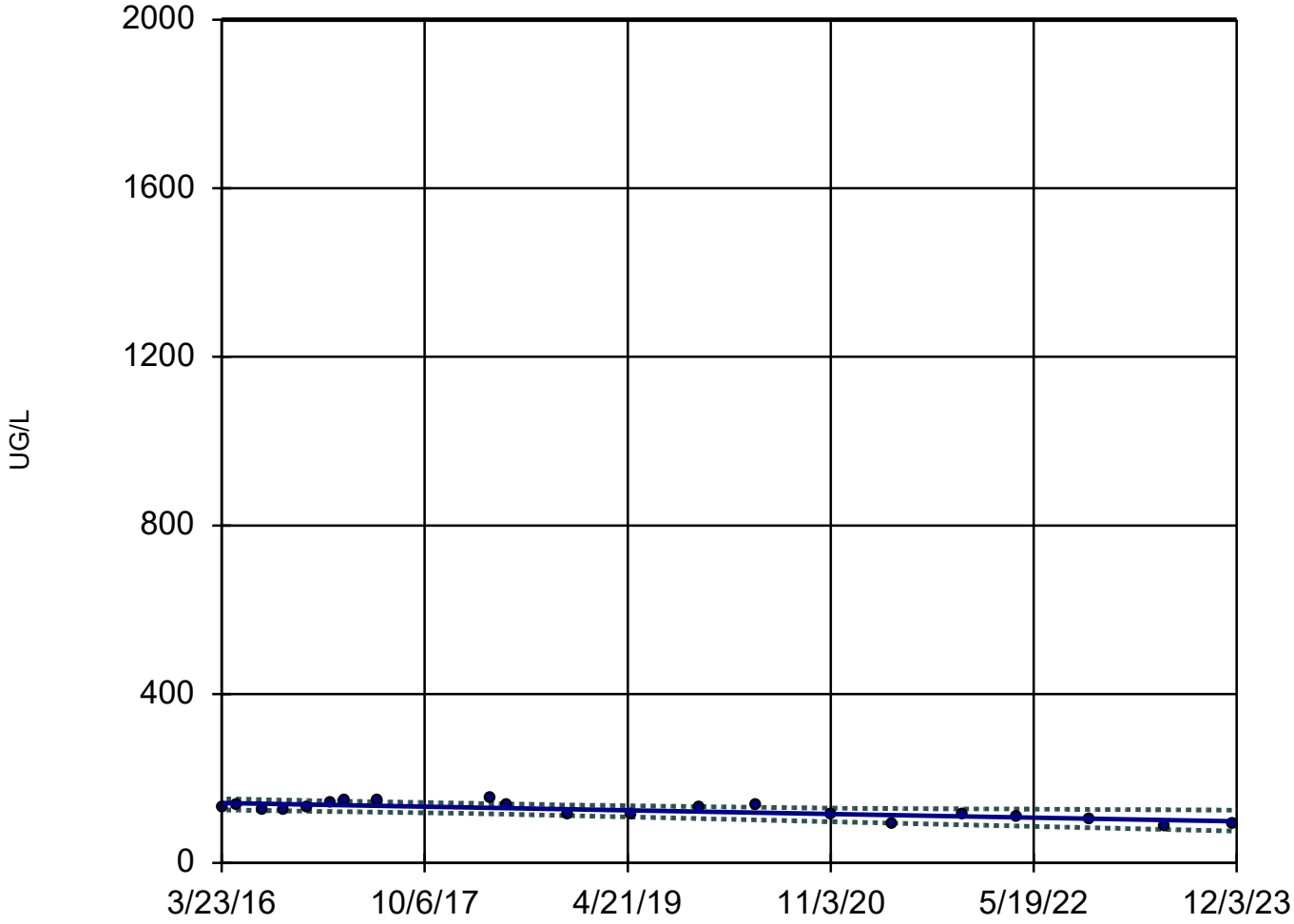
Constituent: BARIUM, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 21

Slope = -5.588 units per year.

Mann-Kendall statistic = -102 critical = -78

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

Confidence band is below GWPS (2000).

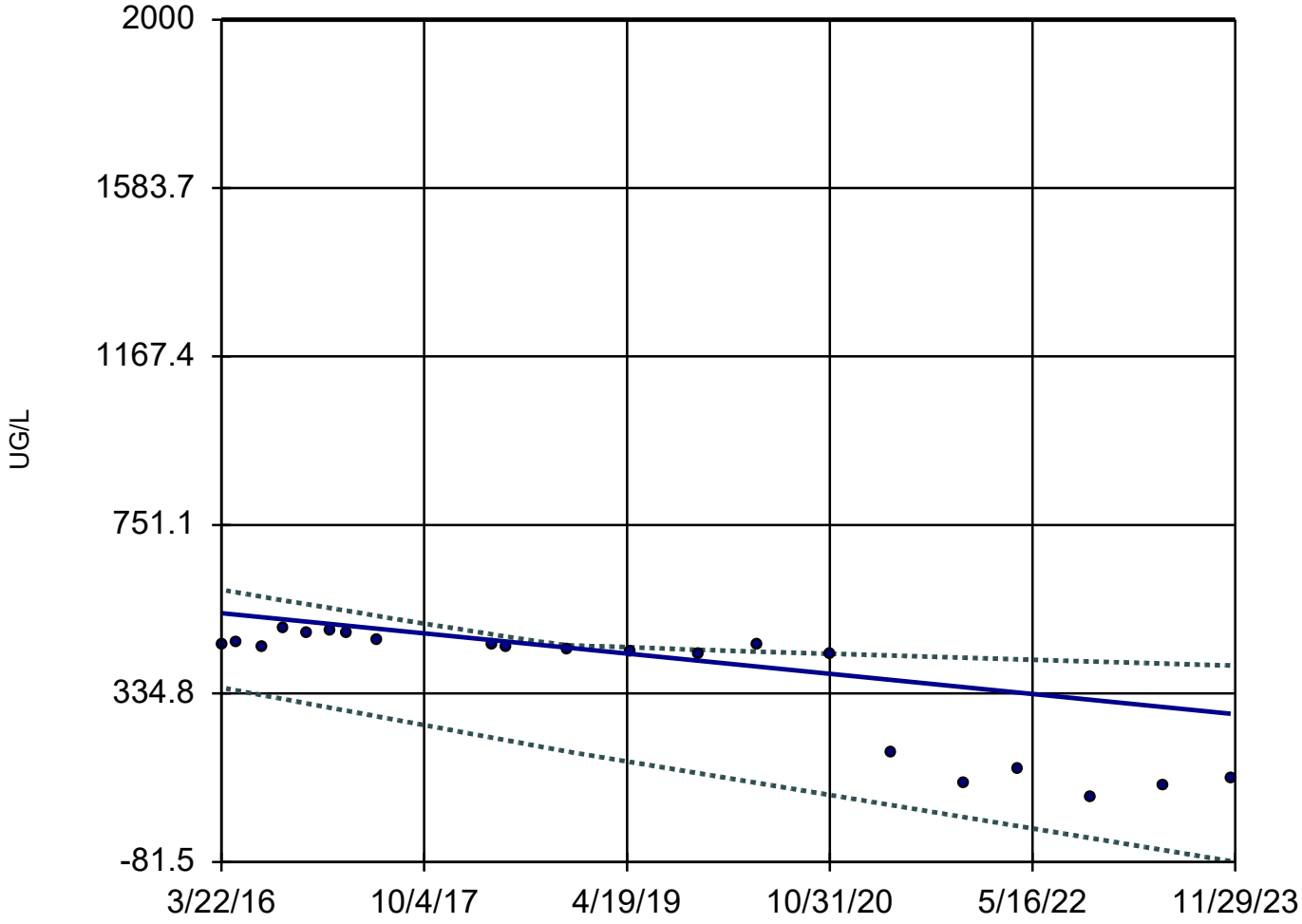
Constituent: BARIUM, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 21

Slope = -32.42 units per year.

Mann-Kendall statistic = -147
critical = -78

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

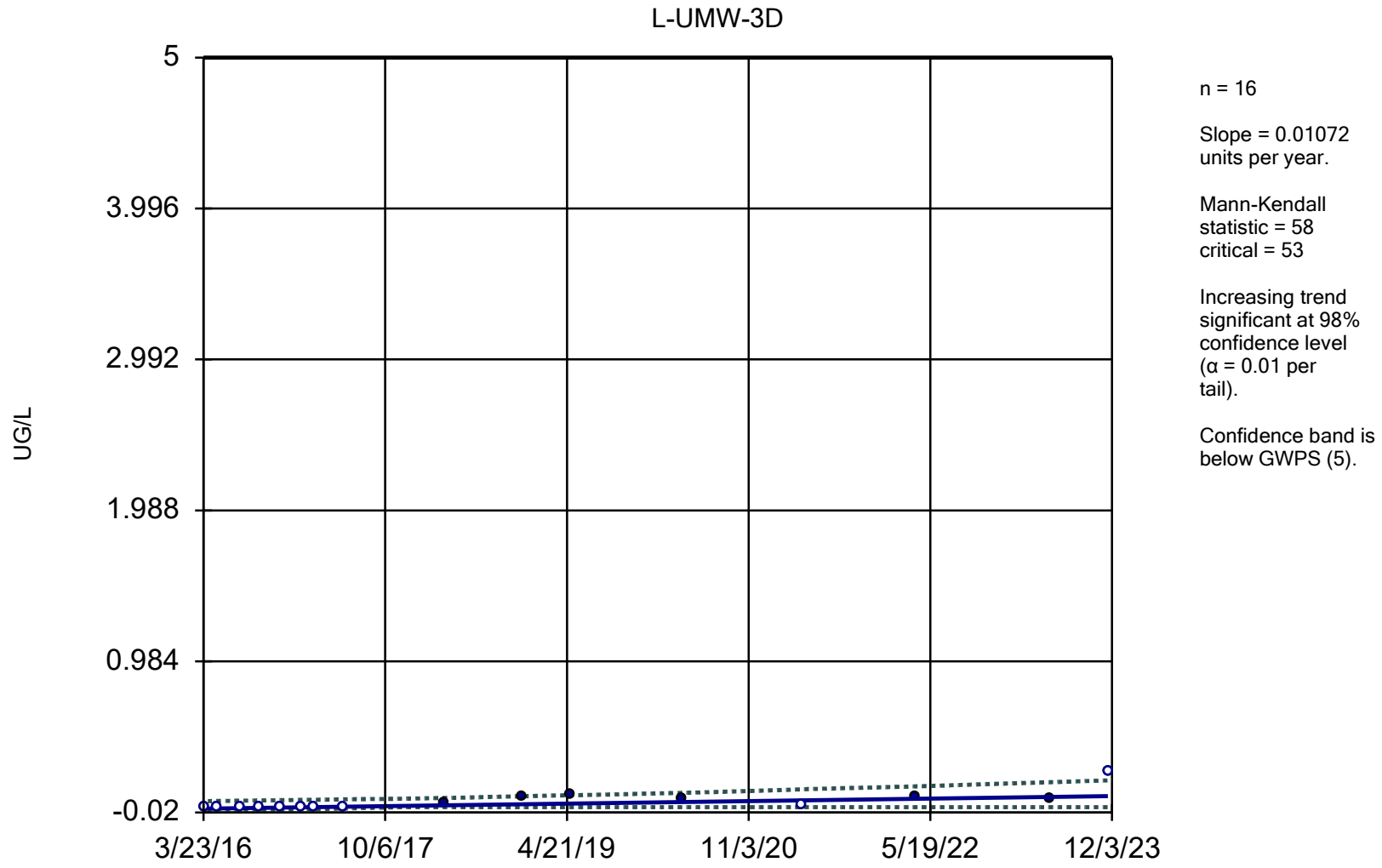
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



n = 16

Slope = 0.01072 units per year.

Mann-Kendall statistic = 58
critical = 53

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

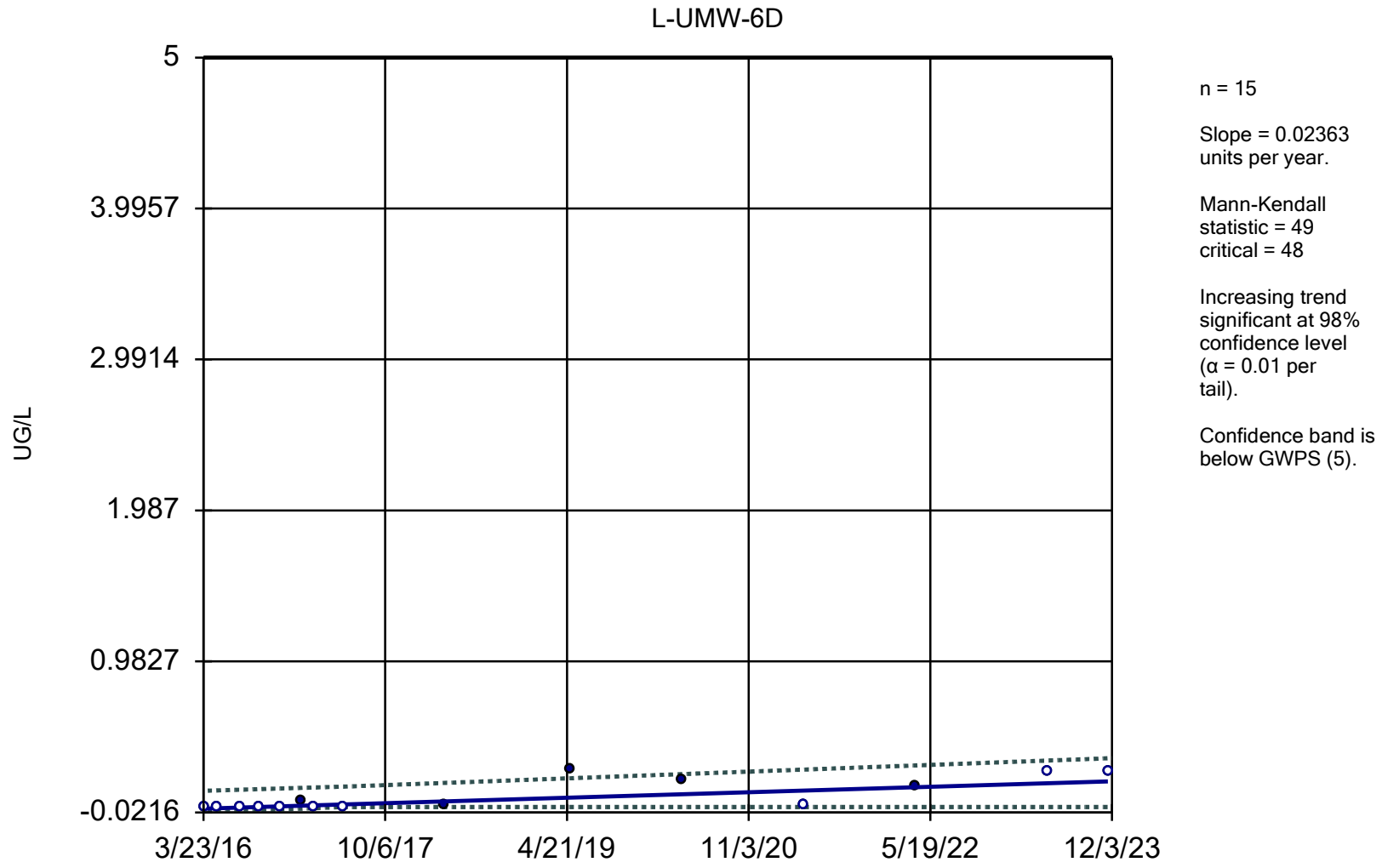
Confidence band is below GWPS (5).

Constituent: CADMIUM, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

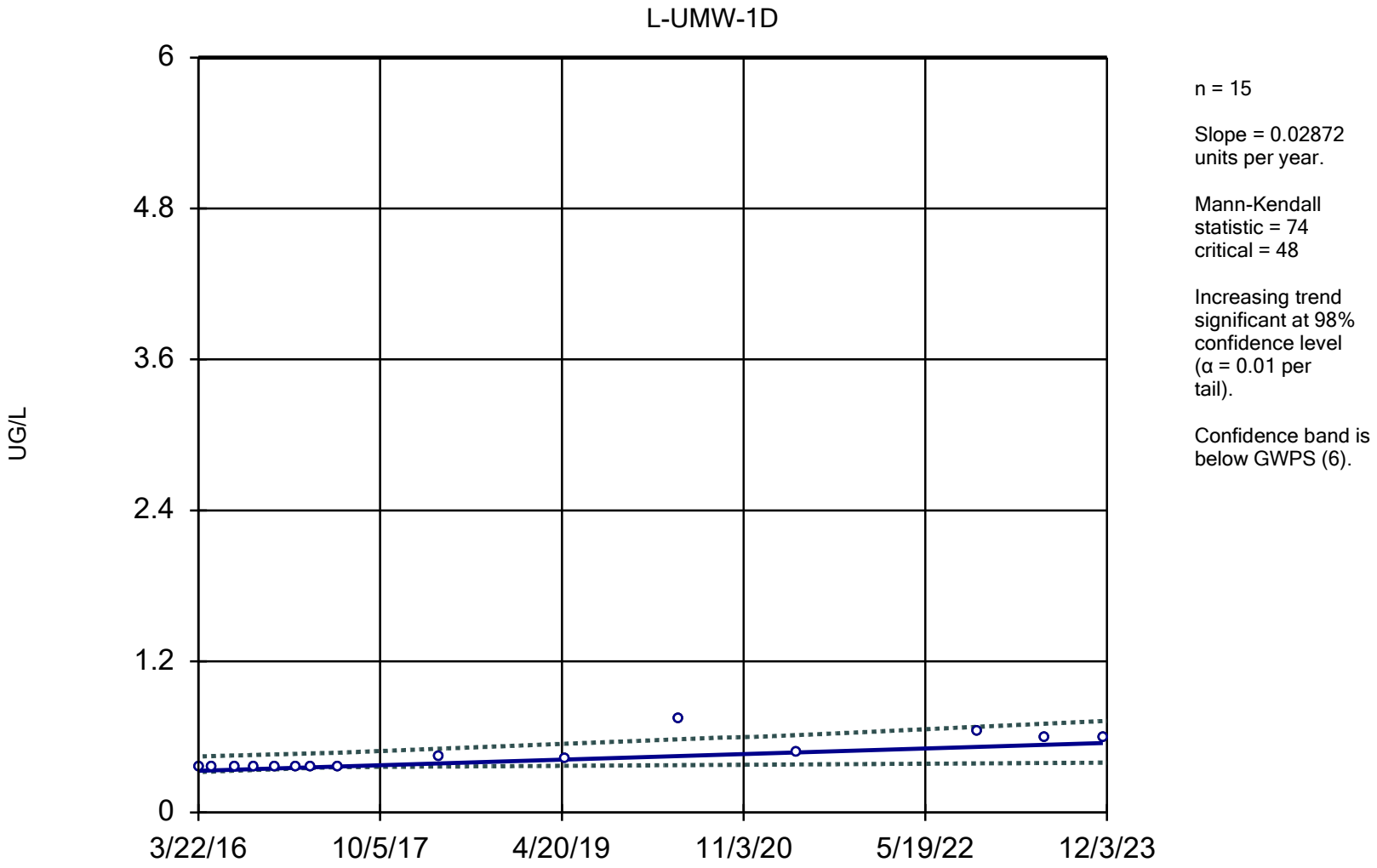


Constituent: CADMIUM, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



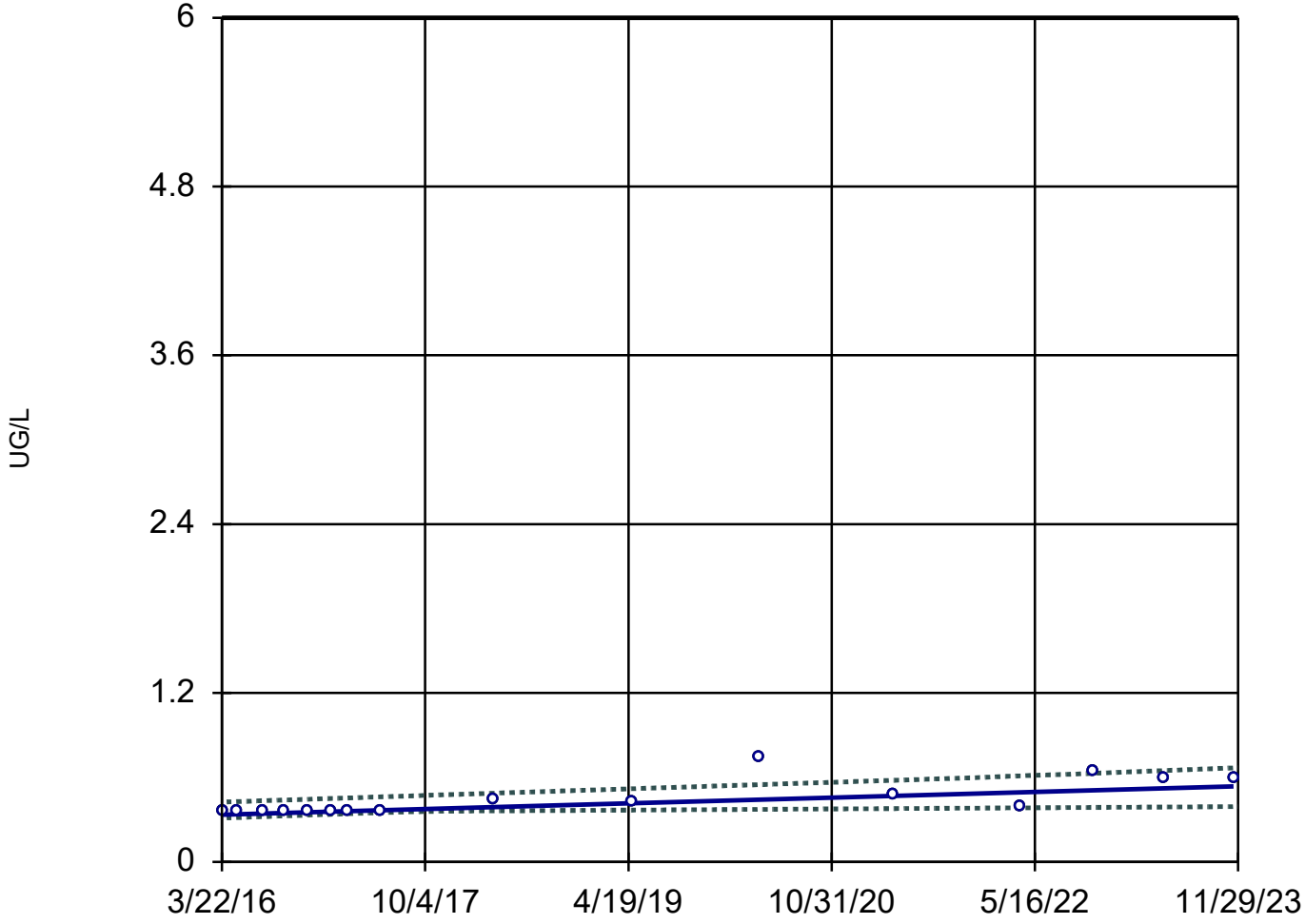
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 16

Slope = 0.02643 units per year.

Mann-Kendall statistic = 81
critical = 53

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

Confidence band is below GWPS (6).

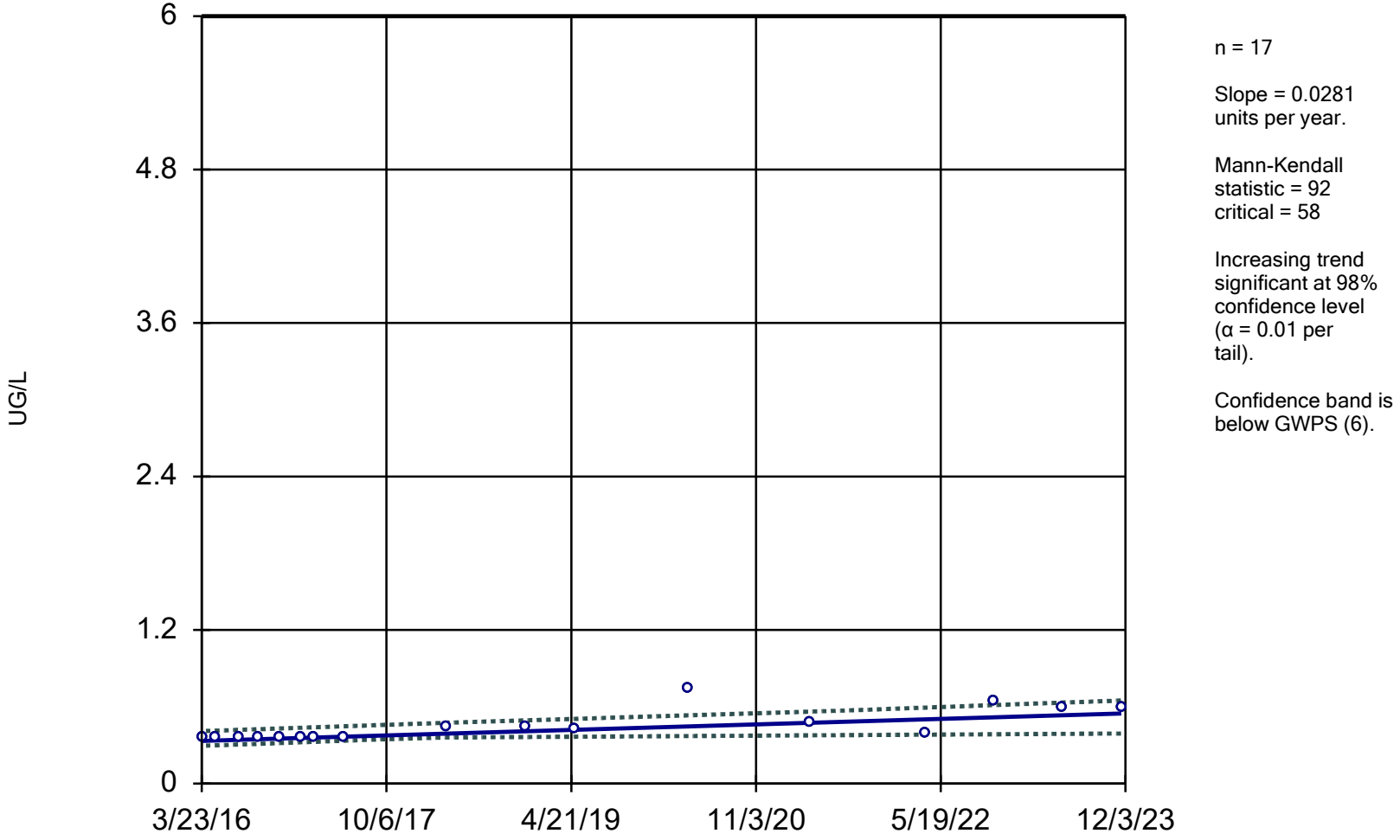
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-3D



n = 17

Slope = 0.0281 units per year.

Mann-Kendall statistic = 92
critical = 58

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

Confidence band is below GWPS (6).

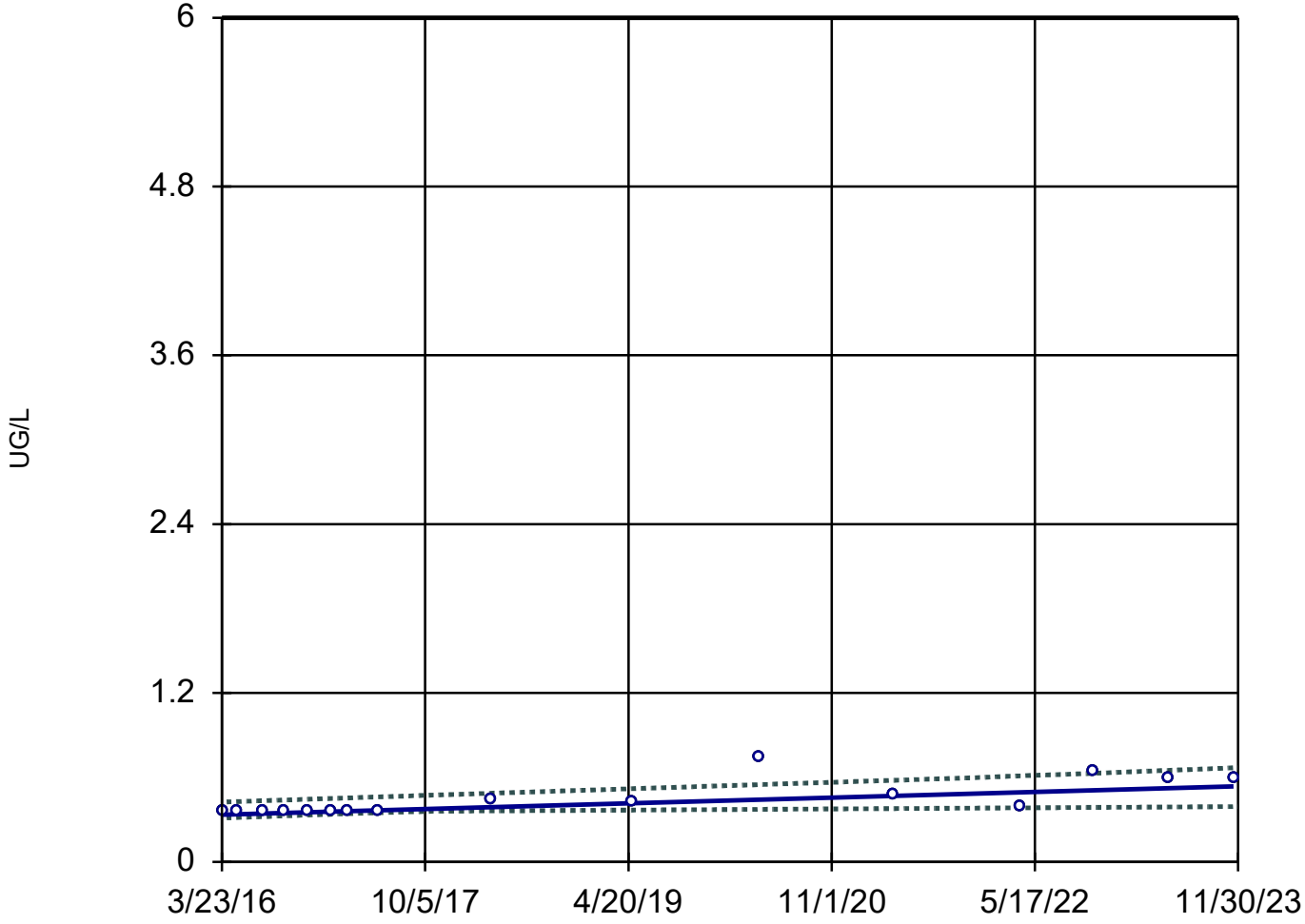
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 16

Slope = 0.02645 units per year.

Mann-Kendall statistic = 81
critical = 53

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

Confidence band is below GWPS (6).

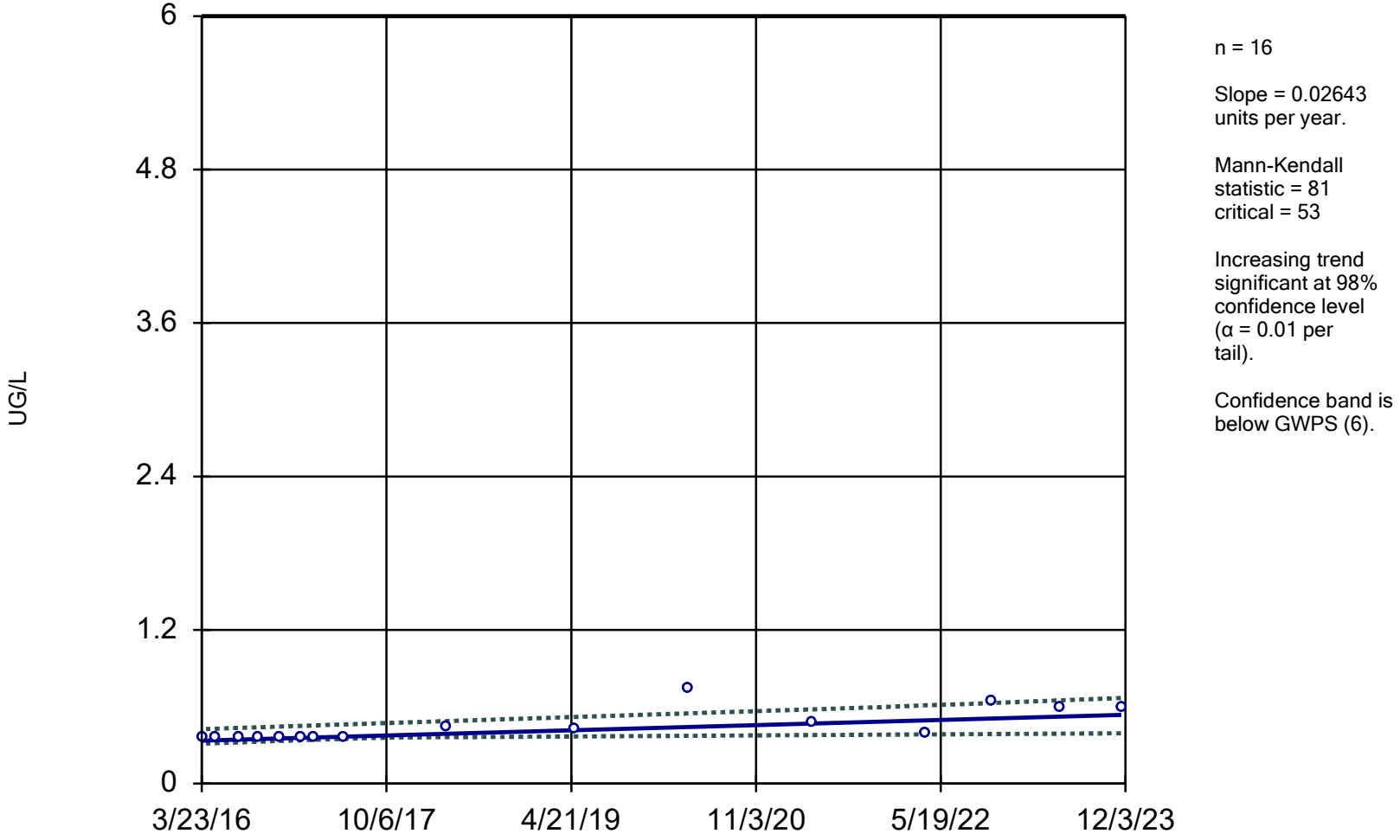
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 16

Slope = 0.02643 units per year.

Mann-Kendall statistic = 81
critical = 53

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

Confidence band is below GWPS (6).

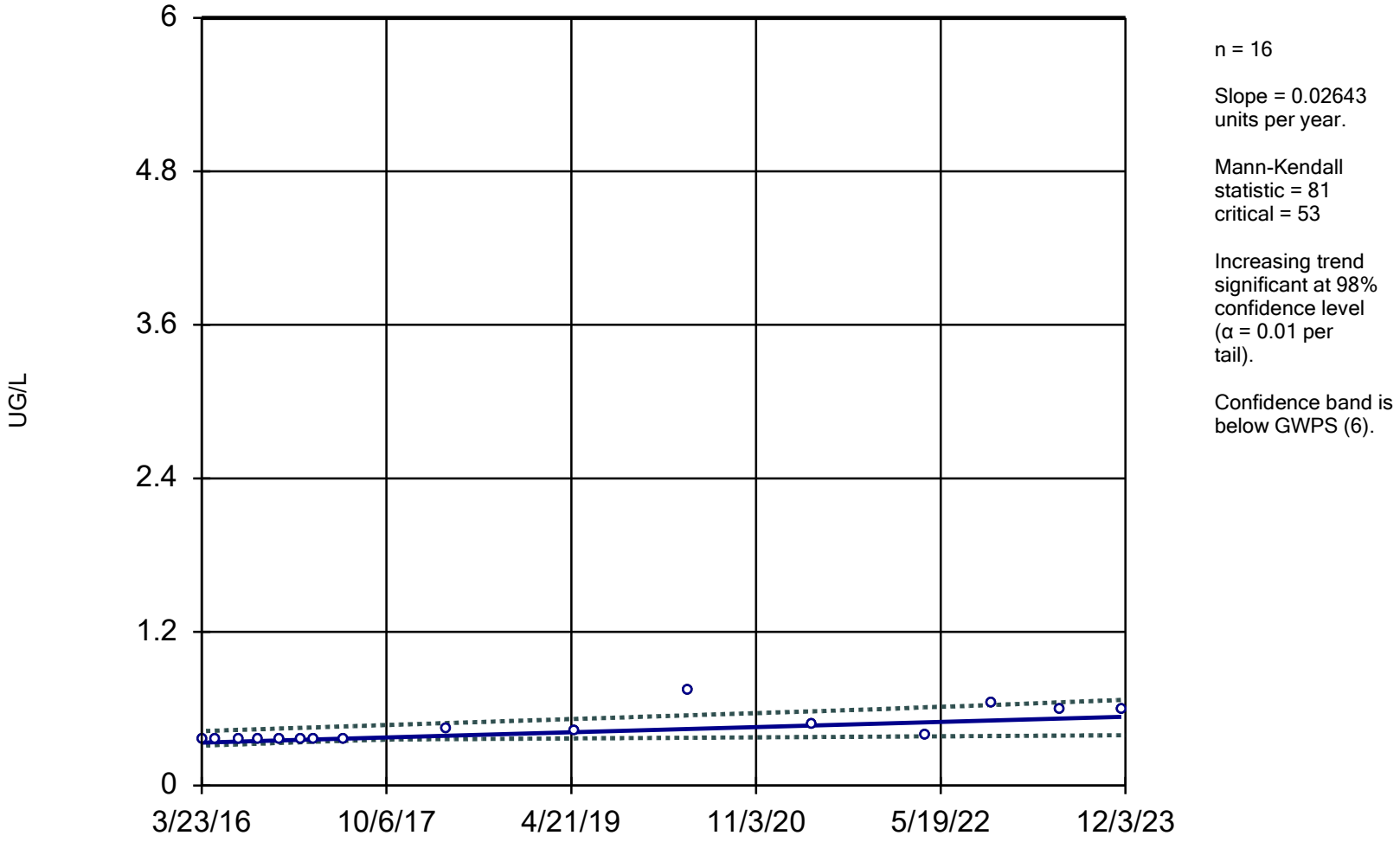
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 16

Slope = 0.02643 units per year.

Mann-Kendall statistic = 81
critical = 53

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

Confidence band is below GWPS (6).

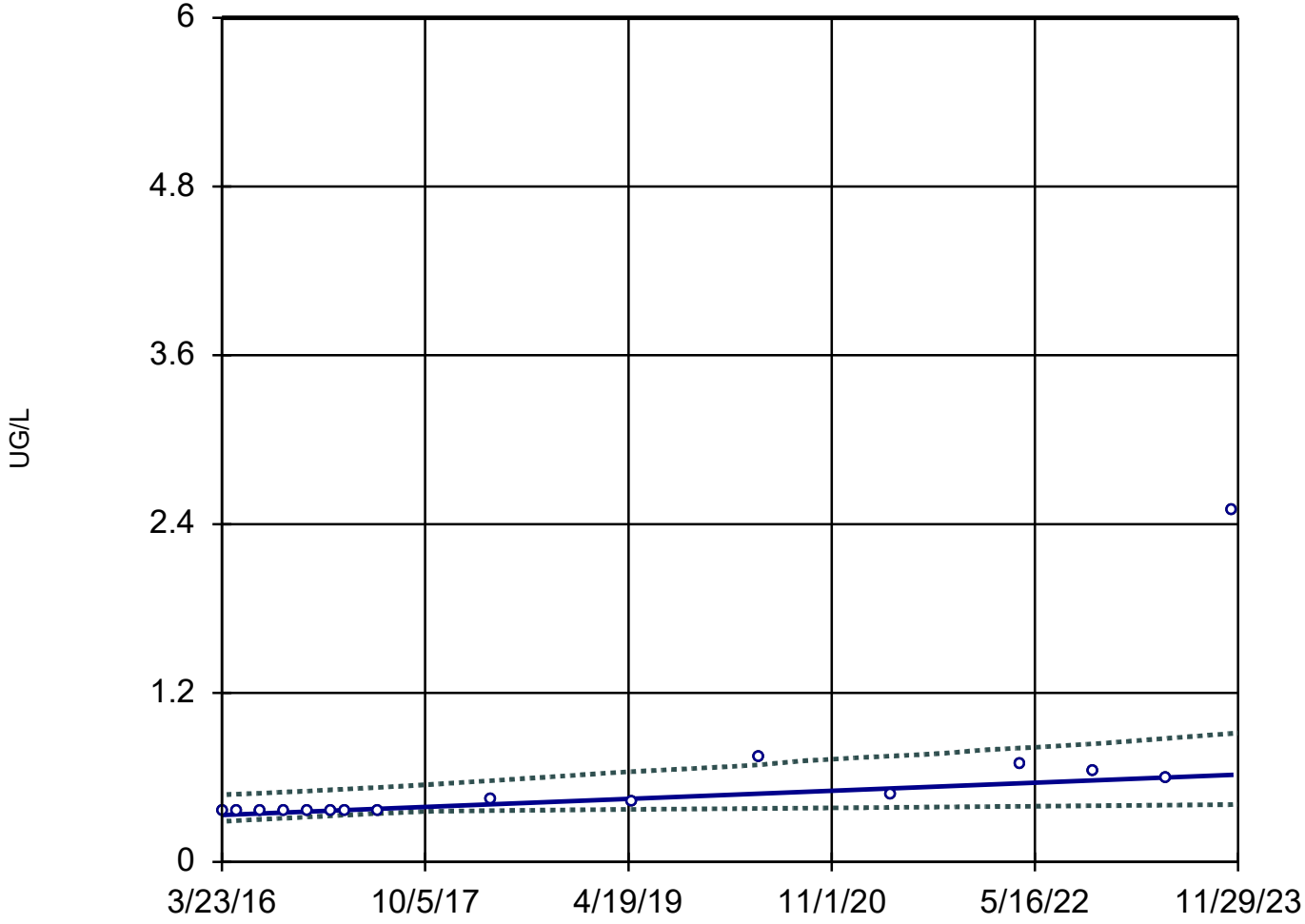
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 16

Slope = 0.03744 units per year.

Mann-Kendall statistic = 88
critical = 53

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

Confidence band is below GWPS (6).

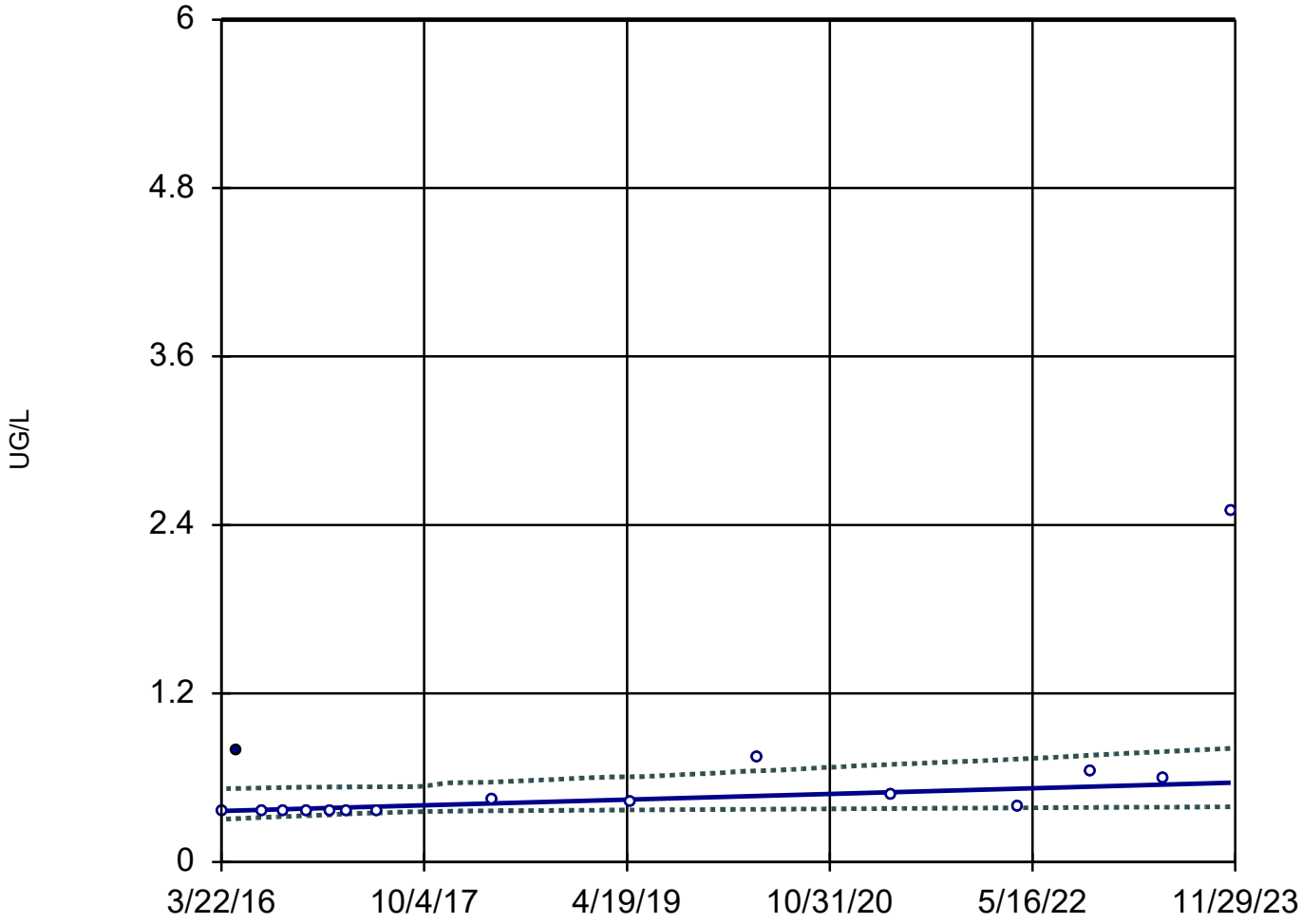
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 16

Slope = 0.02646 units per year.

Mann-Kendall statistic = 65
critical = 53

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

Confidence band is below GWPS (6).

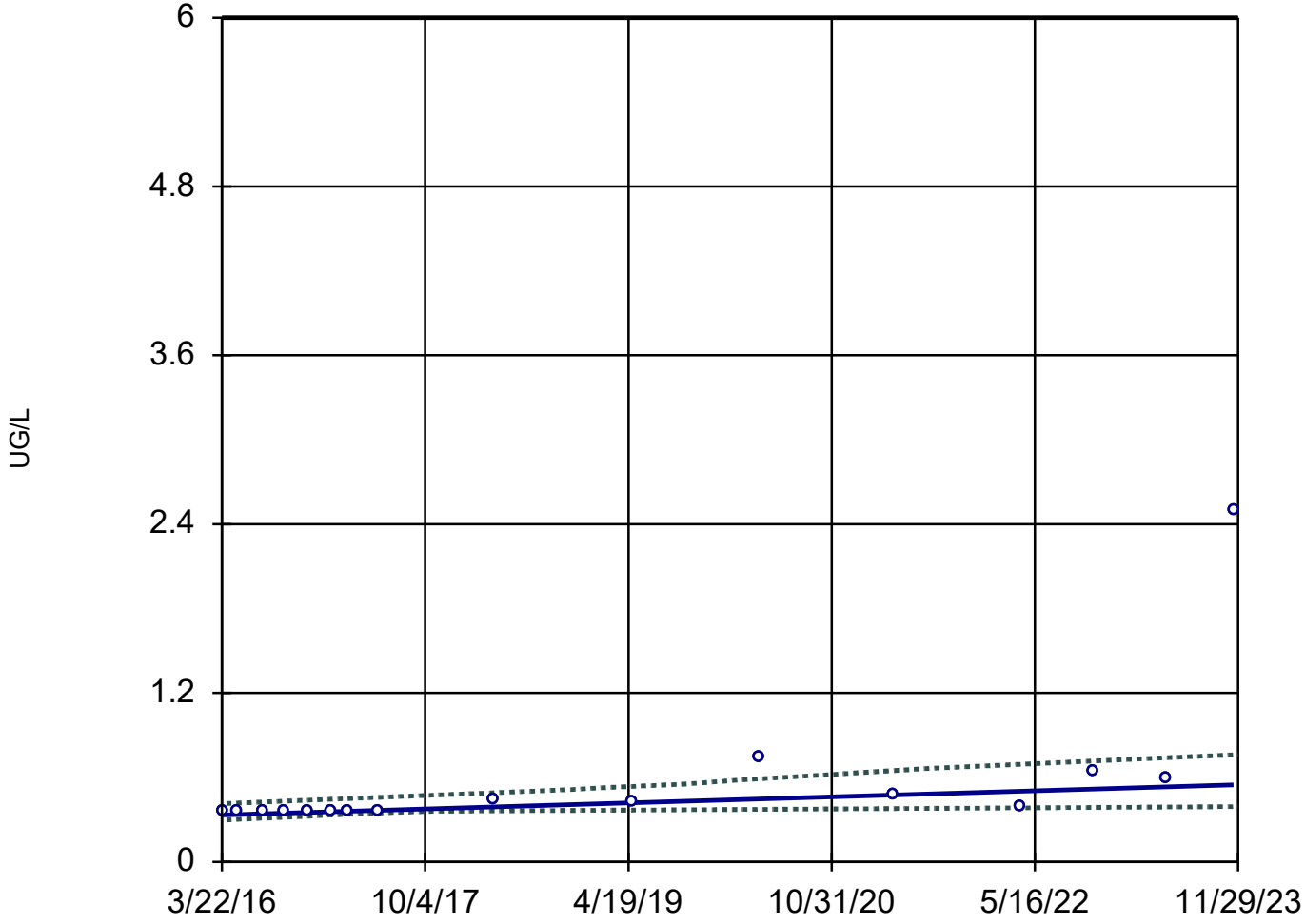
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 16

Slope = 0.02809 units per year.

Mann-Kendall statistic = 86
critical = 53

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

Confidence band is below GWPS (6).

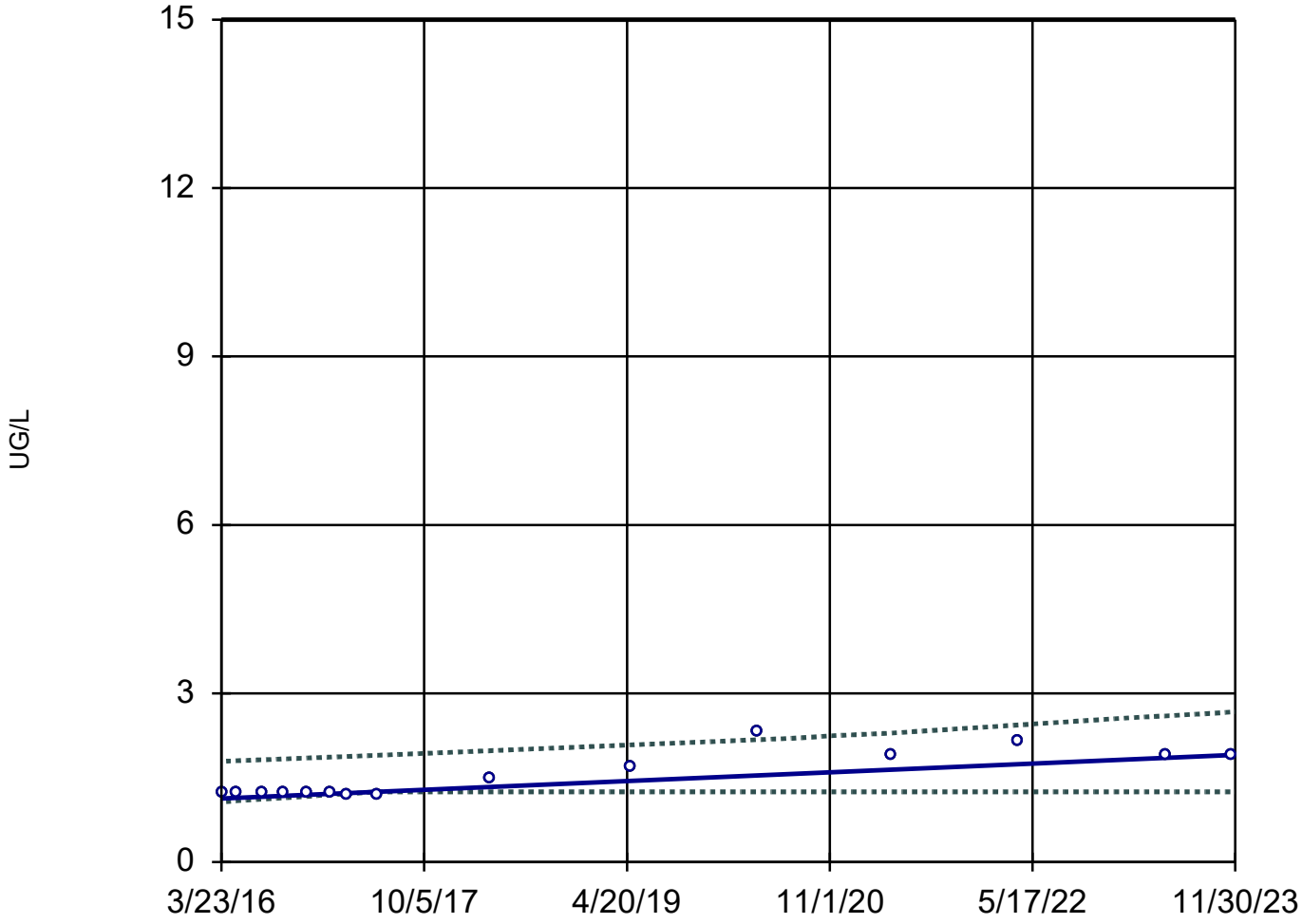
Constituent: COBALT, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 15

Slope = 0.1012 units per year.

Mann-Kendall statistic = 50
critical = 48

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

Confidence band is below GWPS (15).

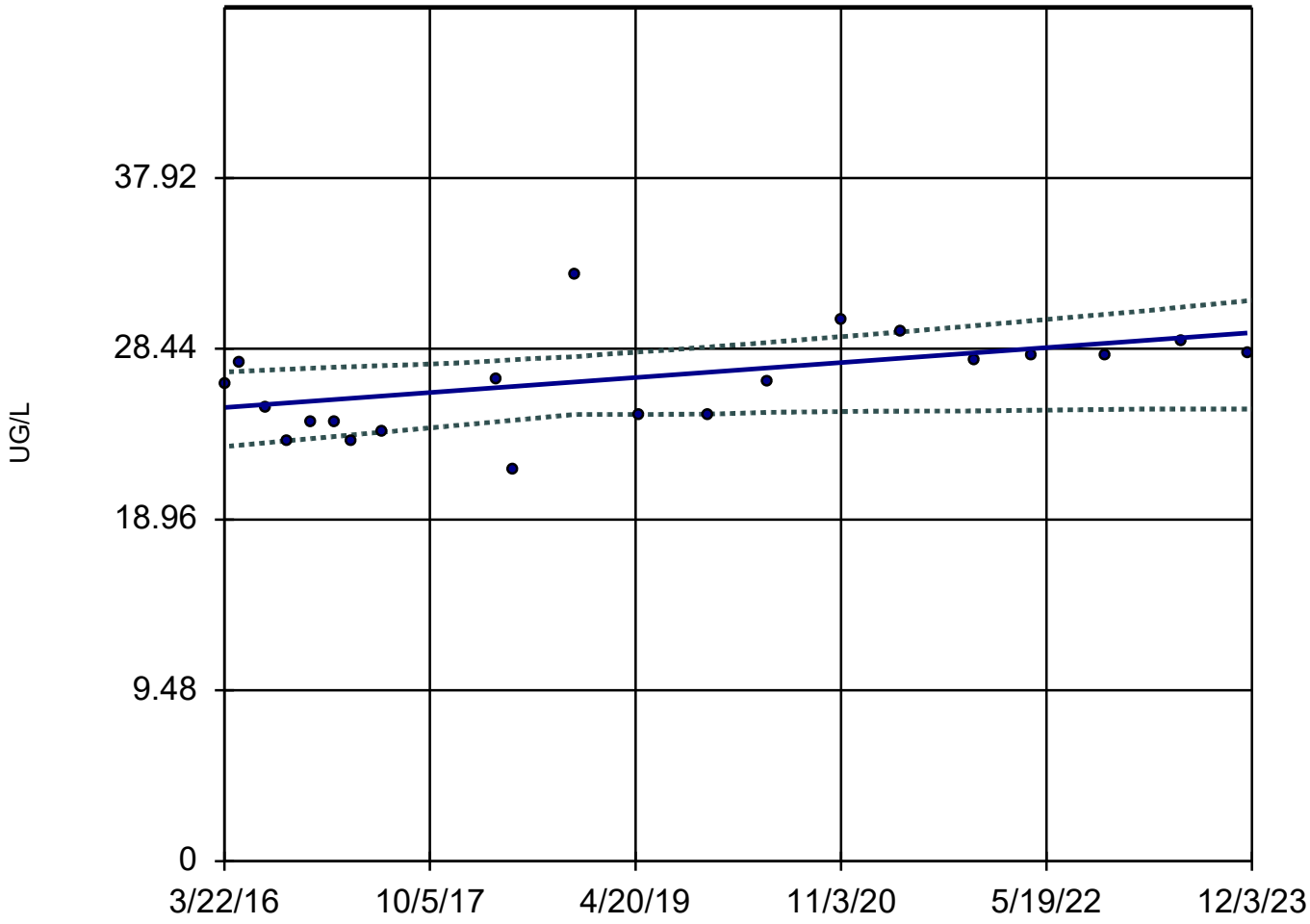
Constituent: LEAD, TOTAL Analysis Run 4/17/2024 9:56 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 21

Slope = 0.5402 units per year.

Mann-Kendall statistic = 81
critical = 78

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

Confidence band is below GWPS (47.4).

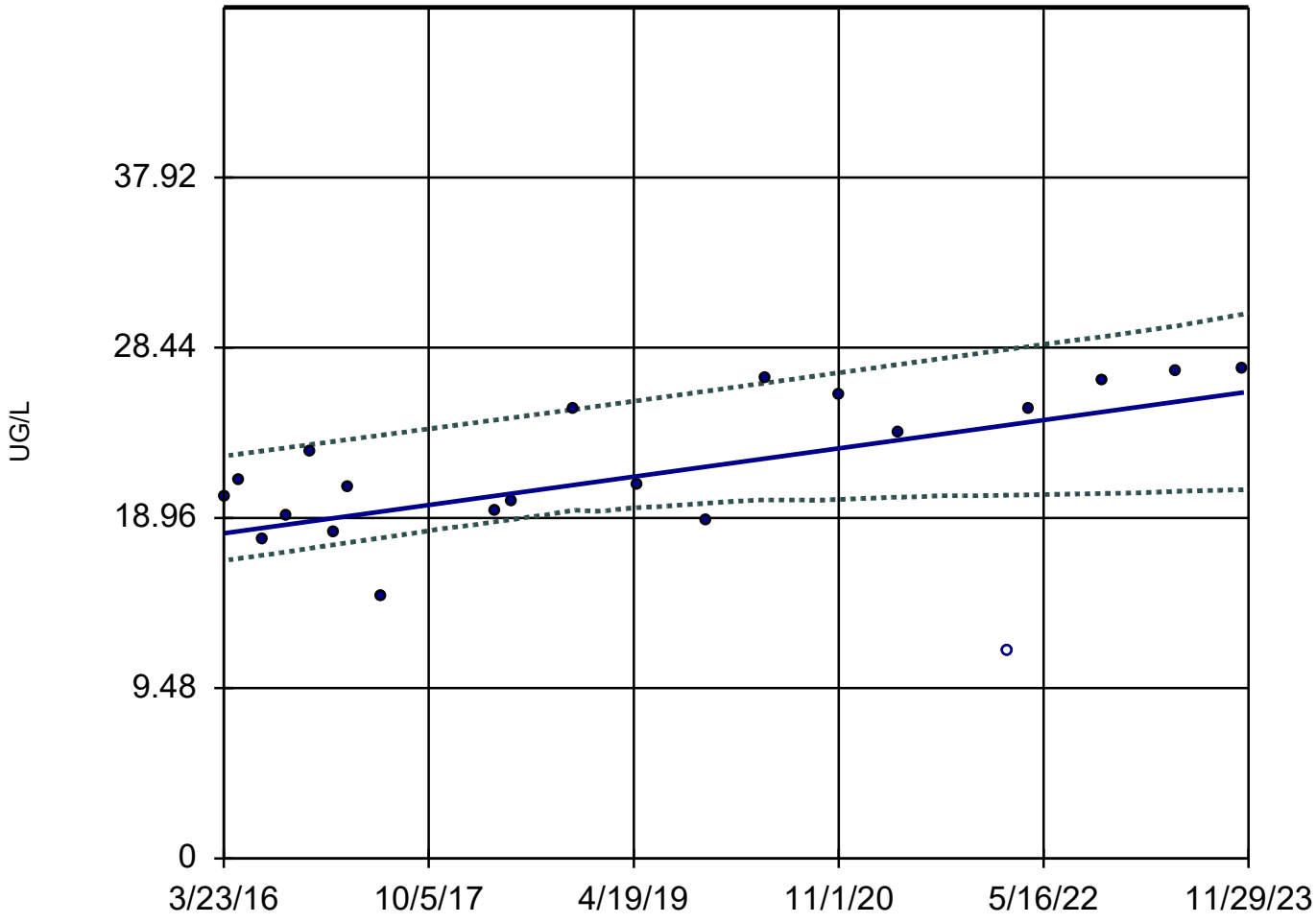
Constituent: LITHIUM, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 21

Slope = 1.025 units per year.

Mann-Kendall statistic = 89
critical = 78

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

Confidence band is below GWPS (47.4).

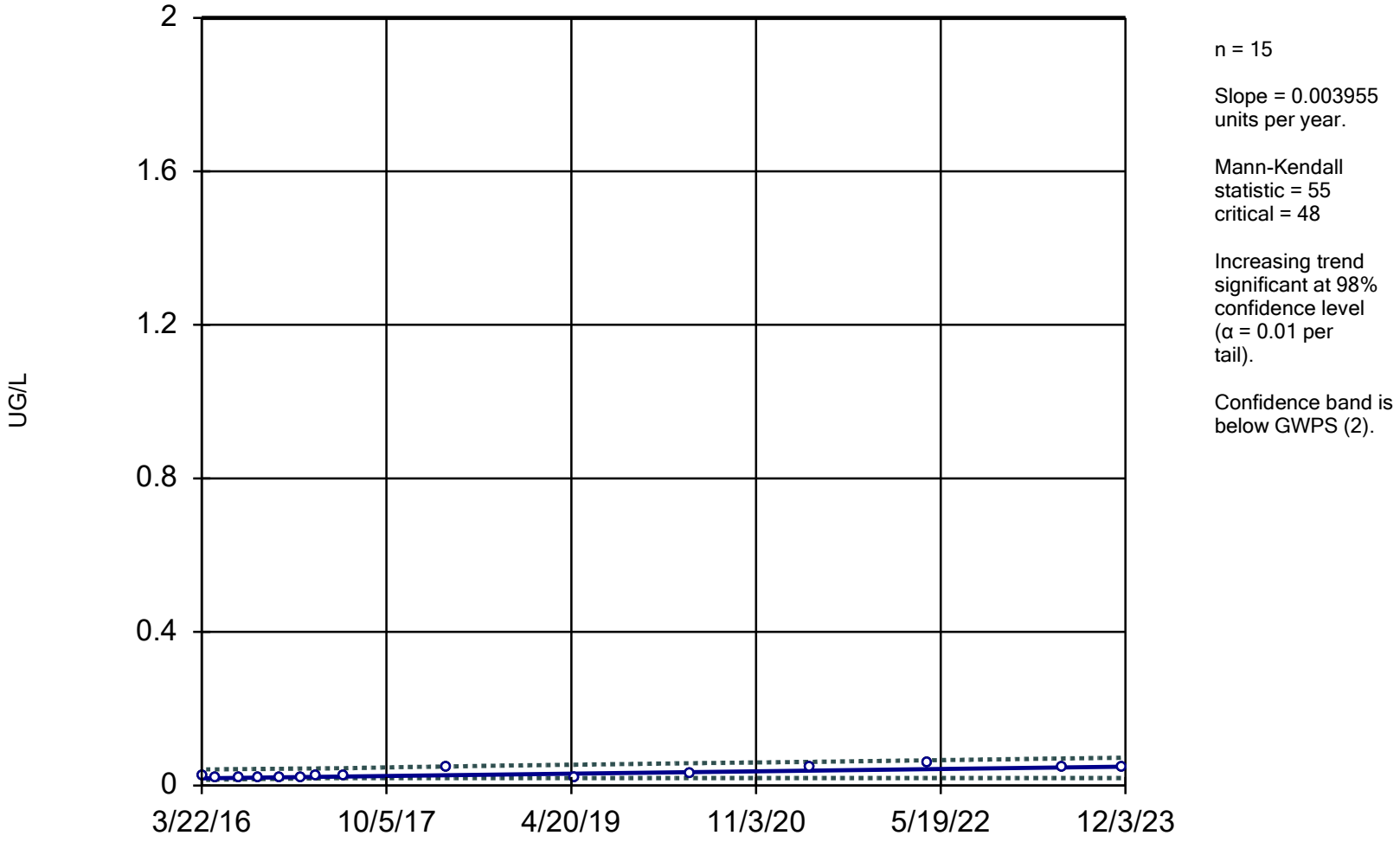
Constituent: LITHIUM, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 15

Slope = 0.003955 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

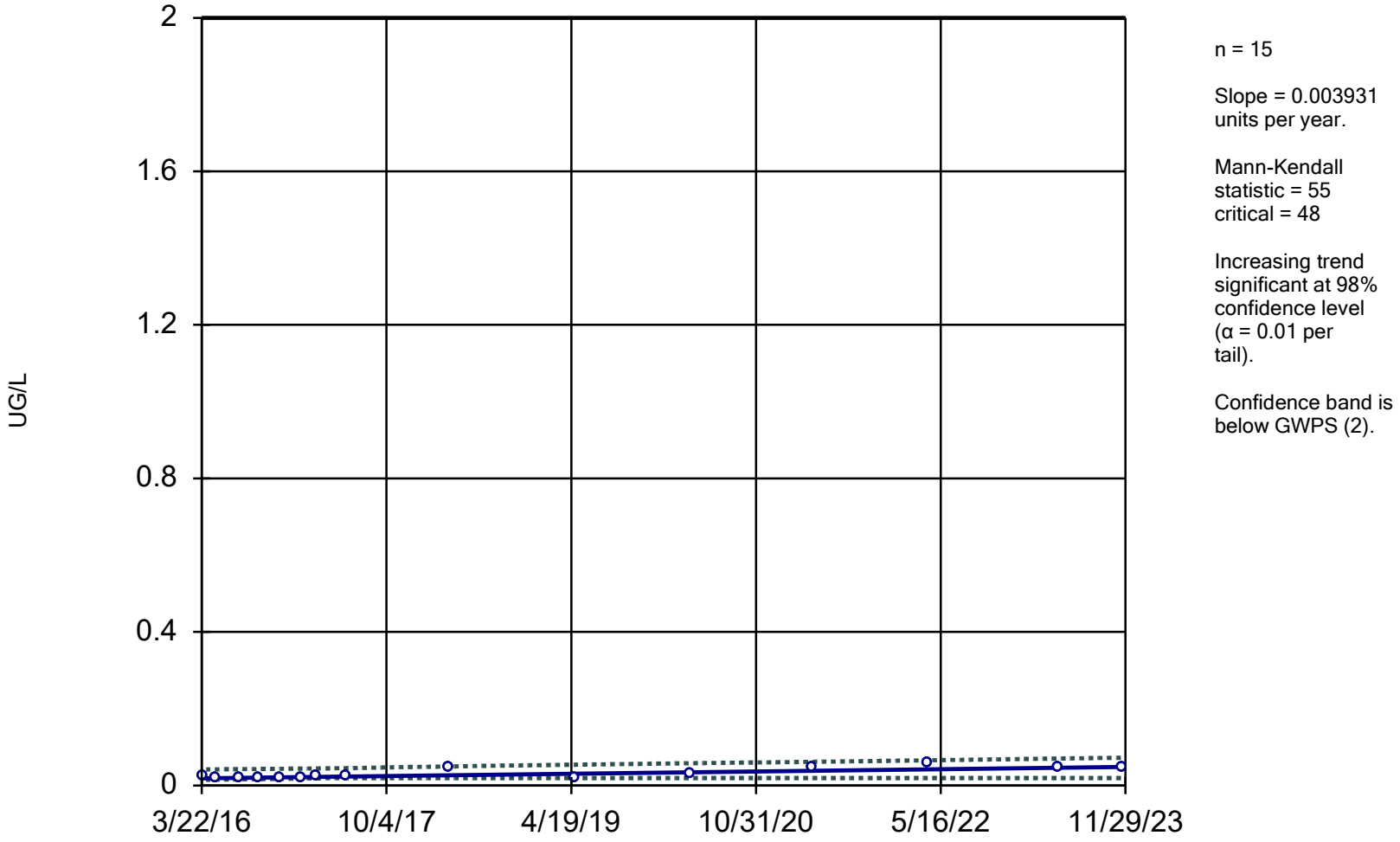
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 15

Slope = 0.003931 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

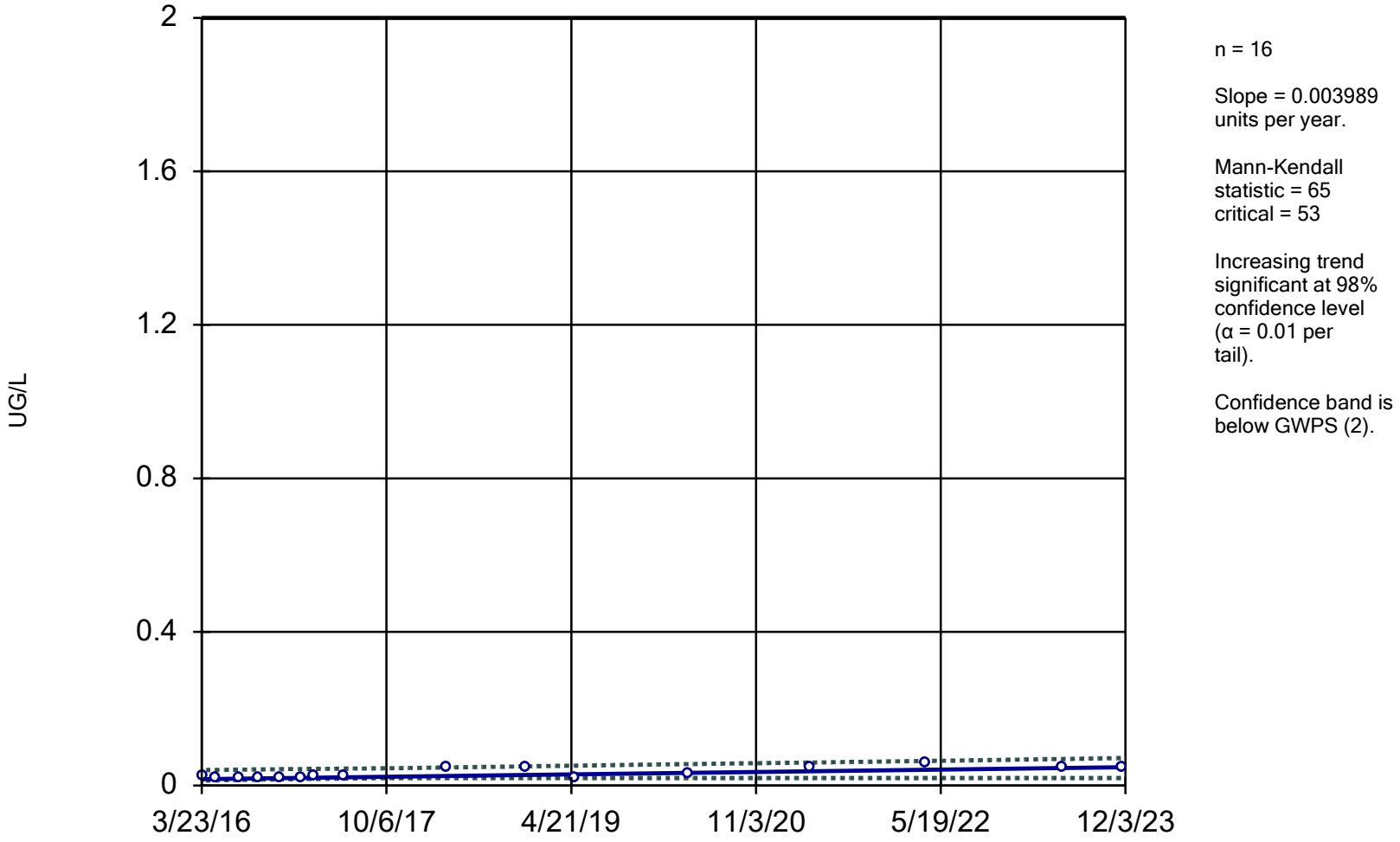
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-3D



n = 16

Slope = 0.003989 units per year.

Mann-Kendall statistic = 65
critical = 53

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

Confidence band is below GWPS (2).

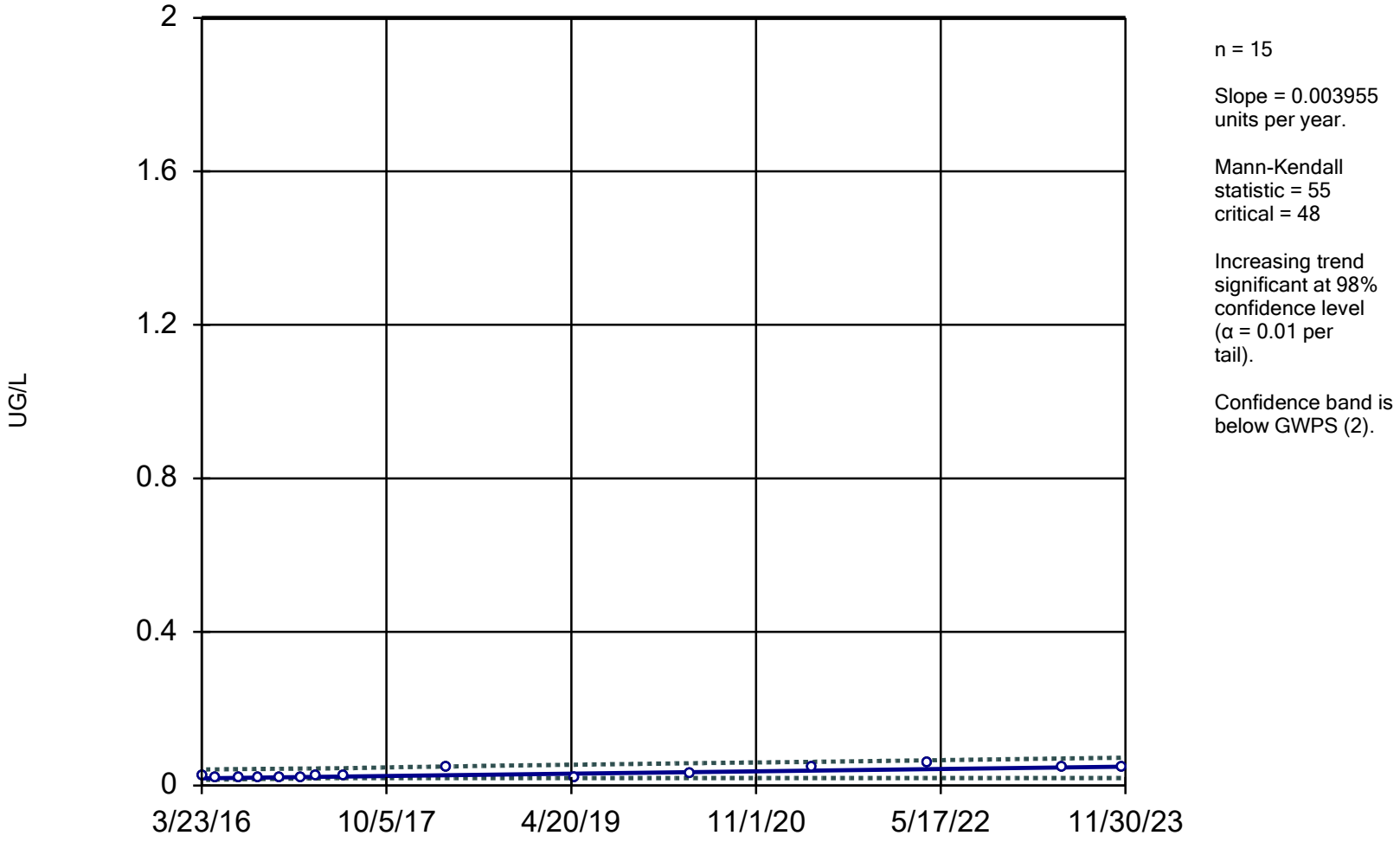
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 15

Slope = 0.003955 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

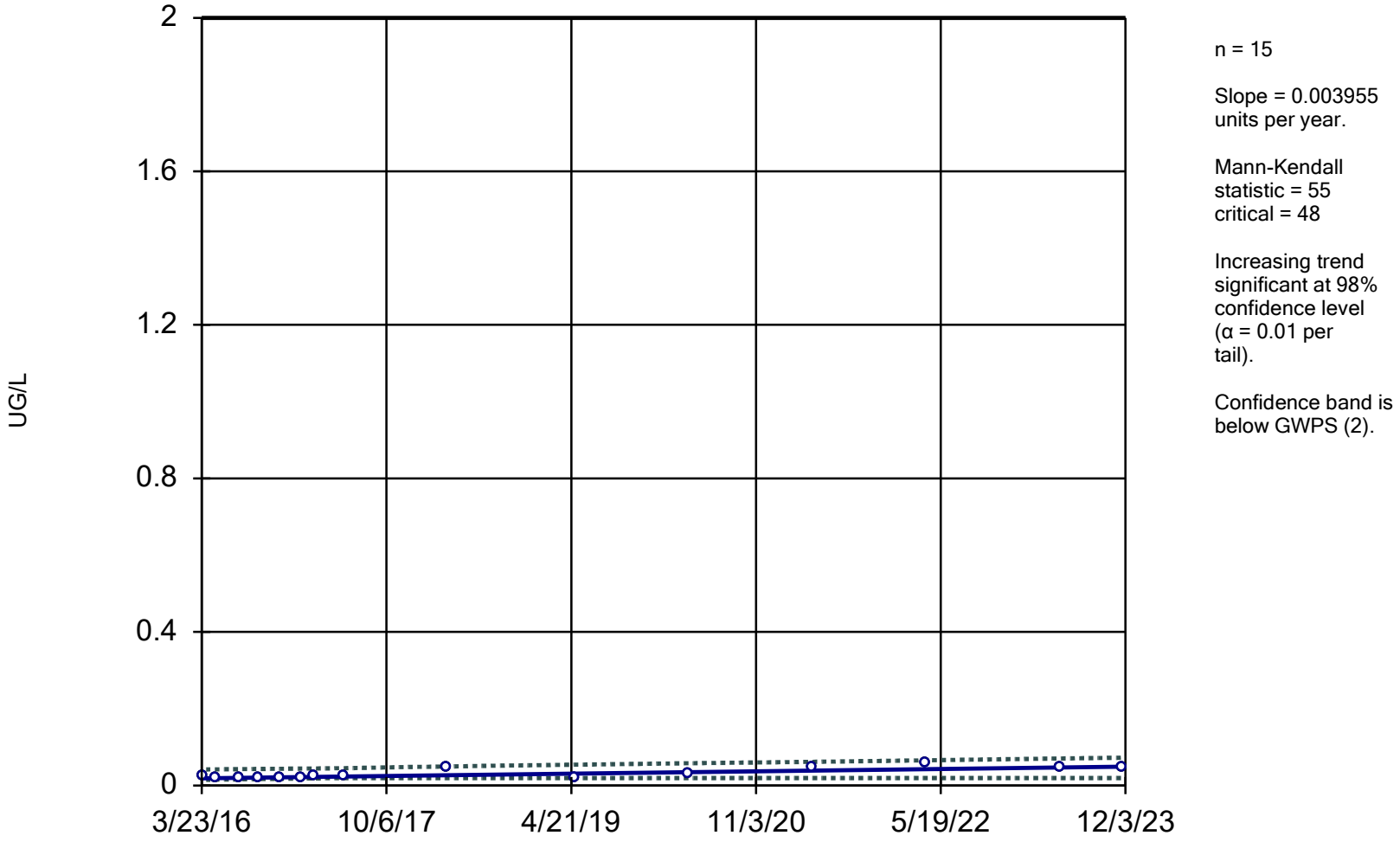
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 15

Slope = 0.003955 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

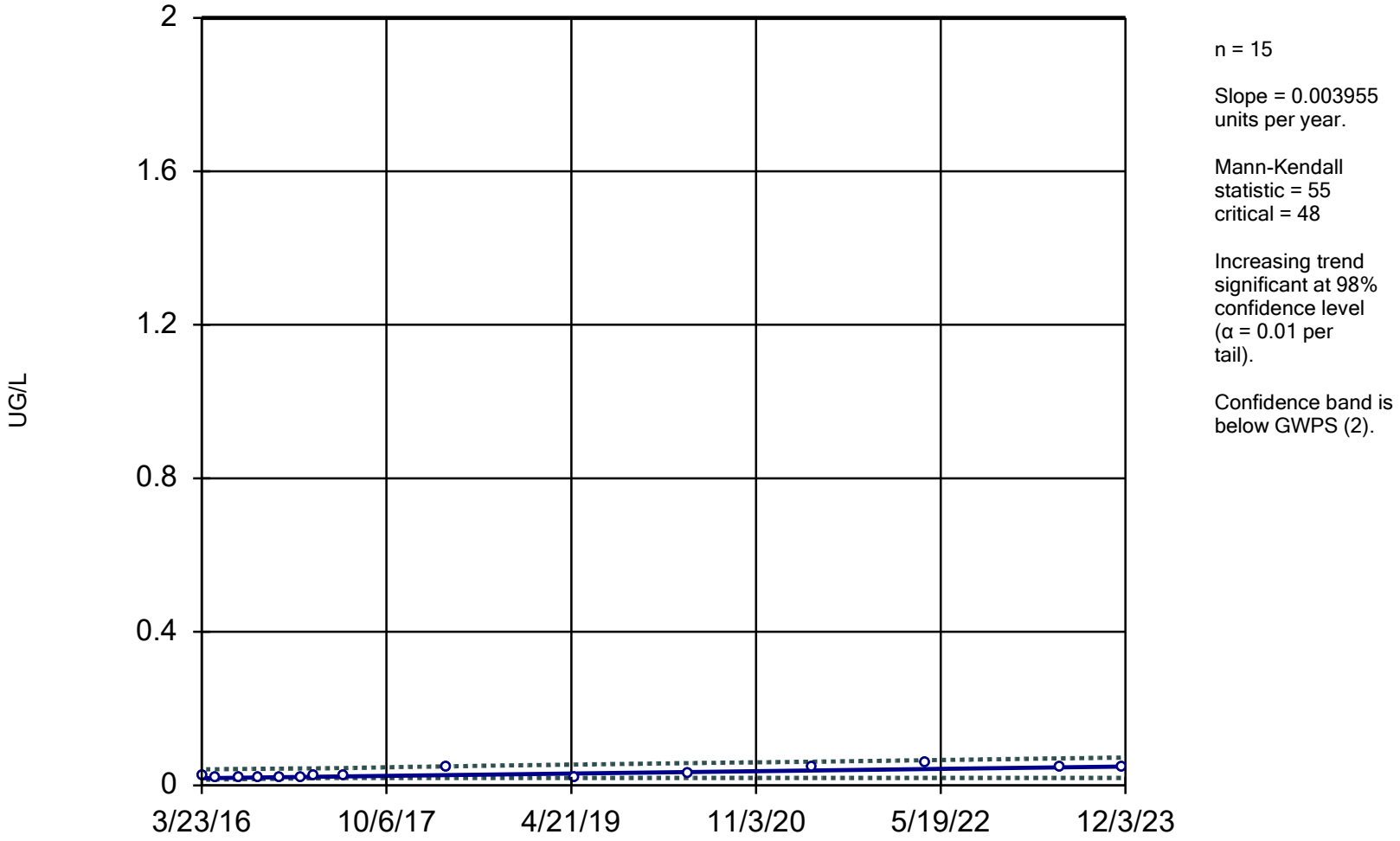
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 15

Slope = 0.003955 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

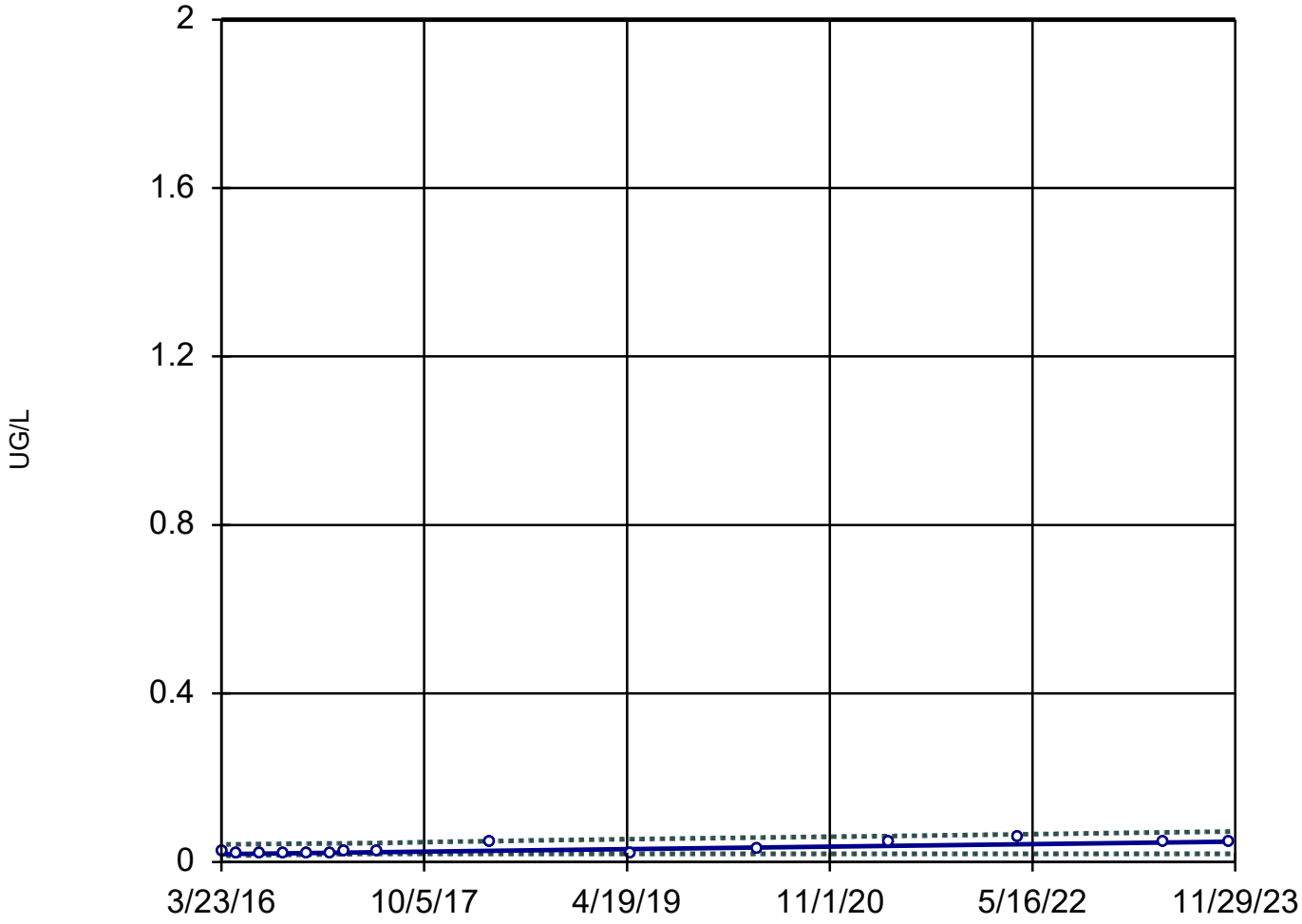
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 15

Slope = 0.003931 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

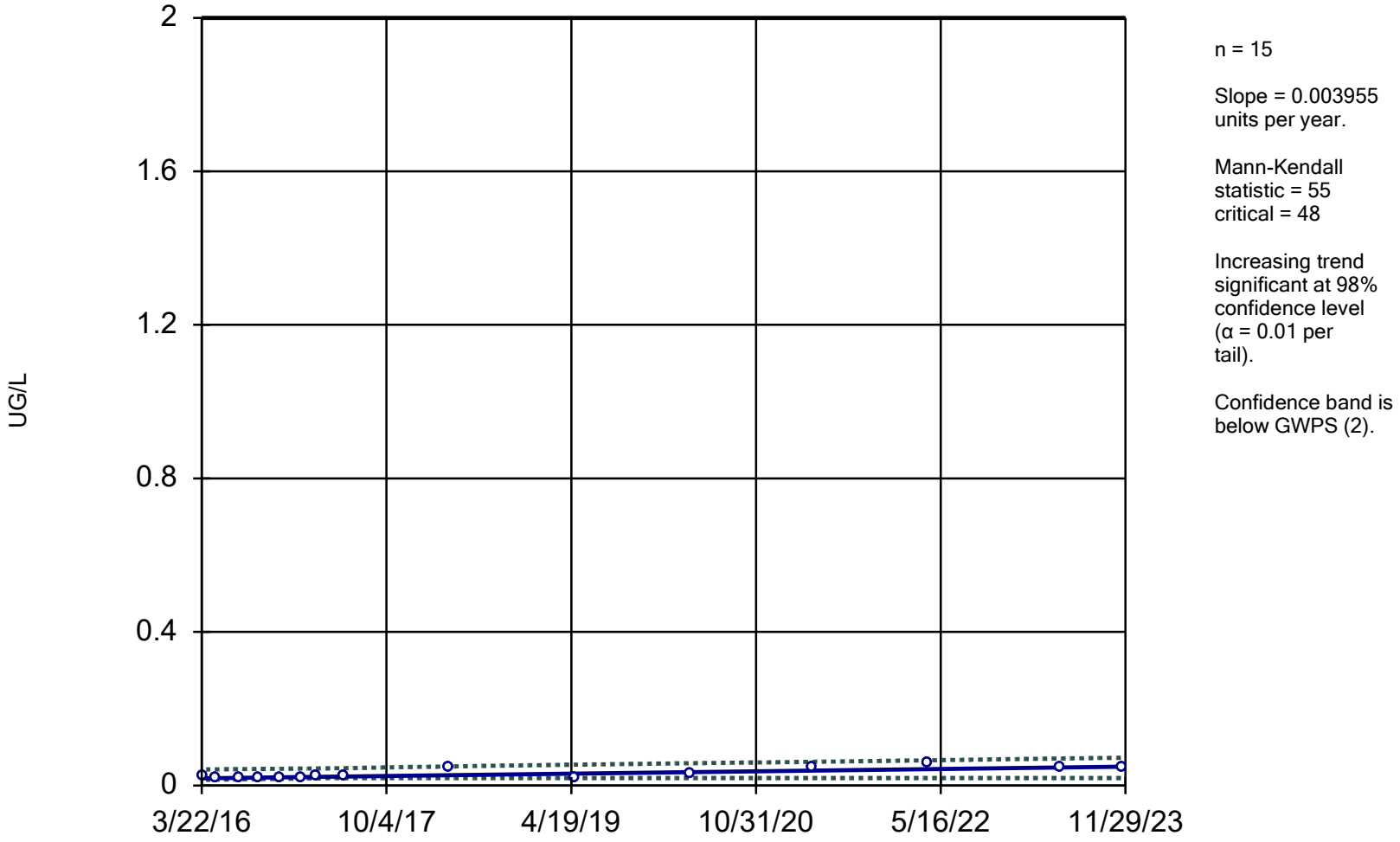
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 15

Slope = 0.003955 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

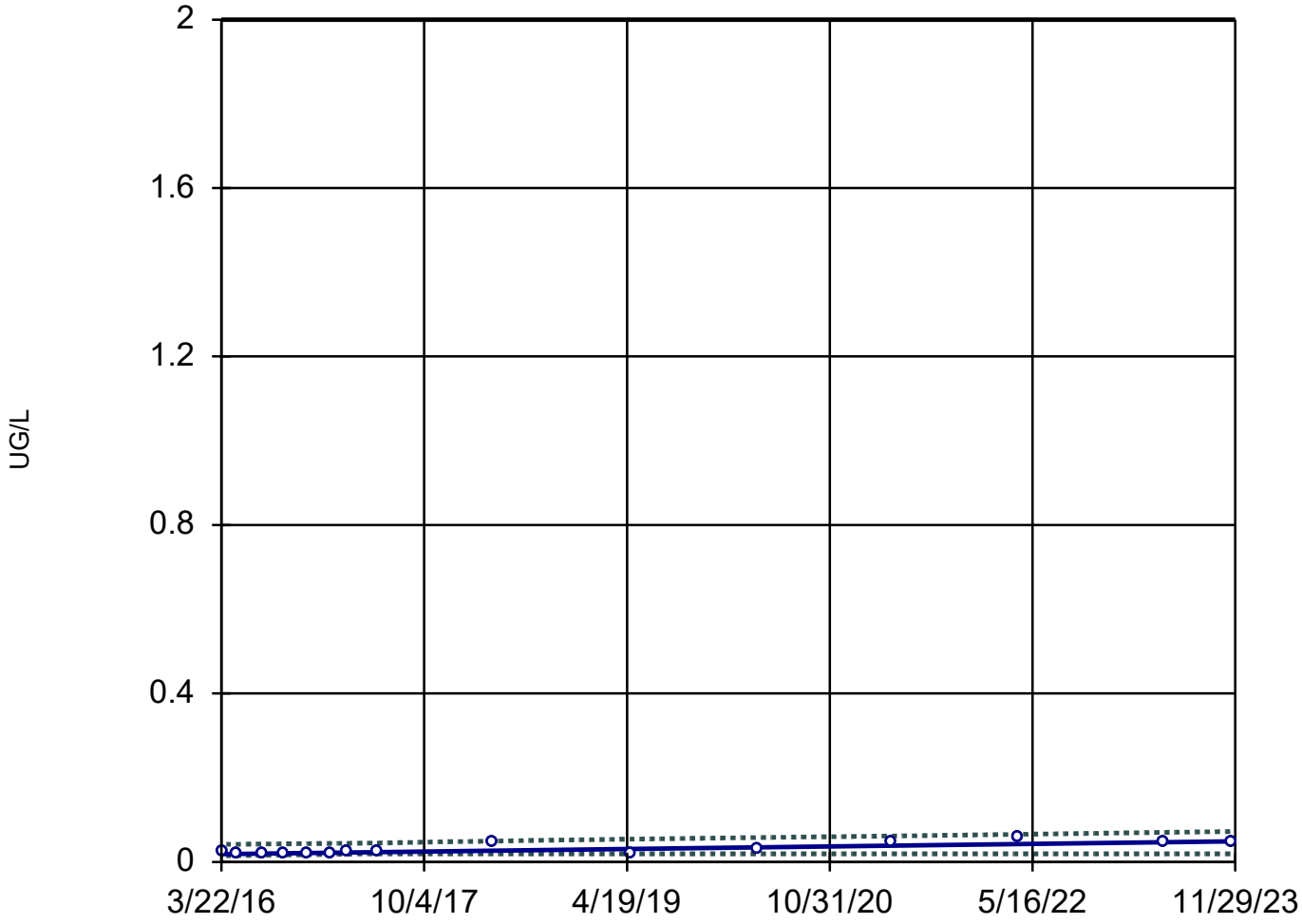
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 15

Slope = 0.003955 units per year.

Mann-Kendall statistic = 55
critical = 48

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

Confidence band is below GWPS (2).

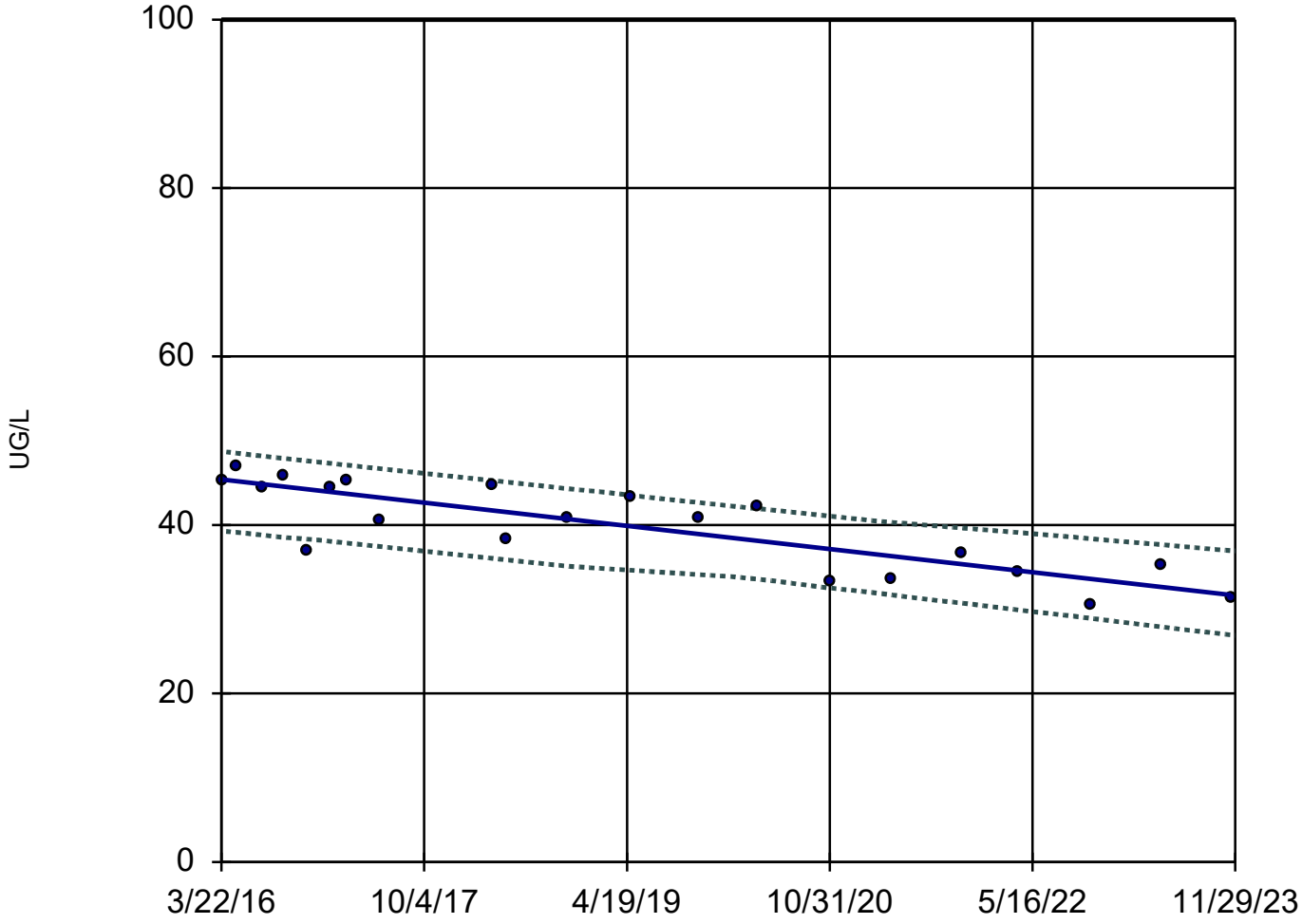
Constituent: MERCURY, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 21

Slope = -1.793 units per year.

Mann-Kendall statistic = -130 critical = -78

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

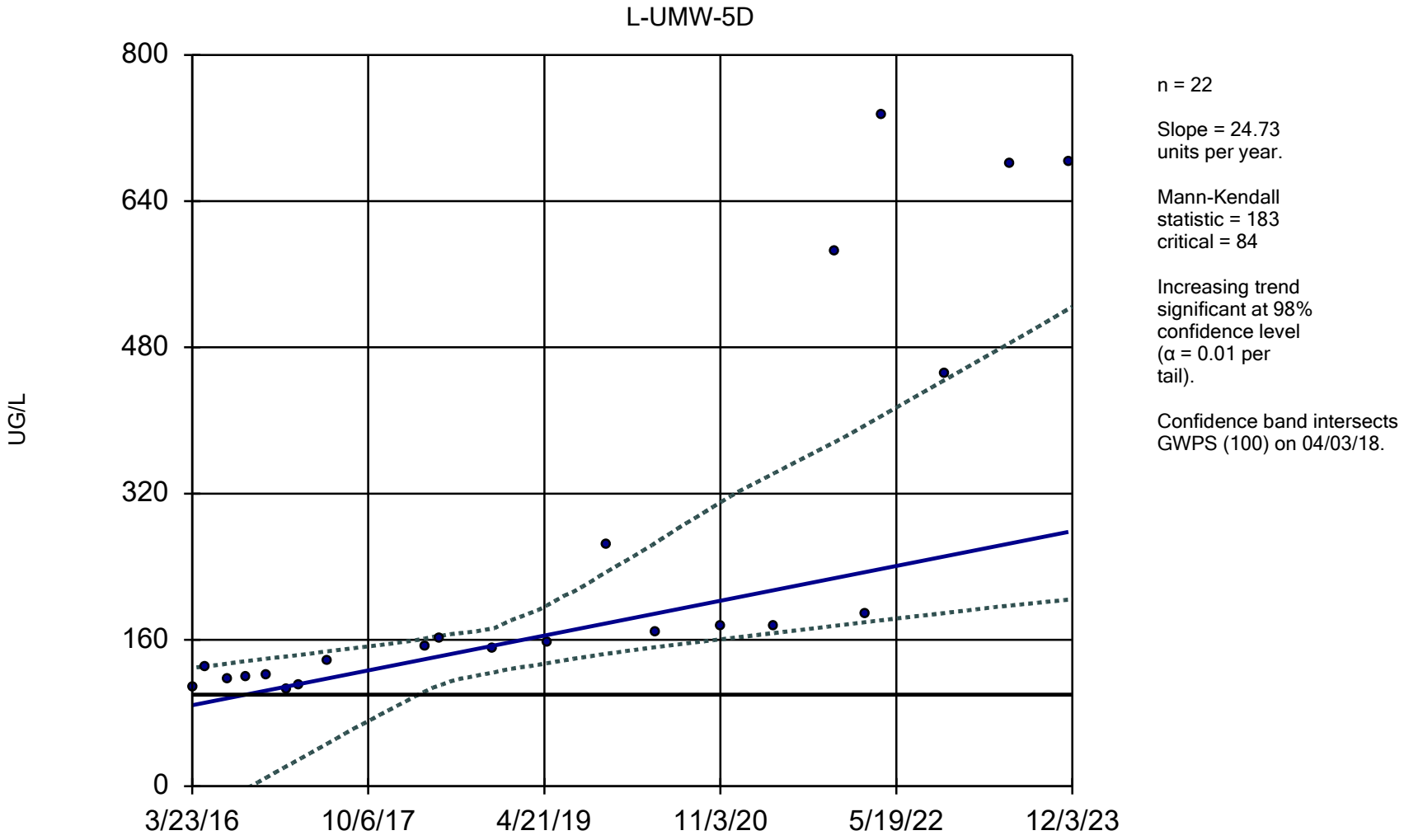
Confidence band is below GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

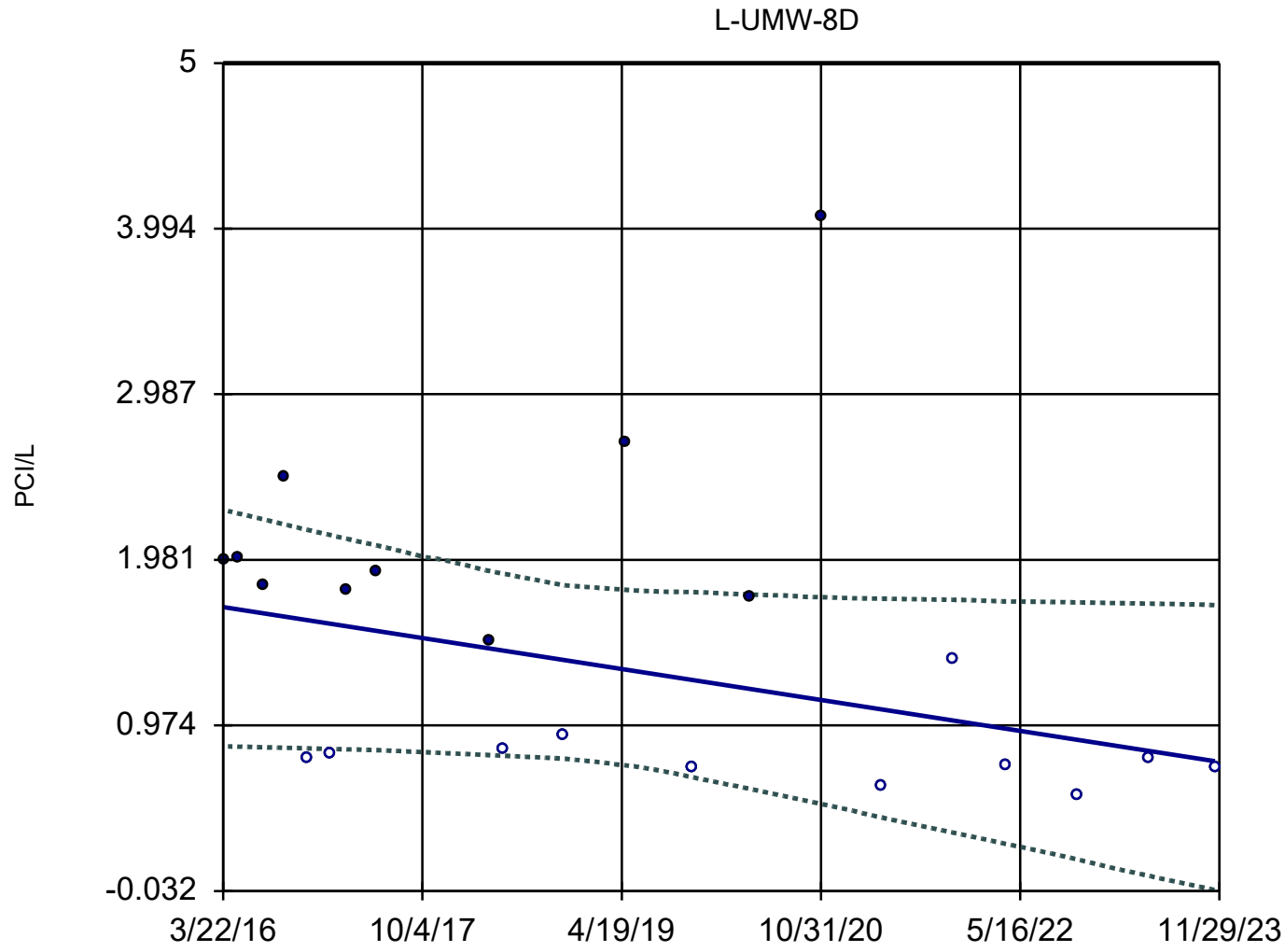


Constituent: MOLYBDENUM, TOTAL Analysis Run 3/28/2024 12:56 PM View: SSL Outliers

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



n = 21

Slope = -0.1225 units per year.

Mann-Kendall statistic = -82
critical = -78

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

Confidence band is below GWPS (5).

Constituent: Radium [226 + 228] Analysis Run 4/17/2024 9:57 AM

Labadie E.C. Client: Ameren Data: LEC DATA

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/17/2024, 9:59 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	**L-UMW-1D**	**0.004361**	**56**	**53**	**Yes**	**16**	**87.5**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	**L-UMW-2D**	**0.004359**	**62**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.004318	47	58	No	17	88.24	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.004278	49	53	No	16	93.75	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.000...	10	53	No	16	62.5	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.004267	43	53	No	16	93.75	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	**L-UMW-7D**	**0.004359**	**62**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	**L-UMW-8D**	**0.004364**	**62**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	**L-UMW-9D**	**0.004407**	**76**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**L-UMW-1D**	**2.885**	**121**	**78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**L-UMW-2D**	**-0.1756**	**-120**	**-78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**L-UMW-3D**	**0.7818**	**76**	**73**	**Yes**	**20**	**5**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.000...	10	78	No	21	33.33	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-5D	-0.1892	-21	-78	No	21	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-6D	1.152	56	73	No	20	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**L-UMW-7D**	**1.592**	**139**	**78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-UMW-8D	-0.138	-14	-78	No	21	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-9D	-0.5076	-66	-78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-1D**	**20.48**	**128**	**78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-2D	1.92	32	78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-3D	-4.5	-64	-84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-4D	2.242	49	78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-5D	1.194	30	78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-6D**	**-5.588**	**-102**	**-78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-7D	-7.776	-77	-78	No	21	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-8D**	**-32.42**	**-147**	**-78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-9D	-3.01	-64	-78	No	21	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0	11	48	No	15	86.67	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0	1	48	No	15	93.33	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	-0.00...	-24	-53	No	16	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	-0.00...	-20	-48	No	15	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	-0.00...	-20	-48	No	15	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	-0.00...	-20	-48	No	15	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0.006532	19	48	No	15	80	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0	7	48	No	15	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0	5	48	No	15	93.33	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.001391	34	48	No	15	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.001393	34	48	No	15	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**L-UMW-3D**	**0.01072**	**58**	**53**	**Yes**	**16**	**62.5**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0.00342	39	48	No	15	86.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0.01265	44	48	No	15	80	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**L-UMW-6D**	**0.02363**	**49**	**48**	**Yes**	**15**	**66.67**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0.001428	24	48	No	15	86.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.001393	34	48	No	15	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.001393	34	48	No	15	100	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.01997	30	53	No	16	56.25	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0.005949	18	58	No	17	64.71	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0.01454	26	63	No	18	72.22	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	0	4	53	No	16	68.75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0	7	58	No	17	70.59	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/17/2024, 10:00 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	-0.00...	-7	-58	No	17	58.82	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	-0.00304	-6	-58	No	17	47.06	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	0	-3	-58	No	17	58.82	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0.005909	11	58	No	17	64.71	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**L-UMW-1D**	**0.02872**	**74**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-2D**	**0.02643**	**81**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-3D**	**0.0281**	**92**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-4D**	**0.02645**	**81**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-5D**	**0.02643**	**81**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-6D**	**0.02643**	**81**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-7D**	**0.03744**	**88**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-8D**	**0.02646**	**65**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-9D**	**0.02809**	**86**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0	11	95	No	24	12.5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	-0.00...	-58	-89	No	23	17.39	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	-0.00...	-20	-106	No	26	34.62	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	-0.00...	-38	-101	No	25	8	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.001676	15	89	No	23	30.43	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	-0.00...	-48	-84	No	22	31.82	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	-0.01552	-84	-106	No	26	11.54	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.01534	88	95	No	24	8.333	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.009597	62	84	No	22	9.091	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-1D	0.00978	10	48	No	15	73.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-2D	0.09743	33	48	No	15	80	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-3D	0.09838	42	53	No	16	81.25	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	**L-UMW-4D**	**0.1012**	**50**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
LEAD, TOTAL (UG/L)	L-UMW-5D	0.09028	23	48	No	15	86.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-6D	0.09028	23	48	No	15	86.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-7D	0.1029	43	48	No	15	80	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-8D	0.1029	38	48	No	15	80	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-9D	0	0	48	No	15	60	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-UMW-1D**	**0.5402**	**81**	**78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-UMW-2D	0.000837	0	78	No	21	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-3D	-0.3045	-33	-84	No	22	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-4D	-0.7029	-78	-78	No	21	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-5D	-0.209	-10	-78	No	21	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-6D	0.4863	55	78	No	21	4.762	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-UMW-7D**	**1.025**	**89**	**78**	**Yes**	**21**	**4.762**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-UMW-8D	-0.87	-45	-78	No	21	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-9D	0.00653	3	78	No	21	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	**L-UMW-1D**	**0.003955**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-2D**	**0.003931**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-3D**	**0.003989**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-4D**	**0.003955**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-5D**	**0.003955**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-6D**	**0.003955**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-7D**	**0.003931**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-8D**	**0.003955**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-9D**	**0.003955**	**55**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	0.2684	67	78	No	21	23.81	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/17/2024, 10:00 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-2D**	**-1.793**	**-130**	**-78**	**Yes**	**21**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	7.9	48	84	No	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	2.28	17	78	No	21	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**24.73**	**183**	**84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	-8.898	-57	-78	No	21	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-7D	-11.07	-38	-78	No	21	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	0.5461	53	68	No	19	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	-0.03369	-17	-78	No	21	47.62	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-1D	0.01742	25	73	No	20	15	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-2D	0.01573	6	78	No	21	28.57	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-3D	-0.00...	-2	-84	No	22	72.73	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.04272	54	78	No	21	71.43	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.01126	15	68	No	19	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-6D	-0.00...	-12	-78	No	21	57.14	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-7D	0.02109	20	78	No	21	71.43	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	**L-UMW-8D**	**-0.1225**	**-82**	**-78**	**Yes**	**21**	**52.38**	**n/a**	**n/a**	**0.02**	**NP**
Radium [226 + 228] (PCI/L)	L-UMW-9D	-0.02559	-56	-78	No	21	90.48	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0	7	63	No	18	94.44	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0	7	63	No	18	94.44	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0	4	68	No	19	57.89	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0	14	63	No	18	94.44	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0	38	63	No	18	61.11	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0	4	63	No	18	22.22	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0	5	63	No	18	83.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0	7	63	No	18	94.44	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0	5	63	No	18	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-1D	-0.02445	-42	-48	No	15	86.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-2D	-0.02387	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-3D	-0.01396	-32	-53	No	16	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-4D	-0.02386	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-5D	-0.02385	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-6D	-0.02446	-42	-48	No	15	93.33	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-7D	-0.02387	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-8D	-0.02387	-30	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-9D	-0.02387	-30	-48	No	15	100	n/a	n/a	0.02	NP

Appendix C

Alternative Source Demonstration – November 2023 Sampling Event

REPORT

LCPA– Alternative Source Demonstration for an Arsenic Exceedance at UMW-1D

Labadie Energy Center, Franklin County, Missouri, USA

July 23, 2024

Project Number 23007-24

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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APPENDICES

Appendix A – LCPB FALCON Analysis Calculation Package

Certification Statement

This *LCPA Corrective Action – Alternative Source Demonstration for an Arsenic Exceedance at UMW-1D, Labadie Energy Center, Franklin County, Missouri, USA* has been prepared to comply with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule under the direction of a licensed professional engineer with Rocksmith Geoengineering, LLC.

I hereby certify that this *LCPA Corrective Action – Alternative Source Demonstration for an Arsenic Exceedance at UMW-1D, Labadie Energy Center, Franklin County, Missouri, USA* located at 226 Labadie Power Plant Road, Labadie Missouri 63055 has been prepared to meet the requirements of 40 CFR §257.98(a)(1)(i) and 257.95(g)(3)(ii).

Rocksmith Geoengineering, LLC

_____

Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), this LCPA – Alternative Source Demonstration for an Arsenic Exceedance at UMW-1D has been prepared to document an Alternative Source Demonstration (ASD) for a statistical exceedance of the Groundwater Protection Standard (GWPS) calculated for Ameren Missouri's (Ameren) Labadie Energy Center (LEC) Bottom Ash Surface Impoundment (referred to as the LCPA) Assessment Monitoring Well Network. This document satisfies the requirements of §257.95(g)(3)(ii), which allows the owner or operator to demonstrate that a source other than the CCR Unit has caused a constituent to be at a statistical level exceeding the GWPS, and that the statistical exceedance was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

2.0 SITE DESCRIPTION AND BACKGROUND

The LEC is located approximately 35 miles west of downtown St. Louis in Franklin County, Missouri, just south of the Missouri River. **Figure 1** depicts the site location and layout, including the location of LCPA, LCPB and the LCL1 CCR Units. The LEC encompasses approximately 2,400 acres and is located within the Missouri River Valley. The facility is bounded to the north by the Missouri River, to the west by Labadie Creek, to the northeast and east by agricultural land, and to the south by a railroad line and bedrock bluffs.

2.1 Geological and Hydrogeological Setting

The site lies in an agricultural area called the Labadie Bottoms that is between the Missouri River (to the north) and bedrock bluffs (to the south). Flow and deposition from the Missouri River have resulted in thick alluvial deposits that lie on top of bedrock. These alluvial deposits, which can range from approximately 90 to 120 feet thick, comprise the uppermost aquifer. Overall, this alluvial aquifer is described as a fining-upwards sequence of stratified sands and gravels with varying amounts of silts and clays. Based on drilling records, the alluvial aquifer is divided into 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 consists of Ordovician-aged rock. Formations include primarily limestone, dolomite, sandstone, and shale and are comprised of the Plattin Group, Joachim Dolomite, St. Peter Sandstone, Powell Dolomite, and the Cotter/Jefferson City Dolomites.

2.2 Coal Combustion Residuals (CCR) LCPA Surface Impoundment

The LCPA is in the floodplain of the Missouri River to the south of the LEC generating plant and is constructed with perimeter berms at an elevation of approximately 494 feet above mean sea level (feet MSL), which is above the 100-year flood elevation of 484 feet MSL. Both fly ash and bottom ash have been historically managed and stored in this surface impoundment. Construction drawings indicate that in the deepest portions of the CCR Unit the base depth of CCR extends down approximately 90 feet to an elevation of approximately 400 feet MSL. Directly to the east of the LCPA are two additional CCR Units, the fly ash surface impoundment (LCPB) and the Utility Waste Landfill (UWL) Cell 1 (LCL1), both of which have berm elevations higher than 488 feet MSL. To the south of the LCPA are lower elevation agricultural fields ranging from approximately 465 to 475 feet MSL which extend to the south to the railroad. South of the railroad, bedrock bluffs rise to an elevation of over 600 feet MSL. The western side of the surface impoundment is bounded by a forested area and Labadie Creek, which flows north to the Missouri River.

2.3 Assessment Monitoring Background

The Assessment Monitoring Program for the LCPA was established in April 2018, following the detection and verification of Statistically Significant Increases (SSIs) in November 2017 January 2018. The Assessment Monitoring program includes testing for all Appendix IV parameters. Following the initial Assessment Monitoring sampling event, statistical analysis revealed that molybdenum was present at a significantly significant level (SSL) over the site-specific GWPS at wells UMW-3D, UMW-4D, UMW-5D, UMW-6D and UMW-7D. Assessment Monitoring of the LCPA has continued since that time.

The most recent Assessment Monitoring statistical evaluation for the LCPA was completed April 24, 2024, and included data collected during the November 2023 sampling event. Using Assessment Monitoring statistical methods, this statistical evaluation identified the following constituents present at an SSL over the Site GWPS:

- Arsenic – UMW-1D
- Molybdenum – UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, and UMW-7D

Arsenic at UMW-1D has not been identified as an SSL in previous Assessment Monitoring statistical evaluations. This ASD provides several lines of evidence that demonstrate this arsenic exceedance originates from a source other than the LCPA impoundment.

3.0 EVIDENCE THAT ISOLATED EXCEEDANCES OVER THE GWPS ORIGINATE FROM DIFFERENT SOURCE

An isolated constituent at an SSL over the site GWPS using Assessment Monitoring statistical methods exists for arsenic at monitoring well UMW-1D. The location of this monitoring well is provided in **Figure 1**. For this exceedance there are several different lines of evidence that indicate that the statistical exceedance over the GWPS at this monitoring well is not the result of a release from the LCPA, but rather is from an alternative source. The following lists the different lines of evidence that support this ASD:

- A lack of correlation between key CCR indicators (boron and molybdenum) and arsenic concentrations, both at UMW-1D and other monitoring wells across the LEC.
- Geochemical fingerprinting indicates strong correlation between groundwater chemistry at UMW-1D and background wells, and weak correlation with LCPA porewater.
- The presence of naturally occurring arsenic in sediments across the LEC and adjacent to UMW-1D.
- The presence of arsenic at similar concentrations in groundwater samples collected upgradient of the LEC in the Missouri River alluvial aquifer.

3.1 CCR Indicators

Several types of CCR by-products are generated by coal-fired power plants. The different types of CCR typically display distinct geochemical signatures and indicator parameters. **Table 1** describes the different types of CCRs and their typical indicator parameters (USEPA 2018, EPRI 2011, EPRI 2012, and EPRI 2017).

Table 1: Types of CCR and Typical Indicator Parameters

Type of CCR	Description of CCR (USEPA 2018)	Key Indicators (EPRI 2011, 2012, 2017)
Fly Ash	Fine grained, powdery material composed mostly of silica made from the burning of finely ground coal in the boiler.	■ Boron ■ Molybdenum ■ Lithium ■ Sulfate ■ Bromide ■ Potassium ■ Sodium ■ Fluoride
Boiler Slag / Bottom Ash	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.	
Flue Gas Desulfurization Material (FGD)	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	■ Sulfate ■ Fluoride ■ Calcium ■ Boron

Type of CCR	Description of CCR (USEPA 2018)	Key Indicators (EPRI 2011, 2012, 2017)
	sulfite or calcium sulfate or a dry powdered material that is a mixture of sulfites and sulfates.	■ Bromide ■ Chloride

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.

3.2 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 porewater) 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's 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 fly ash and boiler slag/bottom ash, boron, molybdenum, lithium, sulfate, and fluoride are regularly sampled as part of the CCR Rule. Potassium and sodium are sampled periodically for major ion analysis and testing under the CCR Rule and testing for bromide has not been completed at the site.

Table 2 provides a snapshot of the concentrations present onsite in the background wells, Missouri River, and LCPA porewater for each of the constituents sampled on the key indicator list.

Table 2 – Summary of Potential CCR Impact Indicator Parameters at the Labadie Energy Center

Constituent (Units)		Back-ground	Missouri River	LCPA Porewater	Advantages and Caveats as Key Indicator (from EPRI 2012)
Boron (µg/L)	Minimum	ND (<50)	78.7	3,360	Typically present in leachate, non-reactive and mobile in common hydrogeologic environments, and not a common anthropogenic contaminant.
	Average	76.72	100.1	10,317	
	Maximum	151	123	21,700	
Sulfate (mg/L)	Minimum	12.2	172	254	Commonly analyzed and very mobile in all hydrogeologic environments. Concentration in impoundment leachate may in some cases be too low relative to background to be useful. Less useful in strongly reducing environments where sulfate can be reduced to hydrogen-sulfide gas.
	Average	43.79	192.3	275.2	
	Maximum	246	224	306	
Molybdenum (µg/L)	Minimum	ND (<0.52)	2.0	83.7	Most useful for dry-managed coal ash. May be less mobile than boron in some hydrogeologic environments. Concentrations may be too low in impoundment leachate to be useful if background groundwater has detectable concentrations.
	Average	1.617	3.165	405.3	
	Maximum	7.0	6.2	1,430	
Lithium (µg/L)	Minimum	11.5	34.2	5.5	Useful for coal ash management sites where the power plant burned bituminous coal. Leachate concentrations are typically low in coal ash derived from subbituminous and lignite coal
	Average	28.54	38.36	40.28	
	Maximum	47.4	42.8	61.4	
Potassium (µg/L)	Minimum	3,480	Not Sampled	3,540	Commonly analyzed, although may be less mobile than boron and sulfate. Assure that leachate concentration is higher than background and that there are no anthropogenic sources such as agricultural fields where potassium may be applied in fertilizers.
	Average	5,003		18,040	
	Maximum	7,530		42,100	
Sodium (µg/L)	Minimum	3,570	Not Sampled	50,500	Useful for coal ash management sites where the power plant injects trona or sodium bicarbonate or burned subbituminous coal. Absent dry sorbent injection, leachate
	Average	9,805		66,967	

Constituent (Units)		Back-ground	Missouri River	LCPA Porewater	Advantages and Caveats as Key Indicator (from EPRI 2012)
	Maximum	24,900		84,000	concentrations are considerably lower in coal ash derived from bituminous coal, particularly at impoundments. Assure that leachate concentration is higher than background and that there are no anthropogenic sources such as agricultural fields, or major highways in northern climates where sodium may be applied in road salts.
Fluoride (mg/L)	Minimum	ND (<0.085)	0.125	0.088	Mobile and non-reactive in common hydrogeologic environments. Assure that leachate concentration is higher than background.
	Average	0.1694	0.4118	0.153	
	Maximum	0.38	0.57	0.20	

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.

Based on the results displayed in **Table 2**, boron and molybdenum appear to be the best indicator parameters for impacts from the LCPA because they have much higher concentrations in CCR porewater than background groundwater and are non-reactive and highly mobile at the site. Sulfate, which is typically a good CCR indicator parameter, may not be as useful at the LEC, since sulfate values within the Missouri River are close in concentration to those within the CCR Unit. Therefore, samples collected closer to the Missouri River may have higher sulfate values, caused by recharge to the aquifer from the Missouri River instead of impacts from the CCR. Fluoride can also be a good indicator, however, porewater concentrations are not significantly higher than background, and therefore it would be difficult to detect impacts using fluoride concentrations. Average lithium concentrations in porewater are also not significantly elevated when compared to background groundwater or the Missouri River, therefore, determining the source of impacts would be difficult. Potassium and sodium are also not ideal indicators, as many of the wells onsite are either near roadways or located within the agricultural fields around the plant, which may display elevated concentrations caused from anthropogenic sources (road salt, fertilizers, etc.).

Boron and molybdenum concentrations are above background concentrations at 8 of the 9 monitoring wells used for Detection and Assessment monitoring wells adjacent to the LCPA (Rocksmith, 2024). Therefore, boron and molybdenum appear to be the best indicator parameters for CCR impacts at the LEC. However, though molybdenum appears to be a good indicator, it may not be present at the farthest extents of the plume. Therefore, boron appears to be the best indicator parameter for CCR impacts at the LEC.

4.0 EVALUATION OF STATISTICAL EXCEEDANCE OF ARSENIC AT UMW-1D

UMW-1D is located adjacent to the southwest corner of the LCPA, upgradient of typical groundwater flow across the site, which is to the north/northeast towards the Missouri River. Arsenic is present at UMW-1D at a statistically significant level (SSL) over the site-specific GWPS of 44.2 µg/L using Assessment Monitoring statistical methods. Based on the statistical evaluation following the November 2023 sampling event, an upper confidence limit (UCL) of 47.12 µg/L and lower confidence interval (LCL) of 35.28 µg/L were calculated for arsenic at UMW-1D. The confidence interval alone is not in exceedance of the GWPS; however, there is an increasing trend at the 98% confidence level, with the lower confidence band intersecting the GWPS (**Figure 2**). Based on Assessment Monitoring statistical methods, if the lower confidence band intersects the GWPS, the constituent is considered present at an SSL. Therefore, arsenic at UMW-1D is considered present at an SSL as of November 2023.

At the time of writing this ASD, data for the May 2024 sampling event is available. The arsenic concentration measured at UMW-1D in May 2024 was 37.3 µg/L, the lowest value observed since March 2021. When this data point is incorporated into the statistical analysis of arsenic at UMW-1D, the lower confidence band remains below

the GWPS, as displayed on **Figure 3**. Therefore, including data collected in May 2024, arsenic at UMW-1D is not considered present at an SSL. A complete statistical evaluation of the May 2024 sampling event will be included in the 2024 Annual Report.

Arsenic is not considered a key indicator for CCR impacts, including bottom ash stored at the LCPA, as summarized in **Table 1**. **Table 3**, below, displays historical ranges of arsenic concentrations present onsite at background groundwater wells, Missouri River, and LCPA and LCPB. Four of the six LCPA porewater samples collected in 2018 as a part of the LCPB ASD (available in the 2018 Annual Report for the LCPB, Golder 2019b) have arsenic concentrations below the site-specific GWPS for arsenic (44.2 µg/L), with their average (38.57 µg/L) also being less than the GWPS. Additionally, background groundwater concentrations of arsenic are highly variable, with an average (16.02 µg/L) similar to monitoring wells adjacent to the LCPA (18.43 µg/L). This further establishes that arsenic is not a good CCR impact indicator parameter for the LCPA and the LEC area. Arsenic concentrations observed in the Missouri River are generally lower than those found in both groundwater and porewater at the LEC.

Table 3 – Historical Ranges of Arsenic Concentrations across the LEC

Constituent (Units)		UMW-1D	Background	Assessment Monitoring Wells Adjacent to LCPA (UMW 1D-9D)	Missouri River	LCPA Porewater	LCPB Porewater
Arsenic (µg/L)	Minimum	14.8	0.12	ND (<0.1)	2.8	9.2	15.0
	Average	39.38	16.02	18.43	4.089	38.57	57.43
	Maximum	69.5	44.2	69.5	5.3	71.1	90.4

4.1 Comparing Arsenic, Boron, and Molybdenum Concentrations

As discussed in Section 3.2, boron and molybdenum are better indicator parameters than arsenic for the LEC, as boron and molybdenum porewater concentrations are significantly higher than those observed in background groundwater and the Missouri River and are typically more mobile in most hydrogeological environments.

Table 4, below, displays results from the November 2023 sampling event for arsenic, boron, and molybdenum at UMW-1D. Arsenic at UMW-1D is only slightly elevated relative to BMW-2D. Boron is elevated relative to background groundwater, while molybdenum concentrations are similar between UMW-1D and background.

Table 4 – November 2023 Analytical Results for Key Constituents at UMW-1D

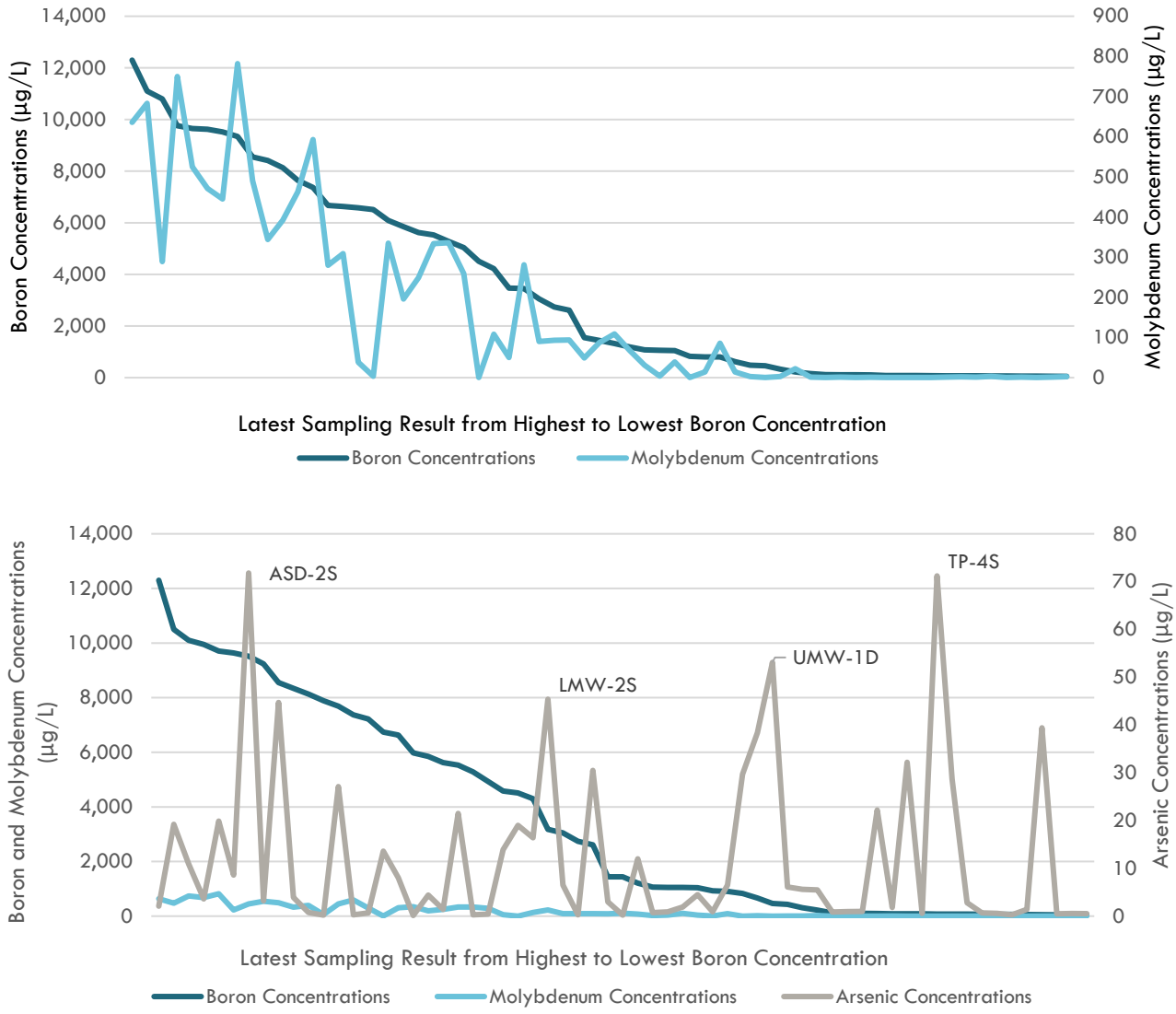
Well ID	Arsenic (µg/L)	Boron (µg/L)	Molybdenum (µg/L)
UMW-1D	53.1	485	2.8 J
BMW-1S	22.2	113	ND (<1.0)
BMW-1D	2.8	72.5 J	1.4 J
BMW-2S	0.51 J	50.8 J	2.6 J
BMW-2D	39.4	63.6 J	1.3 J

Notes:
1) µg/L – micrograms per liter.
2) J – Result is an estimated value.
3) ND – Constituent was analyzed but was not detected above the MDL or adjusted PQL based on data validation and is considered a non-detect.

To evaluate the correlation between key CCR indicators and arsenic concentrations onsite, a graph that displays boron, molybdenum, and arsenic concentrations from the most recent sampling result at each monitoring well is provided in **Figure 4** (data used for **Figure 4** provided in **Table 5**). As displayed on the upper graph, molybdenum

concentrations appear to correlate with boron concentrations, with elevated levels at similar monitoring wells. Arsenic concentrations appear to behave independently from boron and molybdenum concentrations. Isolated spikes in arsenic concentrations are located at wells both with and without elevated boron and molybdenum, indicating that arsenic concentrations are not directly linked to impacts from the LCPA.

Figure 4 – Comparison of Most Recent Boron, Molybdenum, and Arsenic Concentrations

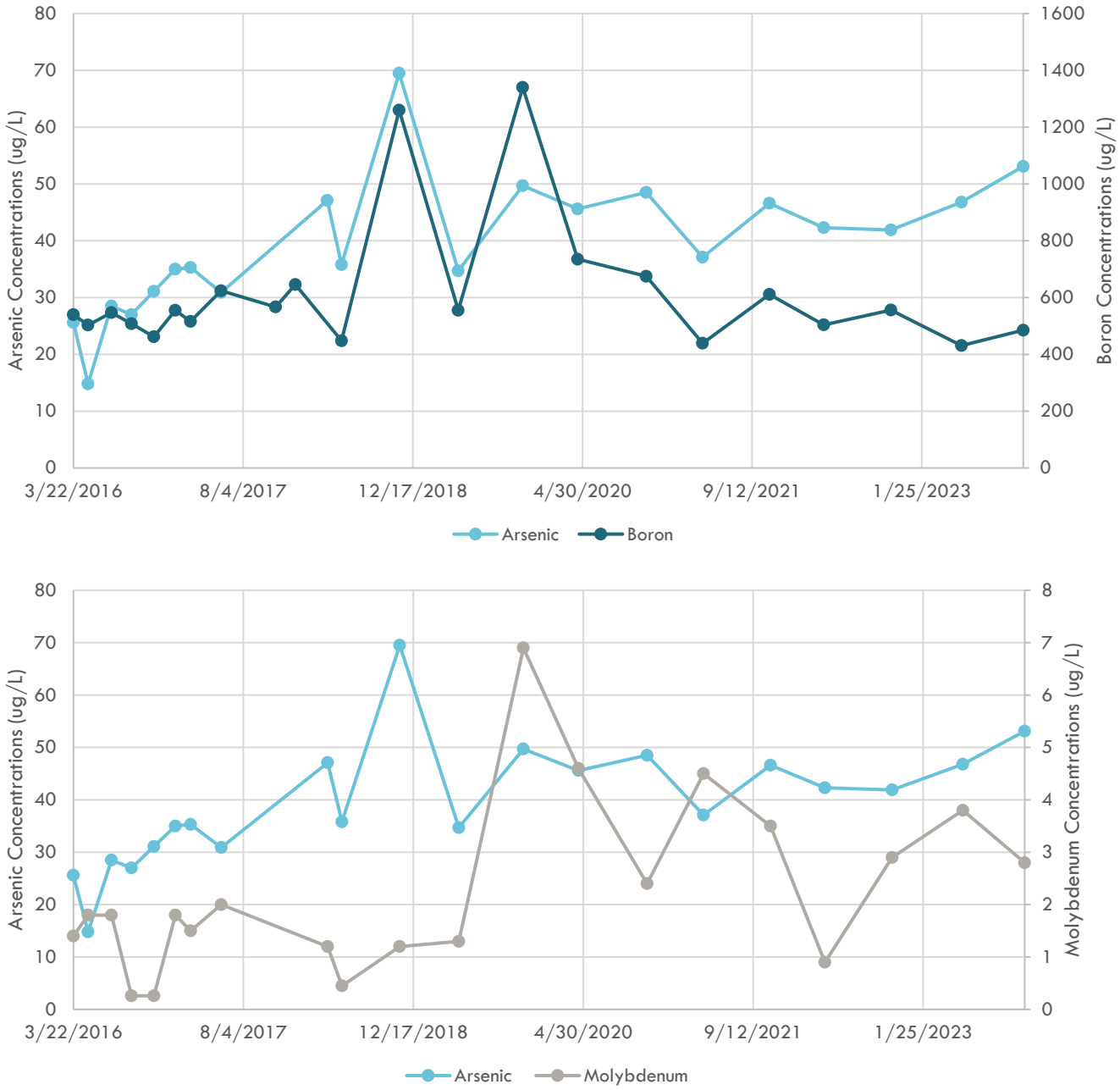


Notes:

1) µg/L – micrograms per liter.
2) Values displayed in order from highest to lowest boron concentrations. Data used to prepare **Figure 2** are provided in **Table 4**.
3) The upper graph displays boron and molybdenum concentrations, with molybdenum concentrations on the right axis.
4) The lower graph displays boron, molybdenum, and arsenic concentrations, with arsenic concentrations on the right axis.

In order to further compare arsenic concentrations at UMW-1D with the key CCR indicators, boron and molybdenum, multi-constituent time-series graphs were produced. As discussed previously, statistical analysis has revealed an increasing trend for arsenic at UMW-1D at the 98% confidence level, with the lower confidence band intersecting the GWPS. **Figure 5** displays time series plots of arsenic, boron, and molybdenum concentrations at UMW-1D. As shown in the figure, there are no corresponding significant increasing trends for boron and molybdenum at UMW-1D. If the increasing trend for arsenic were to be attributable to impacts from the LCPA, it would be expected that boron and molybdenum would similarly be increasing.

Figure 5 – Timeseries Plots of Historical Arsenic, Boron, and Molybdenum Concentrations at UMW-1D



4.2 Geochemical Fingerprinting

A Piper diagram was produced to compare the geochemical signatures of groundwater at UMW-1D and background groundwater. Based on data collected from porewater samples within the LCPA and LCPB CCR units, distinct geochemical signature zones have been previously established in Alternative Source Demonstrations for the LCPB. As shown in **Figure 6**, groundwater collected at UMW-1D in November 2023 has a very similar geochemical signature to background groundwater. Data for UMW-1D does not plot in the mixing zone for either CCR unit, providing further evidence that groundwater at UMW-1D is largely unimpacted, and therefore, increased arsenic at this well is not a result of CCR impacts.

Additionally, as part of the ASD produced for the LCPB detection monitoring network, a USEPA Fingerprint Analysis of Leachate Contaminants (FALCON) analysis was conducted to compare constituent fingerprints from the downgradient monitoring wells with those of background groundwater, LCPB porewater, and LCPA porewater. The Technical Memorandum associated with this analysis of the November 2023 data is included in **Appendix A**. As shown in Table 5 of the Technical Memorandum, there is a strong statistical correlation (100%) between background groundwater and groundwater at UMW-1D using FALCON methodology. There is a particularly weak correlation (28%) between UMW-1D and porewater collected from the LCPA. Each of these two geochemical fingerprinting methodologies provide strong evidence that groundwater at UMW-1D is largely unimpacted by the LCPA and is similar to background groundwater at the LEC.

4.3 Sequential Extraction Data Confirms Presence of Naturally Occurring Arsenic in Alluvial Sediments at LEC

A seven-step sequential extraction method (SEP) based on Tessier et al. (1979) was used to identify the provenance of arsenic in soils (i.e., the operationally defined fraction that contains the metal) and determine potential environmental mobility, as displayed in **Figure 7**. The total concentration of a metal measured from all seven steps can be compared to the concentration determined from the total metal analysis for compositional accountability. The seven-step SEP is defined by specific extraction steps as follows (based on a modified Tessier et al. 1979 method):

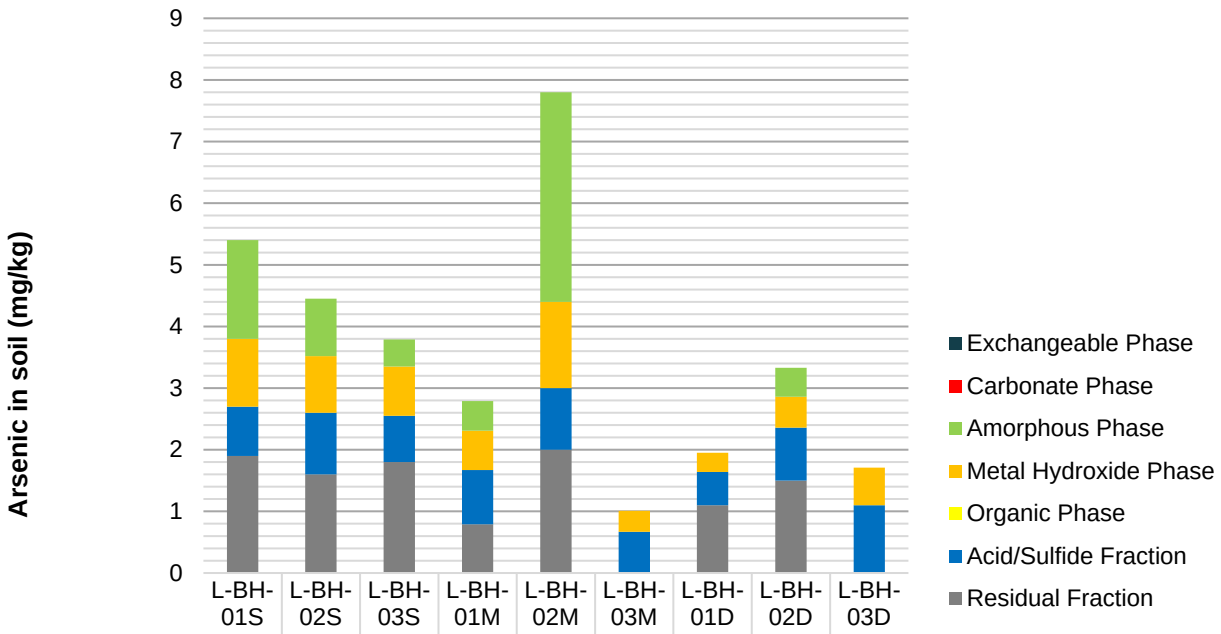
Figure 7 – Sequential Extraction Procedure

SEQUENTIAL EXTRACTION PROCEDURE				
ENVIRONMENTALLY AVAILABLE (Increasing Availability)	Step 1	Increasing Extraction Strength	Exchangeable Fraction:	This extraction includes trace elements that are electrostatically adsorbed to overburden minerals
	Step 2		Carbonate Fraction:	This extraction targets trace elements that are adsorbed or otherwise bound to carbonate minerals
	Step 3		Non-Crystalline Materials Fraction:	This extraction targets trace elements that are complexed by amorphous minerals
	Step 4		Metal Hydroxide Fraction:	This extraction targets trace elements bound to hydroxides of iron, manganese, and/or aluminum
	Step 5		Organic Fraction:	This extraction targets trace elements strongly bound via chemisorption to organic material
NON-ENVIRONMENTALLY AVAILABLE	Step 6		Acid/Sulfide Fraction:	The extraction is used to identify trace elements precipitated as sulfide minerals
	Step 7		Residual Fraction:	Trace elements remaining in the overburden after the previous extractions will be distributed between silicates, phosphates, and refractory oxide

In 2021, samples were collected from three soil borings across the LEC for sequential extraction testing. The locations of the sequential extraction sample borings are provided in **Figure 1**, with BH-02 located adjacent to well UMW-1D. Sample BH-02D was collected near the screening interval of UMW-1D, and BH-02M was collected just above the screening interval. Results of the sequential extraction testing are displayed in **Figure 8** and indicate the presence of naturally occurring arsenic in soils at the LEC in fractions 3 and 4 (environmentally available) as well as fractions 6, and 7 (non-environmentally available) in each of the soil borings. Arsenic is reported in soils at concentrations ranging from 1.01 to 7.8 milligrams per kilogram (mg/kg, from the SEP). The

results of the sequential extraction indicate a source of environmentally available arsenic at the LEC, which ranges from 16 - 62% of the total arsenic recovered during sequential extraction across the soil samples. Specifically, BH-02M contains high arsenic concentrations relative to the other soil samples, with 62% of arsenic contained in environmentally available fractions. The presence of environmentally available arsenic within soils around UMW-1D is a potential source of the elevated arsenic observed at this well.

Figure 8 - Sequential Extraction of Arsenic Results



	L-BH-01S	L-BH-02S	L-BH-03S	L-BH-01M	L-BH-02M	L-BH-03M	L-BH-01D	L-BH-02D	L-BH-03D
Exchangeable Phase	0	0	0	0	0	0	0	0	0
Carbonate Phase	0	0	0	0	0	0	0	0	0
Amorphous Phase	1.6	0.93	0.44	0.48	3.4	0	0	0.47	0
Metal Hydroxide Phase	1.1	0.92	0.8	0.64	1.4	0.34	0.31	0.5	0.61
Organic Phase	0	0	0	0	0	0	0	0	0
Acid/Sulfide Fraction	0.8	1	0.75	0.88	1	0.67	0.54	0.86	1.1
Residual Fraction	1.9	1.6	1.8	0.79	2	0	1.1	1.5	0

Notes:
1) Detection with JB flags for the organic phase were not used for this evaluation, as these results were detected in the blank, are estimated, and are therefore not considered accurate for this evaluation.
2) Mg/kg – milligrams per kilogram.
3) Sample locations provided in **Figure 1.** BH-01 is near the background wells, BH-02 is just south of the LCPA CCR Unit and BH-03 is located near AM-1S and the Missouri River.

4.3.1 Naturally Occurring Arsenic Values at the LEC are Consistent with Upstream Sampling Results within the Missouri and Mississippi River Alluvial Aquifers

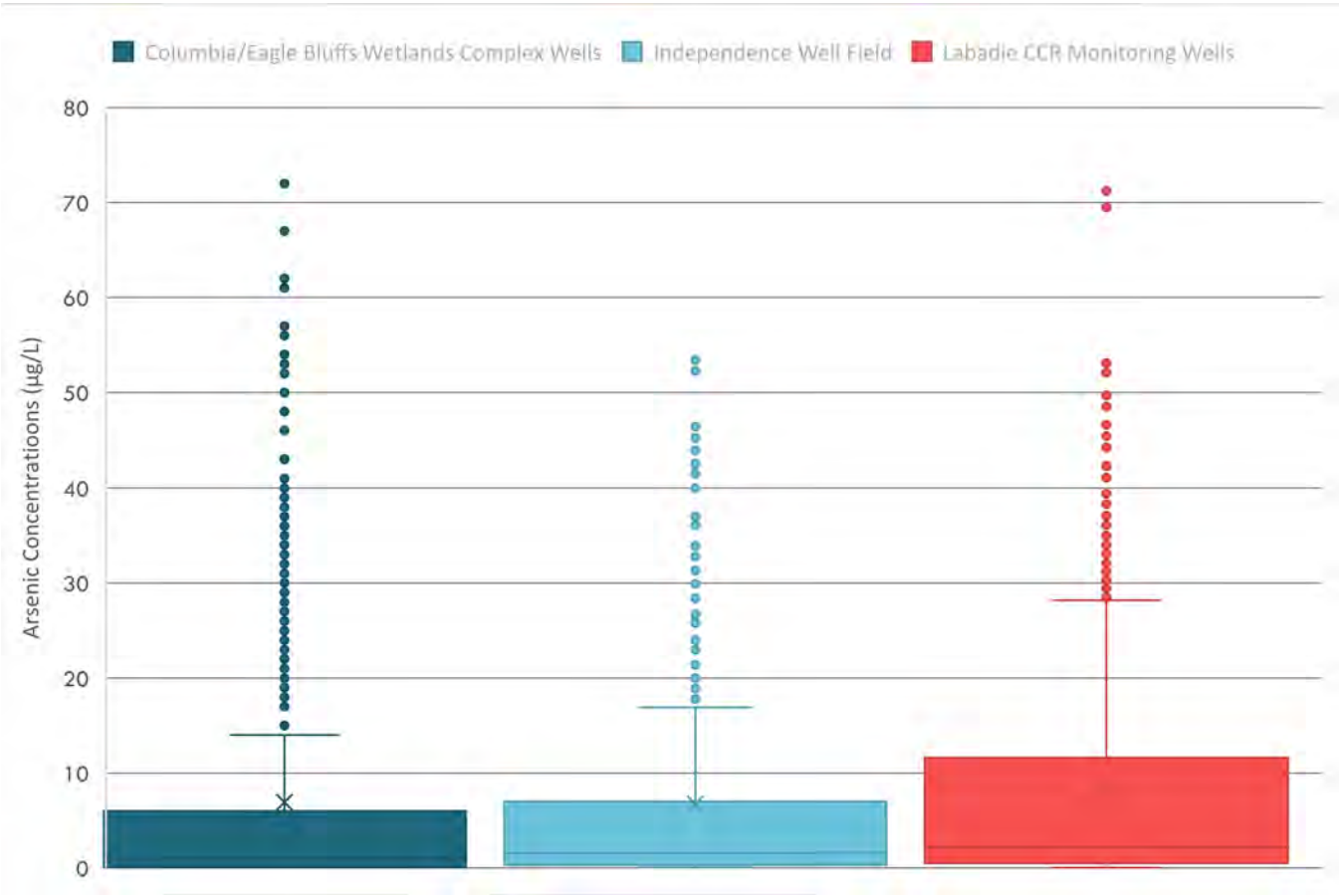
There are numerous reports and publications that discuss the presence of naturally occurring arsenic in Missouri. Arsenic has been reported to occur in groundwater in Missouri from both naturally occurring and anthropogenic sources (https://health.mo.gov/living/environment/privatedrinkingwater/contaminants.php). Additionally, as provided in the risk assessment reports for the LEC, United States Geological Survey (USGS) soil and groundwater maps by the United States Geological Survey (USGS) for arsenic in the groundwater and soils shows that arsenic is naturally present in our environment (USGS Reports available at https://mrdata.usgs.

gov/geochem/ and http://water.usgs.gov/nawqa/trace/pubs/geo_v46n11 /fig2.html, Ameren risk assessment report available at https://www.ameren.com/company/environment-and-sustainability/managing-coal-combustion/water-quality).

The National Water Quality Monitoring Council's (NWQMC) Water Quality Portal (available at https://www.waterqualitydata.us/) summarizes data from the USGS, the USEPA, and the NWQMC databases. The NWQMC database includes arsenic results from a total of 1,215 groundwater samples for wells located upgradient of the LEC within the Missouri River alluvial aquifer. These 1,215 samples are from wells located just upstream of the LEC to the confluence of the Kansas and Missouri River in Kansas City, Missouri. The 1,215 samples consist of: 351 samples from the Independence Well Field near Independence Missouri, 852 samples are from the Columbia/Eagle Bluffs Wetland Complex wells, and the remaining 12 samples from various locations in the identified area. This is an extensive dataset. A USGS report on the data for Independence Missouri is available at https://pubs.er.usgs.gov/publication/sir20105232 and USGS Reports for the Columbia/Eagle Bluffs Wetland Complex wells are available at https://pubs.er.usgs.gov/publication/wri024227. Arsenic values within these samples vary considerably, from non-detect (<0.022 ug/L) to 72 µg/L, with an average concentration of 6.7 µg/L (displayed in **Figure 9**, below).

Using data collected through 2023 for Labadie CCR monitoring wells, arsenic values similarly range from non-detect (<0.052 µg/L) to 71.2 µg/L, with an average concentration of 8.3 µg/L. Highest arsenic concentrations in groundwater collected at the LEC are similar to upgradient alluvial aquifer samples and exhibit a similar range of values. This data demonstrates that elevated arsenic concentrations are not unusual in the Missouri River alluvial aquifer and are primarily derived from naturally occurring sources or, potentially, from anthropogenic sources that are unrelated to CCR and power plant operations.

Figure 9 – Comparison of Missouri River Alluvial Aquifer Groundwater Arsenic Concentrations – Public Data and LEC Results



5.0 SUMMARY

Based on the information presented in in this ASD, the statistical exceedance of arsenic at monitoring well UMW-1D using Assessment Monitoring statistical methods is not the result of impacts from the LCPA, but instead is the result of natural geochemical variability of groundwater within the alluvial aquifer at the site. The natural geochemical source of arsenic at an SSL is supported by several factors including: (1) a lack of correlation between key CCR indicators (boron and molybdenum) and arsenic concentrations at wells across the LEC, (2) a lack of corresponding increasing trends of boron and molybdenum at UMW-1D, (3) geochemical fingerprinting methodologies indicate similarities between groundwater at UMW-1D and background groundwater, and distinct dissimilarities with LCPA and LCPB porewater, (4) sequential extraction from soils at the LEC indicates a naturally occurring, environmentally available source of arsenic, (5) the presence of arsenic at similar levels in alluvial aquifer samples upgradient of the site. Moreover, when assessment monitoring statistical procedures are performed incorporating data collected in May 2024, arsenic at UMW-1D is no longer present at an SSL.

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Tables

Table 5
Summary of Latest CCR Rule Groundwater Sampling Results for Selected Constituents
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

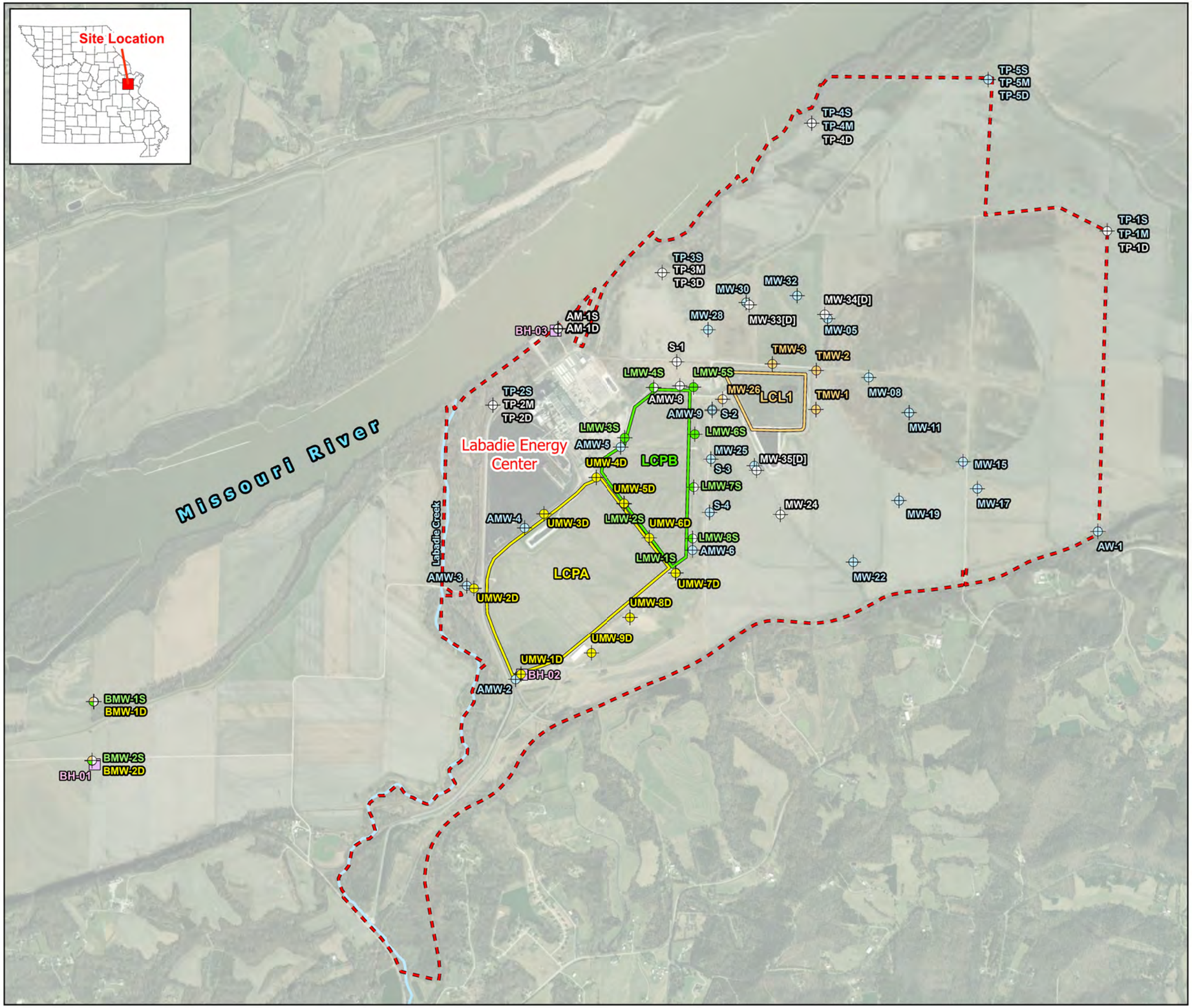
Background Limit	Boron Concentrations		Molybdenum Concentrations		Arsenic Concentrations	
	DQR (100 µg/L)		DQR (20 µg/L)		44.2 µg/L	
Groundwater Monitoring Wells	Date	µg/L	Date	µg/L	Date	µg/L
L-ASD-5M	2/15/2018	12,300	2/15/2018	636	2/15/2018	2.1
L-UMW-5D	11/20/2023	11,100	11/20/2023	683	11/20/2023	19.2
L-UMW-3D	11/20/2023	10,800	11/20/2023	289	11/20/2023	10.9
L-MW-34[D]	11/16/2023	9,760	11/16/2023	750	11/16/2023	3.6
L-UMW-6D	11/20/2023	9,650	11/20/2023	525	11/20/2023	19.9
L-TP-3D	11/15/2023	9,620	11/15/2023	471	11/15/2023	8.6
L-ASD-2S	2/20/2018	9,520	2/20/2018	445	2/20/2018	71.8
L-MW-33[D]	11/16/2023	9,340	11/16/2023	782	11/16/2023	3.2
L-ASD-2M	2/20/2018	8,550	2/20/2018	490	2/20/2018	44.7
L-AM-1D	11/20/2023	8,410	11/20/2023	344	11/20/2023	3.9
L-ASD-2D	2/20/2018	8,130	2/20/2018	392	2/20/2018	0.76 J
L-MW-35[D]	11/17/2023	7,640	11/17/2023	463	11/17/2023	0.2 J
L-ASD-1S	2/22/2018	7,370	2/22/2018	593	2/22/2018	27.1
L-AMW-8	11/16/2023	6,670	11/16/2023	280	11/16/2023	0.28 J
L-ASD-4M	2/16/2018	6,630	2/16/2018	309	2/16/2018	0.67 J
L-LMW-7S	11/15/2023	6,580	11/15/2023	38.6	11/15/2023	13.6
L-TP-4D	11/15/2023	6,510	11/15/2023	3.5 J	11/15/2023	8.0
L-UMW-4D	11/17/2023	6,090	11/17/2023	335	11/17/2023	0.13 J
L-ASD-3D	2/17/2018	5,850	2/17/2018	196	2/17/2018	4.4
L-ASD-4D	2/16/2018	5,620	2/16/2018	249	2/16/2018	1.4
L-ASD-1M	2/22/2018	5,530	2/22/2018	334	2/22/2018	21.5
L-ASD-1D	2/22/2018	5,280	2/22/2018	336	2/22/2018	0.27 J
L-TP-3M	11/15/2023	5,040	11/15/2023	259	11/15/2023	0.42 J
L-TP-5D	5/9/2019	4,510	5/9/2019	ND	5/9/2019	13.9
L-LMW-3S	11/20/2023	4,220	11/20/2023	108	11/20/2023	19.0
L-LMW-4S	11/17/2023	3,470	11/17/2023	50.3	11/17/2023	16.4
L-LMW-2S	11/20/2023	3,450	11/20/2023	281	11/20/2023	45.4
L-ASD-3M	2/18/2018	3,050	2/18/2018	90.3	2/18/2018	6.5
L-ASD-5D	2/15/2018	2,740	2/15/2018	93.1	2/15/2018	0.26 J
L-ASD-3S	2/18/2018	2,610	2/18/2018	93.7	2/18/2018	30.5
L-LMW-8S	11/16/2023	1,550	11/16/2023	49.1	11/16/2023	3.0
L-ASD-5S	2/15/2018	1,440	2/15/2018	87.4	2/15/2018	0.22 J
L-TP-2D	11/17/2023	1,320	11/17/2023	109	11/17/2023	12.0
L-TP-2M	11/17/2023	1,190	11/17/2023	68.2	11/17/2023	0.75 J
L-UMW-2D	11/16/2023	1,080	11/16/2023	31.2	11/16/2023	0.89 J
L-LMW-1S	11/16/2023	1,060	11/16/2023	4.0 J	11/16/2023	1.9
L-ASD-4S	2/16/2018	1,050	2/16/2018	39.3	2/16/2018	4.5
L-TP-5M	5/9/2019	828	5/9/2019	ND	5/9/2019	0.92 J
L-LMW-6S	11/15/2023	806	11/15/2023	14.1 J	11/15/2023	6.5
L-UMW-7D	11/16/2023	803	11/16/2023	85.8	11/16/2023	29.7
L-UMW-8D	11/16/2023	619	11/16/2023	14.3 J	11/16/2023	38.4
L-UMW-1D	11/20/2023	485	11/20/2023	2.8 J	11/20/2023	53.1
L-TP-4M	8/20/2019	463	8/20/2019	ND	8/20/2019	6.1
L-AM-1S	11/20/2023	327	11/20/2023	2.8 J	11/20/2023	5.6
L-TP-2S	8/20/2019	221	8/20/2019	22.4	8/20/2019	5.5
L-TMW-2	11/16/2023	156	11/16/2023	1.4 J	11/16/2023	0.86 J
L-TP-5S	5/9/2019	119	5/9/2019	ND	5/9/2019	0.96 J
L-TMW-3	11/17/2023	114	11/17/2023	1.2 J	11/17/2023	0.98 J
L-BMW-1S	11/16/2023	113	11/16/2023	ND	11/16/2023	22.2
L-TMW-1	11/17/2023	108	11/17/2023	1.0 J	11/17/2023	1.8
L-UMW-9D	11/16/2023	86.5 J	11/16/2023	ND	11/16/2023	32.2
L-S-1	11/20/2023	83.6 J	11/20/2023	ND	11/20/2023	0.59 J
L-TP-4S	8/20/2019	83.5 J	8/20/2019	ND	8/20/2019	71.2
L-TP-1S	5/8/2019	77.4 J	5/8/2019	ND	5/8/2019	28.7
L-BMW-1D	11/16/2023	72.5 J	11/16/2023	1.4 J	11/16/2023	2.8
L-MW-24	11/17/2023	71.9 J	11/17/2023	2.1 J	11/17/2023	0.66 J
L-MW-26	11/17/2023	69.9 J	11/17/2023	1.3 J	11/17/2023	0.58 J
L-TP-3S	5/9/2019	67.2 J	5/9/2019	3.3 J	5/9/2019	0.26 J
L-TP-1D	11/15/2023	65.8 J	11/15/2023	ND	11/15/2023	1.4
L-BMW-2D	11/16/2023	63.6 J	11/16/2023	1.3 J	11/16/2023	39.4
L-TP-1M	5/8/2019	60.6 J	5/8/2019	ND	5/8/2019	0.5 J
L-LMW-5S	11/16/2023	55.0 J	11/16/2023	1.5 J	11/16/2023	0.55 J
L-BMW-2S	11/16/2023	50.8 J	11/16/2023	2.6 J	11/16/2023	0.51 J

Notes
1) 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.) J - Result is an estimated value.
4.) Date corresponds with most recent result for each analyte.
5.) Well ID's highlighted in light red have values above the background limit for boron and/or molybdenum. These values are used in the "concentrations with a boron and/or molybdenum value over background" for the box and whisker plots. Well ID's in blue do not have a molybdenum or boron value above background, and these well are used in the "concentrations without a boron or molybdenum value over background" column for the box and whisker plots.
6.) If all backgound values are less than the PQL, then the Double Quantification Rule (DQR) is used. In cases were DQR is the background value, the latest PQL is used for the background limit.

ROCKSMITH GEOENGINEERING

Prepared by: GTM/JTR
Checked by: JTA/GTM
Reviewed by: MNH

Figures



TITLE

LABADIE ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

Legend

- Approximate Property Boundary

Labadie Energy Center CCR Units

- LCPA - Bottom Ash Surface Impoundment
- LCPB - Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1

Monitoring Well Network

- Corrective Action Monitoring Well
- LCPA Monitoring Well
- LCPB Monitoring Well
- LCPB and Corrective Action Monitoring Well
- LCL1 Monitoring Well
- LCL1 and Corrective Action Monitoring Well
- Backgrcund Well Used for LCPA, Corrective Action, LCPB, and LCL1 Monitoring
- Monitoring Well Used for Water Level Elevation Measurements Only
- Soil Sample Borehole Location

NOTES

1. All locations and boundaries are approximate.

REFERENCES

1. Zahner and Associates, Inc. 2016. Lot Consolidation Plat of "Labadie Energy Center" - Prepared for Ameren Missouri. Revised June 15, 2016.
2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 500 1,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-07-22
PREPARED	JSI	PROJECT No.	23007-24
REVIEW	MNH		FIGURE 1
APPROVED	MNH		

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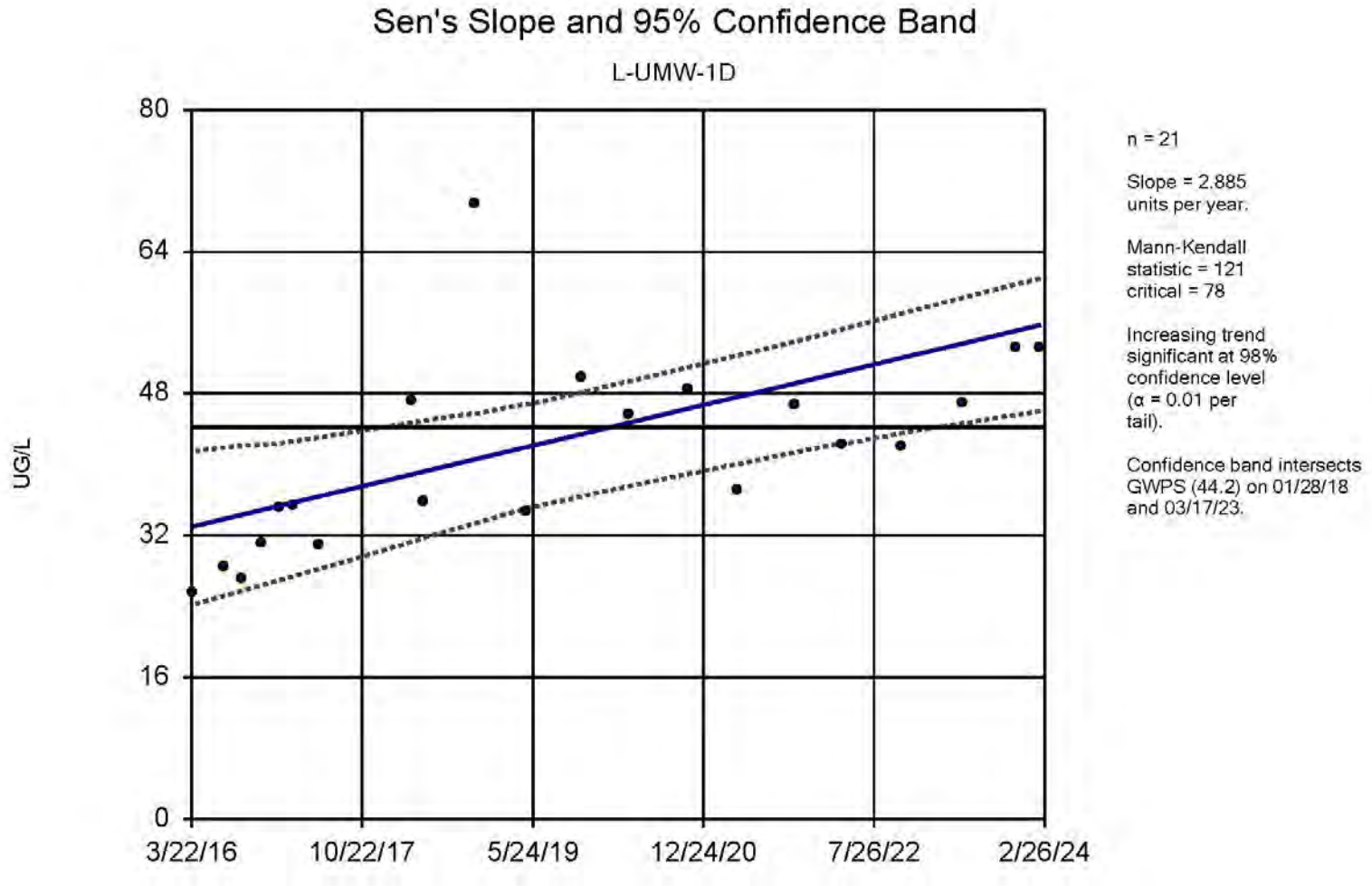
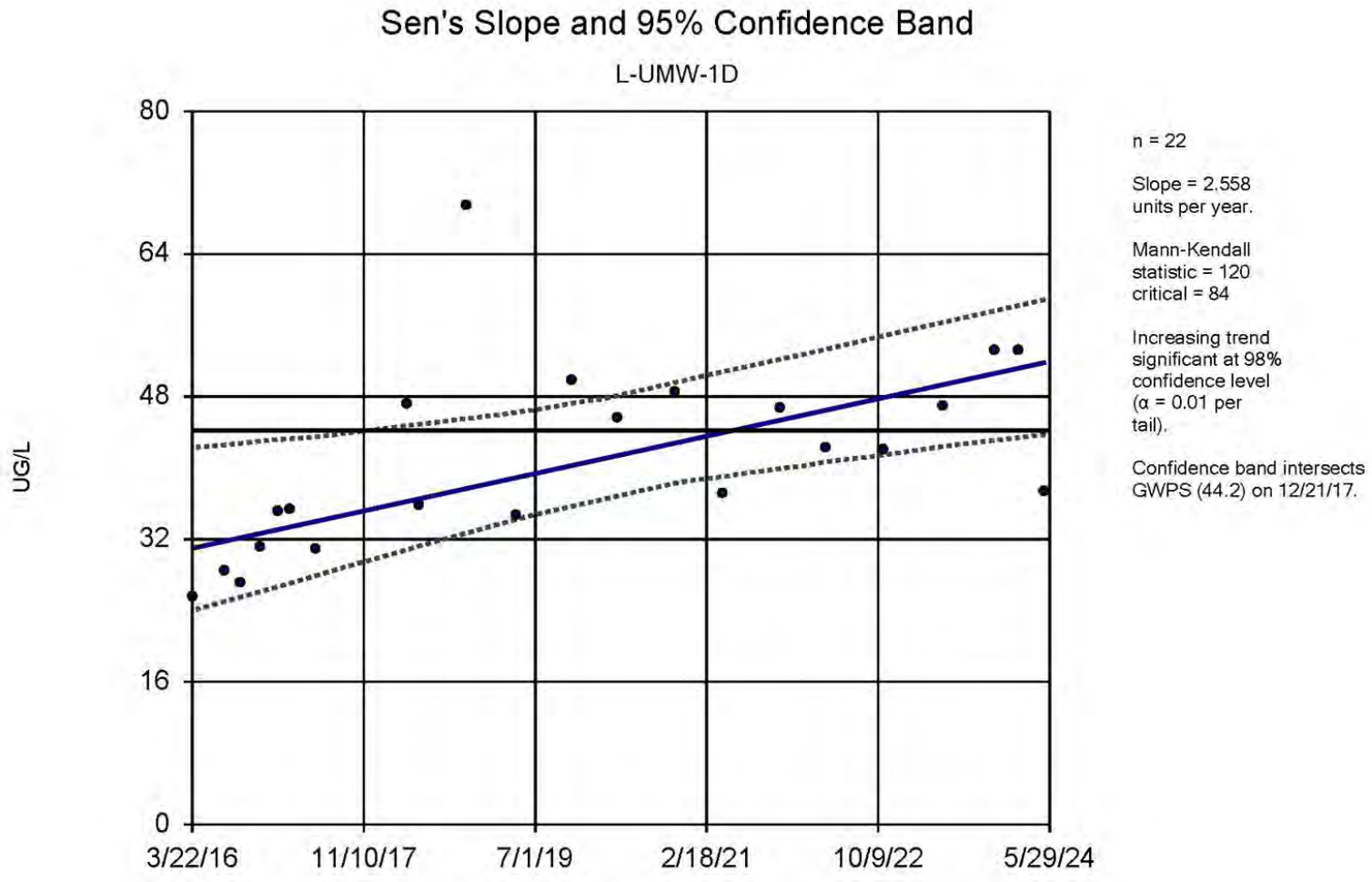


Notes
1) Trend chart produced using Sanitas Software.
2) A confirmatory Arsenic sample at UMW-1D was collected in February 2024.

CLIENT/PROJECT				TITLE		
AMEREN MISSOURI **LABADIE ENERGY CENTER**				**Arsenic at UMW-1D Confidence Band, November 2023**		
DRAWN	CHECKED	REVIEWED	DATE	Rev No.	JOB NO.	FIGURE
GTM	JSI	MNH	2024-07-18	NA	23007-24	**2**

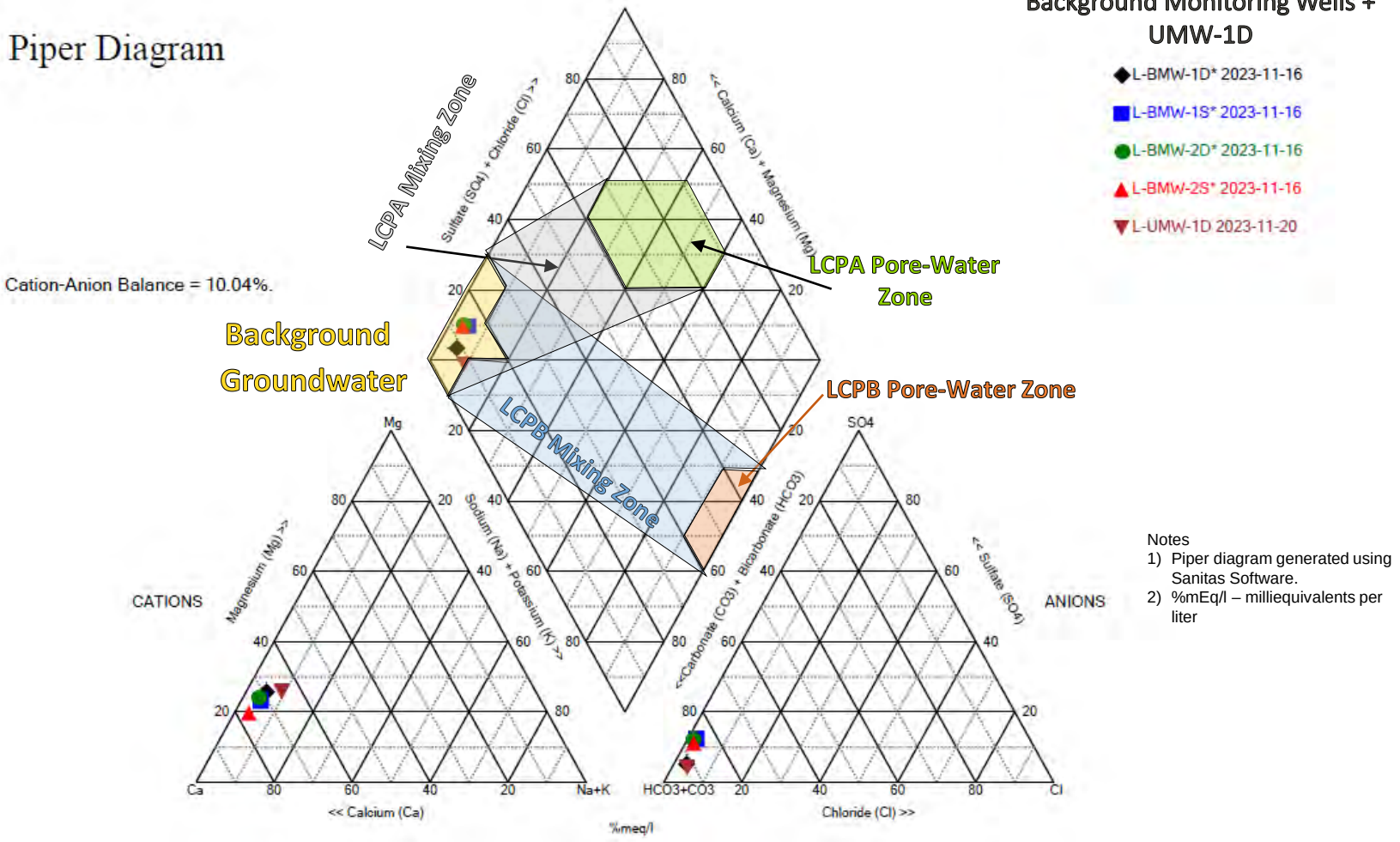
ROCKSMITH GEOENGINEERING



Notes
1) Trend chart produced using Sanitas Software.
2) Data validation procedures have not been performed on May 2024 data.

CLIENT/PROJECT **AMEREN MISSOURI** **LABADIE ENERGY CENTER**					TITLE **Arsenic at UMW-1D Confidence Band, May 2024**	
DRAWN GTM	CHECKED JSI	REVIEWED MNH	DATE 2024-07-18		Rev No. NA	JOB NO. 23007-24	FIGURE **3**

Piper Diagram



Notes
1) Piper diagram generated using Sanitas Software.
2) %mEq/l – milliequivalents per liter

CLIENT/PROJECT **AMEREN MISSOURI** **LABADIE ENERGY CENTER**					TITLE **UMW-1D Piper Diagram for November 2023**	
DRAWN GTM	CHECKED JTR	REVIEWED MNH	DATE 2024-07-12		Rev No. NA	JOB NO. 23007-24	FIGURE **6**

Appendix A

LCPB FALCON Analysis Calculation Package

Technical Memorandum

July 23, 2024

To:	Ameren Missouri 1901 Chouteau Ave, St. Louis, MO 63103	**Project Number:**	23007-24
From:	Mark Haddock, P.E., R.G., Jeff Ingram, R.G.	**Email:**	jeff.ingram@rocksmithgeo.com
RE:	**Appendix A – LCPB FALCON Analysis Calculation Package**		

1.0 OBJECTIVE

The objective of this Technical Memorandum calculation package is to determine if there is a correlation between the ion ratio fingerprints in the LCPA pore-water, LCPB pore-water or background groundwater with the compliance monitoring well samples in the alluvial aquifer at the Labadie Energy Center (LEC).

2.0 FINGERPRINT ANALYSIS OF LEACHATE CONTAMINANTS (FALCON) METHOD

The Fingerprint Analysis of Leachate Contaminants (FALCON) method was developed in 2004 by the United States Environmental Protection Agency (USEPA) as a tool to identify the source of impacts within groundwater. The FALCON method compiles ion ratios for multiple constituents in order to develop a distinctive chemical fingerprint for each possible contaminant source and un-impacted background groundwater. These fingerprints were correlated to well sample data downgradient of the sources and are used to characterize the source of the contaminant plume. For this calculation, background groundwater quality is derived from samples collected in background wells located approximately 2 to 2.5 miles west of the LCPB. Source data are from pore-water collected from piezometers within the LCPA and LCPB. Fingerprints from these three sources (background groundwater, LCPA pore-water and LCPB pore-water) were compared to data from alluvial aquifer monitoring well sampling locations at the LEC. Data from the LCPA and LCPB pore-water are from the November 2017 ASD for the LCPB, which is available in the 2019 Annual Report for the LCPB. Data from the background and compliance monitoring wells are from the November 2023 sampling event.

3.0 SELECTION OF CONSTITUENTS TO USE

The first step in completing the FALCON analysis was to select a subset of constituents that are representative of the potential source areas. When selecting these constituents, it is important to include constituents that are mobile in the hydrogeological environment and that can uniquely characterize each water type. Constituents selected included major cation and anion constituents that represent groundwater chemistry and key indicators of CCR impacts. Values of the three different sources were compared to see which constituents fit the criteria. A summary table of the values used for the three sources is provided in **Table 1**. The following constituents were selected to complete the FALCON analysis:

- Alkalinity
- Total Boron
- Total Calcium
- Total Chloride
- Total Fluoride
- Total Iron
- Total Magnesium
- Total Manganese
- Total Potassium
- Total Sodium
- Total Sulfate

4.0 DATA TABULATION AND NORMALIZATION

Once the constituents were selected, the data were tabulated, normalized and a graphical presentation of the fingerprints was produced. The data used, along with the normalization percentages, are provided in **Table 1** for the three different sources (background groundwater, LCPA pore-water, and LCPB pore-water) as well as for each monitoring well evaluated. Correlations were then completed between the different sources to determine each source's reproducibility. Tables displaying the FALCON correlations are provided below in **Tables 2-4**.

Table 2 – Background Groundwater Correlations

LCPB Pore-water Correlations			
Well ID	*L-LCPB-1*	*L-LCPB-2*	*L-LCPB-3*
L-LCPB-1			
L-LCPB-2	99.6%		
L-LCPB-3	98.9%	99.5%	
Average Fingerprint Reproducibility			99.4%

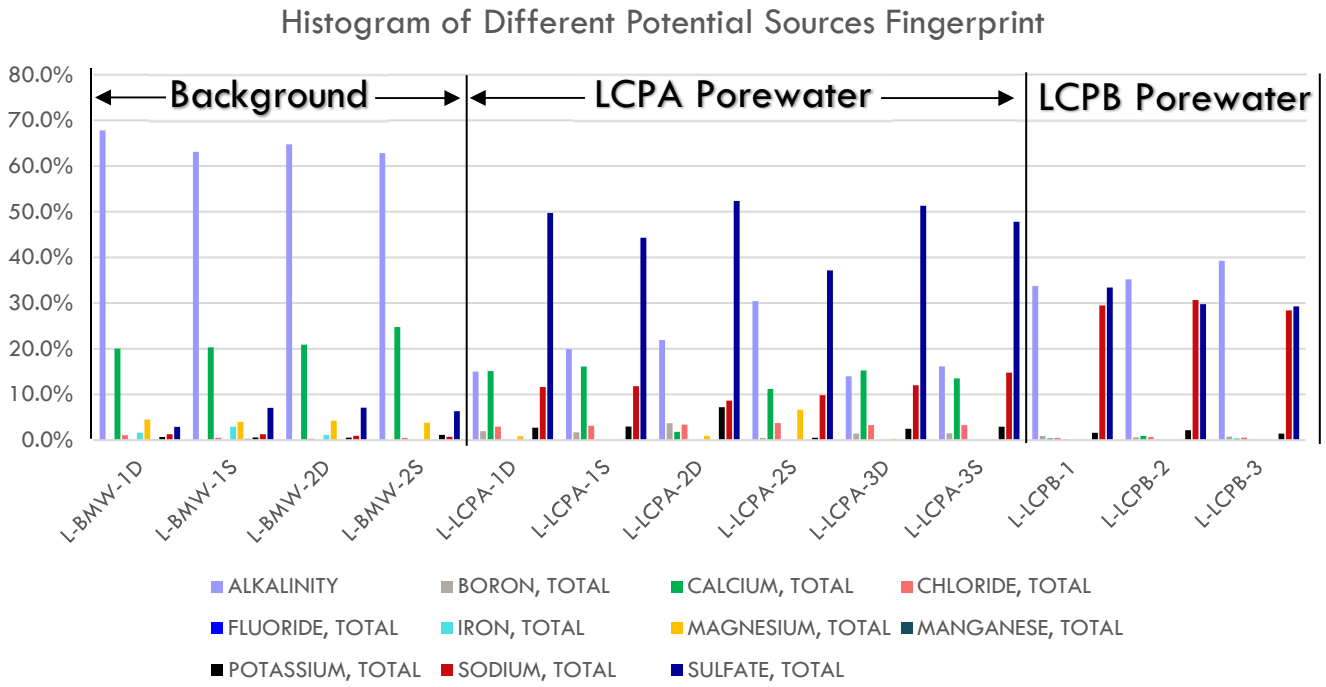
Table 3- LCPB Pore-water Correlations

LCPB Pore-water Correlations			
	L-LCPB-1	*L-LCPB-2*	*L-LCPB-3*
L-LCPB-1			
L-LCPB-2	99.6%		
L-LCPB-3	98.9%	99.5%	
Average Fingerprint Reproducibility			99.4%

Table 4 – LCPA Pore-water Correlations

Well ID	*L-LCPA-1D*	*L-LCPA-1S*	*L-LCPA-2D*	*L-LCPA-2S*	*L-LCPA-3D*	*L-LCPA-3S*
L-LCPA-1D						
L-LCPA-1S	98.9%					
L-LCPA-2D	94.5%	93.8%				
L-LCPA-2S	88.9%	93.3%	90.0%			
L-LCPA-3D	99.9%	98.5%	94.1%	87.6%		
L-LCPA-3S	99.6%	99.0%	94.8%	89.8%	99.5%	
Average Fingerprint Reproducibility						94.8%
Average Fingerprint Reproducibility with LCPA-1S, LCPA-1D, LCPA-2D, LCPA-3S and LCPA-3D						97.2%

Additionally, **Figure 1** below displays a histogram of the different source water normalizations.



As described in the ASD report for the November 2017 monitoring results (provided in the 2018 Annual Report for the LCPB), samples collected within the LCPA unit displayed less correlation due to the spatial variation of sample locations and differing CCR materials present in sample intervals. The LCPA has been in operation since the 1970s and there have been many changes to CCR received by the LCPA during this time. These include changes in types of coal used onsite, types of CCR placed in the facility (pre-LCPB construction vs. post-LCPB construction), and types of CCR placed within the unit. While not as evident using the constituents available for this evaluation, no Appendix IV constituents were tested because LCPB is under detection monitoring. When compared with the 2018 evaluation, LCPA-2S still appears to have a weaker correlation (<90% in this case) and was evaluated separately. Separating the LCPA into two potential sources (one for LCPA-1S, -1D, -2D, -3S, -3D and one for LCPA-2S) more accurately reflects the conditions within the LCPA due to its spatial variation of constituent concentrations.

5.0 CORRELATING DOWNGRADIENT GROUNDWATER SAMPLES WITH SOURCES

A correlation between the average groundwater concentration and the different source waters was completed to demonstrate which source better correlates with each alluvial aquifer groundwater sample. Results from this correlation are provided in **Table 5** and the values used for this correlation are provided in **Table 1**. The results demonstrate that groundwater in the alluvial aquifer correlates better with the LCPA pore-water or background groundwater than it does with the LCPB pore-water. In no case did a downgradient groundwater sample correlate better with the LCPB pore-water than with the LCPA pore-water or background groundwater.

Table 5 – Summary of November 2023 USEPA FALCON Evaluation

Piezometer or Well ID	Percent Correlation				Highest (Best) Correlation
	Background Groundwater	LCPB Average	LCPA Average (LCPA-1S/D, LCPA-2D & LCPA-3S/D)	LCPA-2S	
L-BMW-1D	100%	55%	29%	58%	Background
L-BMW-1S	100%	58%	35%	63%	Background
L-BMW-2D	100%	58%	35%	63%	Background
L-BMW-2S	100%	55%	34%	62%	Background
L-AM-1D	39%	80%	99%	95%	LCPA-Average
L-AM-1S	98%	55%	26%	55%	Background
L-AMW-8	27%	75%	99%	91%	LCPA-Average
L-LMW-1S	100%	60%	38%	65%	Background
L-LMW-2S	7%	60%	95%	80%	LCPA-Average
L-LMW-3S	96%	77%	52%	76%	Background
L-LMW-4S	98%	67%	47%	72%	Background
L-LMW-5S	100%	53%	28%	56%	Background
L-LMW-6S	100%	57%	33%	61%	Background
L-LMW-7S	96%	71%	59%	82%	Background
L-LMW-8S	99%	68%	46%	72%	Background
L-MW-24	100%	56%	33%	61%	Background
L-MW-26	100%	56%	33%	62%	Background
L-MW-33(D)	18%	67%	97%	87%	LCPA-Average
L-MW-34(D)	40%	76%	98%	96%	LCPA-Average
L-MW-35(D)	86%	84%	76%	93%	LCPA-2S
L-S-1	100%	54%	28%	57%	Background
L-TMW-1	100%	58%	36%	64%	Background
L-TMW-2	98%	66%	52%	76%	Background
L-TMW-3	100%	58%	35%	63%	Background
L-TP-1D	100%	55%	28%	57%	Background
L-TP-2D	87%	83%	74%	92%	LCPA-2S
L-TP-2M	78%	84%	84%	96%	LCPA-2S
L-TP-3D	18%	71%	98%	88%	LCPA-Average
L-TP-3M	84%	83%	78%	94%	LCPA-2S
L-TP-4D	89%	75%	71%	90%	LCPA-2S
L-UMW-1D	100%	56%	28%	57%	Background
L-UMW-2D	96%	74%	56%	79%	Background
L-UMW-3D	12%	64%	96%	83%	LCPA-Average
L-UMW-4D	14%	71%	97%	85%	LCPA-Average
L-UMW-5D	23%	71%	98%	88%	LCPA-Average
L-UMW-6D	3%	61%	94%	79%	LCPA-Average
L-UMW-7D	100%	55%	27%	56%	Background
L-UMW-8D	99%	60%	30%	59%	Background
L-UMW-9D	99%	53%	24%	54%	Background

Notes

1) Values display percent correlation between data collected in November 2023 for each monitoring well and the LPCA, LCPB or background fingerprints.
2) The higher values are shaded darker and indicate better correlation.
3) More information on the calculation of these numbers is provided in Table 1.

Tables

Table 1
Summary of Concentrations Used for FALCON Correlation
LCPB Anternative Source Demonstration
Labadie Energy Center, Franklin County, MO

Analyte	Units	L-BMW-1D	L-BMW-1S	L-BMW-2D	L-BMW-2S	L-AM-1D	L-AM-1S	L-AMW-8
ALKALINITY	mg/L	393	646	418	381	162	635	95.6
BORON, TOTAL	mg/L	0.0725	0.113	0.0636	0.0508	8.41	0.327	6.67
CALCIUM, TOTAL	mg/L	116	208	135	150	106	188	68.2
CHLORIDE, TOTAL	mg/L	6.20	5.30	2.00	2.80	35.8	86	21.1
FLUORIDE, TOTAL	mg/L	0.06	0.06	0.06	0.06	0.06	0.06	0.06
IRON, TOTAL	mg/L	9.52	29.9	7.25	0.0046	4.82	11.8	2.64
MAGNESIUM, TOTAL	mg/L	26.2	40.6	27.5	23.1	13.1	37.8	11
MANGANESE, TOTAL	mg/L	0.56	2.72	0.299	0.00970	0.281	1.7	0.327
POTASSIUM, TOTAL	mg/L	4.02	5.77	3.48	6.92	9.27	7.38	6.48
SODIUM, TOTAL	mg/L	7.38	13.1	6.11	4.29	107	50.3	76.5
SULFATE, TOTAL	mg/L	16.7	72.4	45.9	38.3	329	5.00	273
Sum		579.7	1024.0	645.7	606.5	775.7	1023.4	561.6

Analyte	L-BMW-1D	L-BMW-1S	L-BMW-2D	L-BMW-2S	L-AM-1D	L-AM-1S	L-AMW-8
ALKALINITY	68%	63%	65%	63%	21%	62%	17%
BORON, TOTAL	0.013%	0.011%	0.0099%	0.0084%	1.1%	0.032%	1.2%
CALCIUM, TOTAL	20%	20%	21%	25%	14%	18%	12%
CHLORIDE, TOTAL	1.1%	0.52%	0.31%	0.46%	4.6%	8.4%	3.8%
FLUORIDE, TOTAL	0.01%	0.0059%	0.0093%	0.0099%	0.0077%	0.0059%	0.011%
IRON, TOTAL	1.6%	2.9%	1.1%	0.00075%	0.62%	1.2%	0.47%
MAGNESIUM, TOTAL	4.5%	4%	4.3%	3.8%	1.7%	3.7%	2%
MANGANESE, TOTAL	0.096%	0.27%	0.046%	0.0016%	0.036%	0.17%	0.058%
POTASSIUM, TOTAL	0.69%	0.56%	0.54%	1.1%	1.2%	0.72%	1.2%
SODIUM, TOTAL	1.3%	1.3%	0.95%	0.71%	14%	4.9%	14%
SULFATE, TOTAL	2.9%	7.1%	7.1%	6.3%	42%	0.49%	49%
Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

1) Values for CCR Rule monitoring wells from November 2023 samples collected for the CCR Rule.
2) mg/L - milligrams per liter.
3) One-half the value of the Method Detection Limit (MDL) is used for non-detect values.

Prepared By: GTM
Checked By: JTA
Reviewed By: MNH

Table 1
Summary of Concentrations Used for FALCON Correlation
LCPB Anternative Source Demonstration
Labadie Energy Center, Franklin County, MO

Analyte	Units	L-LMW-1S	L-LMW-2S	L-LMW-3S	L-LMW-4S	L-LMW-5S	L-LMW-6S	L-LMW-7S
ALKALINITY	mg/L	298	39.2	315	494	447	417	481
BORON, TOTAL	mg/L	1.06	3.45	4.22	3.47	0.055	0.806	6.58
CALCIUM, TOTAL	mg/L	103	84.3	109	178	154	131	184
CHLORIDE, TOTAL	mg/L	4.00	15	21.1	60.7	3.90	3.20	13.5
FLUORIDE, TOTAL	mg/L	0.06	0.06	0.06	0.06	0.06	0.06	0.06
IRON, TOTAL	mg/L	0.348	0.017	12.5	7.67	0.0205	6.38	4.48
MAGNESIUM, TOTAL	mg/L	17.4	0.0766	15.8	30.2	14.6	23.0	38.8
MANGANESE, TOTAL	mg/L	0.504	0.0019	1.3	1.84	0.0086	1.11	1.49
POTASSIUM, TOTAL	mg/L	3.81	10.3	6.58	7.08	3.59	5.18	7.95
SODIUM, TOTAL	mg/L	7.33	72.7	83	61.4	7.5	10.6	39.6
SULFATE, TOTAL	mg/L	41.2	337	92.3	116	7.9	31.6	192
Sum		476.7	562.1	660.9	960.4	638.6	629.9	969.5

Analyte	L-LMW-1S	L-LMW-2S	L-LMW-3S	L-LMW-4S	L-LMW-5S	L-LMW-6S	L-LMW-7S
ALKALINITY	63%	7%	48%	51%	70%	66%	50%
BORON, TOTAL	0.22%	0.61%	0.64%	0.36%	0.0086%	0.13%	0.68%
CALCIUM, TOTAL	22%	15%	16%	19%	24%	21%	19%
CHLORIDE, TOTAL	0.84%	2.7%	3.2%	6.3%	0.61%	0.51%	1.4%
FLUORIDE, TOTAL	0.013%	0.011%	0.0091%	0.0062%	0.0094%	0.0095%	0.0062%
IRON, TOTAL	0.073%	0.003%	1.9%	0.8%	0.0032%	1%	0.46%
MAGNESIUM, TOTAL	3.7%	0.014%	2.4%	3.1%	2.3%	3.7%	4%
MANGANESE, TOTAL	0.11%	0.00034%	0.2%	0.19%	0.0013%	0.18%	0.15%
POTASSIUM, TOTAL	0.8%	1.8%	1%	0.74%	0.56%	0.82%	0.82%
SODIUM, TOTAL	1.5%	13%	13%	6.4%	1.2%	1.7%	4.1%
SULFATE, TOTAL	8.6%	60%	14%	12%	1.2%	5%	20%
Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

1) Values for CCR Rule monitoring wells from November 2023 samples collected for the CCR Rule.
2) mg/L - milligrams per liter.
3) One-half the value of the Method Detection Limit (MDL) is used for non-detect values.

Prepared By: GTM
Checked By: JTA
Reviewed By: MNH

Table 1
Summary of Concentrations Used for FALCON Correlation
LCPB Anternative Source Demonstration
Labadie Energy Center, Franklin County, MO

Analyte	Units	L-LMW-8S	L-MW-24	L-MW-26	L-MW-33(D)	L-MW-34(D)	L-MW-35(D)	L-S-1
ALKALINITY	mg/L	365	380	424	114	186	343	473
BORON, TOTAL	mg/L	1.55	0.0719	0.0699	9.34	9.76	7.64	0.0836
CALCIUM, TOTAL	mg/L	118	128	147	117	121	120	143
CHLORIDE, TOTAL	mg/L	3.90	5.30	10	21.3	19.6	13	1.60
FLUORIDE, TOTAL	mg/L	0.06	0.06	0.06	0.06	0.06	0.06	0.06
IRON, TOTAL	mg/L	0.454	0.0662	0.00455	5.71	7.02	5.55	0.0131
MAGNESIUM, TOTAL	mg/L	18.8	24.1	27.5	23.8	29.2	27.3	20.9
MANGANESE, TOTAL	mg/L	0.0302	0.00620	0.241	0.309	0.329	0.422	0.179
POTASSIUM, TOTAL	mg/L	5.38	5.22	5.17	7.65	7.45	5.33	31.2
SODIUM, TOTAL	mg/L	38.3	7.28	5.98	99.1	87.6	75.6	2.96
SULFATE, TOTAL	mg/L	79.2	29.9	37.2	477	394	219	15.5
Sum		630.7	580.0	657.2	875.3	862.0	816.9	688.5

Analyte	L-LMW-8S	L-MW-24	L-MW-26	L-MW-33(D)	L-MW-34(D)	L-MW-35(D)	L-S-1
ALKALINITY	58%	66%	65%	13%	22%	42%	69%
BORON, TOTAL	0.25%	0.012%	0.011%	1.1%	1.1%	0.94%	0.012%
CALCIUM, TOTAL	19%	22%	22%	13%	14%	15%	21%
CHLORIDE, TOTAL	0.62%	0.91%	1.5%	2.4%	2.3%	1.6%	0.23%
FLUORIDE, TOTAL	0.0095%	0.01%	0.0091%	0.0069%	0.007%	0.0073%	0.0087%
IRON, TOTAL	0.072%	0.011%	0.00069%	0.65%	0.81%	0.68%	0.0019%
MAGNESIUM, TOTAL	3%	4.2%	4.2%	2.7%	3.4%	3.3%	3%
MANGANESE, TOTAL	0.0048%	0.0011%	0.037%	0.035%	0.038%	0.052%	0.026%
POTASSIUM, TOTAL	0.85%	0.9%	0.79%	0.87%	0.86%	0.65%	4.5%
SODIUM, TOTAL	6.1%	1.3%	0.91%	11%	10%	9.3%	0.43%
SULFATE, TOTAL	13%	5.2%	5.7%	54%	46%	27%	2.3%
Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

1) Values for CCR Rule monitoring wells from November 2023 samples collected for the CCR Rule.
2) mg/L - milligrams per liter.
3) One-half the value of the Method Detection Limit (MDL) is used for non-detect values.

Prepared By: GTM
Checked By: JTA
Reviewed By: MNH

Table 1
Summary of Concentrations Used for FALCON Correlation
LCPB Anternative Source Demonstration
Labadie Energy Center, Franklin County, MO

Analyte	Units	L-TMW-1	L-TMW-2	L-TMW-3	L-TP-1D	L-TP-2D	L-TP-2M	L-TP-3D
ALKALINITY	mg/L	496	766	448	505	271	286	119
BORON, TOTAL	mg/L	0.108	0.156	0.114	0.0658	1.32	1.19	9.62
CALCIUM, TOTAL	mg/L	160	254	145	141	101	128	94.6
CHLORIDE, TOTAL	mg/L	25.60	19.90	3.30	4.70	22.6	28.3	23.5
FLUORIDE, TOTAL	mg/L	0.06	0.06	0.06	0.06	0.06	0.06	0.06
IRON, TOTAL	mg/L	0.125	0.0766	1.22	8.56	3.75	3.75	4.08
MAGNESIUM, TOTAL	mg/L	36.3	73.7	30.4	35.7	18.1	19	20.7
MANGANESE, TOTAL	mg/L	0.295	2.33	1.19	0.264	0.358	0.57	0.173
POTASSIUM, TOTAL	mg/L	4.45	8.01	5.98	4.3	5.95	7.51	6.71
SODIUM, TOTAL	mg/L	9.96	18.5	6.40	12.7	64	79.2	122
SULFATE, TOTAL	mg/L	55.4	231	44.8	13.3	165	241	457
Sum		788.3	1373.7	686.5	725.6	653.1	794.6	857.4

Analyte	L-TMW-1	L-TMW-2	L-TMW-3	L-TP-1D	L-TP-2D	L-TP-2M	L-TP-3D
ALKALINITY	63%	56%	65%	70%	41%	36%	14%
BORON, TOTAL	0.014%	0.011%	0.017%	0.0091%	0.2%	0.15%	1.1%
CALCIUM, TOTAL	20%	18%	21%	19%	15%	16%	11%
CHLORIDE, TOTAL	3.2%	1.4%	0.48%	0.65%	3.5%	3.6%	2.7%
FLUORIDE, TOTAL	0.0076%	0.0044%	0.0087%	0.0083%	0.0092%	0.0076%	0.007%
IRON, TOTAL	0.016%	0.0056%	0.18%	1.2%	0.57%	0.47%	0.48%
MAGNESIUM, TOTAL	4.6%	5.4%	4.4%	4.9%	2.8%	2.4%	2.4%
MANGANESE, TOTAL	0.037%	0.17%	0.17%	0.036%	0.055%	0.072%	0.02%
POTASSIUM, TOTAL	0.56%	0.58%	0.87%	0.59%	0.91%	0.95%	0.78%
SODIUM, TOTAL	1.3%	1.3%	0.93%	1.8%	9.8%	10%	14%
SULFATE, TOTAL	7%	17%	6.5%	1.8%	25%	30%	53%
Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

1) Values for CCR Rule monitoring wells from November 2023 samples collected for the CCR Rule.
2) mg/L - milligrams per liter.
3) One-half the value of the Method Detection Limit (MDL) is used for non-detect values.

Prepared By: GTM
Checked By: JTA
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Table 1
Summary of Concentrations Used for FALCON Correlation
LCPB Anternative Source Demonstration
Labadie Energy Center, Franklin County, MO

Analyte	Units	L-TP-3M	L-TP-4D	L-UMW-1D	L-UMW-2D	L-UMW-3D	L-UMW-4D	L-UMW-5D
ALKALINITY	mg/L	271	310	555	383	49.2	64.9	91
BORON, TOTAL	mg/L	5.04	6.51	0.485	1.08	10.8	6.09	11.1
CALCIUM, TOTAL	mg/L	108	125	156	128	75.5	62.8	91.7
CHLORIDE, TOTAL	mg/L	19.5	15	10.50	27.2	23	22.3	20.8
FLUORIDE, TOTAL	mg/L	0.06	0.06	0.06	0.06	0.06	0.06	0.06
IRON, TOTAL	mg/L	7.97	5.43	20.9	4.05	0.11	0.265	0.0137
MAGNESIUM, TOTAL	mg/L	22.9	32.9	37.5	26.1	3.51	7	0.0101
MANGANESE, TOTAL	mg/L	1.27	0.347	0.486	0.471	0.1	0.326	0.0102
POTASSIUM, TOTAL	mg/L	5.31	4.81	6.68	7.76	10.1	8.09	14.2
SODIUM, TOTAL	mg/L	62.4	28.5	21.6	59.2	68.6	96.6	84.4
SULFATE, TOTAL	mg/L	189	183	17.9	130	263	293	303
Sum		692.5	711.6	827.1	766.9	504.0	561.4	616.3

Analyte	L-TP-3M	L-TP-4D	L-UMW-1D	L-UMW-2D	L-UMW-3D	L-UMW-4D	L-UMW-5D
ALKALINITY	39%	44%	67%	50%	9.8%	12%	15%
BORON, TOTAL	0.73%	0.91%	0.059%	0.14%	2.1%	1.1%	1.8%
CALCIUM, TOTAL	16%	18%	19%	17%	15%	11%	15%
CHLORIDE, TOTAL	2.8%	2.1%	1.3%	3.5%	4.6%	4%	3.4%
FLUORIDE, TOTAL	0.0087%	0.0084%	0.0073%	0.0078%	0.012%	0.011%	0.0097%
IRON, TOTAL	1.2%	0.76%	2.5%	0.53%	0.022%	0.047%	0.0022%
MAGNESIUM, TOTAL	3.3%	4.6%	4.5%	3.4%	0.7%	1.2%	0.0016%
MANGANESE, TOTAL	0.18%	0.049%	0.059%	0.061%	0.02%	0.058%	0.0017%
POTASSIUM, TOTAL	0.77%	0.68%	0.81%	1%	2%	1.4%	2.3%
SODIUM, TOTAL	9%	4%	2.6%	7.7%	14%	17%	14%
SULFATE, TOTAL	27%	26%	2.2%	17%	52%	52%	49%
Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

1) Values for CCR Rule monitoring wells from November 2023 samples collected for the CCR Rule.
2) mg/L - milligrams per liter.
3) One-half the value of the Method Detection Limit (MDL) is used for non-detect values.

Prepared By: GTM
Checked By: JTA
Reviewed By: MNH

Table 1
Summary of Concentrations Used for FALCON Correlation
LCPB Anternative Source Demonstration
Labadie Energy Center, Franklin County, MO

Analyte	Units	L-UMW-6D	L-UMW-7D	L-UMW-8D	L-UMW-9D	L-LCPA-1D	L-LCPA-1S	L-LCPA-2D
ALKALINITY	mg/L	59.4	466	150	410	77.6	120	128
BORON, TOTAL	mg/L	9.65	0.803	0.619	0.0865	10.0	10.3	21.7
CALCIUM, TOTAL	mg/L	125	140	36.8	115	78.2	97.1	10.6
CHLORIDE, TOTAL	mg/L	19.6	6.40	2.50	25.9	15.2	18.9	19.8
FLUORIDE, TOTAL	mg/L	0.06	0.06	0.20	0.06	0.20	0.088	0.14
IRON, TOTAL	mg/L	0.437	14.1	5.49	23.5	0.178	0.138	0.0869
MAGNESIUM, TOTAL	mg/L	3.26	23.7	9.15	30.8	4.47	0.184	5.43
MANGANESE, TOTAL	mg/L	0.34	1.69	0.222	0.404	0.00410	0.00320	0.00250
POTASSIUM, TOTAL	mg/L	17.3	4.38	2.83	4.09	14.0	17.8	42.1
SODIUM, TOTAL	mg/L	148	14.9	10.0	14.4	60.0	71.1	50.5
SULFATE, TOTAL	mg/L	648	6.4	8.4	0.275	257	267	306
Sum		1031.0	678.4	226.2	624.5	516.9	602.6	584.4

Analyte	L-UMW-6D	L-UMW-7D	L-UMW-8D	L-UMW-9D	L-LCPA-1D	L-LCPA-1S	L-LCPA-2D
ALKALINITY	5.8%	69%	66%	66%	15%	20%	22%
BORON, TOTAL	0.94%	0.12%	0.27%	0.014%	1.9%	1.7%	3.7%
CALCIUM, TOTAL	12%	21%	16%	18%	15%	16%	1.8%
CHLORIDE, TOTAL	1.9%	0.94%	1.1%	4.1%	2.9%	3.1%	3.4%
FLUORIDE, TOTAL	0.0058%	0.0088%	0.088%	0.0096%	0.039%	0.015%	0.024%
IRON, TOTAL	0.042%	2.1%	2.4%	3.8%	0.034%	0.023%	0.015%
MAGNESIUM, TOTAL	0.32%	3.5%	4%	4.9%	0.86%	0.031%	0.93%
MANGANESE, TOTAL	0.033%	0.25%	0.098%	0.065%	0.00079%	0.00053%	0.00043%
POTASSIUM, TOTAL	1.7%	0.65%	1.3%	0.65%	2.7%	3%	7.2%
SODIUM, TOTAL	14%	2.2%	4.4%	2.3%	12%	12%	8.6%
SULFATE, TOTAL	63%	0.94%	3.7%	0.044%	50%	44%	52%
Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

1) Values for CCR Rule monitoring wells from November 2023; Values for pore-water samples from LCPB ASD Investigation collected in February-March 2018.

2) mg/L - milligrams per liter.

3) One-half the value of the Method Detection Limit (MDL) is used for non-detect values.

Prepared By: GTM
Checked By: JTA
Reviewed By: MNH

Table 1
Summary of Concentrations Used for FALCON Correlation
LCPB Anternative Source Demonstration
Labadie Energy Center, Franklin County, MO

Analyte	Units	L-LCPA-2S	L-LCPA-3D	L-LCPA-3S	L-LCPB-1	L-LCPB-2	L-LCPB-3
ALKALINITY	mg/L	208	80.2	91.8	1070	861	1340
BORON, TOTAL	mg/L	3.36	8.10	8.44	28.2	14.8	25.7
CALCIUM, TOTAL	mg/L	76.5	87.7	76.9	11.4	22.6	11.4
CHLORIDE, TOTAL	mg/L	25.5	18.9	18.6	15.6	16.2	18.4
FLUORIDE, TOTAL	mg/L	0.170	0.160	0.160	2.40	1.00	1.90
IRON, TOTAL	mg/L	0.0279	0.122	0.112	0.0273	0.129	0.384
MAGNESIUM, TOTAL	mg/L	45.5	1.54	0.445	0.0844	0.0874	0.386
MANGANESE, TOTAL	mg/L	0.0392	0.00230	0.00250	0.00250	0.00250	0.00230
POTASSIUM, TOTAL	mg/L	3.54	14.2	16.6	51.0	52.6	48.2
SODIUM, TOTAL	mg/L	67.2	69.0	84.0	935	750	969
SULFATE, TOTAL	mg/L	254	295	272	1060	728	999
Sum		683.8	574.9	569.1	3173.7	2446.4	3414.4

Analyte	L-LCPA-2S	L-LCPA-3D	L-LCPA-3S	L-LCPB-1	L-LCPB-2	L-LCPB-3
ALKALINITY	30%	14%	16%	34%	35%	39%
BORON, TOTAL	0.49%	1.4%	1.5%	0.89%	0.6%	0.75%
CALCIUM, TOTAL	11%	15%	14%	0.36%	0.92%	0.33%
CHLORIDE, TOTAL	3.7%	3.3%	3.3%	0.49%	0.66%	0.54%
FLUORIDE, TOTAL	0.025%	0.028%	0.028%	0.076%	0.041%	0.056%
IRON, TOTAL	0.0041%	0.021%	0.02%	0.00086%	0.0053%	0.011%
MAGNESIUM, TOTAL	6.7%	0.27%	0.078%	0.0027%	0.0036%	0.011%
MANGANESE, TOTAL	0.0057%	0.0004%	0.00044%	0.000079%	0.0001%	0.000067%
POTASSIUM, TOTAL	0.52%	2.5%	2.9%	1.6%	2.2%	1.4%
SODIUM, TOTAL	9.8%	12%	15%	29%	31%	28%
SULFATE, TOTAL	37%	51%	48%	33%	30%	29%
Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

1) Values for CCR Rule monitoring wells from November 2023; Values for pore-water samples from LCPB ASD Investigation collected in February-March 2018.

2) mg/L - milligrams per liter.

3) One-half the value of the Method Detection Limit (MDL) is used for non-detect values.

Appendix D

May 2024 Assessment Monitoring Statistical Evaluation

Memorandum

September 25, 2024

To:	Bill Kutosky – Ameren Missouri	**Project Number:**	23007-24
CC:	Ameren Missouri - Susan Knowles, Craig Giesmann, Charlie Henderson		
From:	Rocksmith Geoengineering - Jeff Ingram, R.G., Mark Haddock, P.E., R.G., Mark Sandfort, P.E., R.G., Grant Morey	**Email:**	jeff.ingram@rocksmithgeo.com
RE:	**Assessment Monitoring Statistical Evaluation – LCPA Surface Impoundment Labadie Energy Center, Franklin County, Missouri**		

1.0 INTRODUCTION

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the May 2024 sampling event at the LCPA Surface Impoundment at the Labadie Energy Center located in Franklin County, Missouri. Included in the memorandum is a summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

2.0 STATISTICAL EVALUATION

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Statistical Analysis Plan (SAP). In addition to outliers noted in previous Assessment Monitoring statistical evaluations, the following outliers were removed from the dataset prior to the calculation of confidence limits:

- Beryllium
    - L-UMW-8D at non-detect [<1.0 micrograms per liter (µg/L)] on 11/16/2023: result is statistically higher than other beryllium values at the same monitoring well due to the high detection limit reported following data validation procedures. This high result is not consistent with previous or subsequent beryllium results at the well and is an outlier.
- Cobalt
    - L-UMW-7D at non-detect (<5.0 µg/L) on 11/16/2023: result is statistically higher than other cobalt values at the same monitoring well due to the high detection limit reported following data validation procedures. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.

- L-UMW-8D at non-detect (<5.0 µg/L) on 11/16/2023: result is statistically higher than other cobalt values at the same monitoring well due to the high detection limit reported following data validation procedures. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.

- L-UMW-9D at non-detect (<5.0 µg/L) on 11/16/2023: result is statistically higher than other cobalt values at the same monitoring well due to the high detection limit reported following data validation procedures. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.

- Fluoride

  - L-UMW-4D at non-detect [<0.12 milligrams per liter (mg/L)] on 10/27/2022 and 11/17/2023: results are statistically lower than other fluoride values at the same monitoring well. These low results are not consistent with previous or subsequent fluoride results at the well and are outliers.

An analysis of the outliers removed from the dataset to-date was completed and one statistical outlier that was previously removed was added back into to dataset prior to the calculation of confidence limits:

- Arsenic

  - L-UMW-3D at 25.6 µg/L on 4/19/2021: removed during the statistical evaluation for the April 2021 sampling event because the result was statistically higher than other arsenic values at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed and is no longer an outlier.

Arsenic at L-UWM-1D is no longer an SSL using data through May 2024. In the previous statistical evaluation, the lower confidence band from the trend analysis was in exceedance of the GWPS. This is no longer the case, however, arsenic results at this well will be closely monitored in future statistical evaluations. Other SSLs identified in the statistical evaluation for the November 2023 sampling event remain. SSLs at the LCPA Surface Impoundment as of May 2024 are as follows:

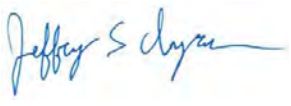
- Molybdenum at L-UMW-3D(R), L-UMW-4D, L-UMW-5D, L-UMW-6D and L-UMW-7D

3.0 CLOSING

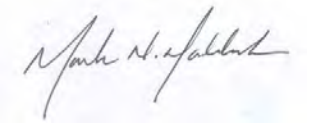
Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

Sincerely,

Rocksmith Geoengineering, LLC



Jeff Ingram, R.G.
Senior Geologist, Partner



Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

Attachments

Tables

Table 1 – LCPA Groundwater Protection Standards

Appendices

Appendix A – Sanitas Confidence Interval Statistical Output

Appendix B – Sanitas Trending Confidence Bands Statistical Output

Tables

Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring [6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	44.2	44.2
Barium	µg/L	2000	2000	1290
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	DQR
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.3074
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	47.4	47.4
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	4.14
Selenium	µg/L	50	50	DQR
Thallium	µg/L	2	2	DQR

Notes:
1. µg/L - micrograms per liter.
2. mg/L - milligrams per liter.
3. pCi/L - picocuries per liter.
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results through May 2023 from monitoring wells BMW-1D and BMW-2D.

ROCKSMITH GEOENGINEERING

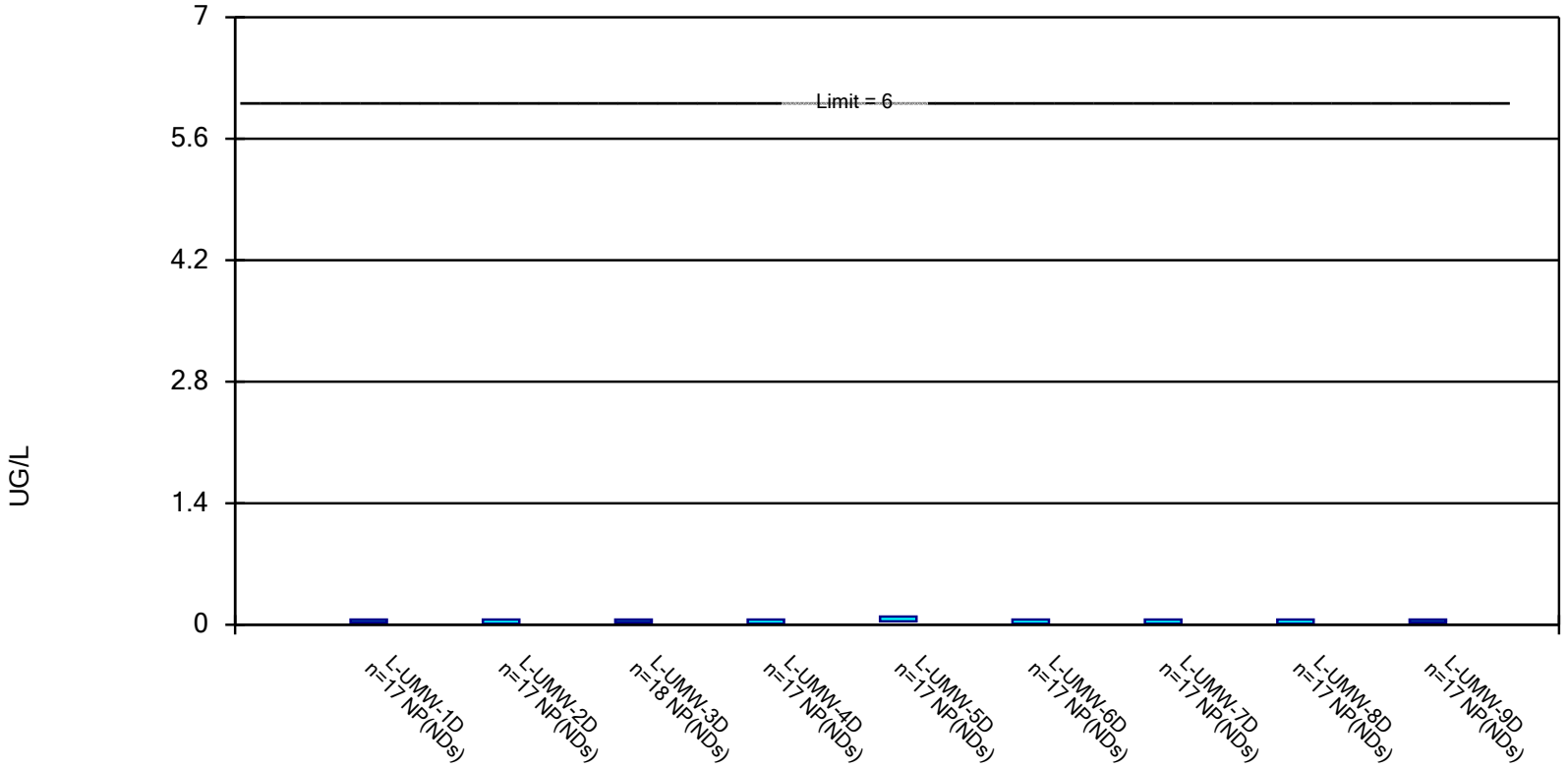
Prepared by: GTM
Checked by: JSI
Reviewed by: MNH

Appendix A
Sanitas Confidence Interval Statistical Output

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



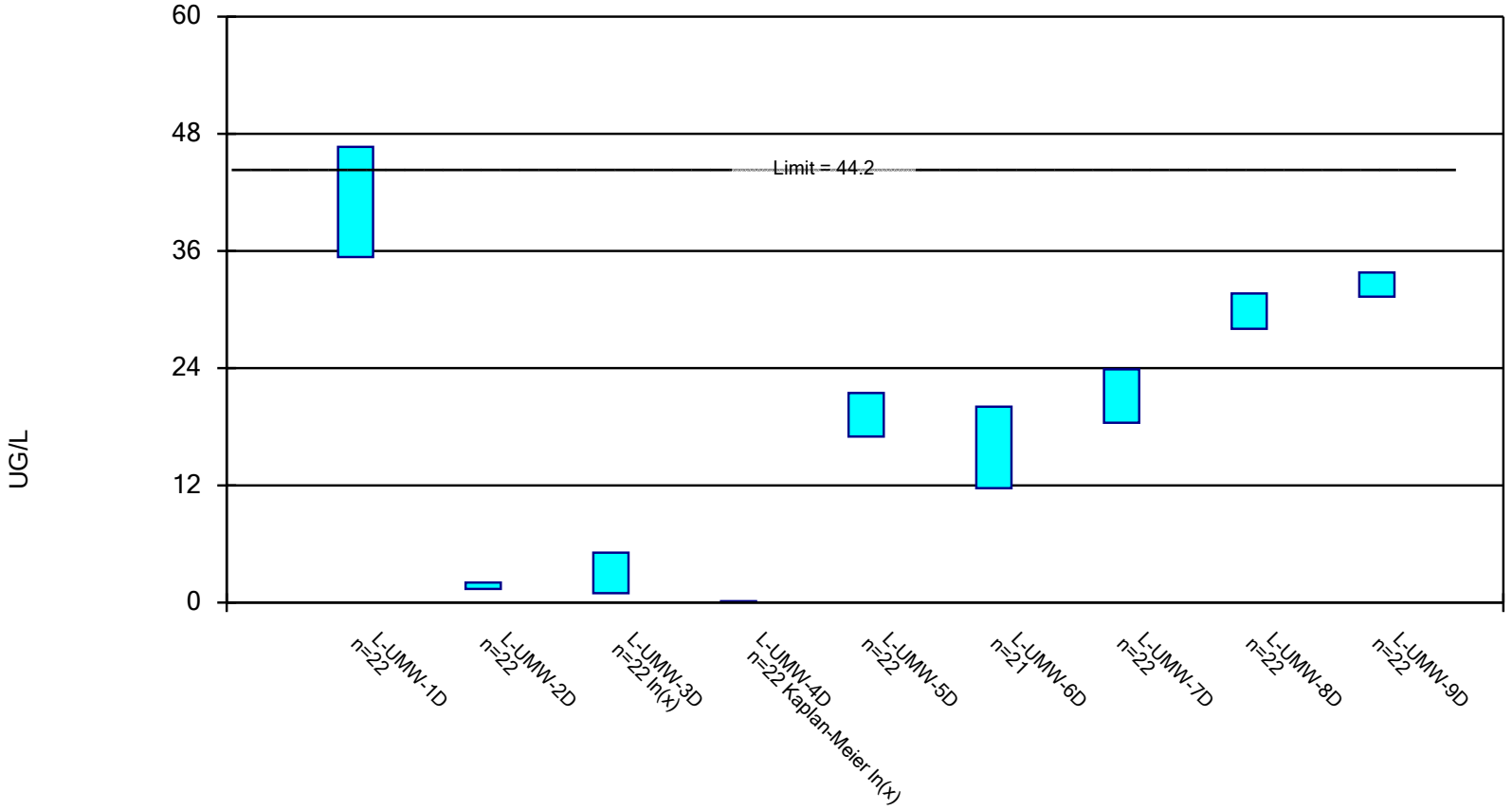
Constituent: ANTIMONY, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric Confidence Interval

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

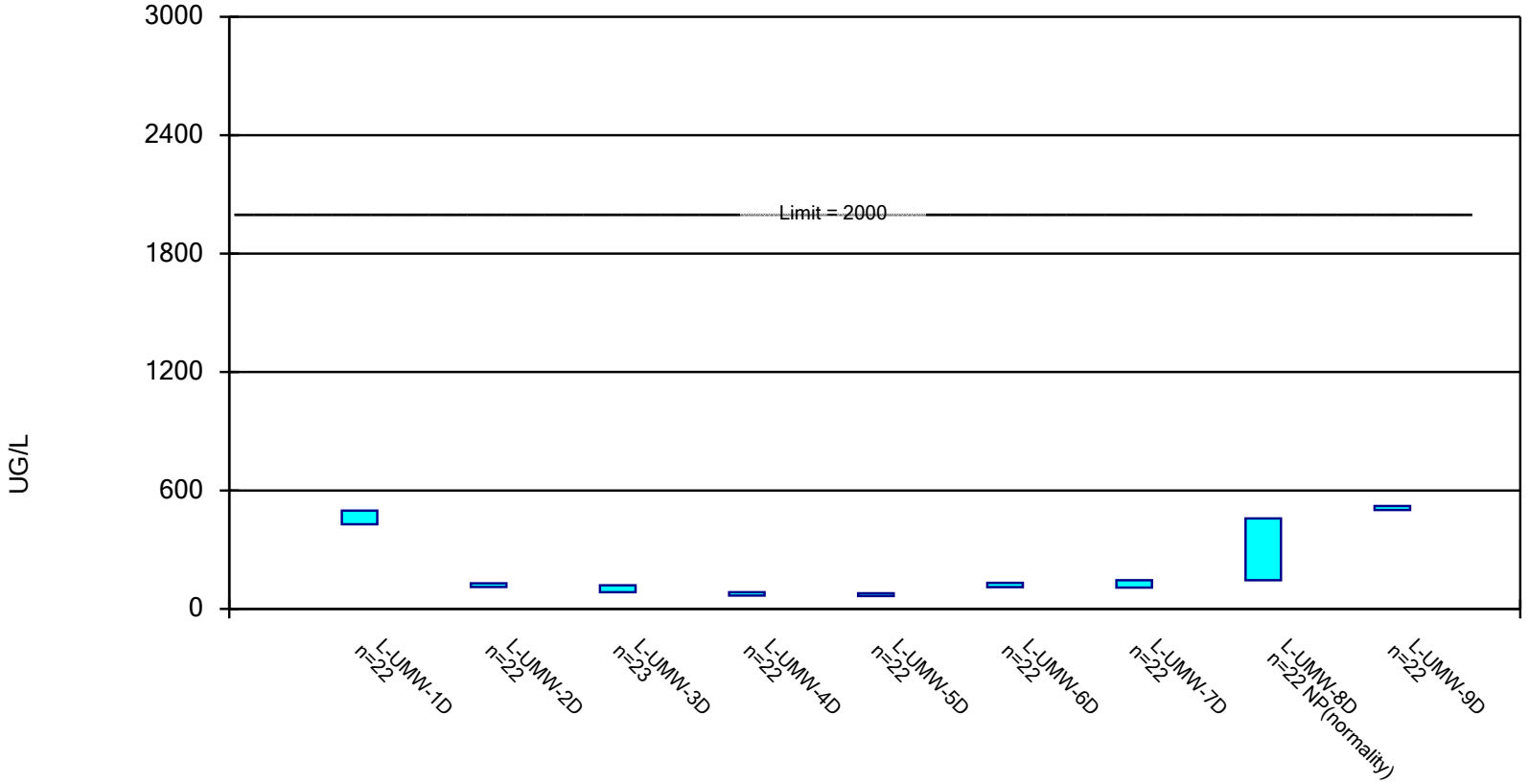


Constituent: ARSENIC, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Parametric and Non-Parametric (NP) Confidence Interval

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



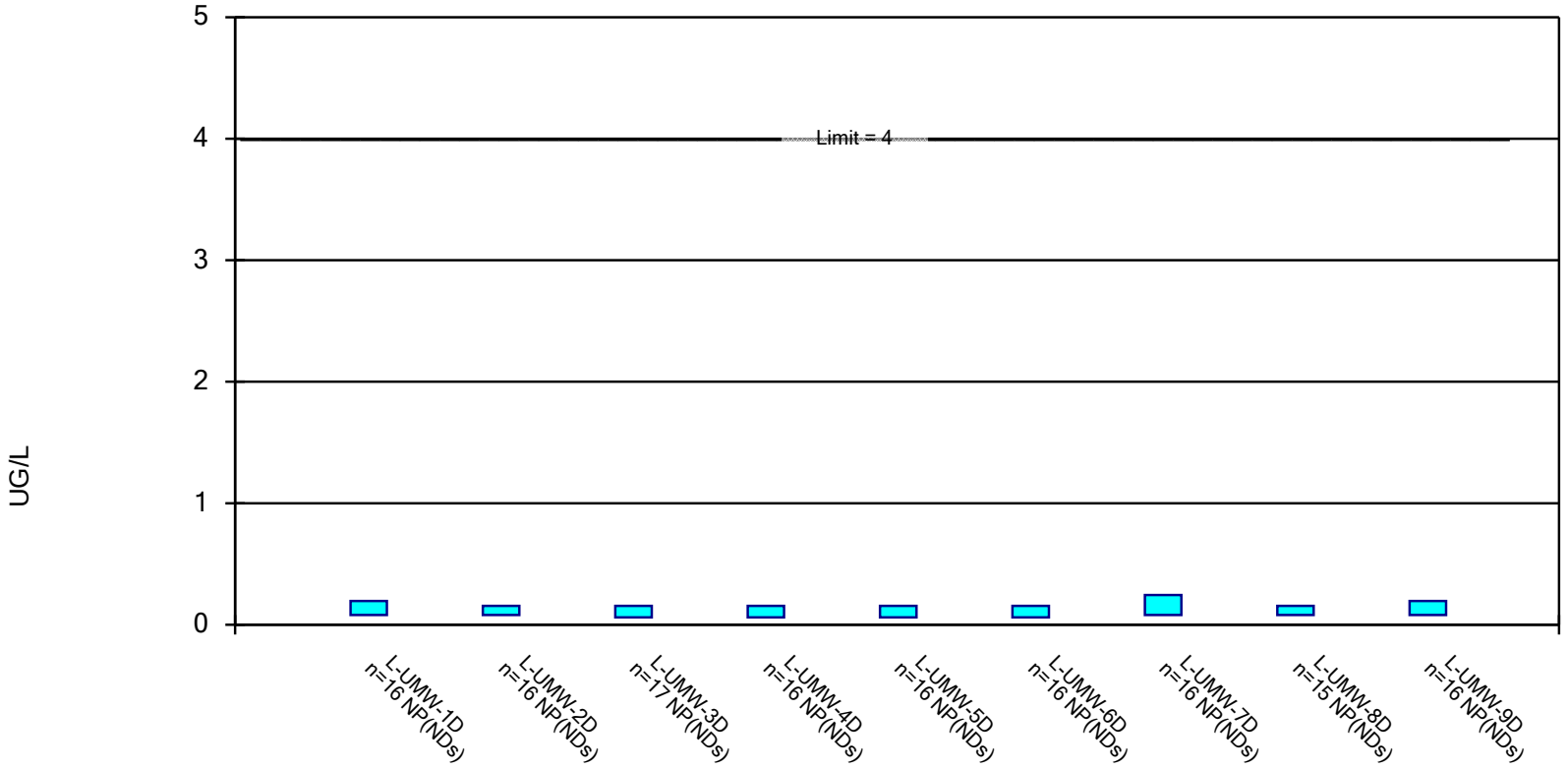
Constituent: BARIUM, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



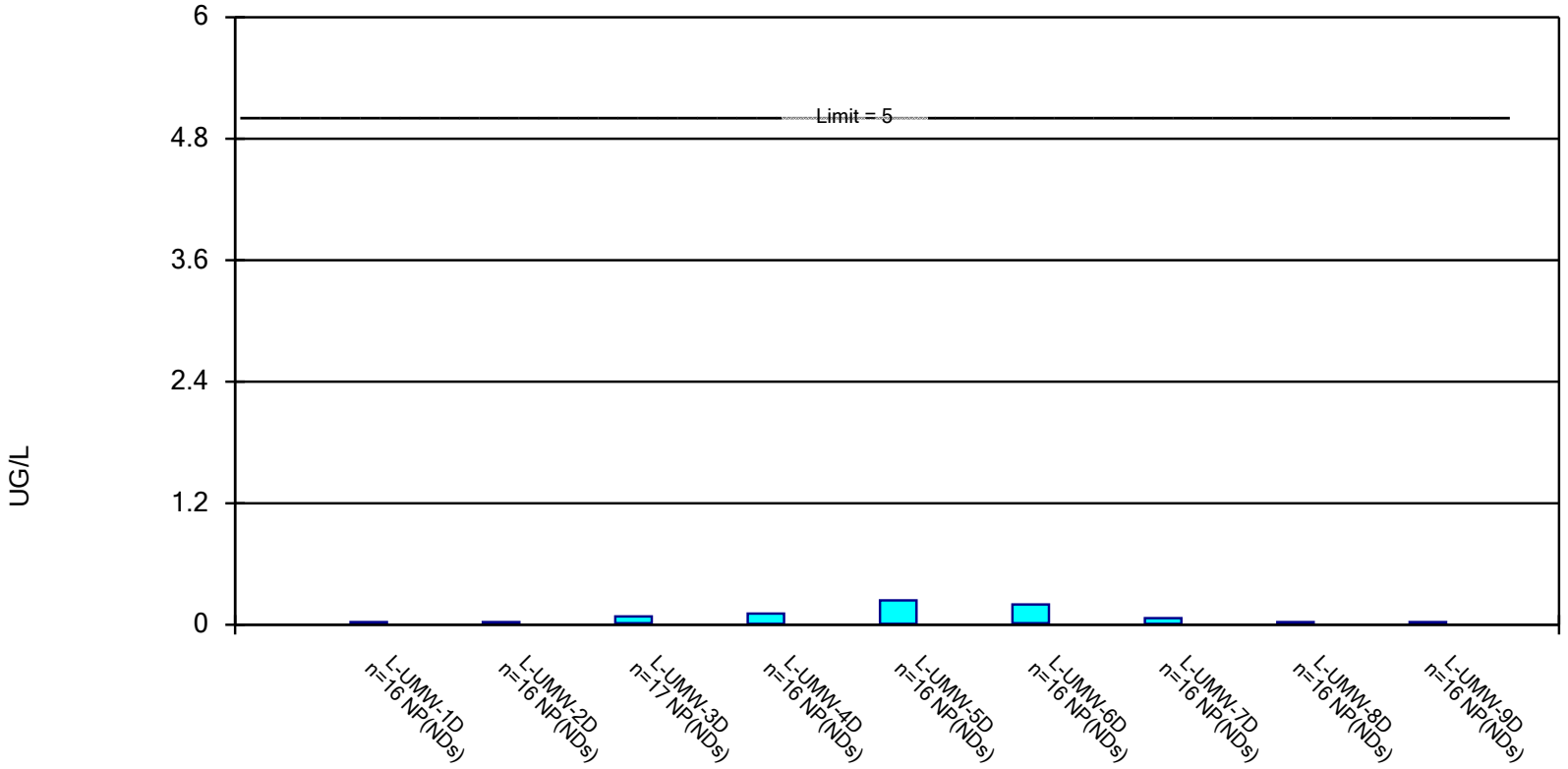
Constituent: BERYLLIUM, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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

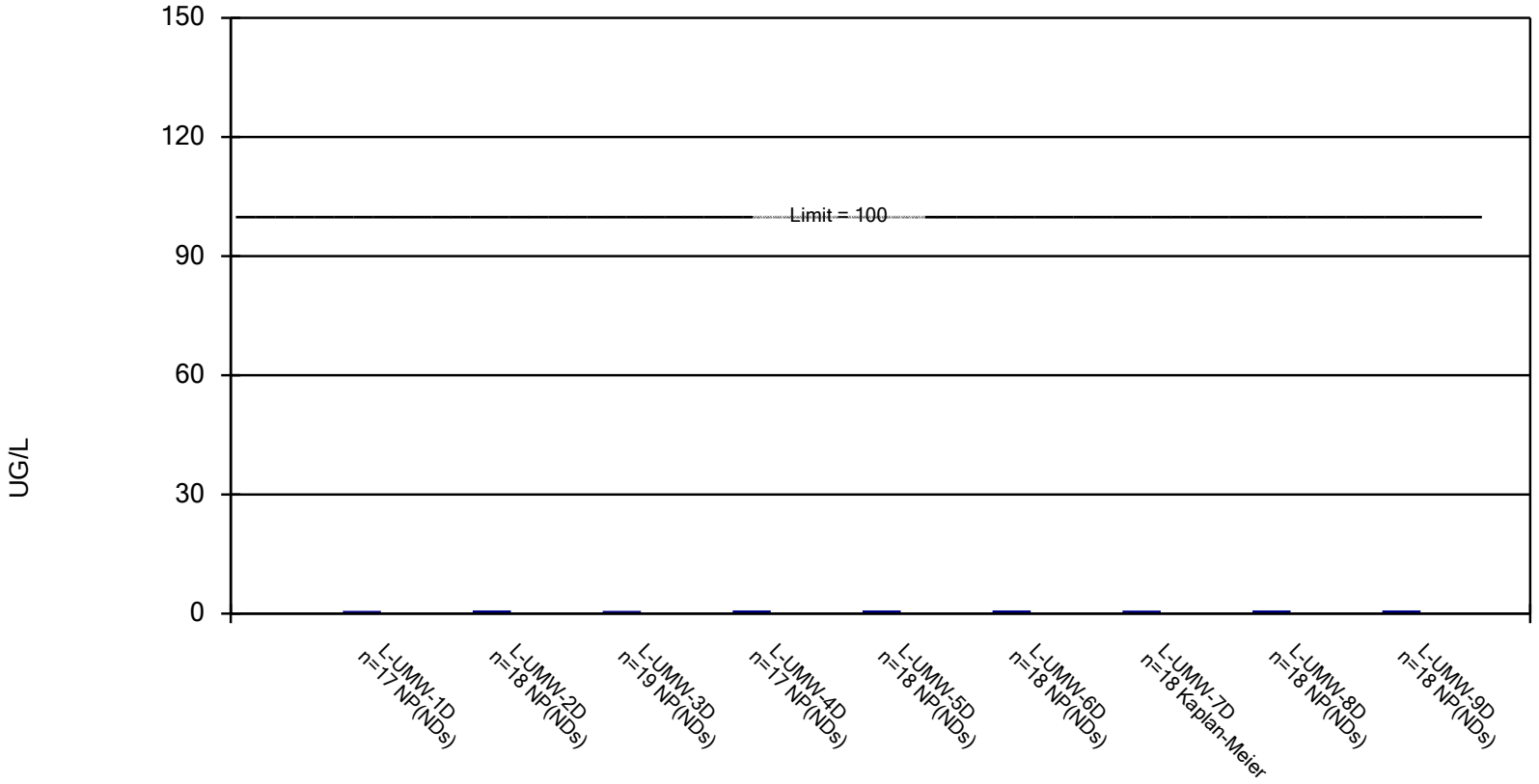


Constituent: CADMIUM, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Parametric and Non-Parametric (NP) Confidence Interval

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



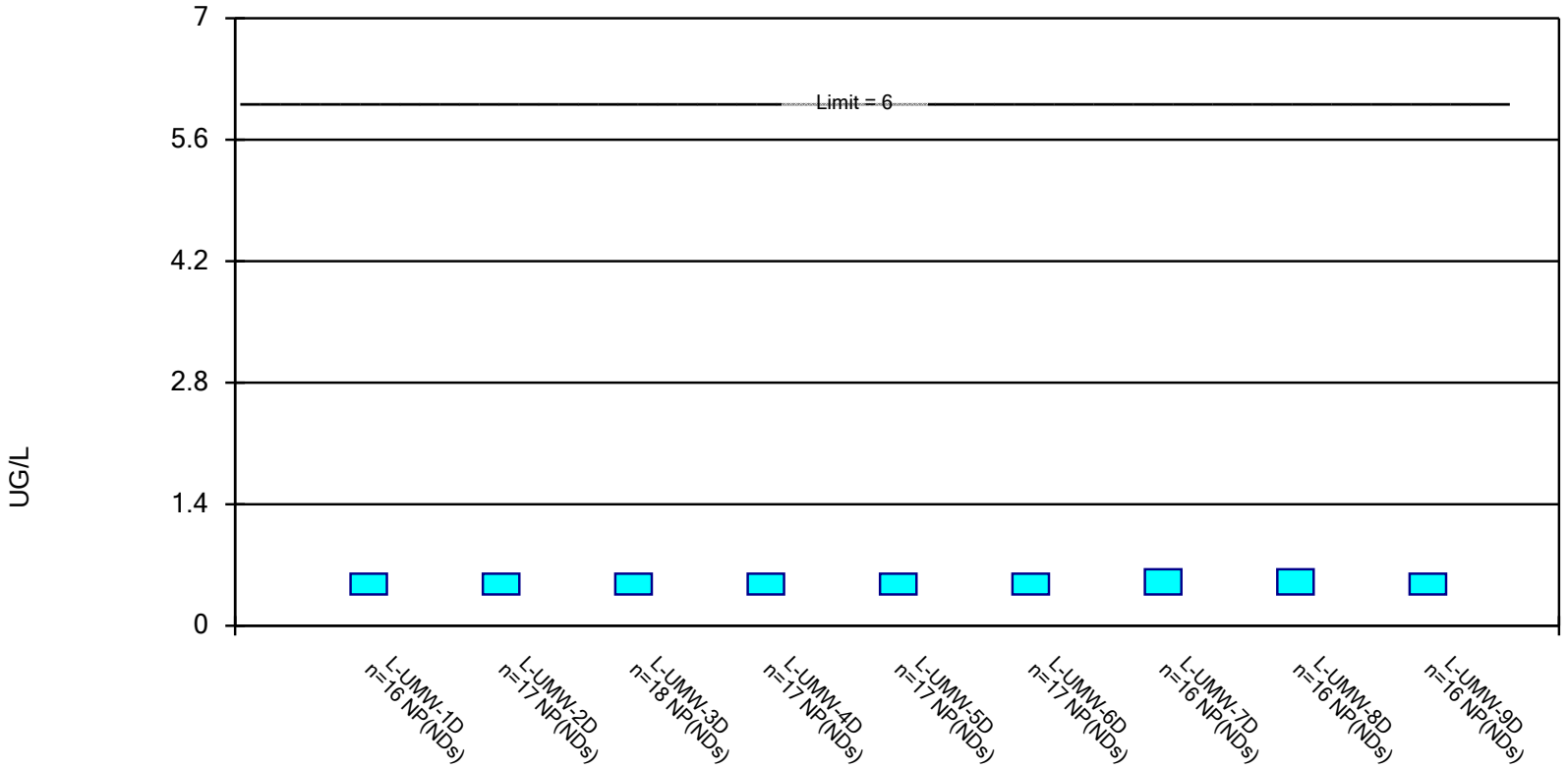
Constituent: CHROMIUM, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



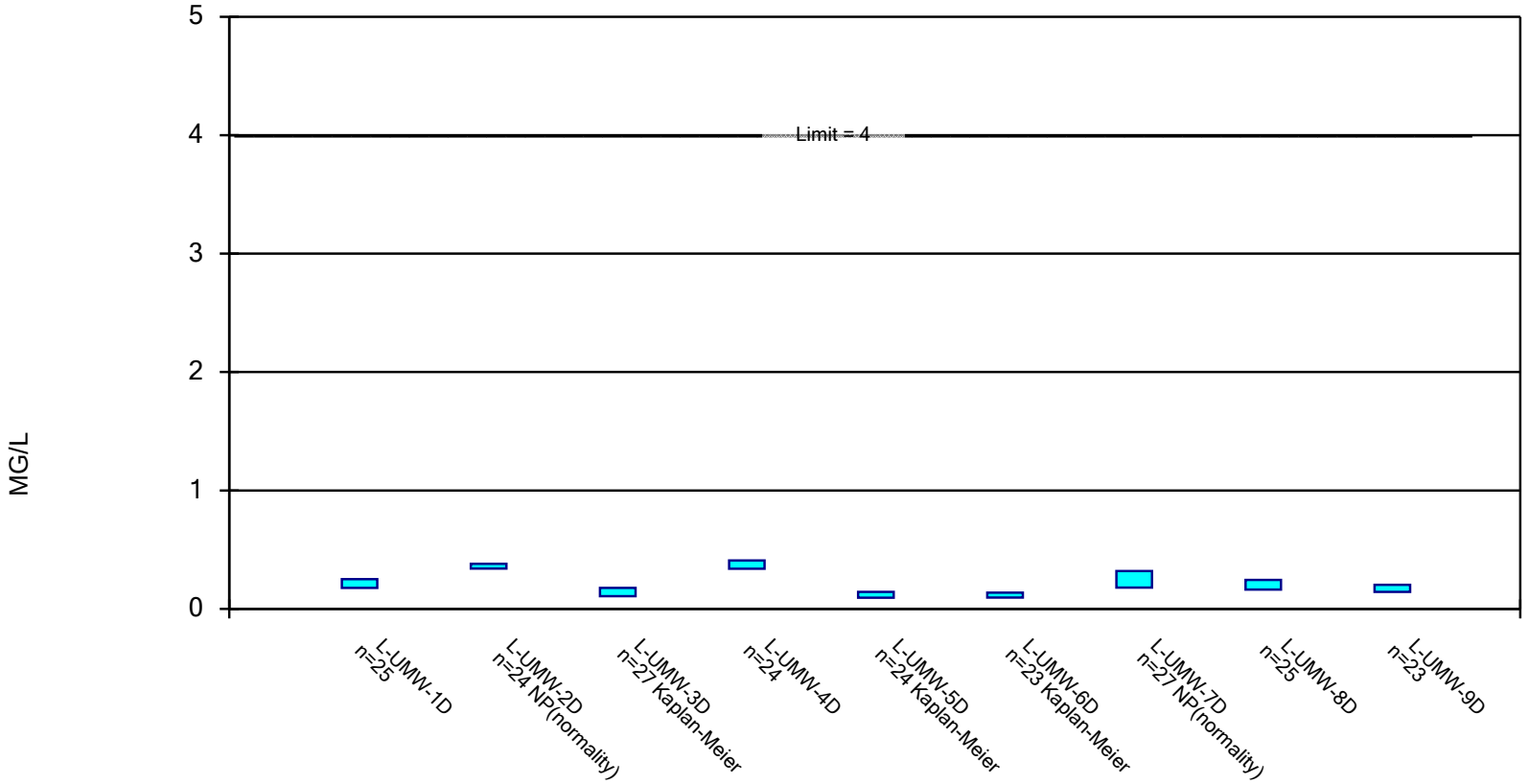
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



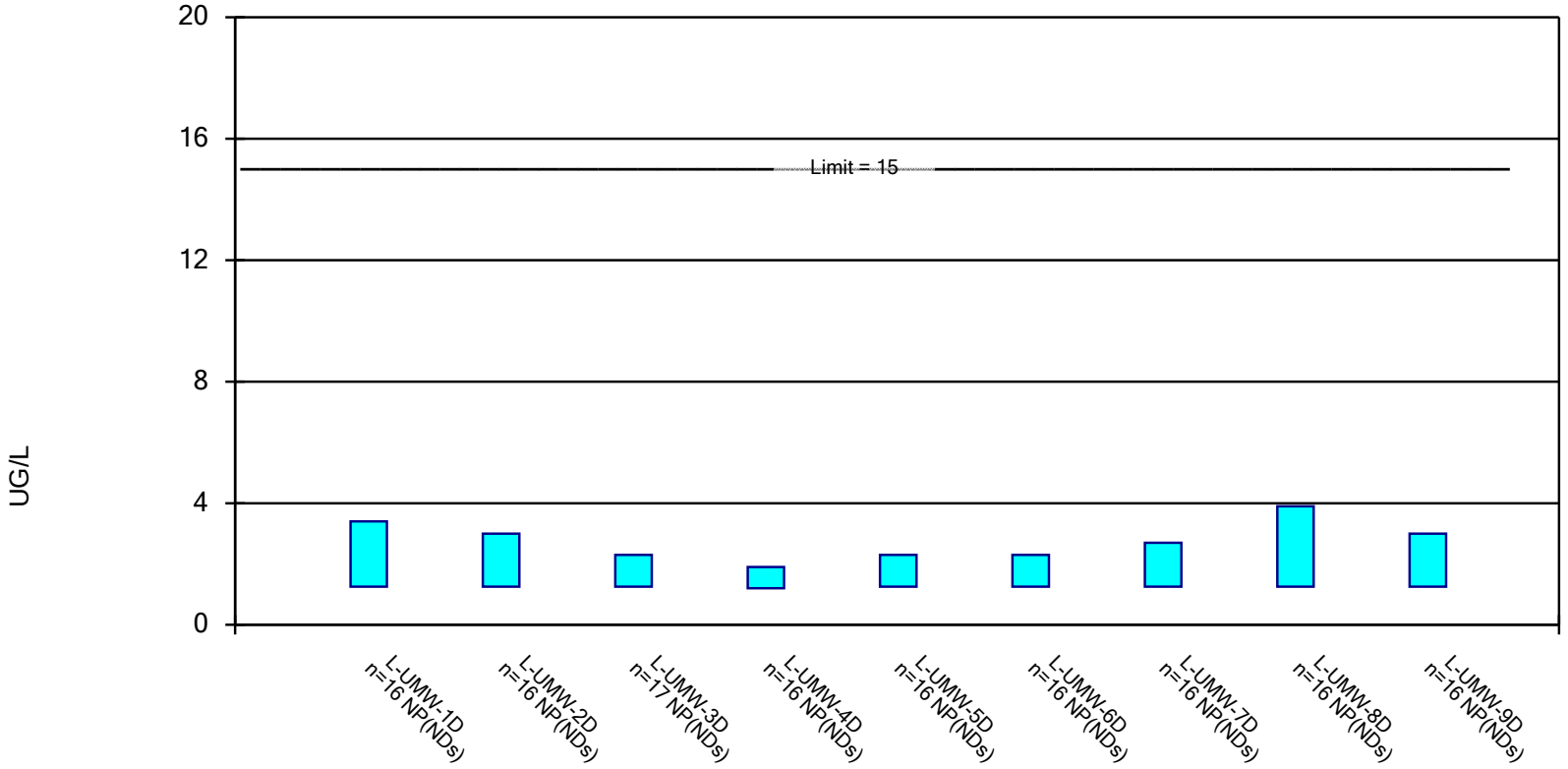
Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



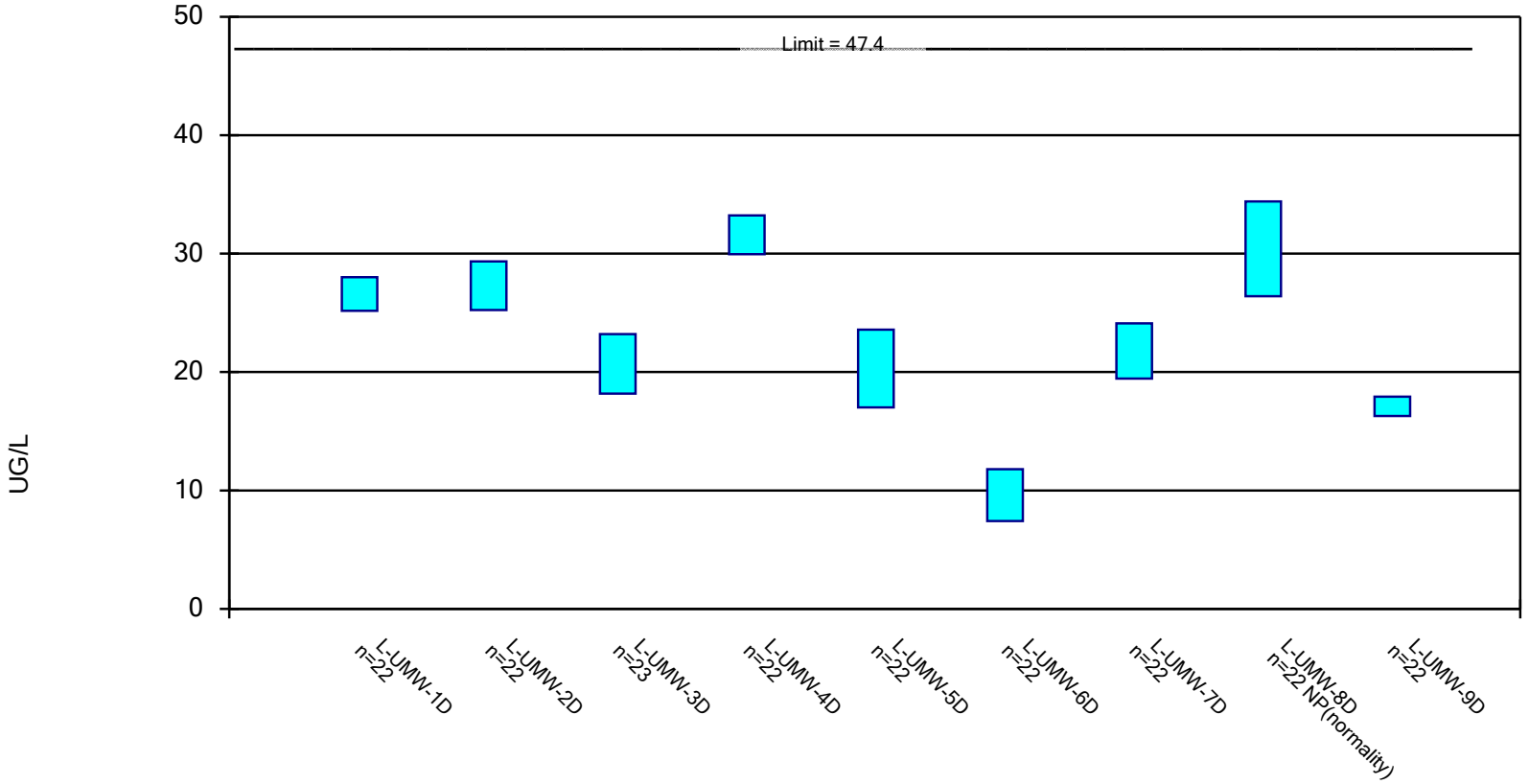
Constituent: LEAD, TOTAL Analysis Run 8/27/2024 1:41 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



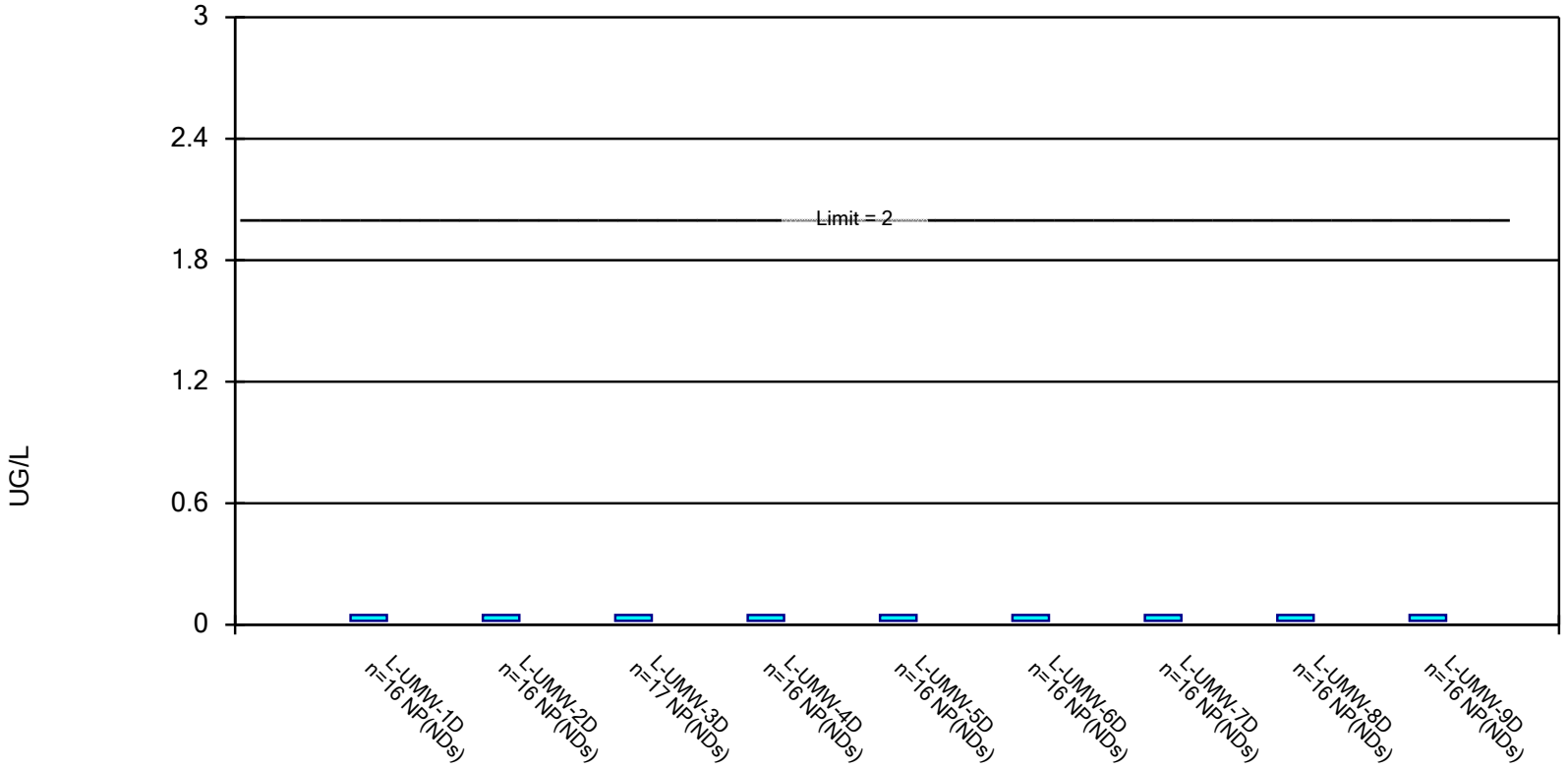
Constituent: LITHIUM, TOTAL Analysis Run 8/27/2024 1:42 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



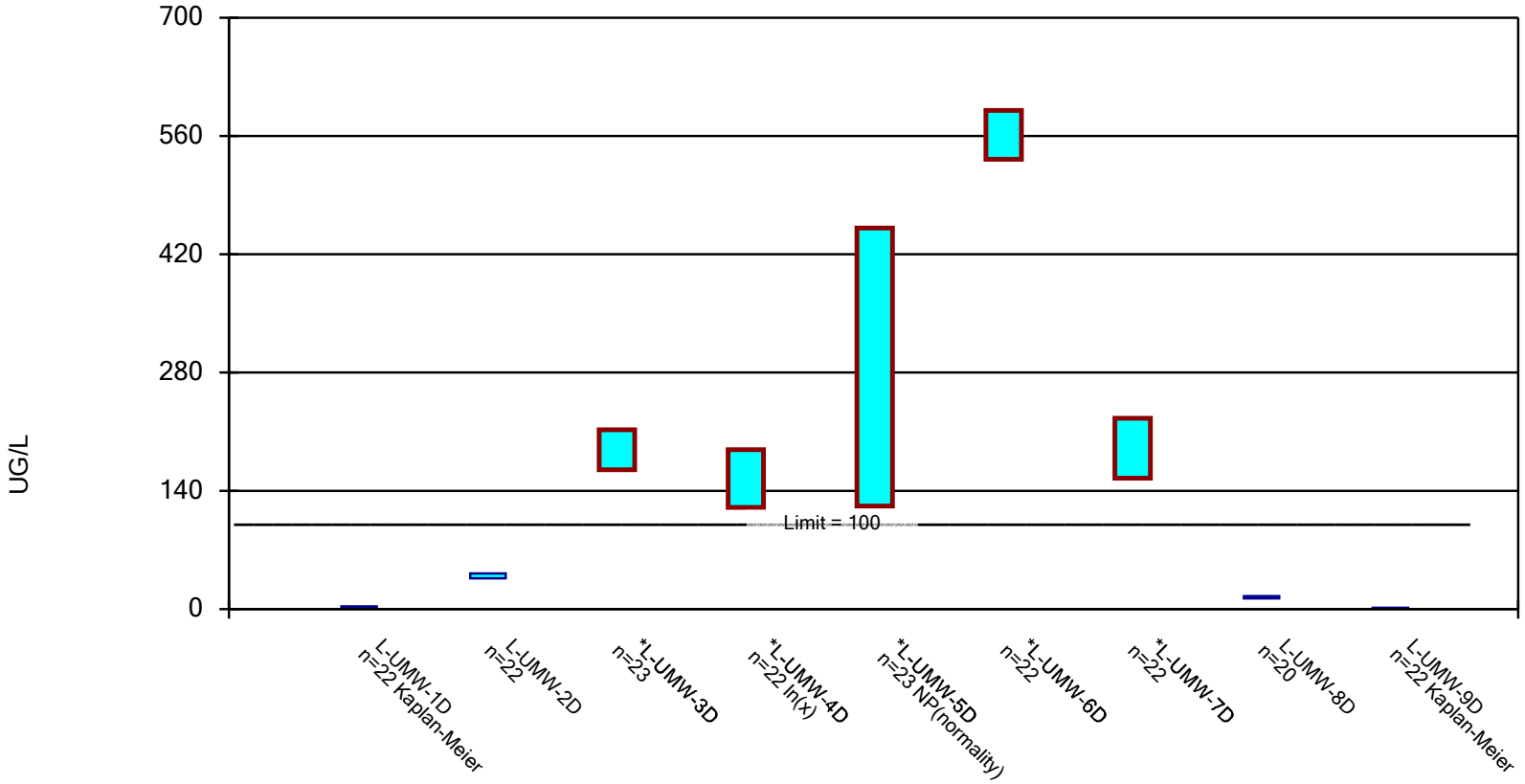
Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:42 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



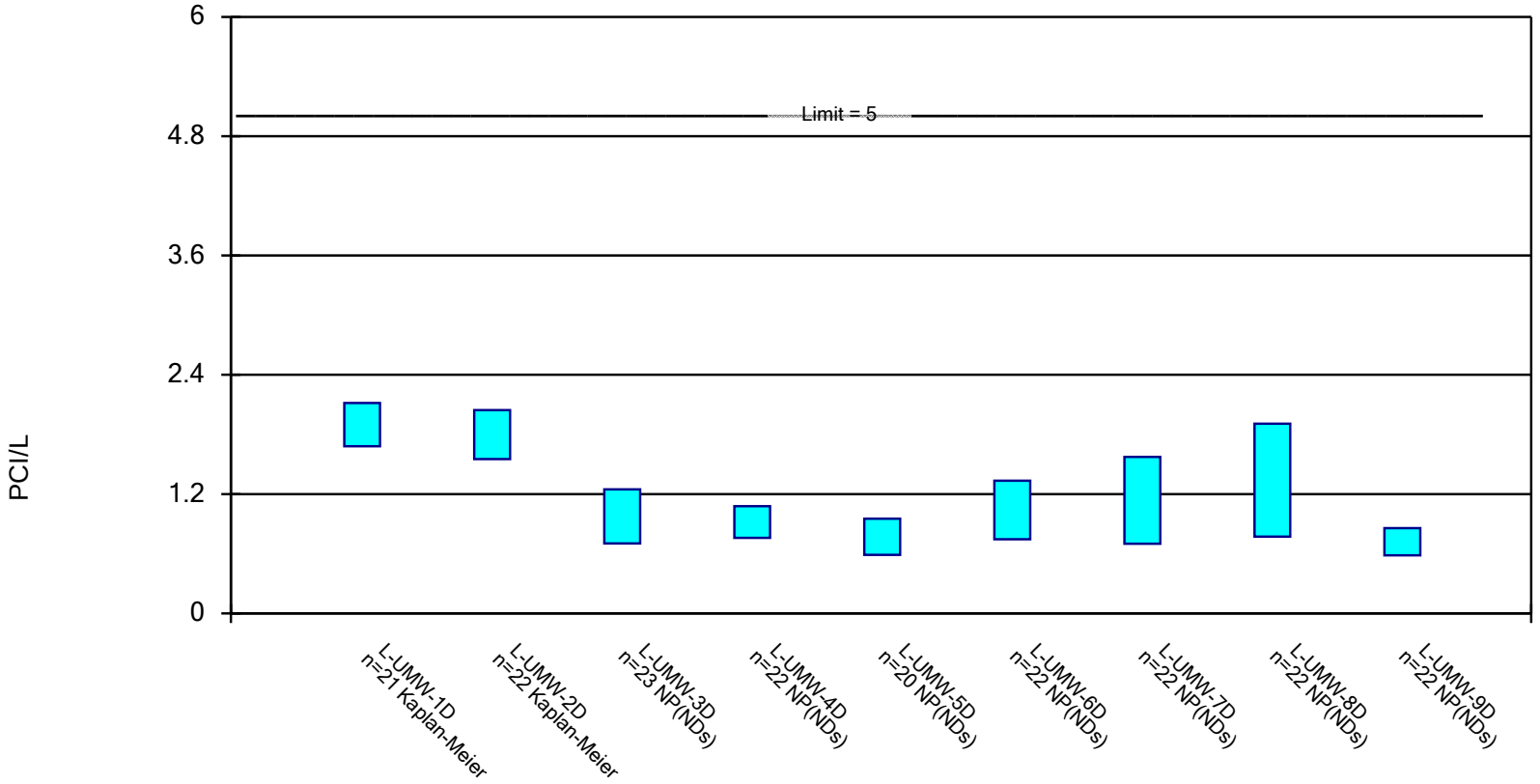
Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 1:42 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval

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



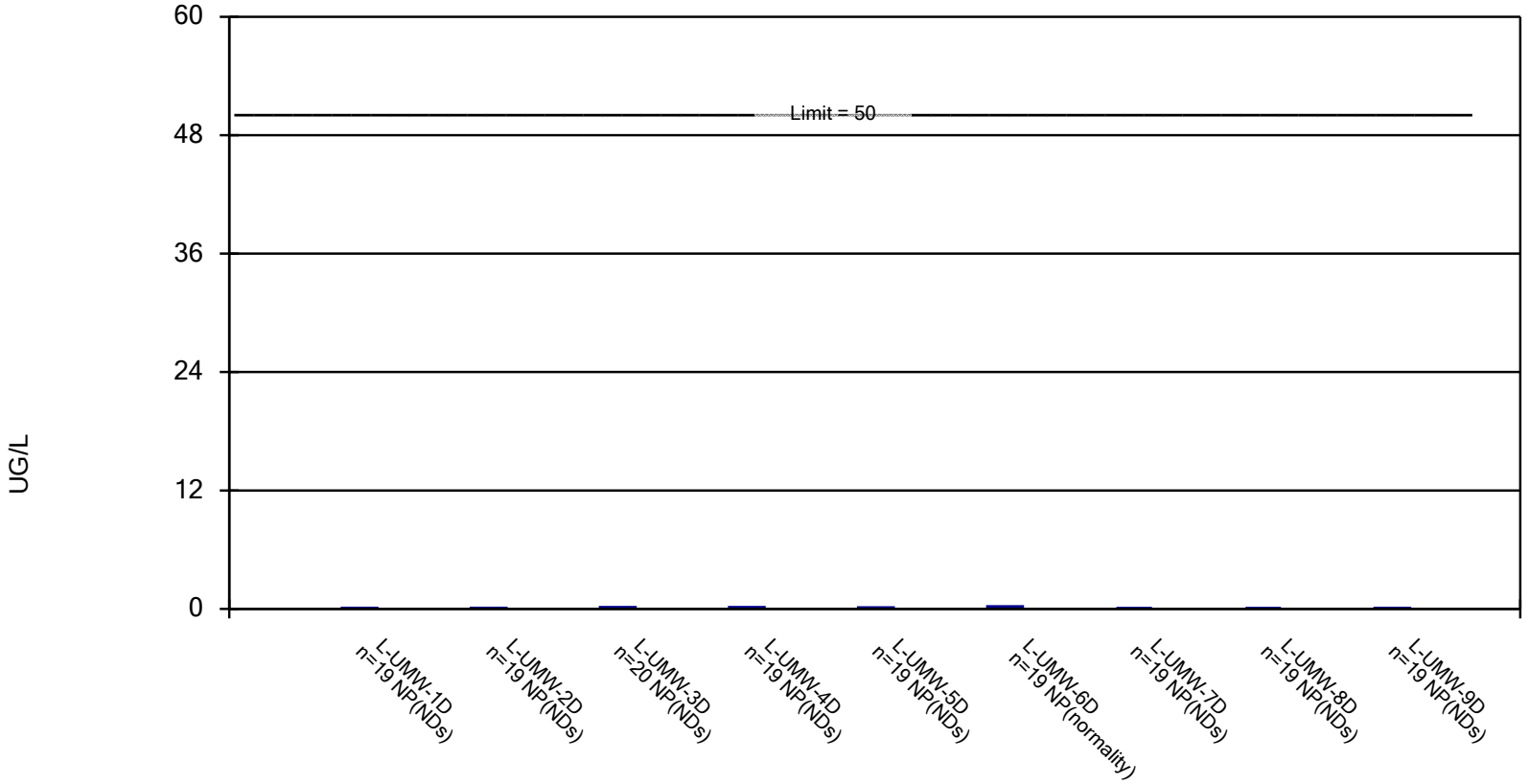
Constituent: Radium [226 + 228] Analysis Run 8/27/2024 1:42 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



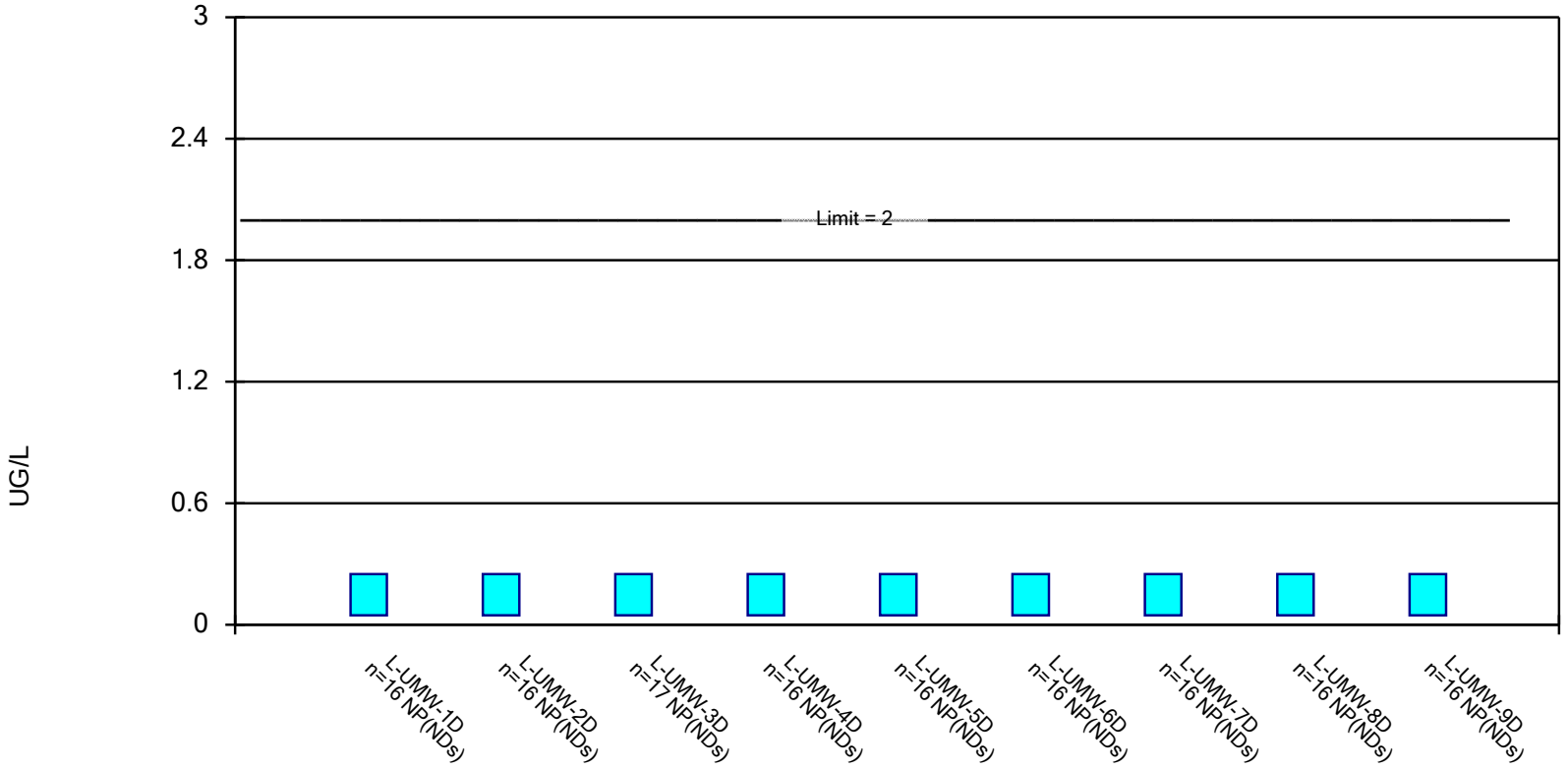
Constituent: SELENIUM, TOTAL Analysis Run 8/27/2024 1:42 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval

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



Constituent: THALLIUM, TOTAL Analysis Run 8/27/2024 1:42 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 1:43 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0.06	0.029	6	No	17	88.24	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0.06	0.013	6	No	17	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.06	0.029	6	No	18	88.89	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.06	0.013	6	No	17	94.12	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.094	0.039	6	No	17	64.71	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.06	0.013	6	No	17	94.12	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0.06	0.013	6	No	17	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0.06	0.013	6	No	17	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0.06	0.029	6	No	17	94.12	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	L-UMW-1D	46.66	35.39	44.2	No	22	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-2D	2.047	1.391	44.2	No	22	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-3D	5.113	0.9649	44.2	No	22	4.545	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.1401	0.09917	44.2	No	22	31.82	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-5D	21.46	16.99	44.2	No	22	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-6D	20.06	11.71	44.2	No	21	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-7D	23.89	18.4	44.2	No	22	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-8D	31.66	28.02	44.2	No	22	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-9D	33.79	31.33	44.2	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-1D	497.5	429.1	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-2D	129.4	111.2	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-3D	119.7	84.12	2000	No	23	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-4D	84.71	67.77	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-5D	78.76	64.9	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-6D	132.1	110.4	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-7D	144.8	108.2	2000	No	22	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-8D	458	145	2000	No	22	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	L-UMW-9D	521.5	501.2	2000	No	22	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0.195	0.08	4	No	16	87.5	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0.155	0.08	4	No	16	93.75	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0.155	0.06	4	No	17	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0.155	0.06	4	No	16	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0.155	0.06	4	No	16	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0.155	0.06	4	No	16	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0.245	0.08	4	No	16	81.25	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0.155	0.08	4	No	15	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0.195	0.08	4	No	16	93.75	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.0265	0.009	5	No	16	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.0265	0.009	5	No	16	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.082	0.0145	5	No	17	58.82	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0.11	0.009	5	No	16	81.25	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0.24	0.009	5	No	16	75	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.2	0.0145	5	No	16	62.5	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0.065	0.009	5	No	16	81.25	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.0265	0.009	5	No	16	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.0265	0.009	5	No	16	100	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.36	0.061	100	No	17	52.94	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0.5	0.039	100	No	18	61.11	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0.37	0.069	100	No	19	73.68	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	0.49	0.11	100	No	17	64.71	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0.5	0.067	100	No	18	72.22	No	0.01	NP (NDs)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 1:43 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	0.5	0.079	100	No	18	61.11	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	0.4581	0.1508	100	No	18	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	0.48	0.064	100	No	18	61.11	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0.5	0.064	100	No	18	66.67	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-1D	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-2D	0.6	0.36	6	No	17	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-3D	0.6	0.36	6	No	18	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-4D	0.6	0.36	6	No	17	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-5D	0.6	0.36	6	No	17	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-6D	0.6	0.36	6	No	17	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-7D	0.65	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-8D	0.65	0.36	6	No	16	93.75	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-9D	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.2509	0.1771	4	No	25	12	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0.38	0.34	4	No	24	20.83	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.1773	0.107	4	No	27	37.04	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.4086	0.3389	4	No	24	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.1438	0.09387	4	No	24	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0.1363	0.09493	4	No	23	34.78	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0.32	0.18	4	No	27	14.81	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.2439	0.1625	4	No	25	8	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.2032	0.1437	4	No	23	13.04	No	0.01	Param.
LEAD, TOTAL (UG/L)	L-UMW-1D	3.4	1.25	15	No	16	75	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-2D	3	1.25	15	No	16	81.25	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-3D	2.3	1.25	15	No	17	82.35	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-4D	1.9	1.2	15	No	16	100	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-5D	2.3	1.25	15	No	16	87.5	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-6D	2.3	1.25	15	No	16	87.5	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-7D	2.7	1.25	15	No	16	81.25	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-8D	3.9	1.25	15	No	16	81.25	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-9D	3	1.25	15	No	16	62.5	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	L-UMW-1D	28	25.17	47.4	No	22	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-2D	29.35	25.24	47.4	No	22	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-3D	23.2	18.18	47.4	No	23	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-4D	33.23	29.95	47.4	No	22	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-5D	23.58	17.02	47.4	No	22	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-6D	11.8	7.418	47.4	No	22	4.545	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-7D	24.11	19.44	47.4	No	22	4.545	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-8D	34.4	26.4	47.4	No	22	0	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	L-UMW-9D	17.92	16.29	47.4	No	22	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	L-UMW-1D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-2D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.048	0.0195	2	No	17	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-4D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-5D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-6D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-7D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-8D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-9D	0.048	0.0195	2	No	16	100	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	3.132	1.33	100	No	22	22.73	No	0.01	Param.

Confidence Interval

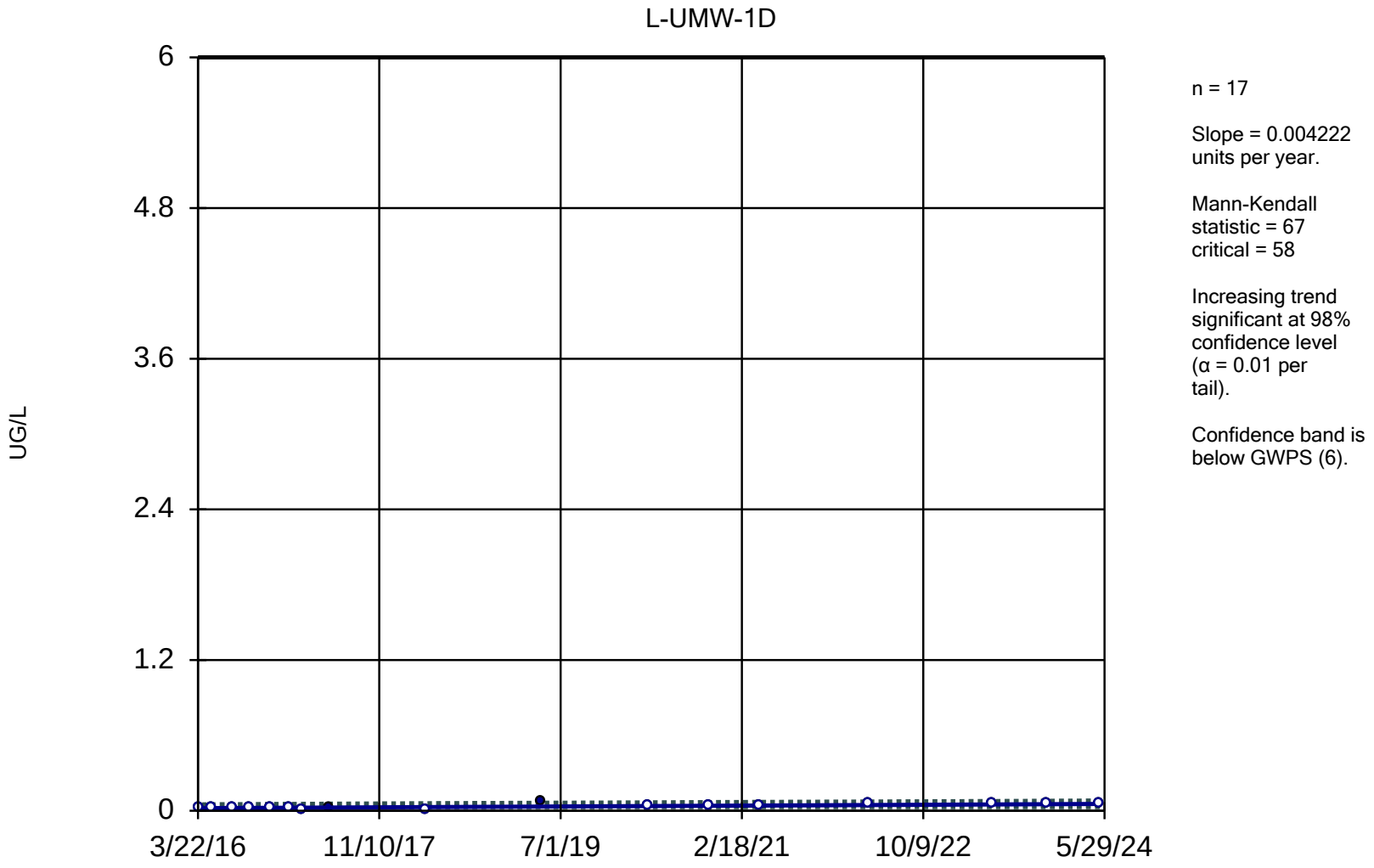
Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 1:43 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	42.26	36.36	100	No	22	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-3D**	**212.2**	**165**	**100**	**Yes**	**23**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-4D**	**188.7**	**120.4**	**100**	**Yes**	**22**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**451**	**122**	**100**	**Yes**	**23**	**0**	**No**	**0.01**	**NP (normality)**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-6D**	**590.2**	**532.4**	**100**	**Yes**	**22**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-7D**	**225.8**	**155**	**100**	**Yes**	**22**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	15.38	12.67	100	No	20	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	1.538	0.8726	100	No	22	45.45	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-1D	2.117	1.681	5	No	21	19.05	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-2D	2.044	1.551	5	No	22	27.27	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-3D	1.248	0.704	5	No	23	73.91	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-4D	1.077	0.76	5	No	22	72.73	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.952	0.588	5	No	20	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-6D	1.334	0.746	5	No	22	59.09	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-7D	1.574	0.7	5	No	22	72.73	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-8D	1.908	0.7715	5	No	22	54.55	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-9D	0.857	0.5835	5	No	22	90.91	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0.11	0.043	50	No	19	94.74	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0.11	0.043	50	No	19	94.74	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0.19	0.09	50	No	20	55	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0.19	0.043	50	No	19	94.74	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0.15	0.09	50	No	19	63.16	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0.26	0.09	50	No	19	26.32	No	0.01	NP (normality)
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0.091	0.089	50	No	19	84.21	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0.09	0.087	50	No	19	94.74	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0.09	0.043	50	No	19	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-1D	0.25	0.0465	2	No	16	87.5	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-2D	0.25	0.0465	2	No	16	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-3D	0.25	0.0465	2	No	17	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-4D	0.25	0.0465	2	No	16	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-5D	0.25	0.0465	2	No	16	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-6D	0.25	0.0465	2	No	16	93.75	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-7D	0.25	0.0465	2	No	16	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-8D	0.25	0.0465	2	No	16	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-9D	0.25	0.0465	2	No	16	100	No	0.01	NP (NDs)

Appendix B
Sanitas Trending Confidence Bands Statistical Output

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

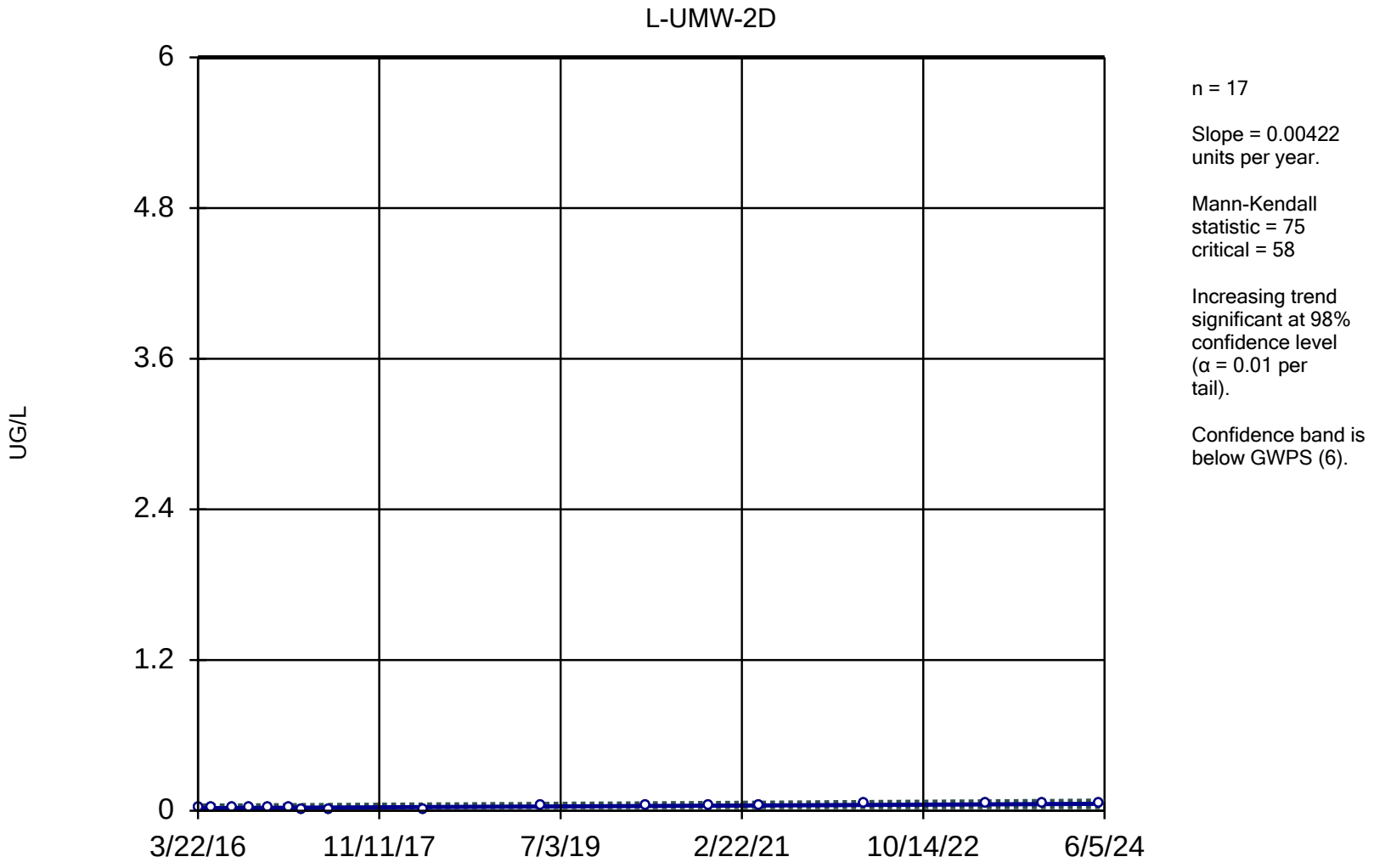


Constituent: ANTIMONY, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

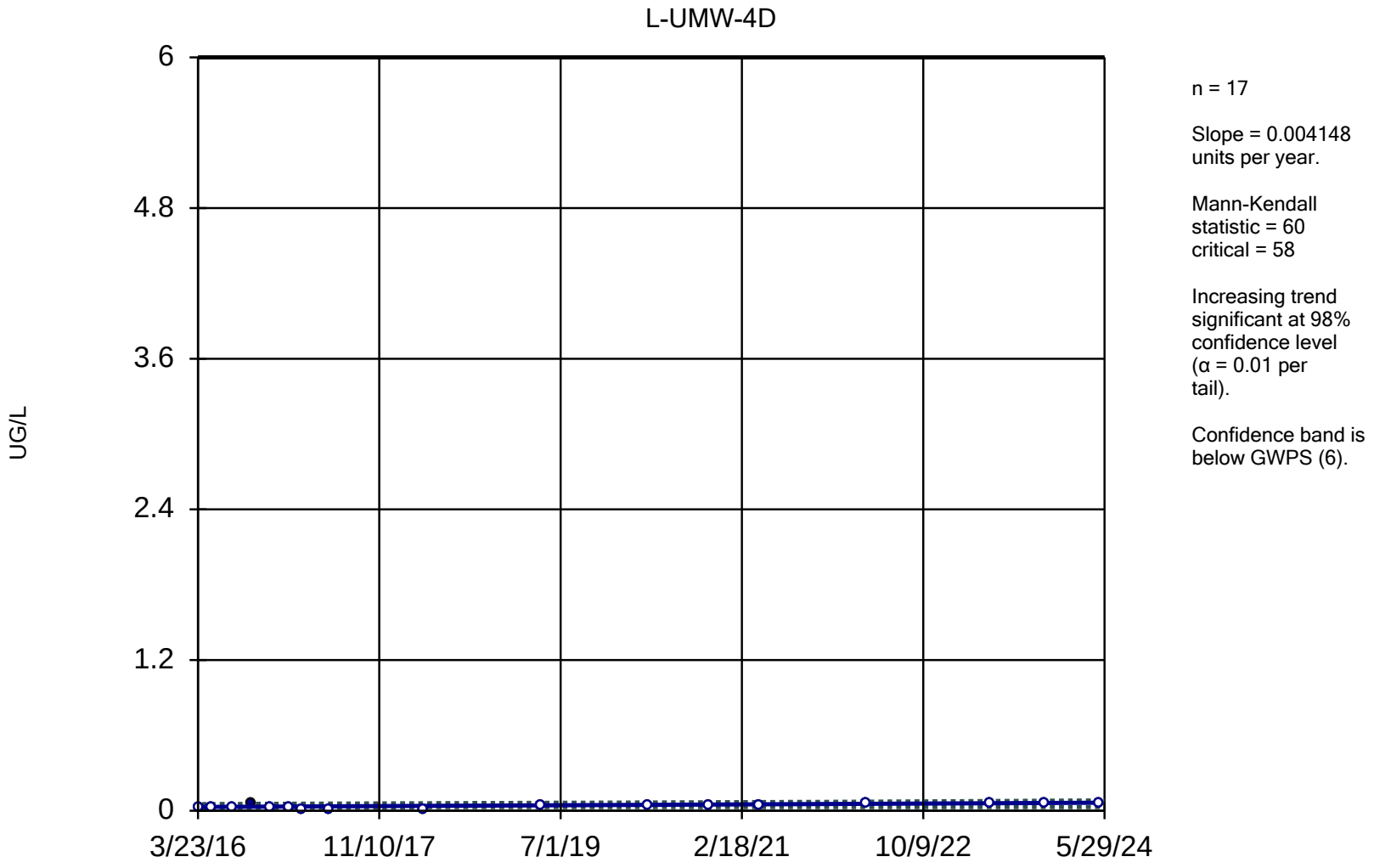


Constituent: ANTIMONY, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

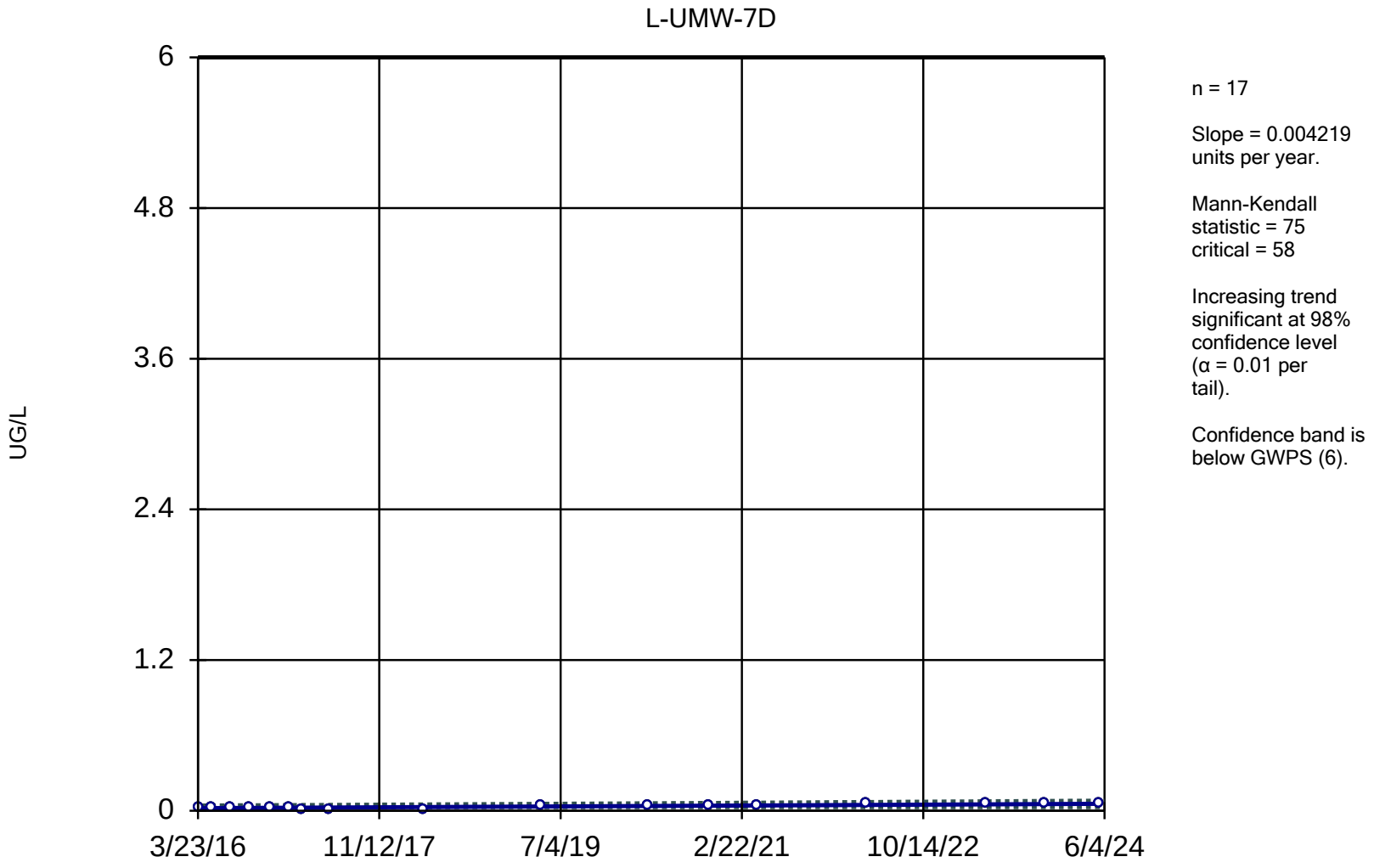


Constituent: ANTIMONY, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

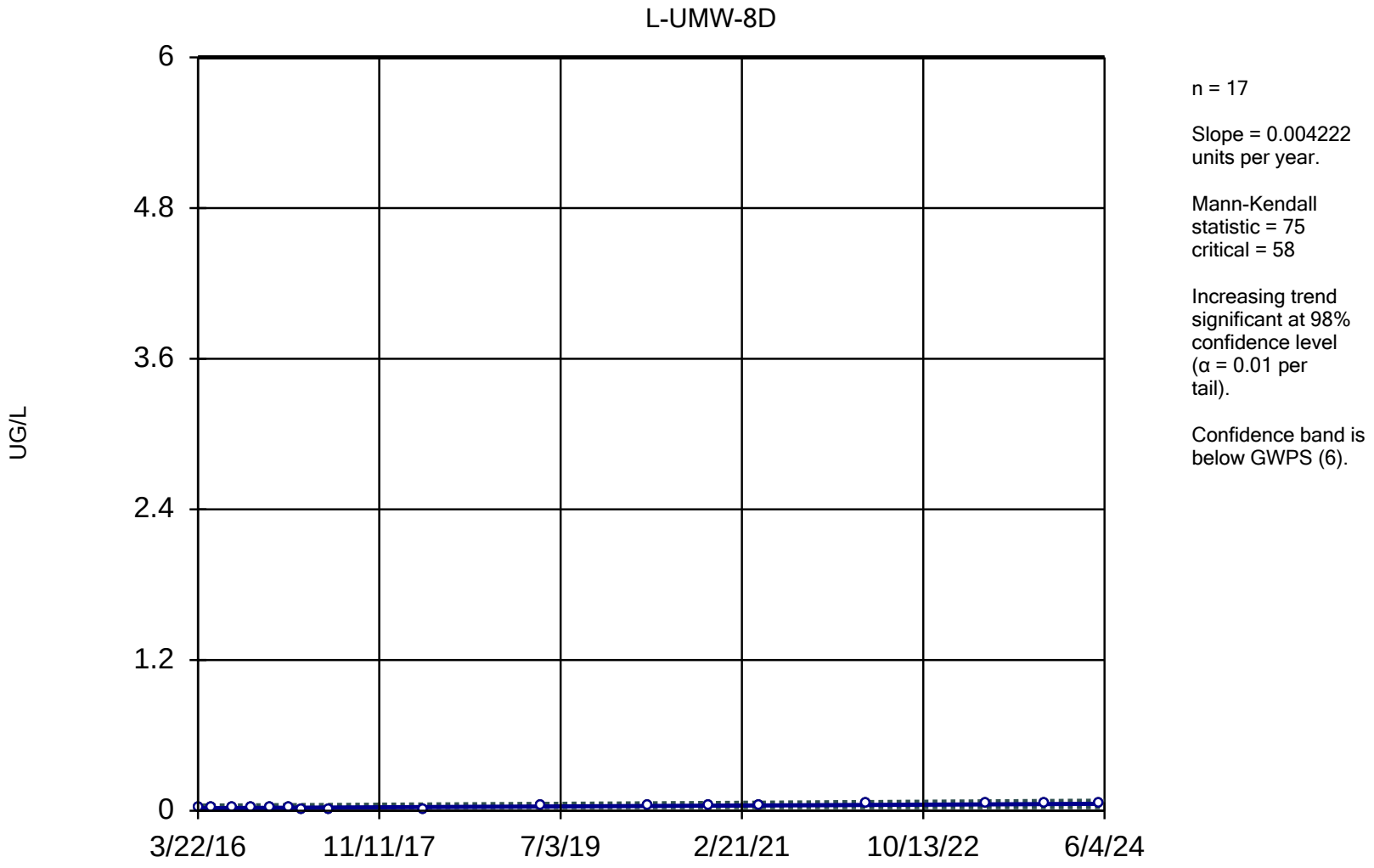


Constituent: ANTIMONY, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

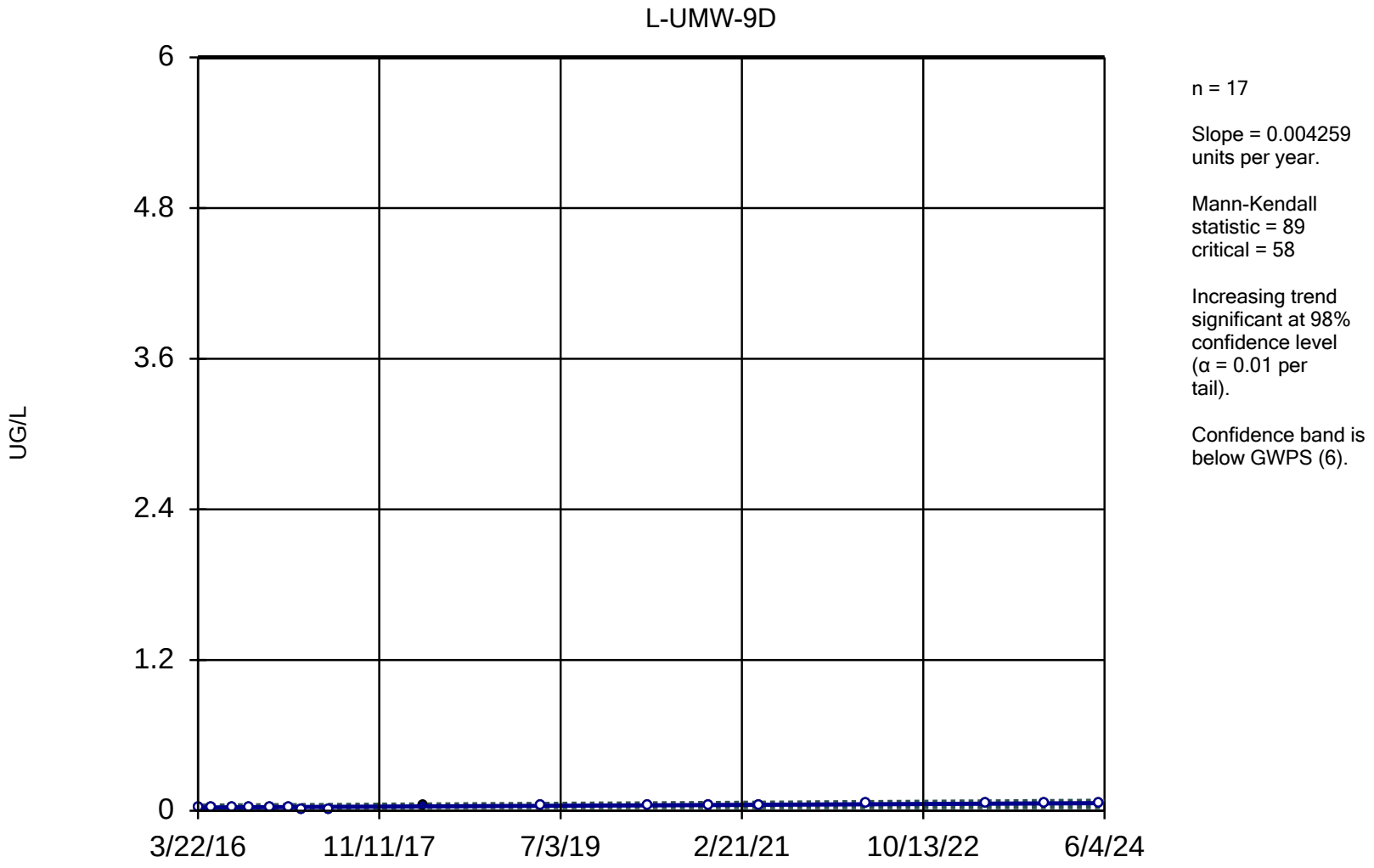


Constituent: ANTIMONY, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



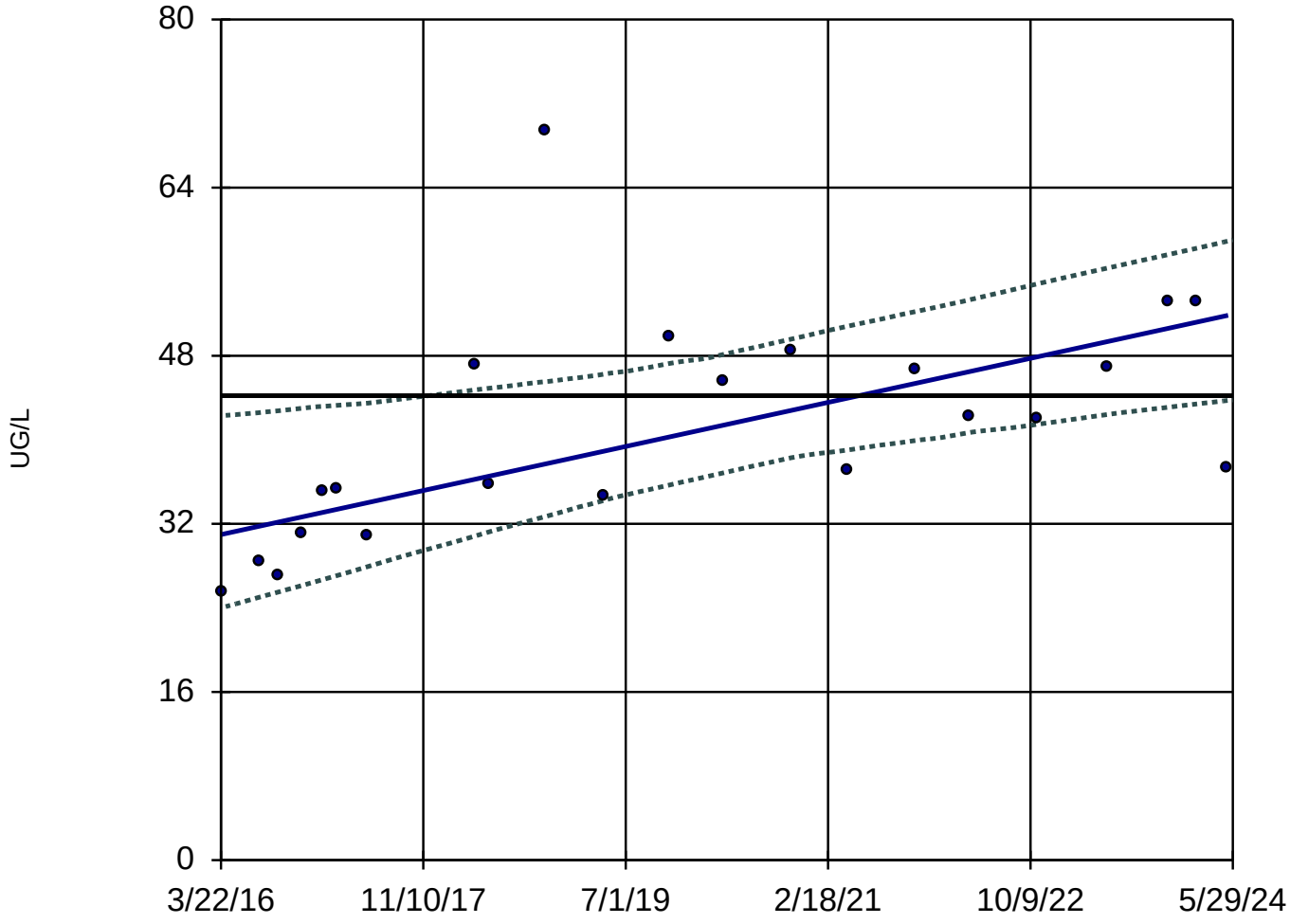
Constituent: ANTIMONY, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 22

Slope = 2.558
units per year.

Mann-Kendall
statistic = 120
critical = 84

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

Confidence band intersects
GWPS (44.2) on 12/21/17.

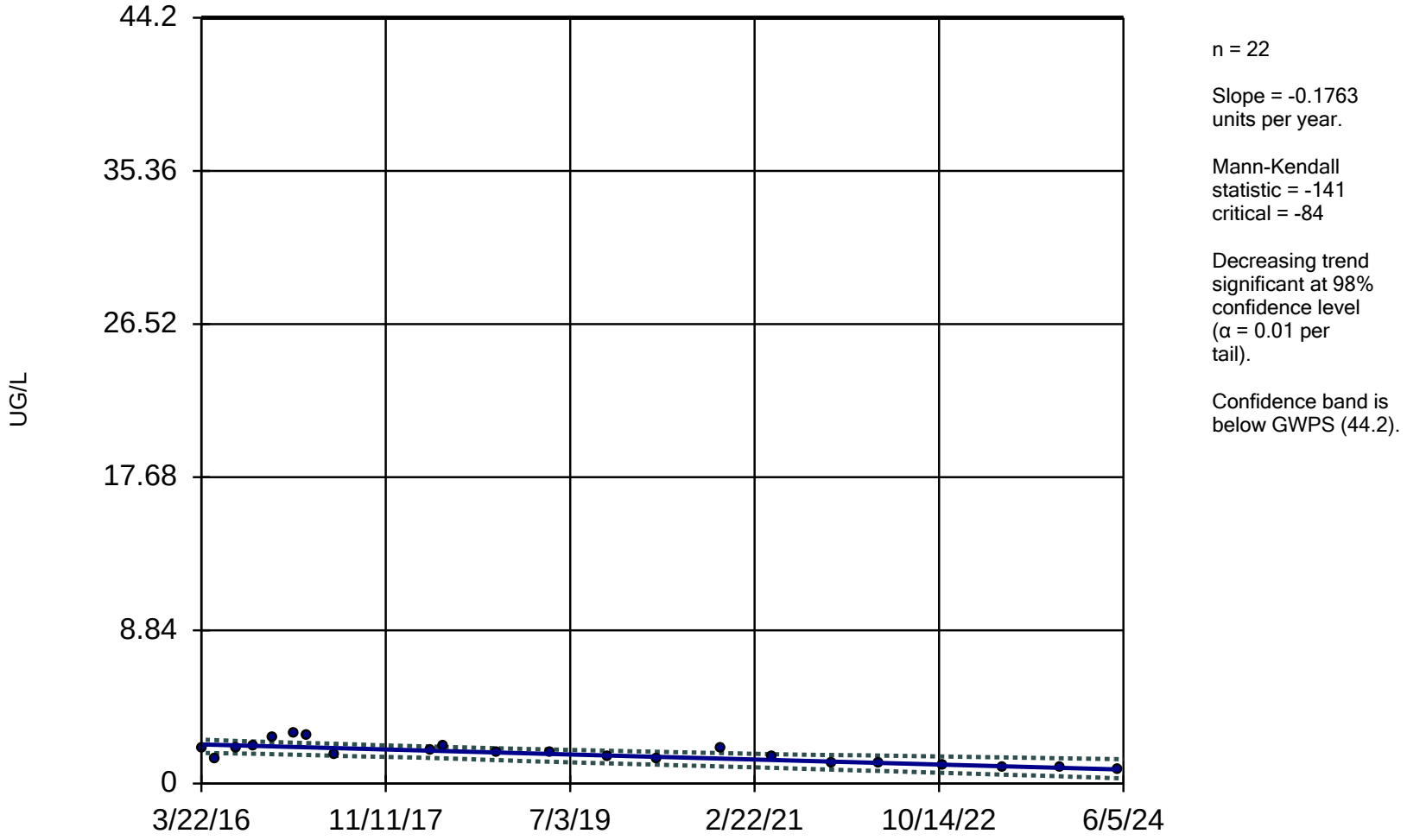
Constituent: ARSENIC, TOTAL Analysis Run 8/27/2024 1:50 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 22

Slope = -0.1763 units per year.

Mann-Kendall statistic = -141 critical = -84

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

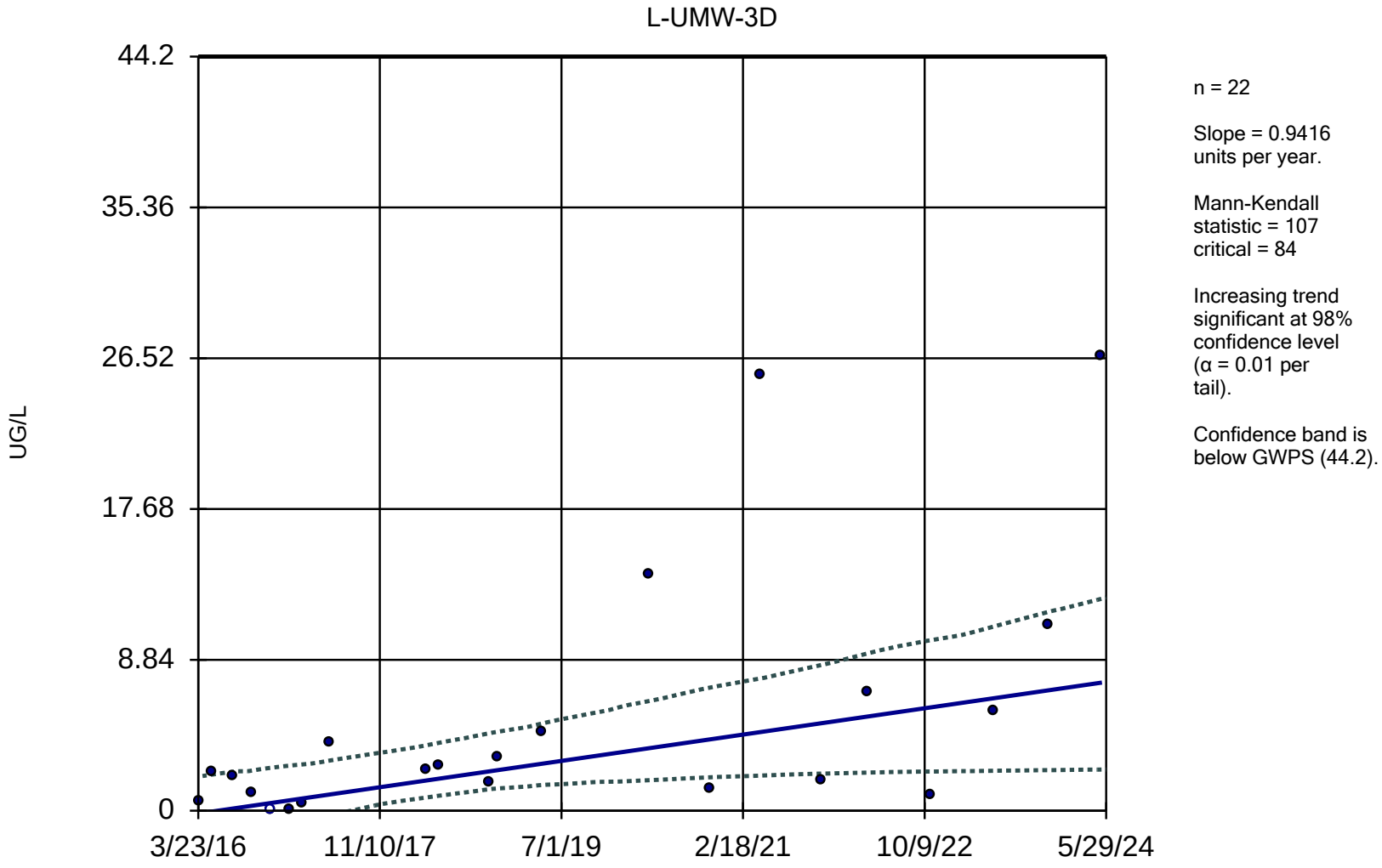
Confidence band is below GWPS (44.2).

Constituent: ARSENIC, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



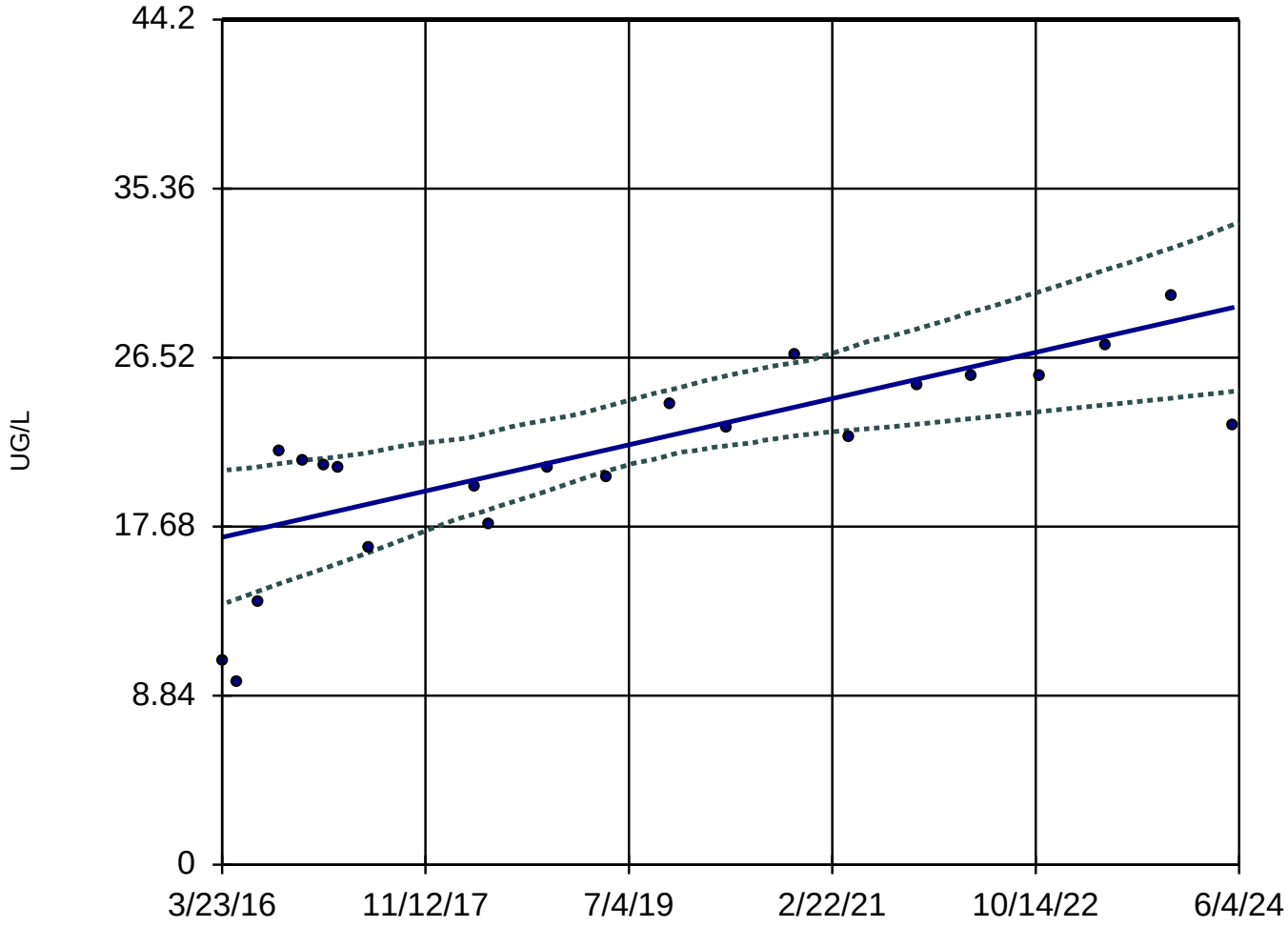
Constituent: ARSENIC, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 22

Slope = 1.473 units per year.

Mann-Kendall statistic = 146
critical = 84

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

Confidence band is below GWPS (44.2).

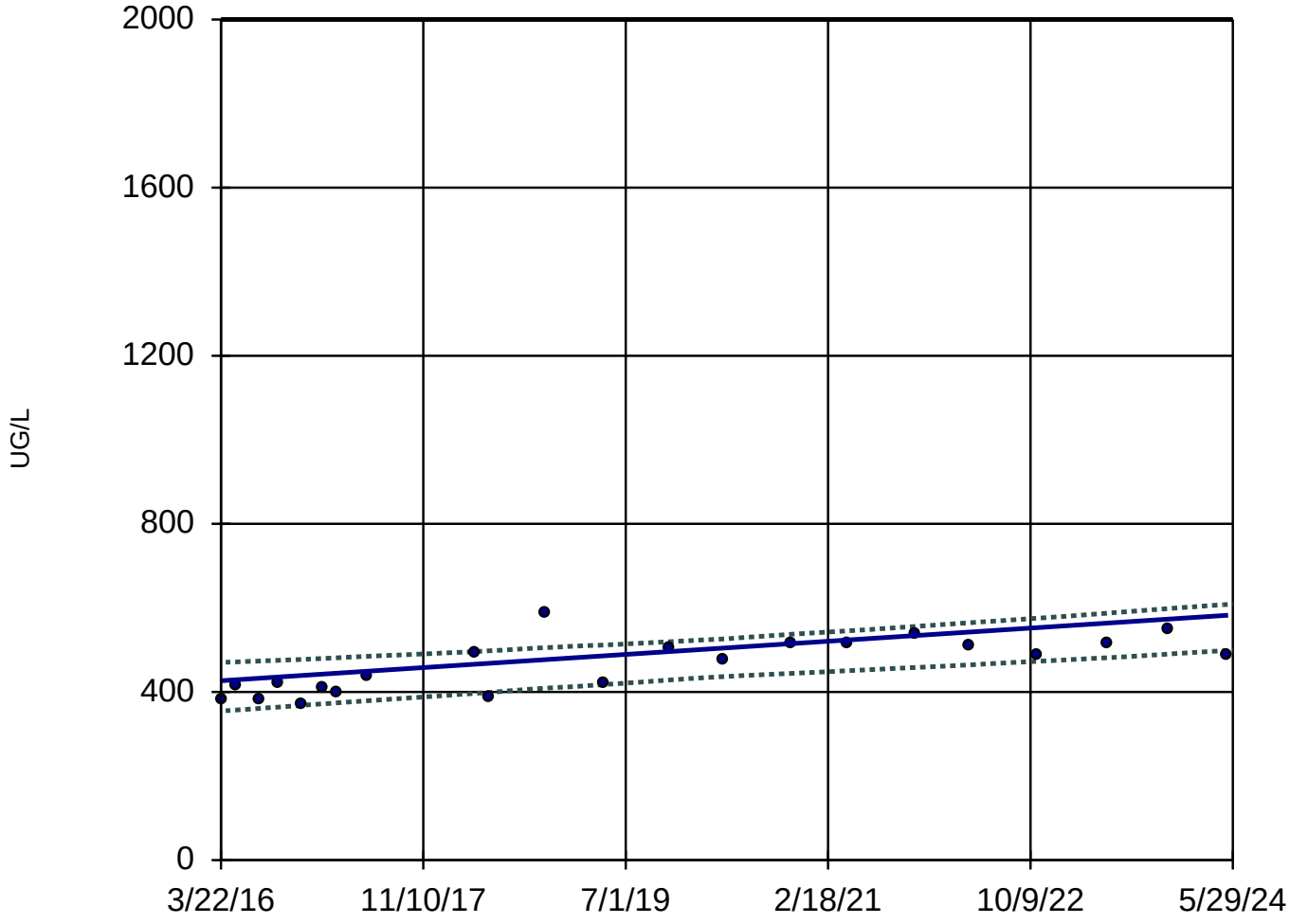
Constituent: ARSENIC, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 22

Slope = 19.12 units per year.

Mann-Kendall statistic = 129 critical = 84

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

Confidence band is below GWPS (2000).

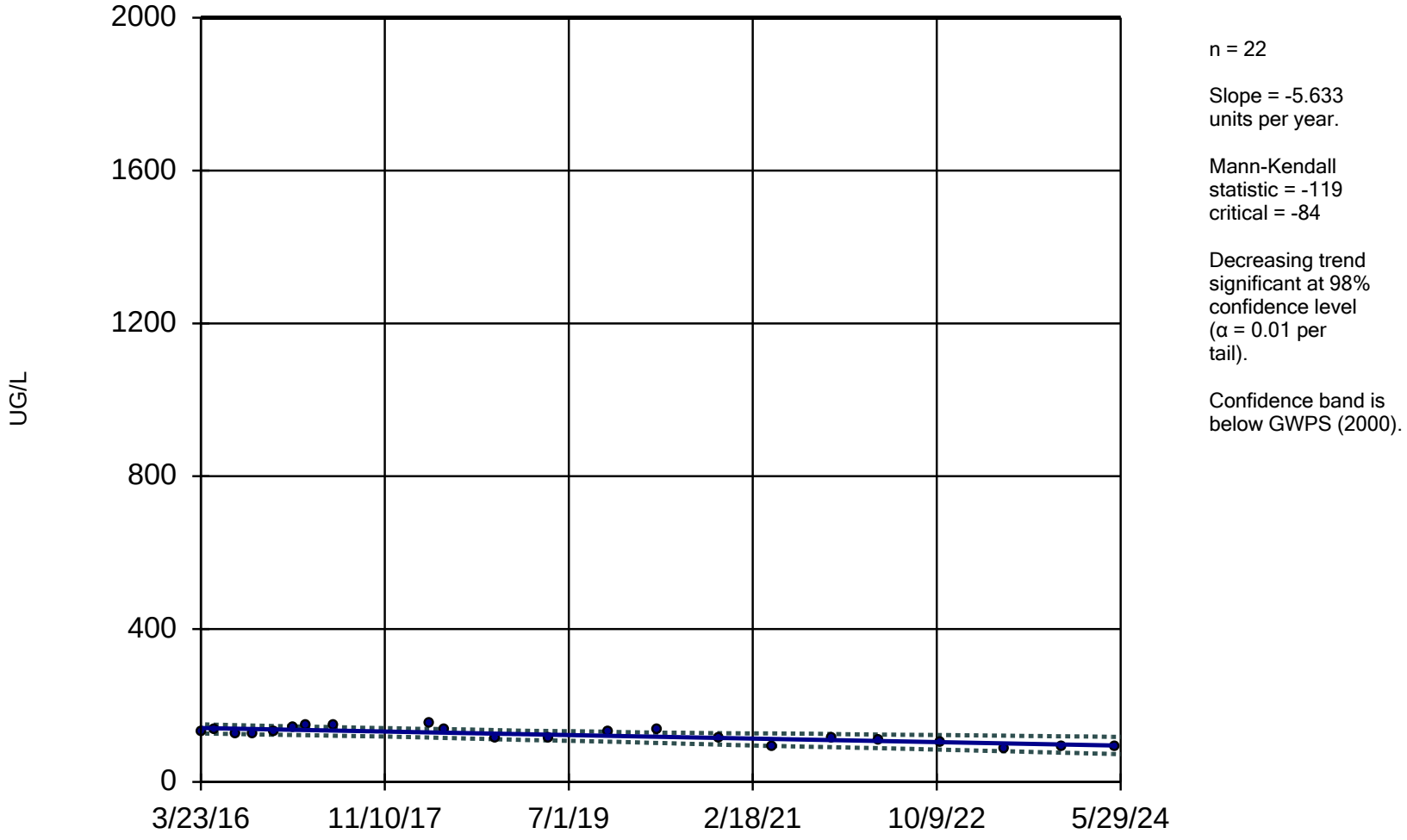
Constituent: BARIUM, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 22

Slope = -5.633 units per year.

Mann-Kendall statistic = -119 critical = -84

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

Confidence band is below GWPS (2000).

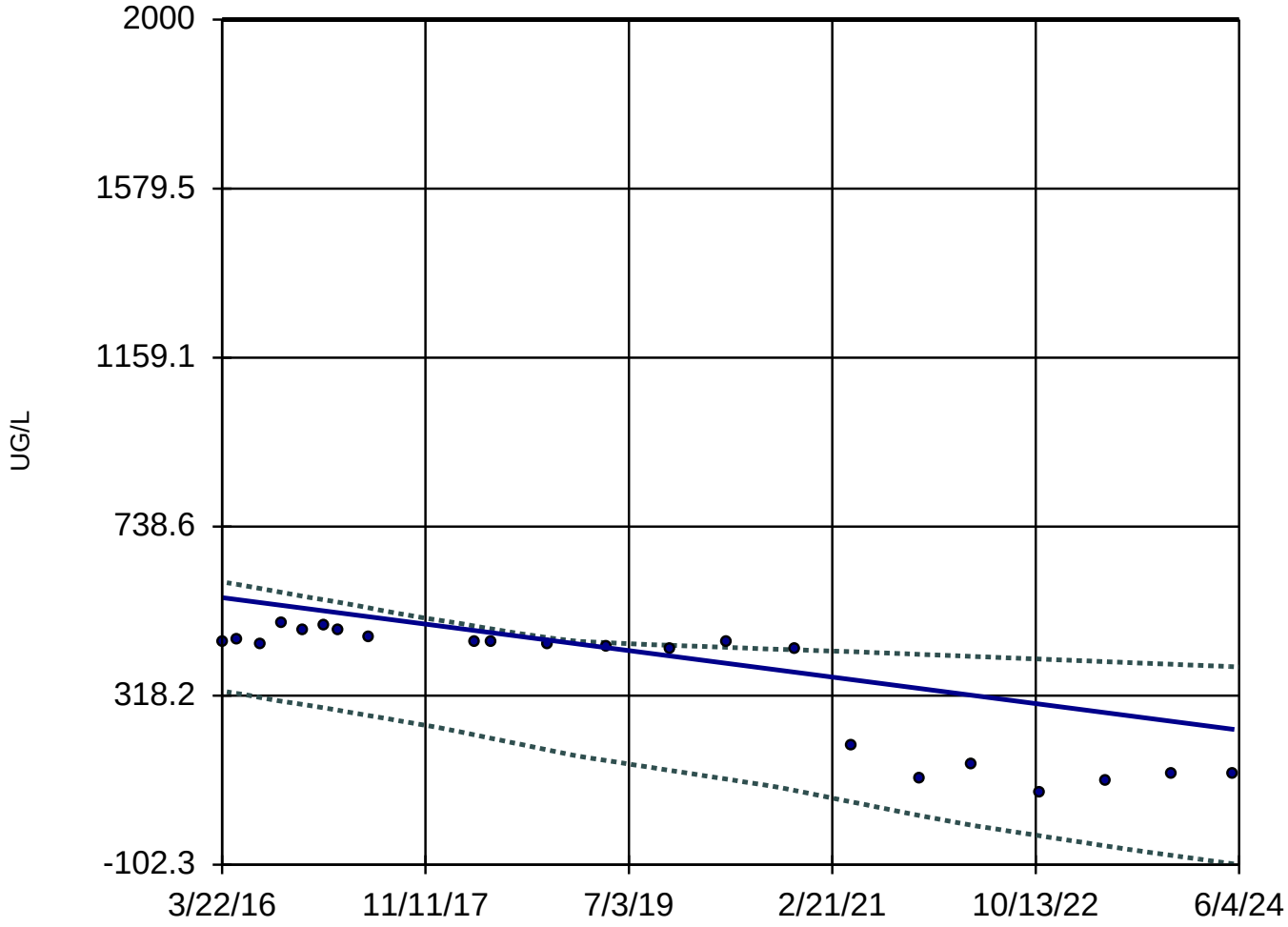
Constituent: BARIUM, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 22

Slope = -40.15 units per year.

Mann-Kendall statistic = -160 critical = -84

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

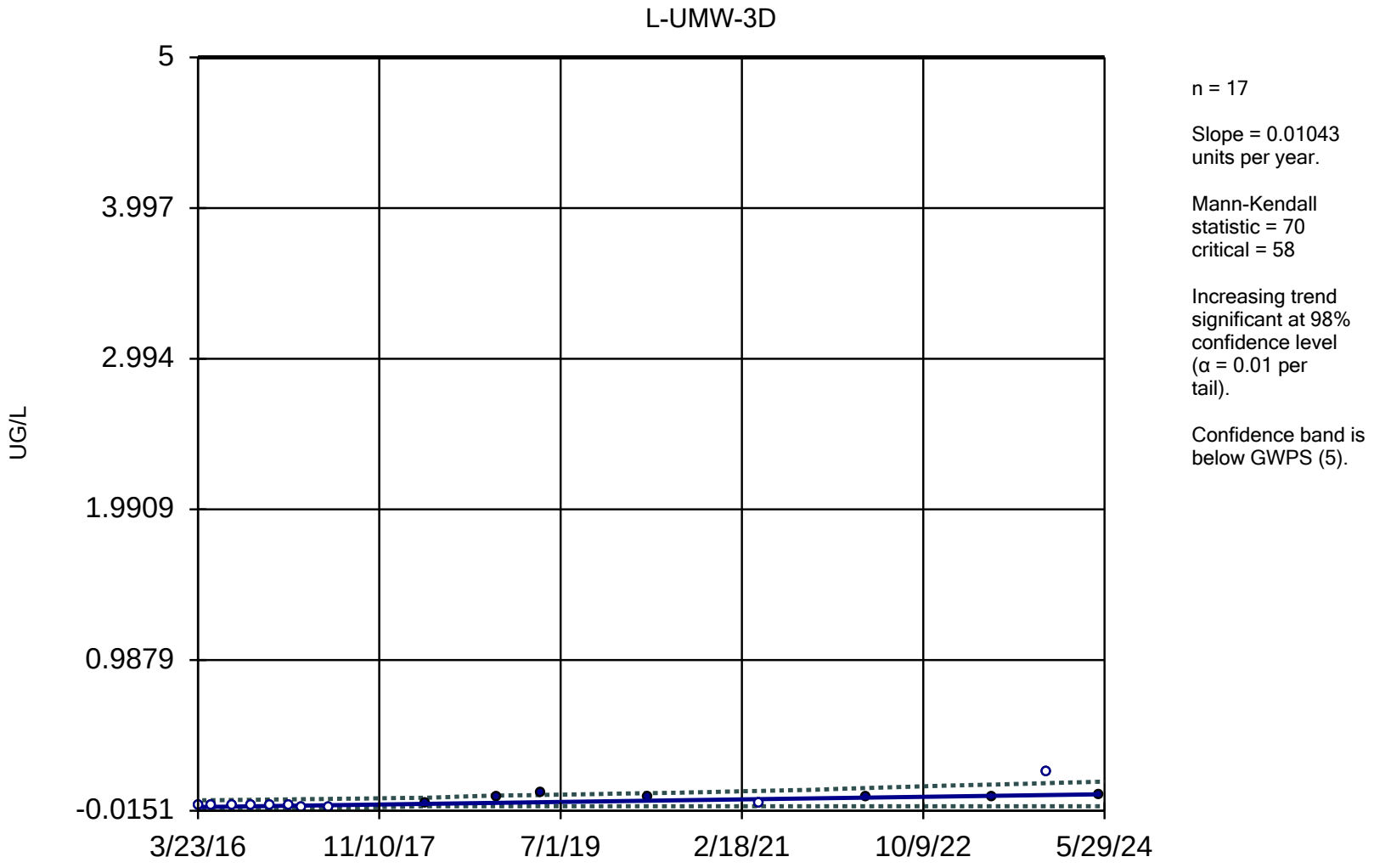
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



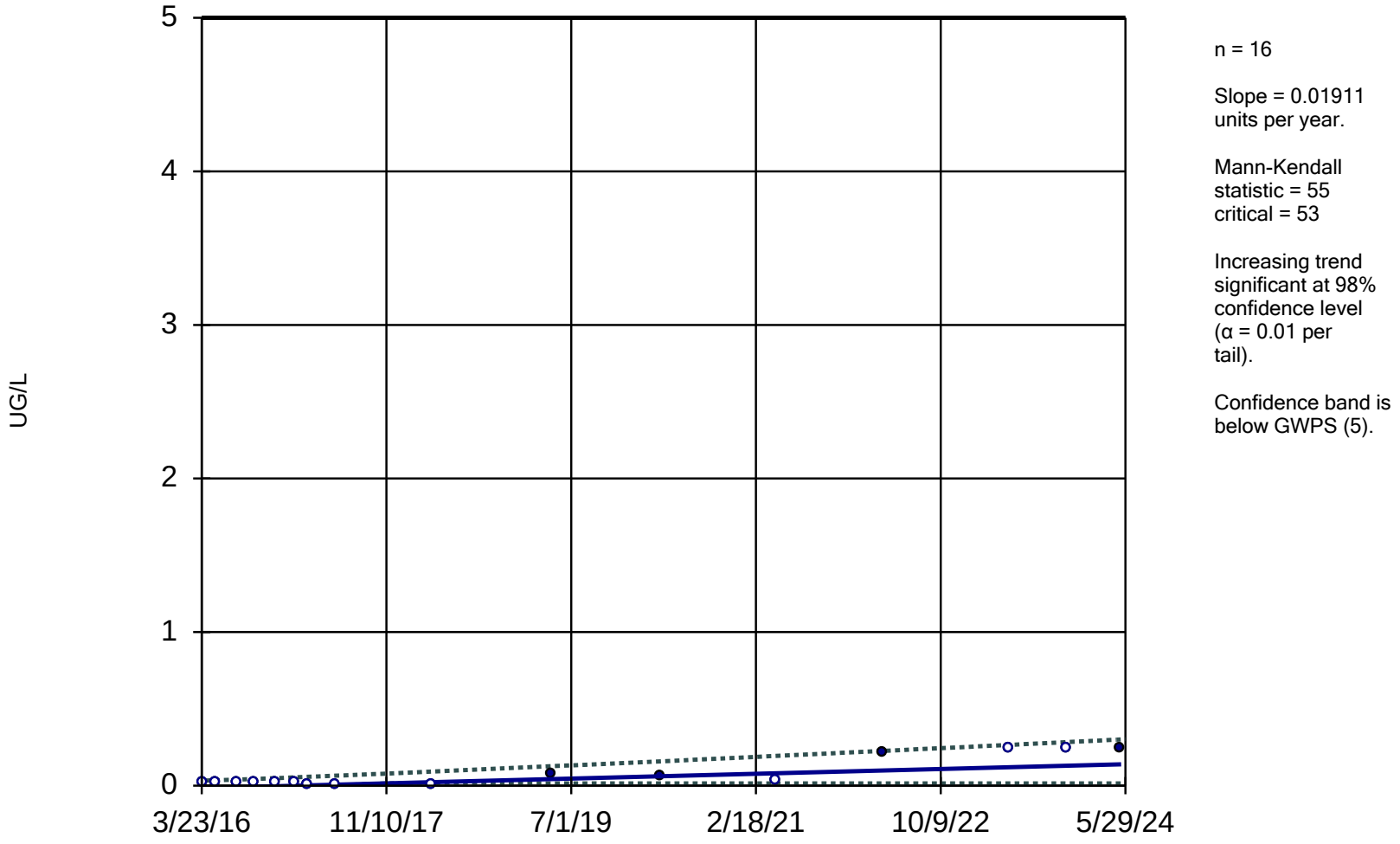
Constituent: CADMIUM, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 16

Slope = 0.01911 units per year.

Mann-Kendall statistic = 55
critical = 53

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

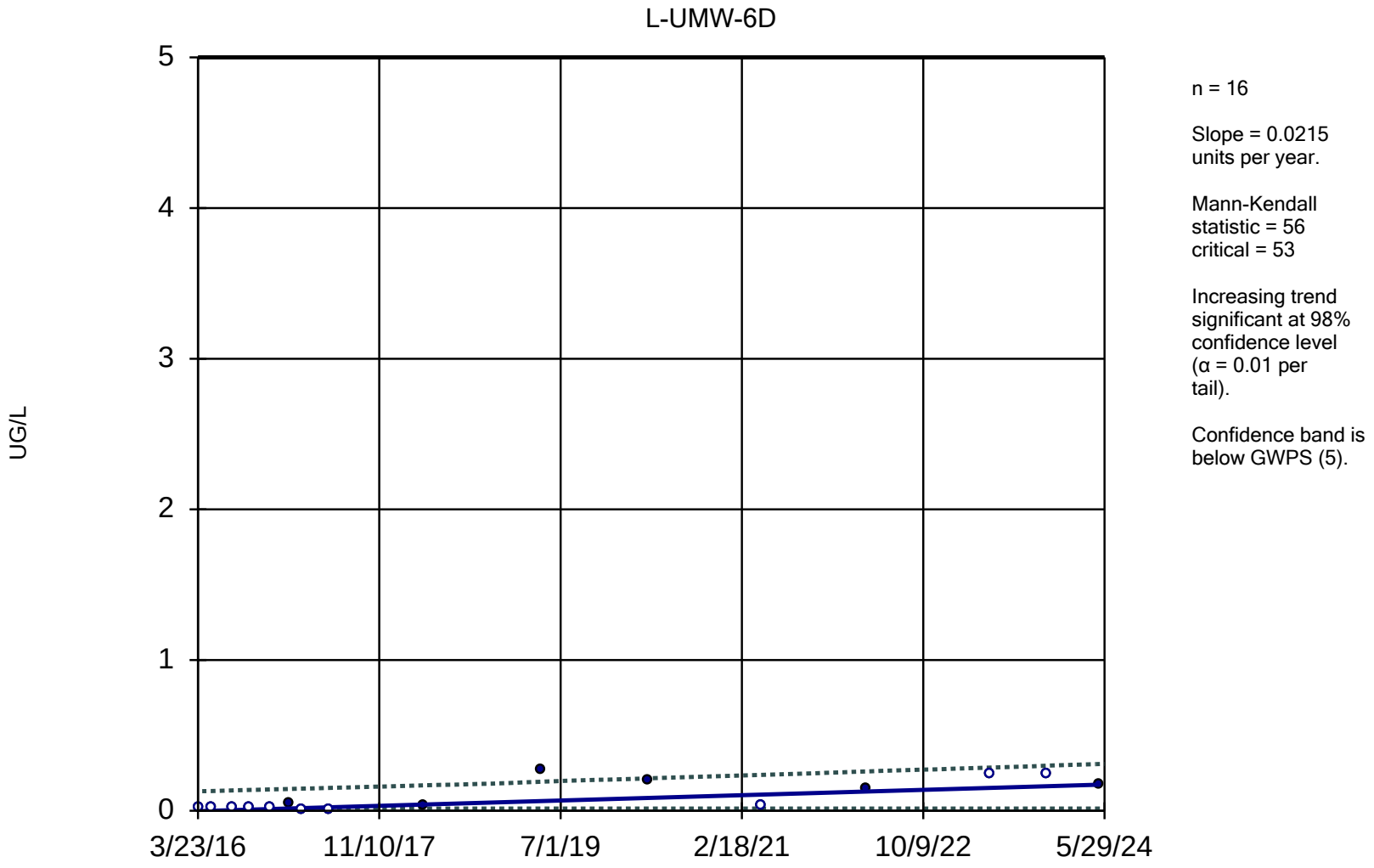
Confidence band is below GWPS (5).

Constituent: CADMIUM, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



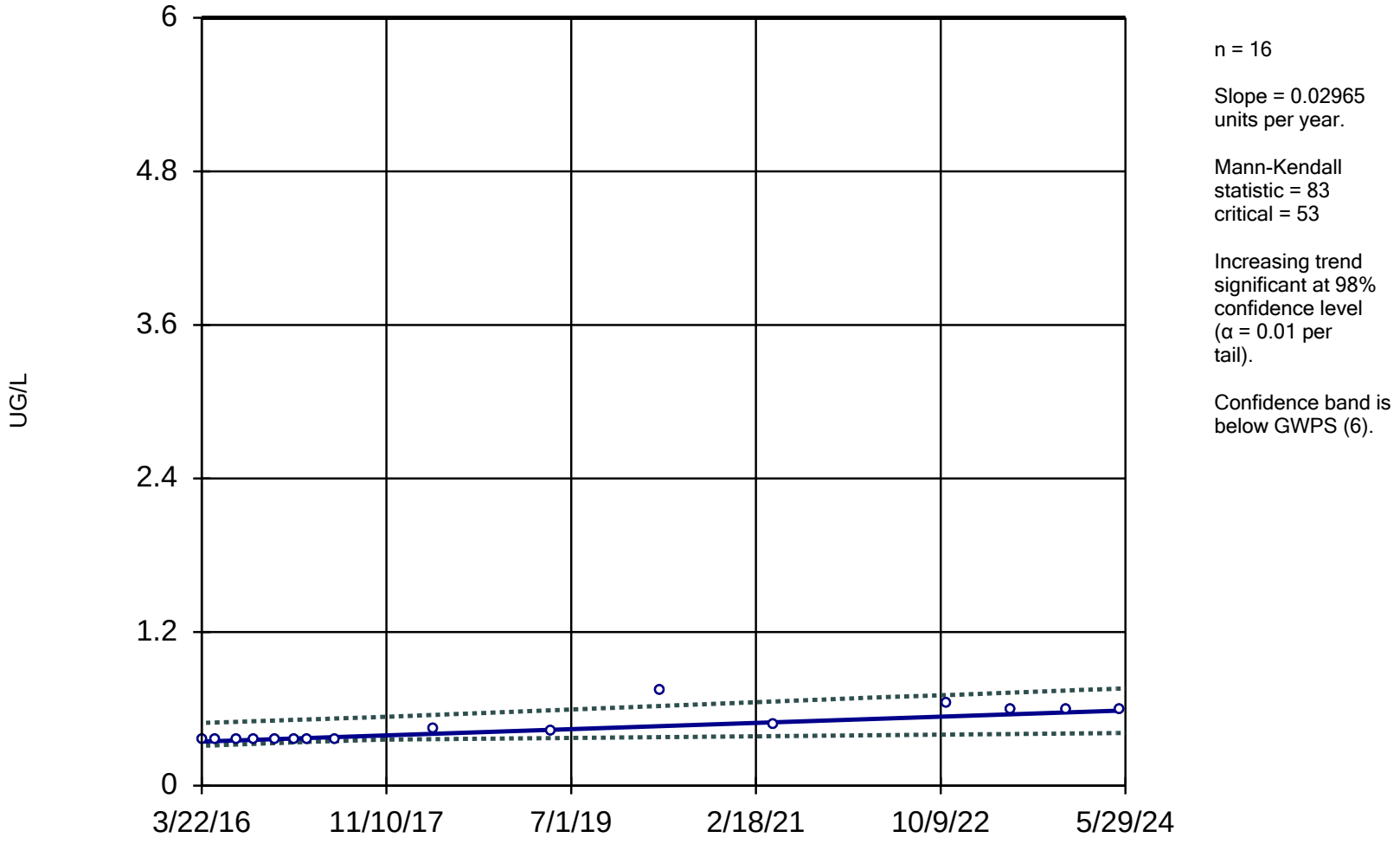
Constituent: CADMIUM, TOTAL Analysis Run 8/27/2024 1:45 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 16

Slope = 0.02965 units per year.

Mann-Kendall statistic = 83
critical = 53

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

Confidence band is below GWPS (6).

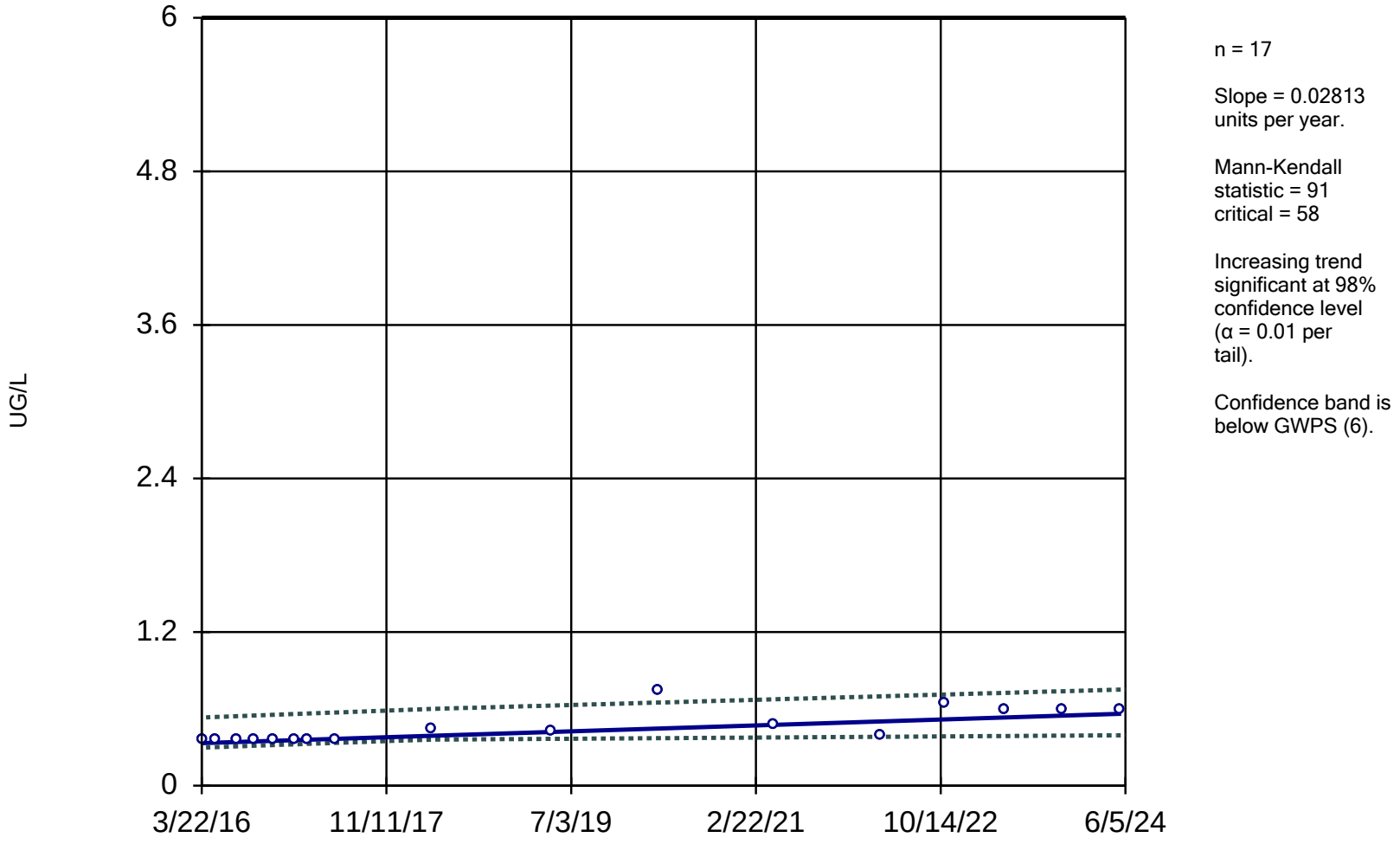
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 17

Slope = 0.02813 units per year.

Mann-Kendall statistic = 91
critical = 58

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

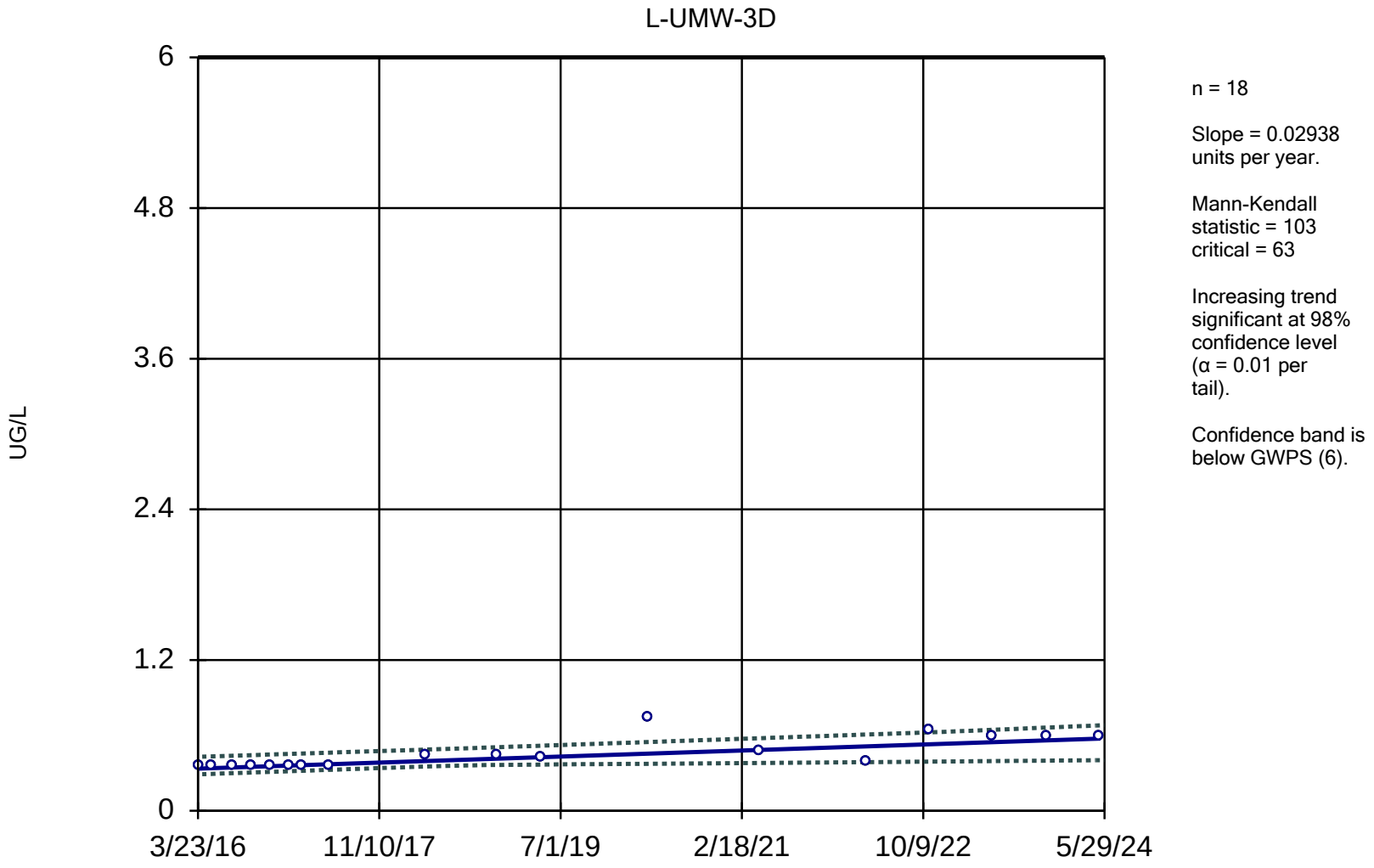
Confidence band is below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



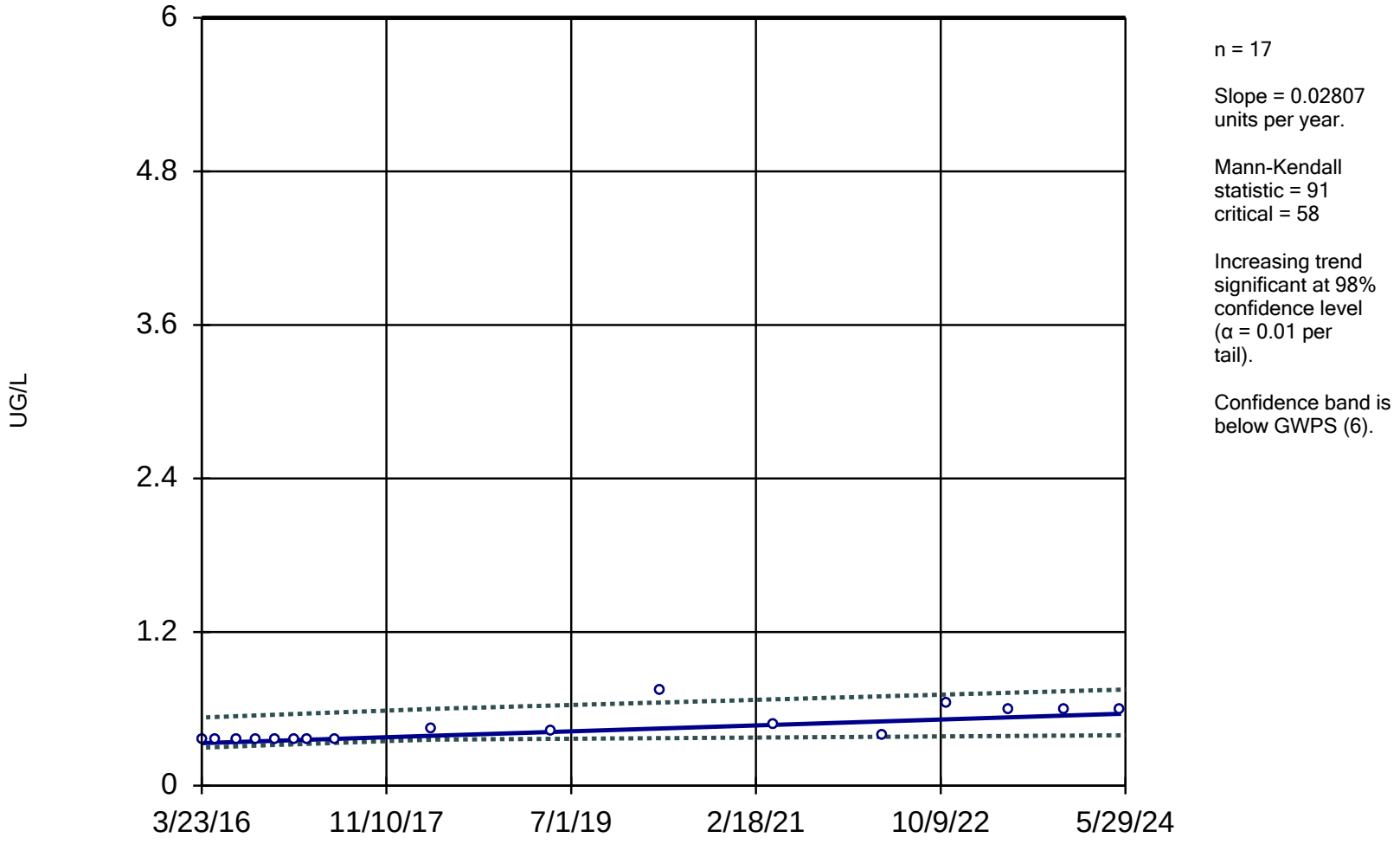
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 17

Slope = 0.02807 units per year.

Mann-Kendall statistic = 91
critical = 58

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

Confidence band is below GWPS (6).

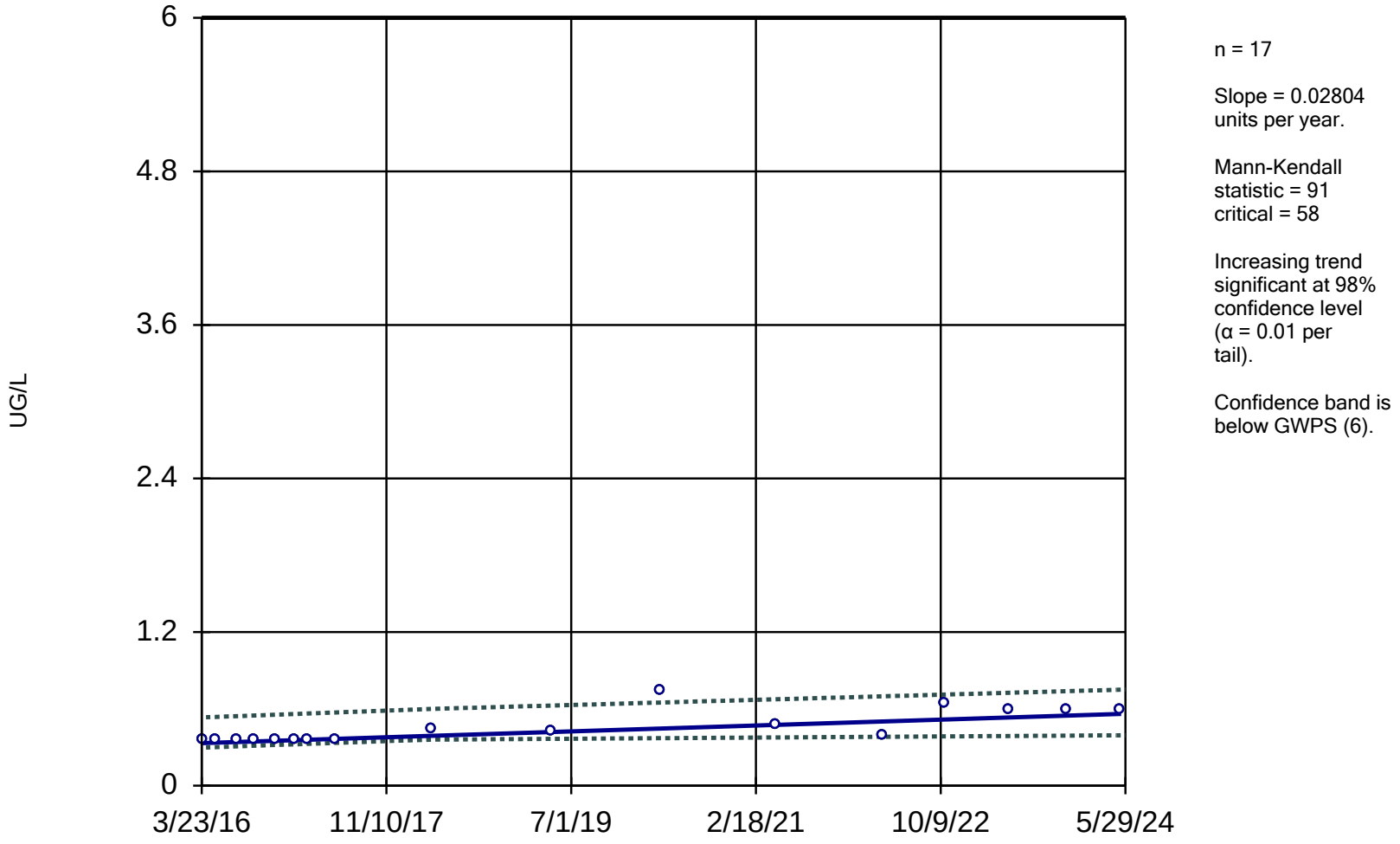
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 17

Slope = 0.02804 units per year.

Mann-Kendall statistic = 91
critical = 58

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

Confidence band is below GWPS (6).

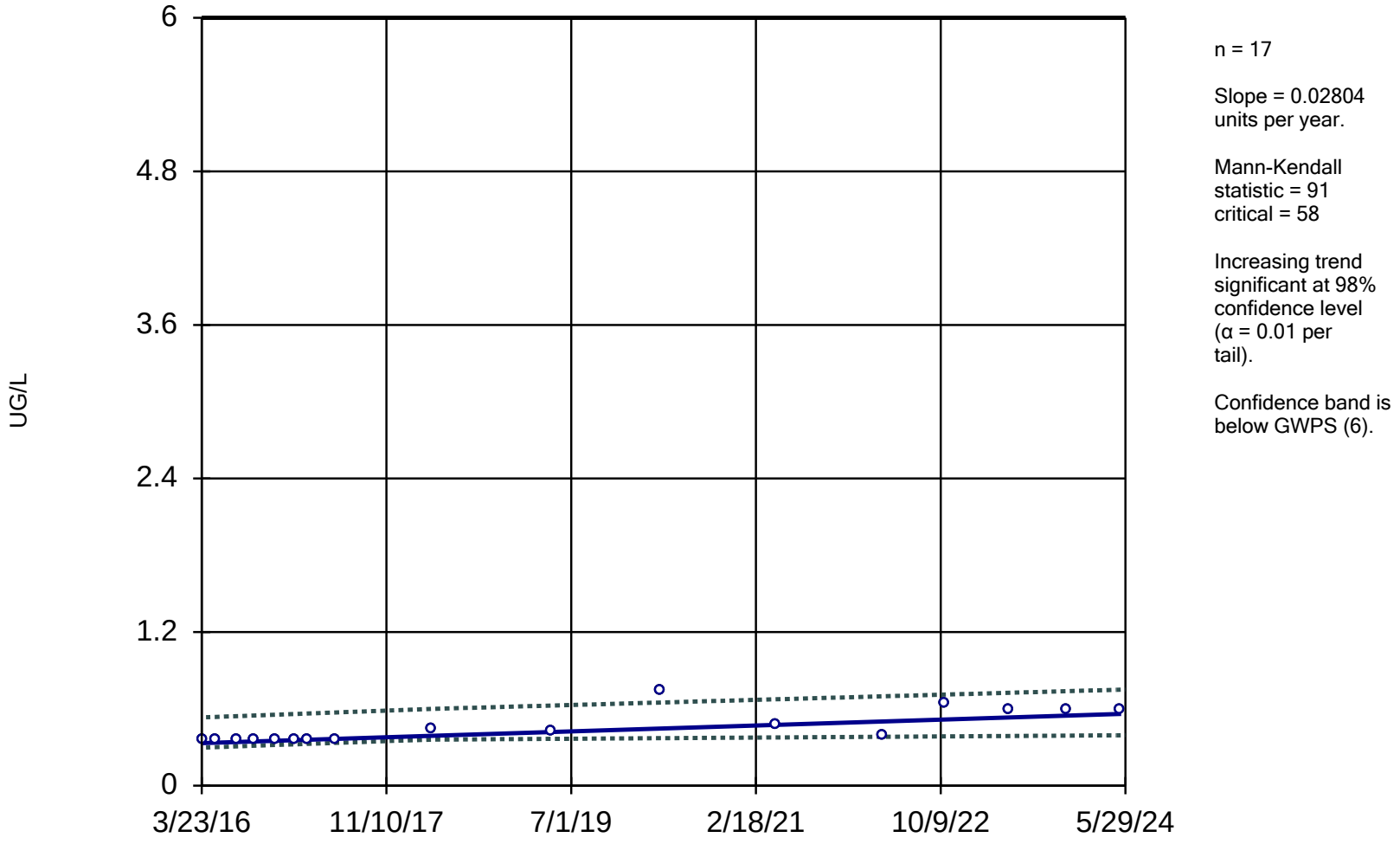
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 17

Slope = 0.02804 units per year.

Mann-Kendall statistic = 91
critical = 58

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

Confidence band is below GWPS (6).

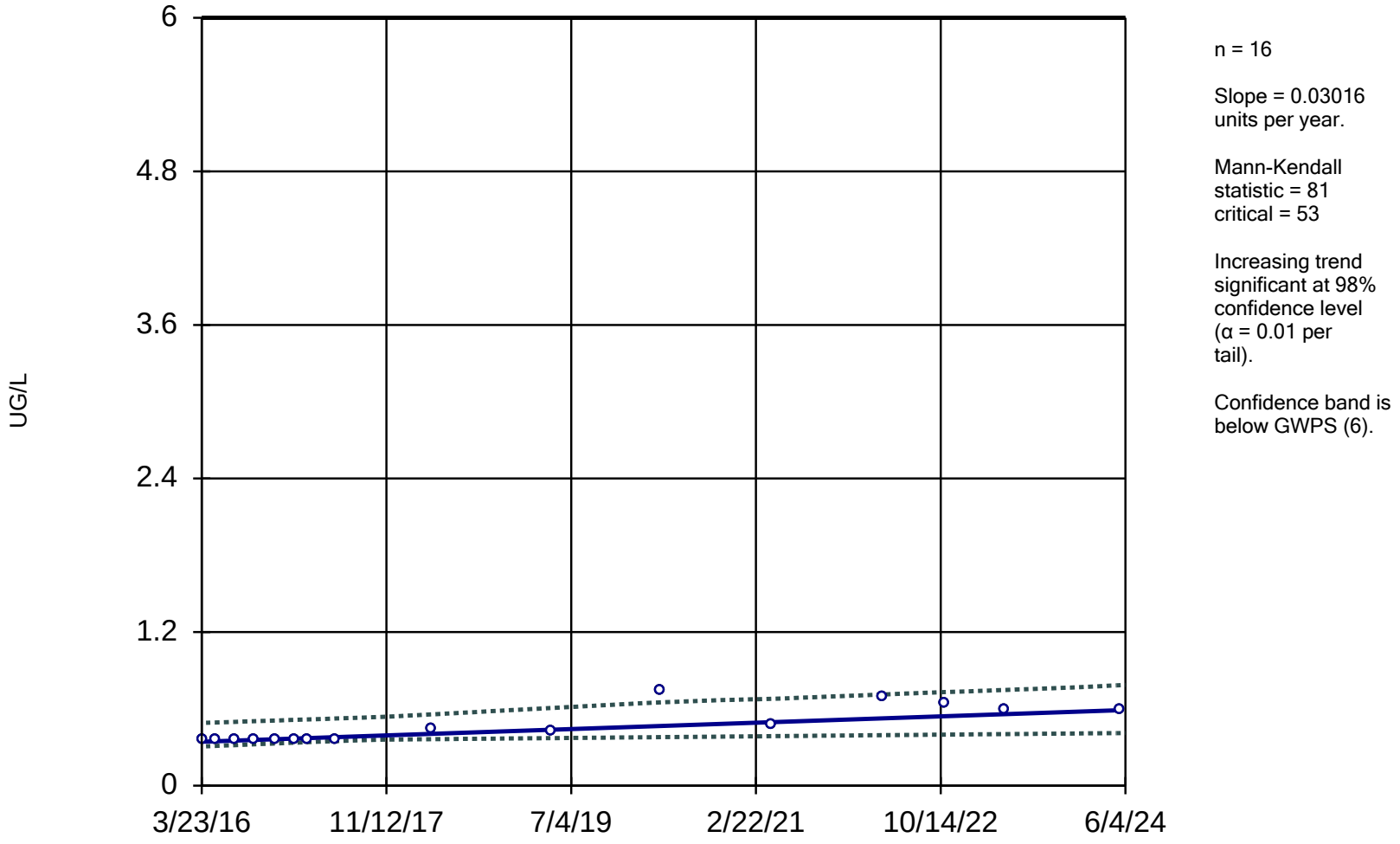
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 16

Slope = 0.03016 units per year.

Mann-Kendall statistic = 81
critical = 53

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

Confidence band is below GWPS (6).

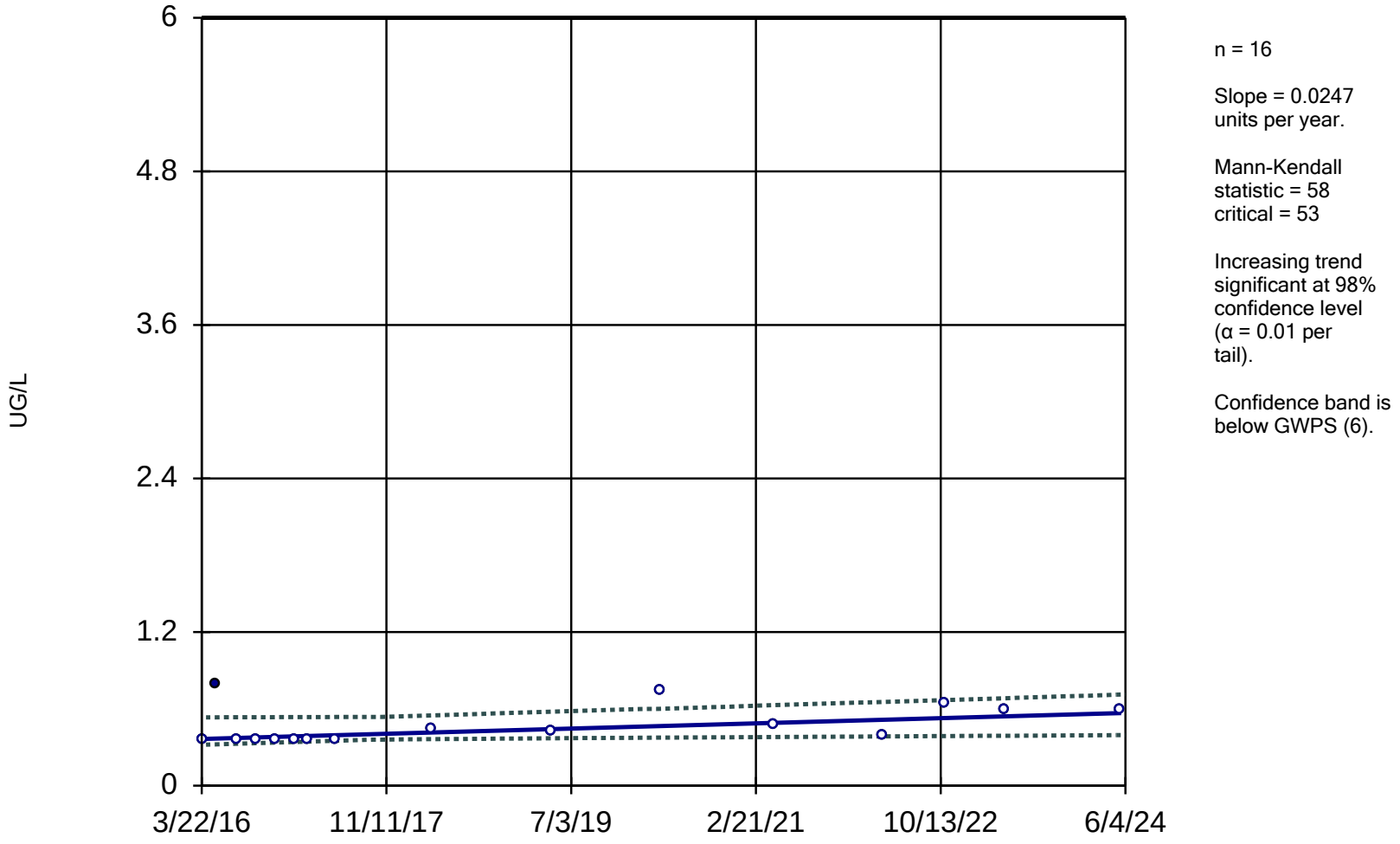
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 16

Slope = 0.0247 units per year.

Mann-Kendall statistic = 58
critical = 53

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

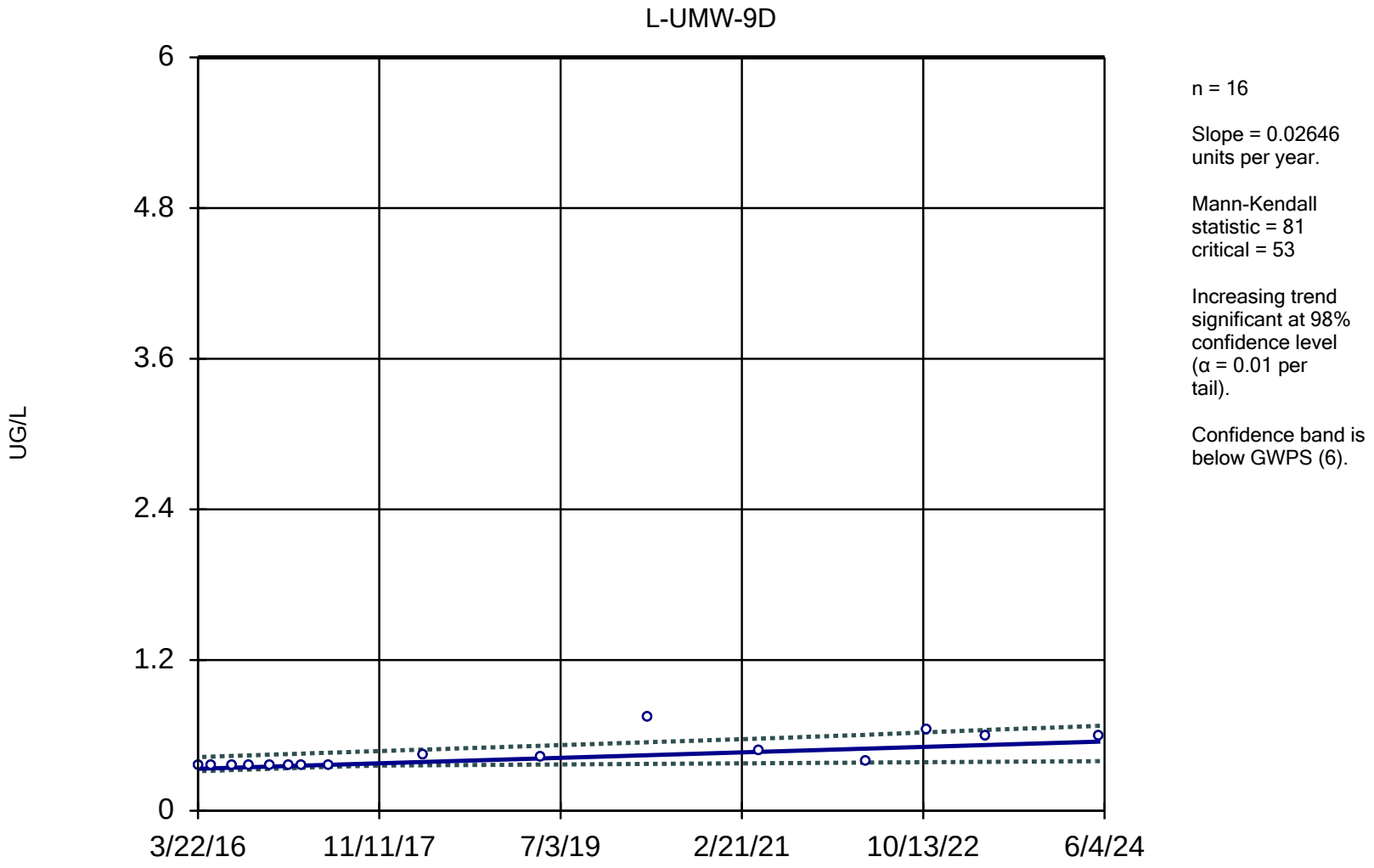
Confidence band is below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



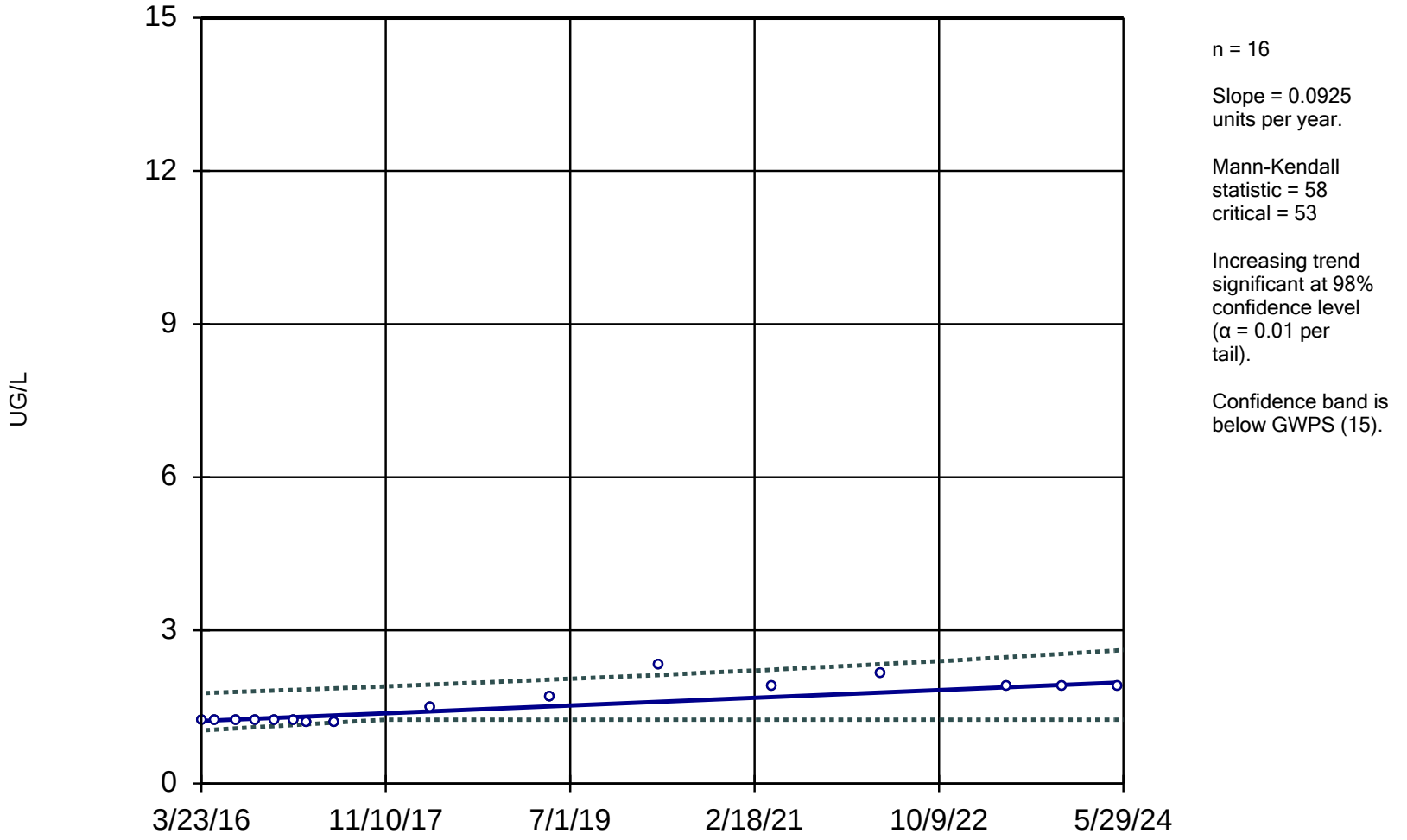
Constituent: COBALT, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 16

Slope = 0.0925 units per year.

Mann-Kendall statistic = 58
critical = 53

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

Confidence band is below GWPS (15).

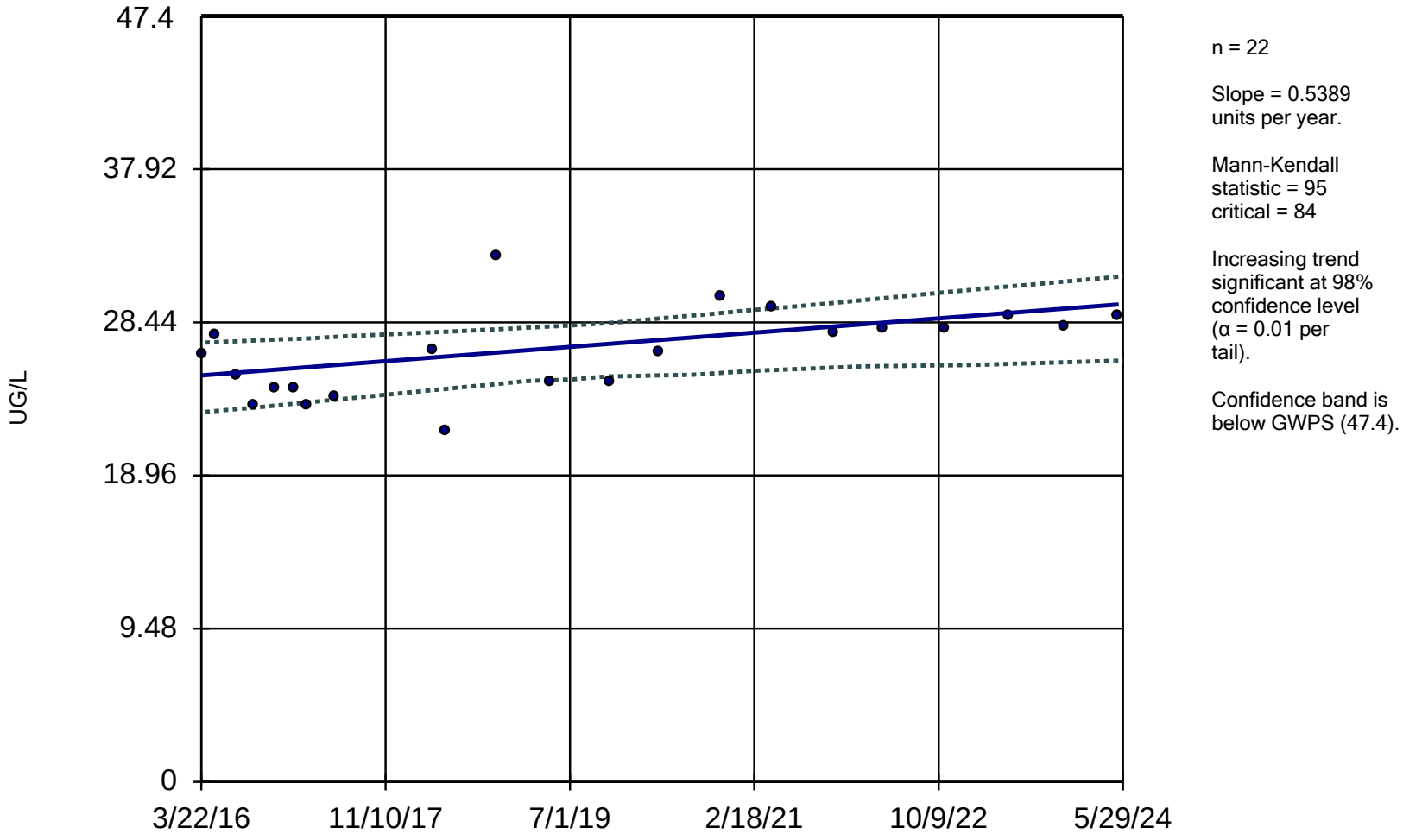
Constituent: LEAD, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 22

Slope = 0.5389 units per year.

Mann-Kendall statistic = 95
critical = 84

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

Confidence band is below GWPS (47.4).

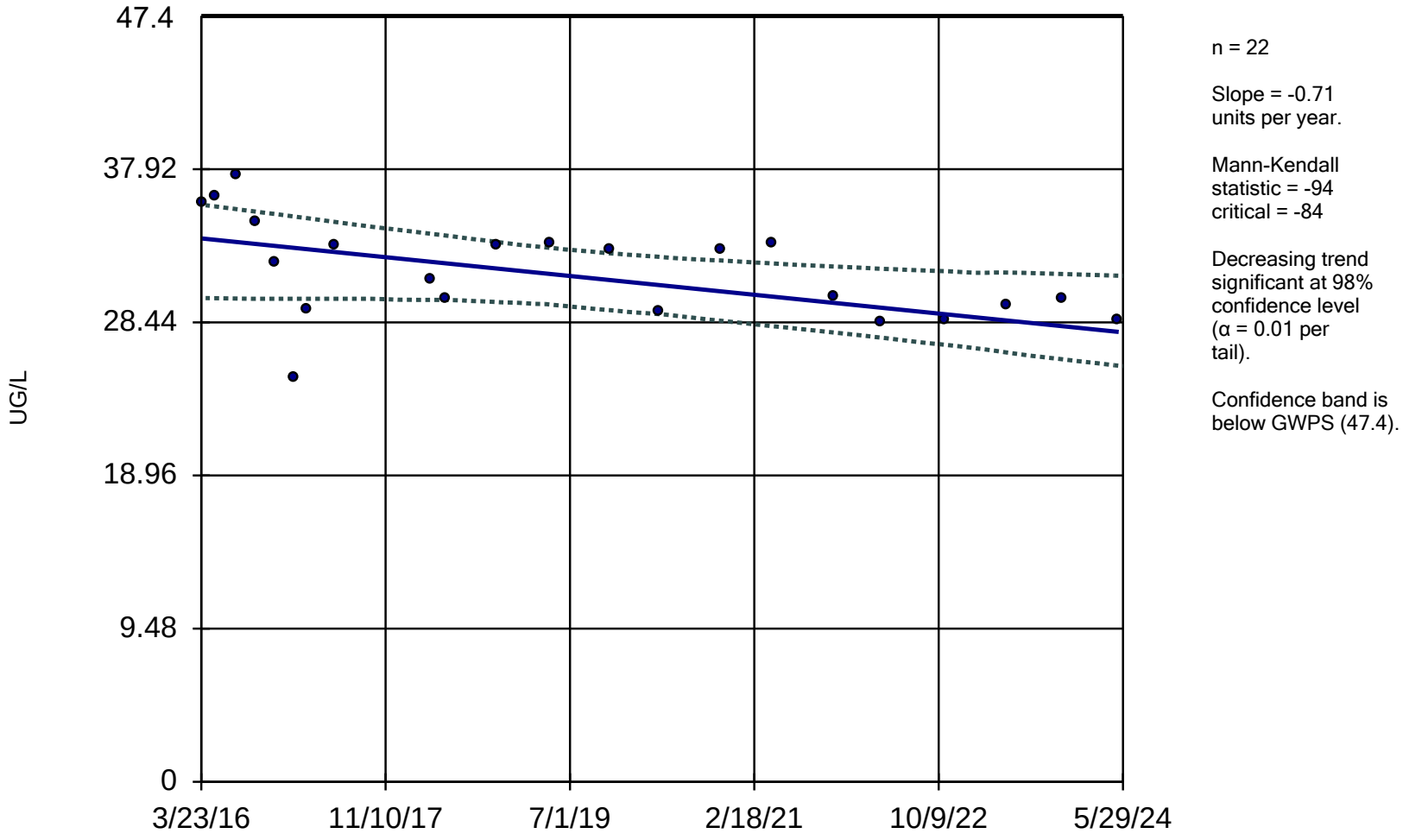
Constituent: LITHIUM, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 22

Slope = -0.71 units per year.

Mann-Kendall statistic = -94 critical = -84

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

Confidence band is below GWPS (47.4).

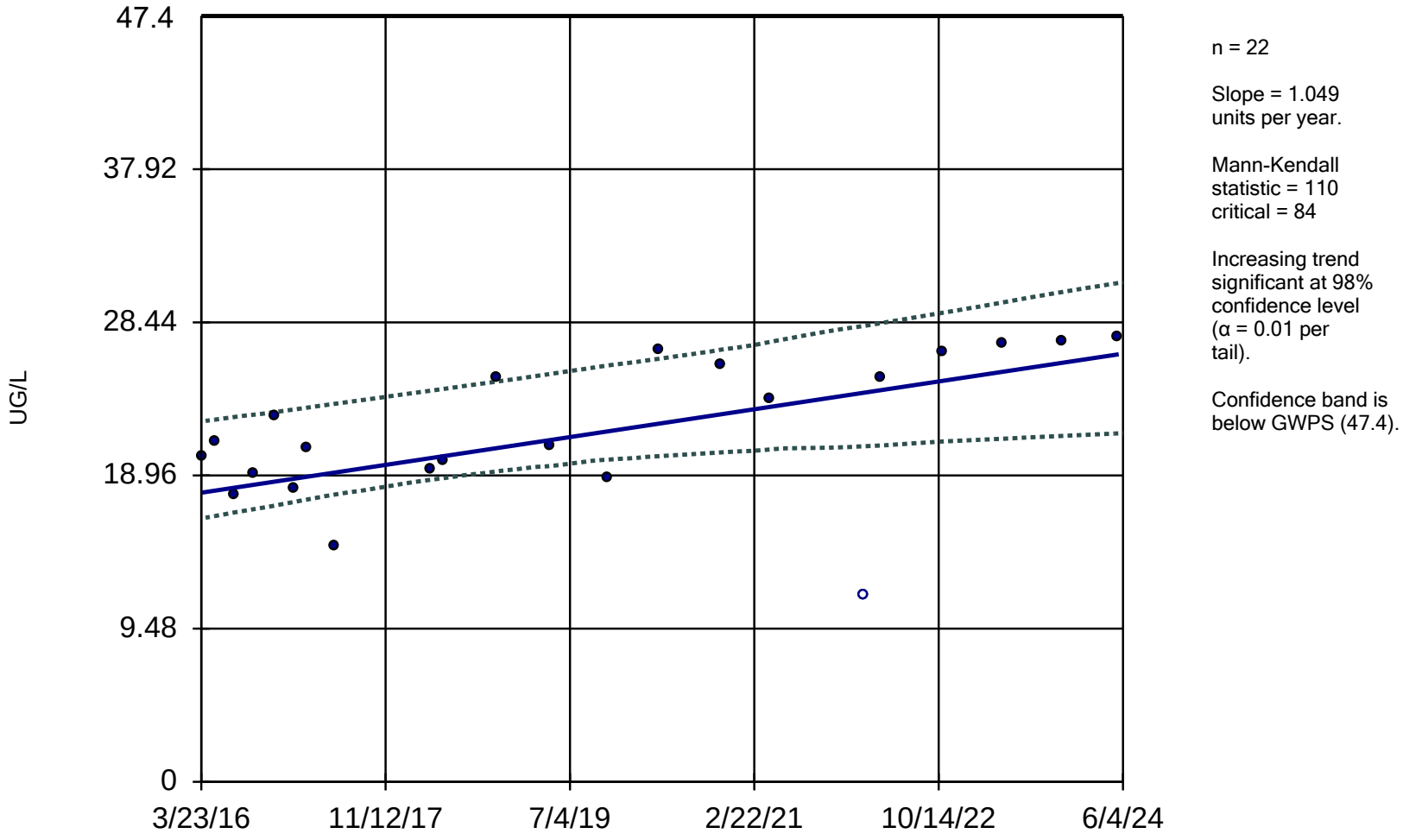
Constituent: LITHIUM, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 22

Slope = 1.049 units per year.

Mann-Kendall statistic = 110
critical = 84

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

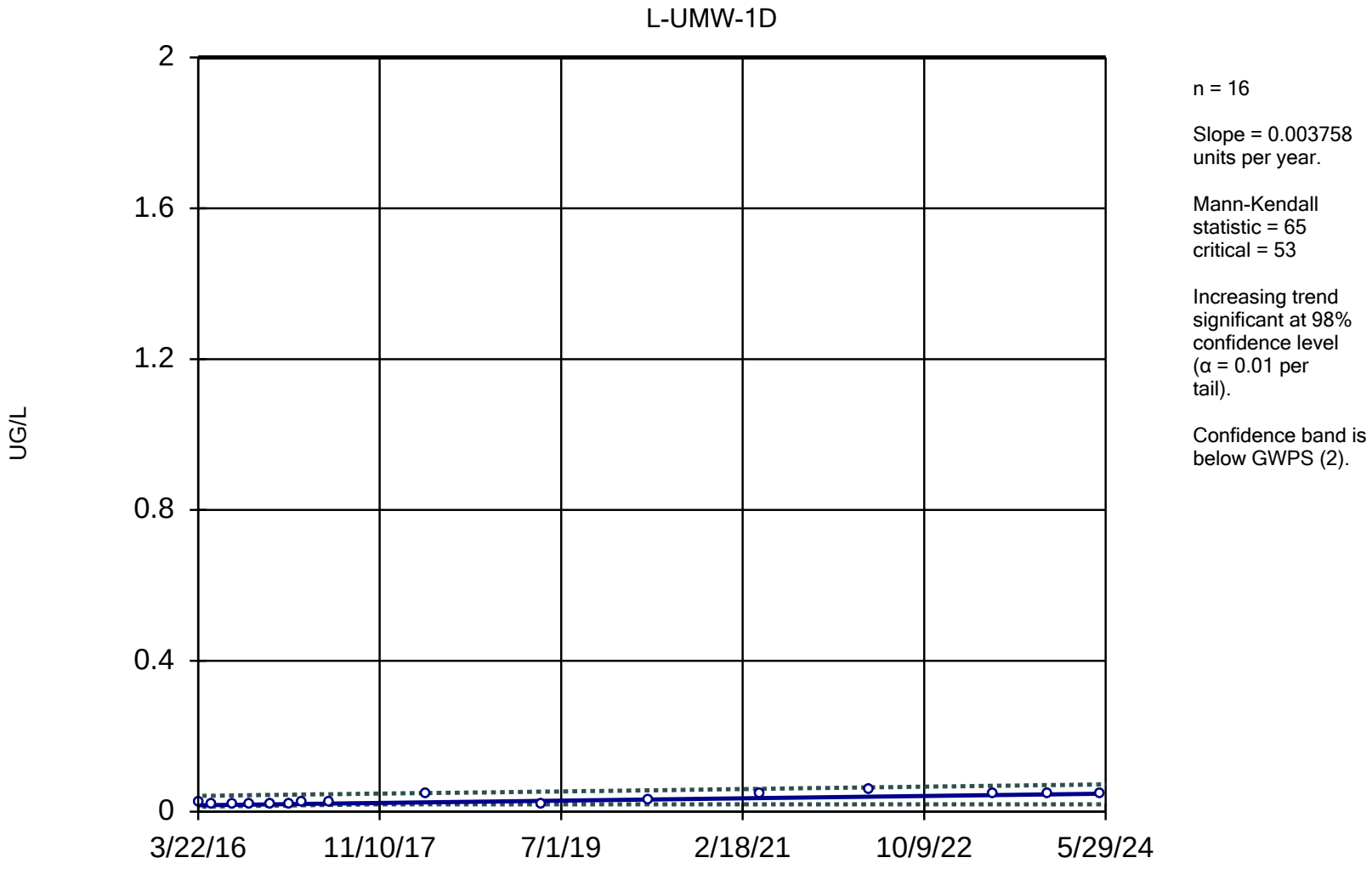
Confidence band is below GWPS (47.4).

Constituent: LITHIUM, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



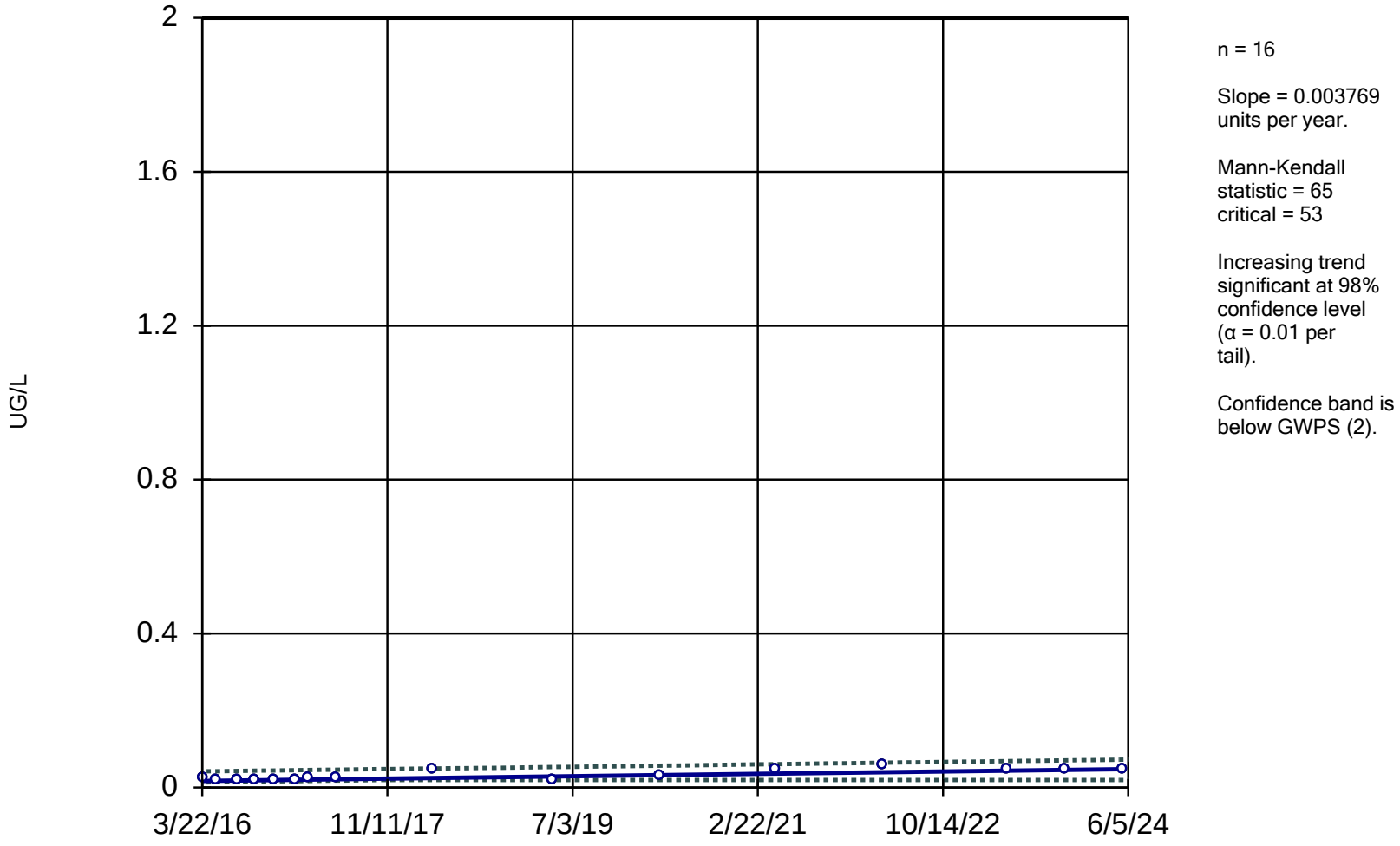
Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 16

Slope = 0.003769 units per year.

Mann-Kendall statistic = 65
critical = 53

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

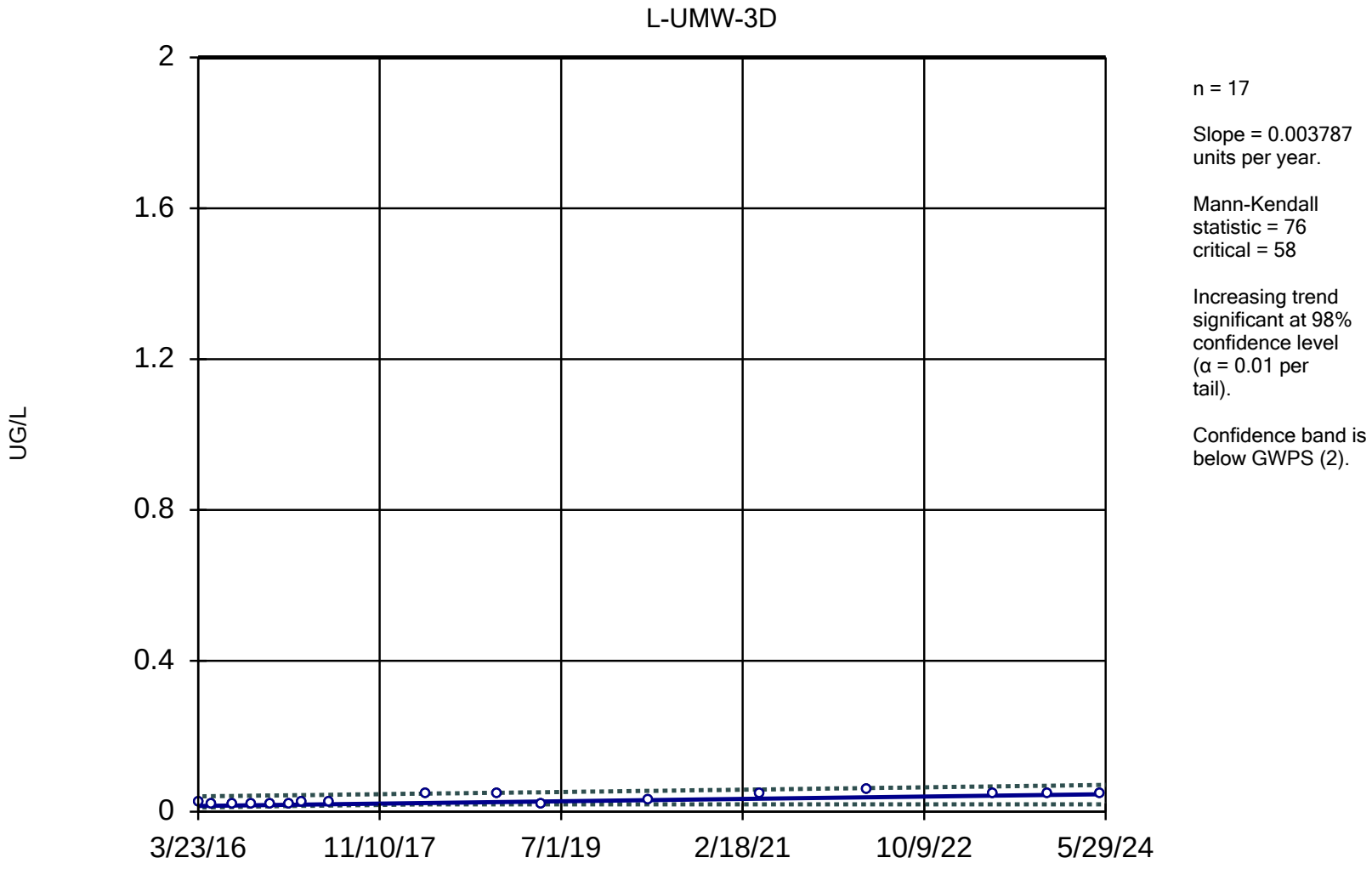
Confidence band is below GWPS (2).

Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



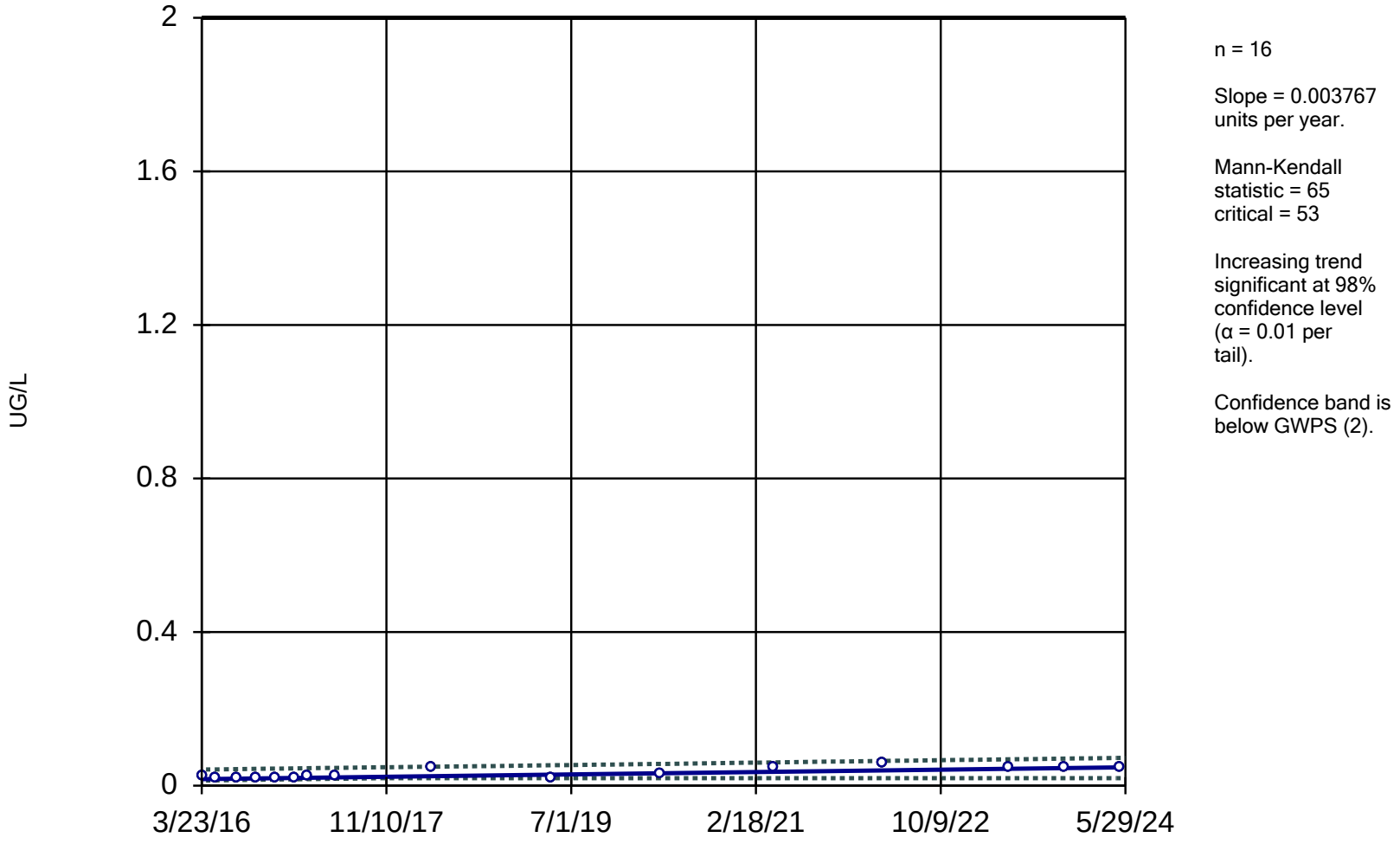
Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 16

Slope = 0.003767 units per year.

Mann-Kendall statistic = 65
critical = 53

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

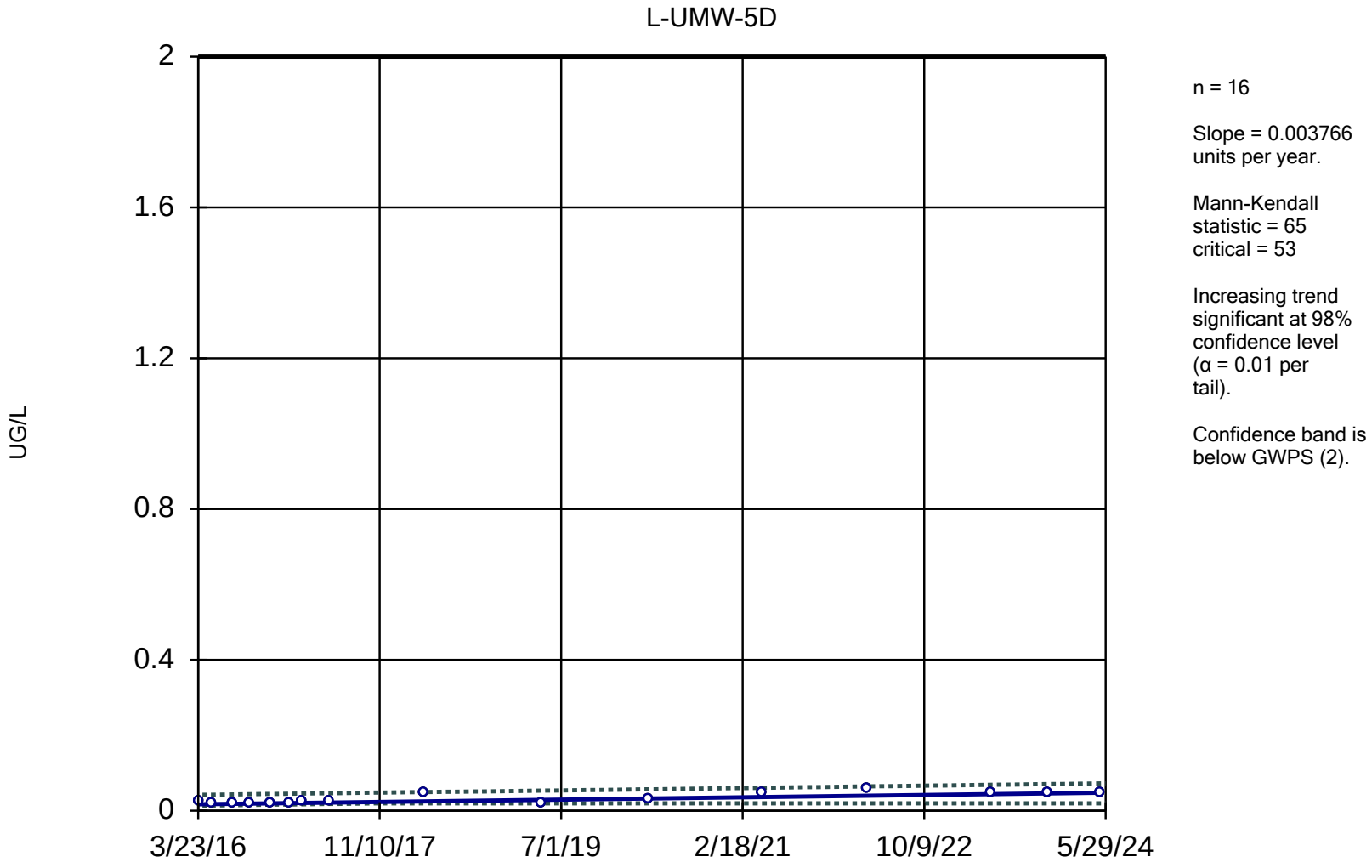
Confidence band is below GWPS (2).

Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

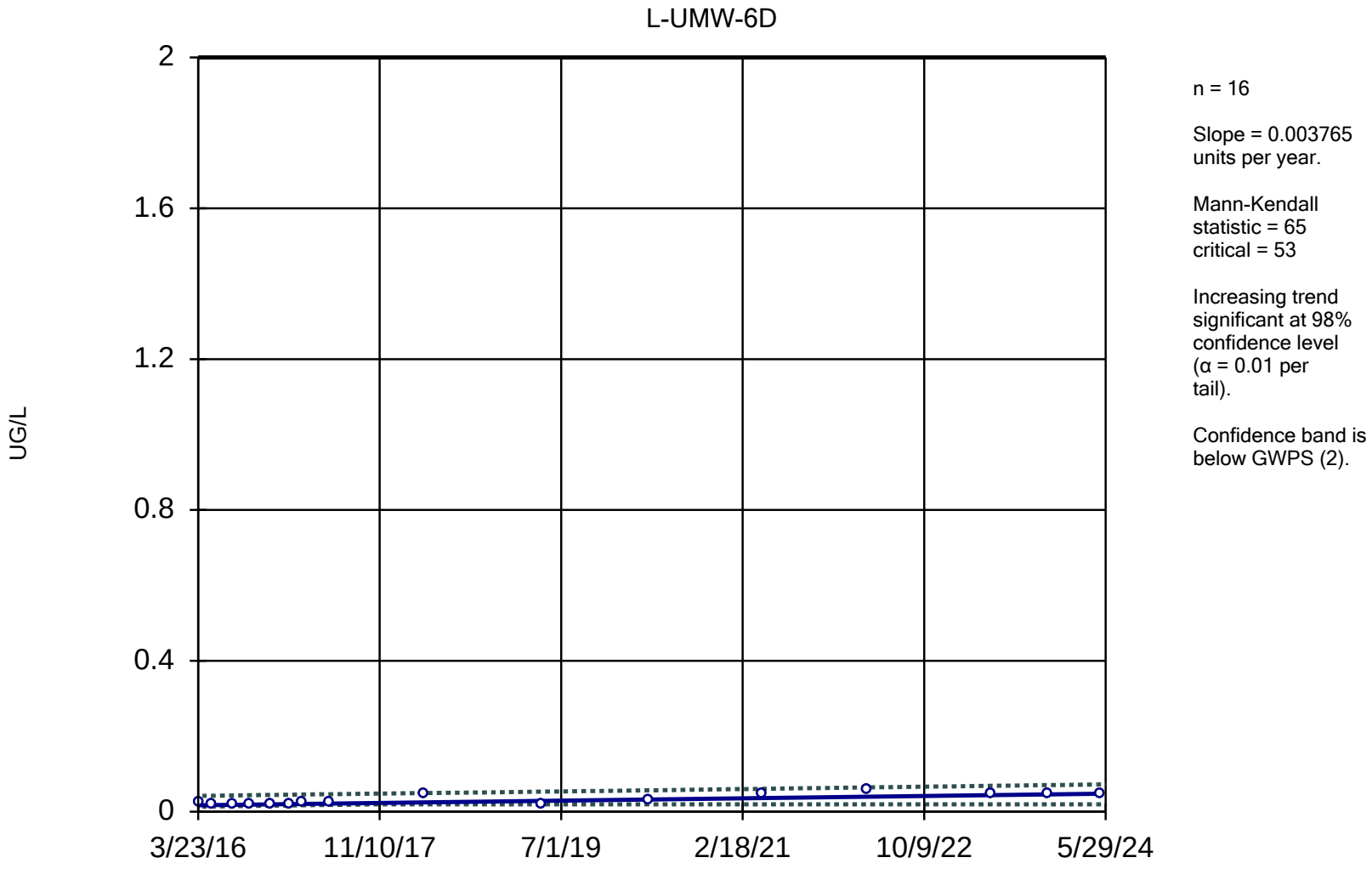


Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



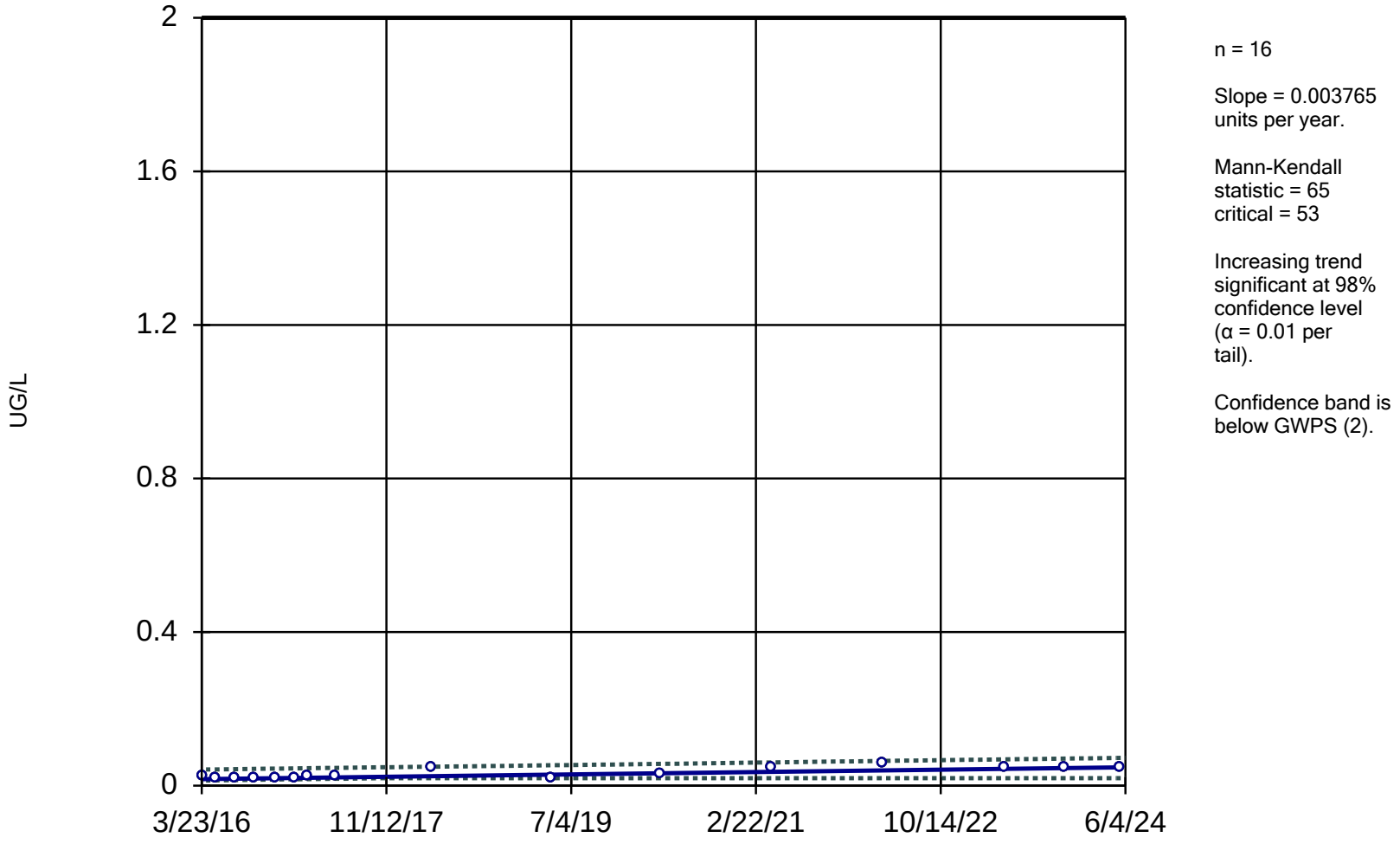
Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 16

Slope = 0.003765 units per year.

Mann-Kendall statistic = 65
critical = 53

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

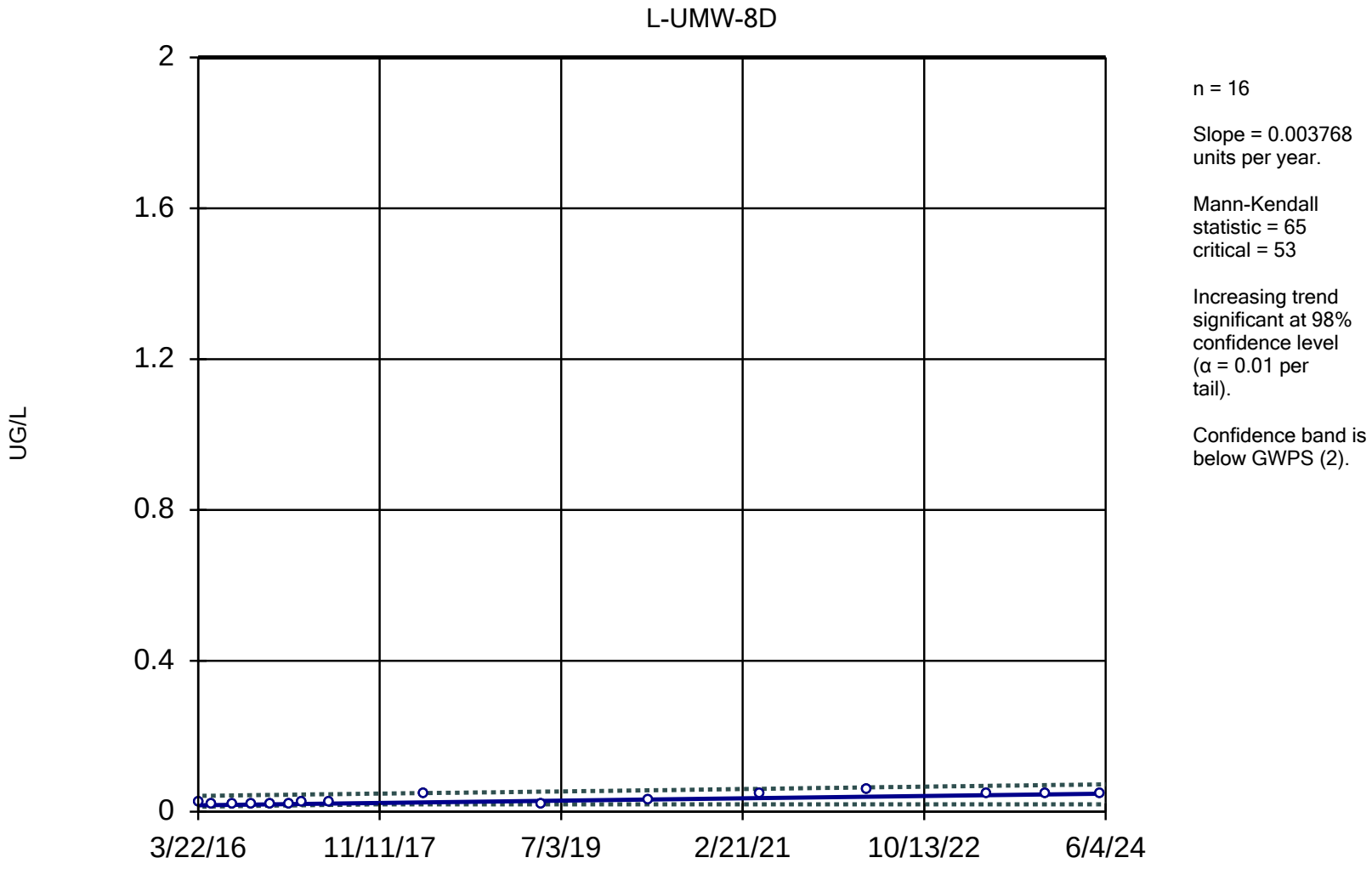
Confidence band is below GWPS (2).

Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

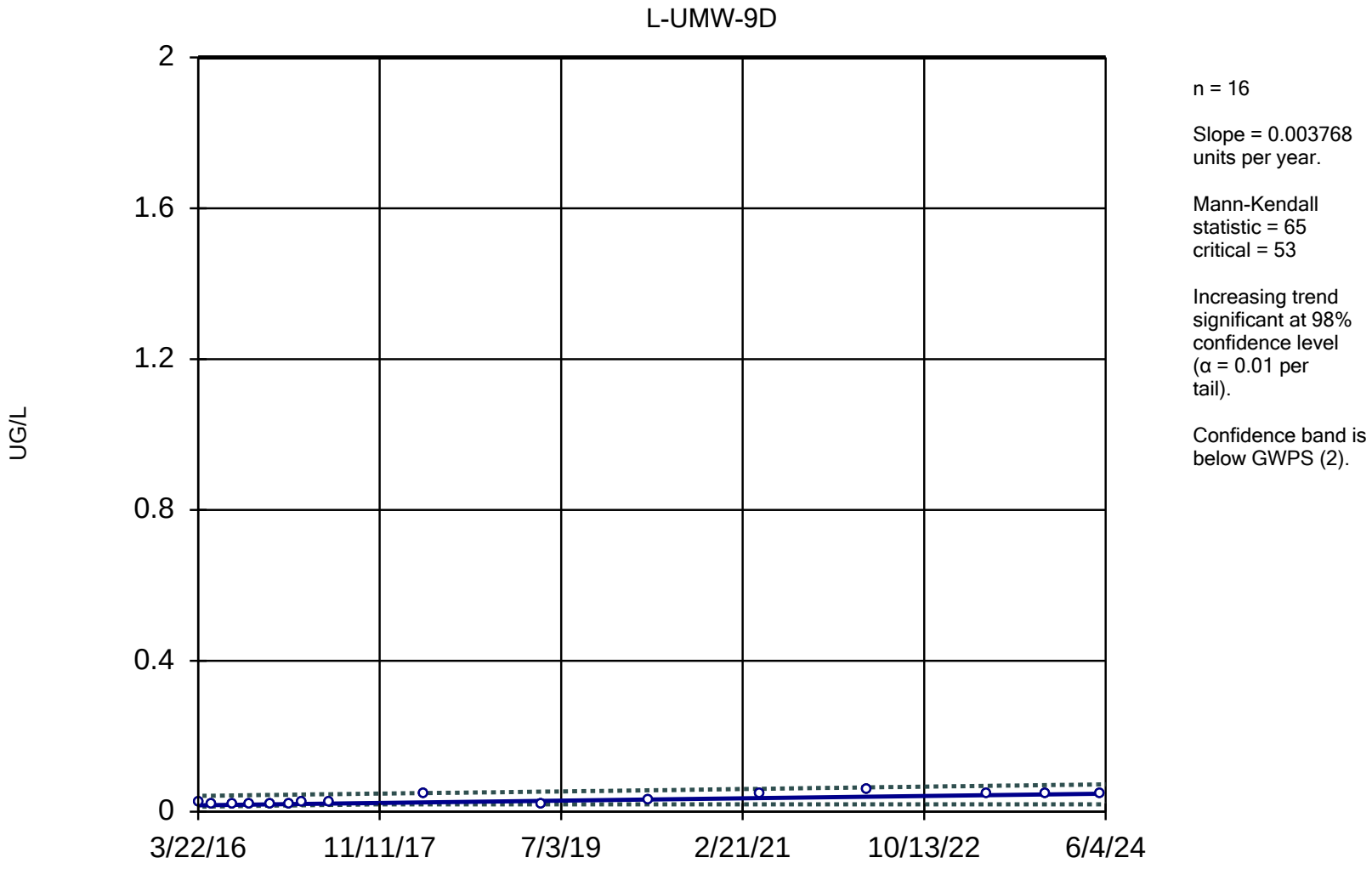


Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



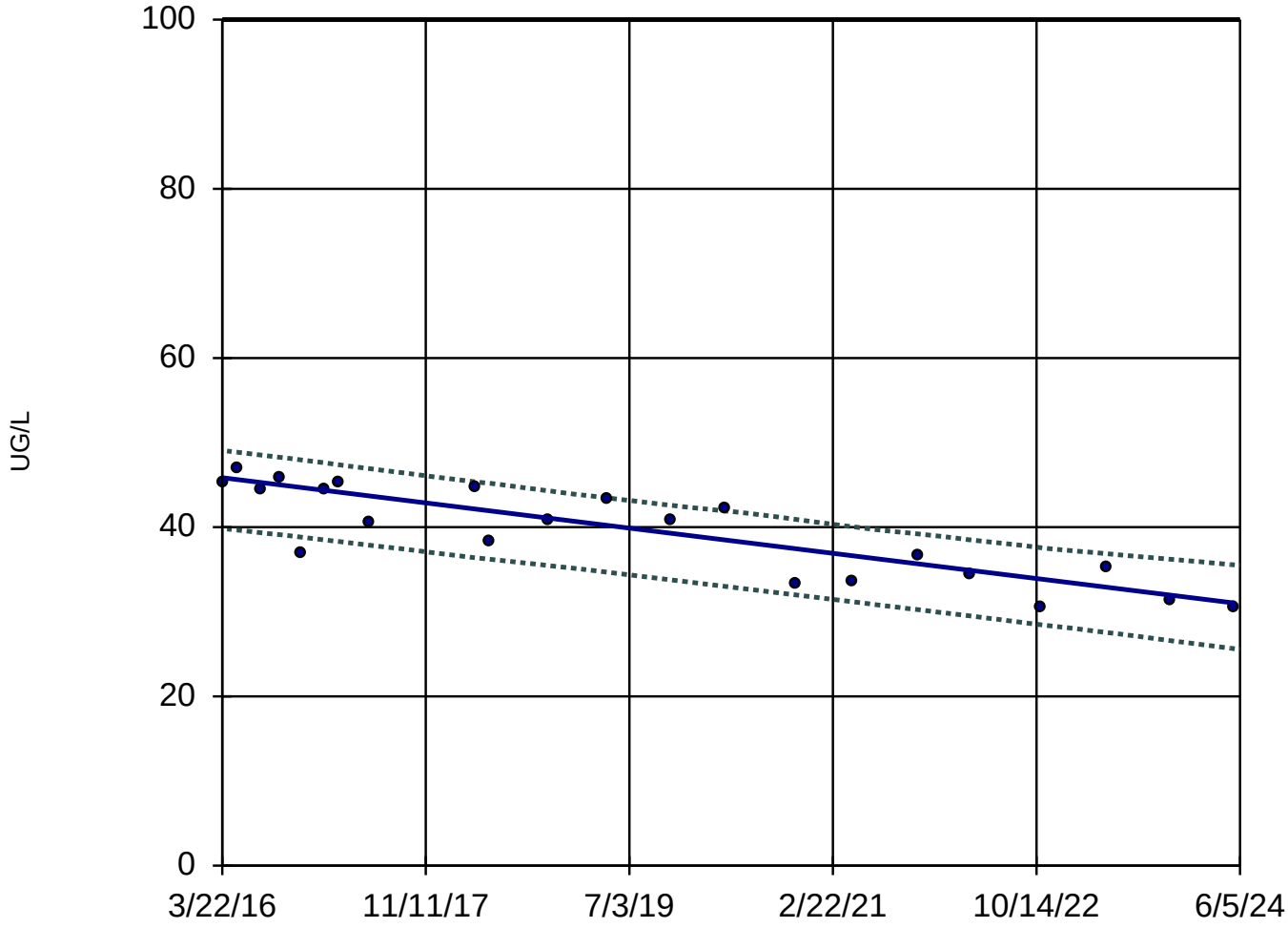
Constituent: MERCURY, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 22

Slope = -1.813 units per year.

Mann-Kendall statistic = -151 critical = -84

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

Confidence band is below GWPS (100).

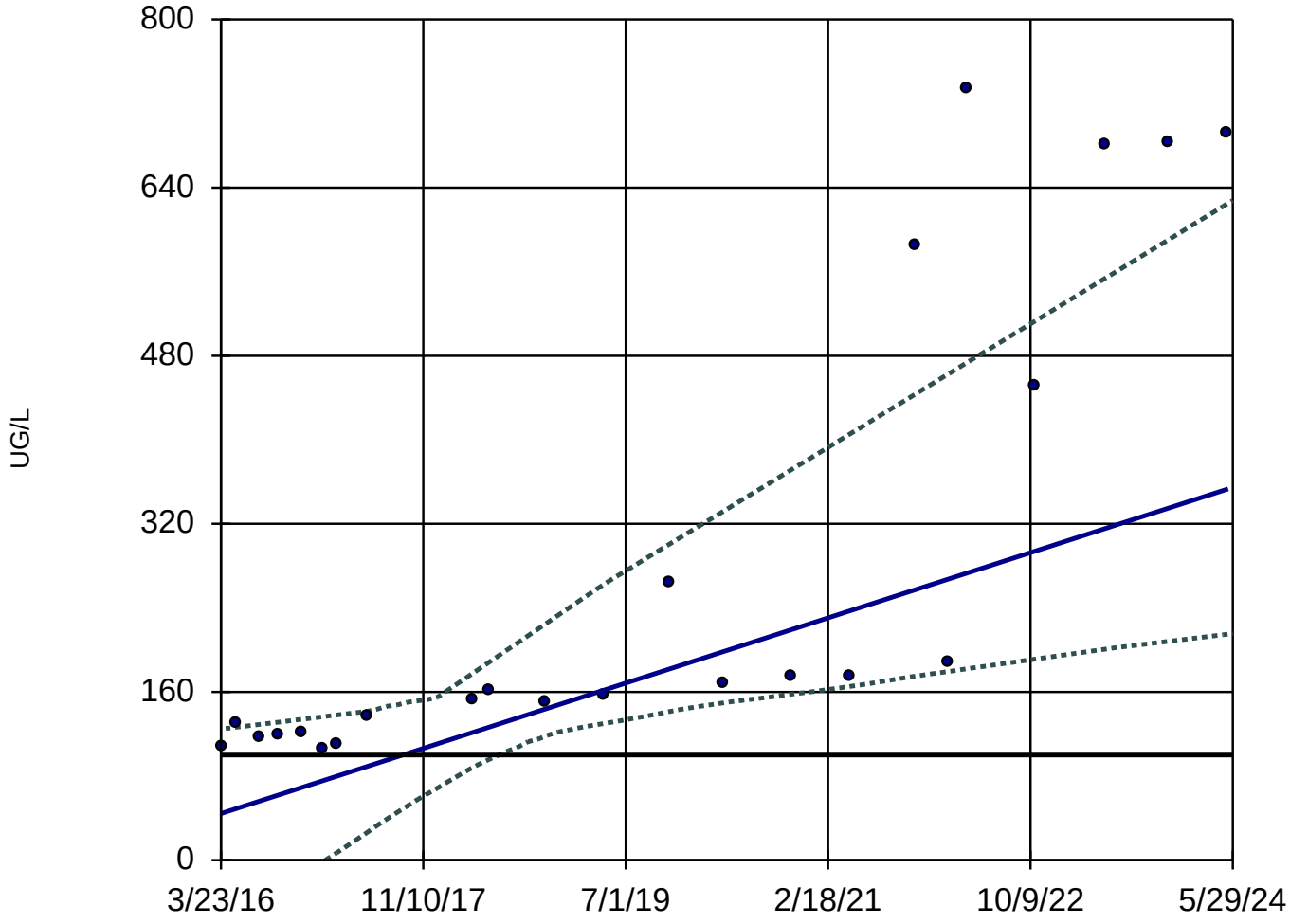
Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 1:46 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 23

Slope = 37.9
units per year.

Mann-Kendall
statistic = 203
critical = 89

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

Confidence band intersects
GWPS (100) on 07/18/18.

Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 2:03 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 1:48 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	**L-UMW-1D**	**0.004222**	**67**	**58**	**Yes**	**17**	**88.24**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	**L-UMW-2D**	**0.00422**	**75**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.004137	57	63	No	18	88.89	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	**L-UMW-4D**	**0.004148**	**60**	**58**	**Yes**	**17**	**94.12**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0	11	58	No	17	64.71	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.004118	54	58	No	17	94.12	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	**L-UMW-7D**	**0.004219**	**75**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	**L-UMW-8D**	**0.004222**	**75**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	**L-UMW-9D**	**0.004259**	**89**	**58**	**Yes**	**17**	**94.12**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**L-UMW-1D**	**2.558**	**120**	**84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**L-UMW-2D**	**-0.1763**	**-141**	**-84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**L-UMW-3D**	**0.9416**	**107**	**84**	**Yes**	**22**	**4.545**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.002776	18	84	No	22	31.82	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-5D	-0.4294	-40	-84	No	22	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-6D	0.7678	38	78	No	21	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**L-UMW-7D**	**1.473**	**146**	**84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-UMW-8D	-0.05222	-5	-84	No	22	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-9D	-0.4225	-79	-84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-1D**	**19.12**	**129**	**84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-2D	2.852	53	84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-3D	-5.641	-84	-89	No	23	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-4D	1.706	50	84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-5D	1.553	51	84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-6D**	**-5.633**	**-119**	**-84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-7D	-5.525	-60	-84	No	22	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-8D**	**-40.15**	**-160**	**-84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-9D	-3.193	-83	-84	No	22	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0	-4	-53	No	16	87.5	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0	-13	-53	No	16	93.75	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	-0.00...	-38	-58	No	17	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	-0.00...	-33	-53	No	16	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	-0.00...	-33	-53	No	16	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	-0.00...	-33	-53	No	16	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0	4	53	No	16	81.25	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	-0.00...	-20	-48	No	15	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0	-9	-53	No	16	93.75	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.001368	41	53	No	16	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.001367	41	53	No	16	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**L-UMW-3D**	**0.01043**	**70**	**58**	**Yes**	**17**	**58.82**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0.003743	52	53	No	16	81.25	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**L-UMW-5D**	**0.01911**	**55**	**53**	**Yes**	**16**	**75**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	**L-UMW-6D**	**0.0215**	**56**	**53**	**Yes**	**16**	**62.5**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0.001536	35	53	No	16	81.25	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.001368	41	53	No	16	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.001367	41	53	No	16	100	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.01967	36	58	No	17	52.94	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0.006197	21	63	No	18	61.11	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0.006275	21	68	No	19	73.68	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	0	8	58	No	17	64.71	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0	2	63	No	18	72.22	n/a	n/a	0.02	NP

Trend Test

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Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	-0.00...	-14	-63	No	18	61.11	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	-0.00308	-14	-63	No	18	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	-0.00...	-6	-63	No	18	61.11	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0	6	63	No	18	66.67	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**L-UMW-1D**	**0.02965**	**83**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-2D**	**0.02813**	**91**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-3D**	**0.02938**	**103**	**63**	**Yes**	**18**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-4D**	**0.02807**	**91**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-5D**	**0.02804**	**91**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-6D**	**0.02804**	**91**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-7D**	**0.03016**	**81**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-8D**	**0.0247**	**58**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-9D**	**0.02646**	**81**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.003962	35	101	No	25	12	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	-0.013	-77	-95	No	24	20.83	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	-0.00...	-36	-112	No	27	37.04	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	-0.00...	-17	-95	No	24	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0	-2	-95	No	24	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	-0.00...	-62	-89	No	23	34.78	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	-0.01946	-107	-112	No	27	14.81	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.01244	84	101	No	25	8	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.007457	42	89	No	23	13.04	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-1D	0	10	53	No	16	75	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-2D	0.08942	36	53	No	16	81.25	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-3D	0.09141	46	58	No	17	82.35	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	**L-UMW-4D**	**0.0925**	**58**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
LEAD, TOTAL (UG/L)	L-UMW-5D	0.08131	27	53	No	16	87.5	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-6D	0.08131	27	53	No	16	87.5	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-7D	0.08952	46	53	No	16	81.25	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-8D	0.08952	41	53	No	16	81.25	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-9D	0	-3	-53	No	16	62.5	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-UMW-1D**	**0.5389**	**95**	**84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-UMW-2D	0.2848	21	84	No	22	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-3D	-0.3347	-49	-89	No	23	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-UMW-4D**	**-0.71**	**-94**	**-84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-UMW-5D	0.1313	9	84	No	22	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-6D	0.6008	66	84	No	22	4.545	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-UMW-7D**	**1.049**	**110**	**84**	**Yes**	**22**	**4.545**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-UMW-8D	-1.323	-62	-84	No	22	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-9D	0.1224	22	84	No	22	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	**L-UMW-1D**	**0.003758**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-2D**	**0.003769**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-3D**	**0.003787**	**76**	**58**	**Yes**	**17**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-4D**	**0.003767**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-5D**	**0.003766**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-6D**	**0.003765**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-7D**	**0.003765**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-8D**	**0.003768**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**L-UMW-9D**	**0.003768**	**65**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	0.2864	82	84	No	22	22.73	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 1:48 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-2D**	**-1.813**	**-151**	**-84**	**Yes**	**22**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	7.949	66	89	No	23	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	5.786	38	84	No	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**37.9**	**203**	**89**	**Yes**	**23**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	-10.39	-76	-84	No	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-7D	-9.995	-49	-84	No	22	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	0.4487	50	73	No	20	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	-3.0e-8	-8	-84	No	22	45.45	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-1D	0.003047	7	78	No	21	19.05	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-2D	0.04185	23	84	No	22	27.27	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-3D	0.001016	4	89	No	23	73.91	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.0364	61	84	No	22	72.73	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.01083	16	73	No	20	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-6D	-0.01164	-15	-84	No	22	59.09	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-7D	0.01672	23	84	No	22	72.73	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-8D	-0.1039	-83	-84	No	22	54.55	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-9D	-0.01944	-41	-84	No	22	90.91	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0	9	68	No	19	94.74	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0	9	68	No	19	94.74	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0	19	73	No	20	55	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0	17	68	No	19	94.74	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0	31	68	No	19	63.16	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0	-10	-68	No	19	26.32	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0	7	68	No	19	84.21	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0	11	68	No	19	94.74	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0	9	68	No	19	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-1D	-0.02224	-45	-53	No	16	87.5	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-2D	-0.01329	-31	-53	No	16	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-3D	-0.00...	-32	-58	No	17	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-4D	-0.01328	-31	-53	No	16	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-5D	-0.01328	-31	-53	No	16	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-6D	-0.02231	-45	-53	No	16	93.75	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-7D	-0.01331	-31	-53	No	16	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-8D	-0.01329	-31	-53	No	16	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-9D	-0.01329	-31	-53	No	16	100	n/a	n/a	0.02	NP

Appendix E

November 2023 Corrective Action Statistical Evaluation

Memorandum

April 24, 2024

To:	Bill Kutosky – Ameren Missouri	**Project Number:**	23007
CC:	Ameren Missouri - Susan Knowles, Craig Giesmann, Charlie Henderson		
From:	Rocksmith Geoengineering – Jeff Ingram, R.G., Mark Haddock, P.E., R.G., Mark Sandfort, P.E., R.G., Jeff Ingram, R.G., Grant Morey	**Email:**	Jeff.Ingram@Rocksmithgeo.com
RE:	**Corrective Action Statistical Evaluation – LCPA Surface Impoundment Labadie Energy Center, Franklin County, Missouri**		

1.0 INTRODUCTION

This Technical Memorandum provides the results of the Corrective Action Monitoring statistical analysis from the November 2023 sampling event for the LCPA Surface Impoundment at the Labadie Energy Center (LEC) located in Franklin County, Missouri. As outlined in the remedy selection report for the LCPA, Corrective Action at the LCPA consists of two phases, as follows:

1) Source control, stabilization, and containment of CCR by installation of a low-permeability geomembrane cap.
2) Once source control is achieved, monitor the natural attenuation (MNA) of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modeling evaluations to document concentration trends following Corrective Action.

Phase 1 of Corrective Action commenced on September 28, 2019 and was substantially completed on December 30, 2020 with the installation of a low permeability cover system. Included in this memorandum is a summary of constituents that are currently in exceedance of the groundwater protection standard (GWPS), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A** and **Appendix B**).

As required by the CCR Rule, a Corrective Action monitoring program was implemented within 90 days of selecting a remedy, and the first sampling event was completed in April 2020. Nine sampling events have been completed in total as a part of the Corrective Action Program at the LEC. This analysis uses results collected since the beginning of Corrective Action monitoring (April 2020) for the determination of constituents exceeding the GWPS, as data collected prior to this time were collected during active conditions at the LCPA, prior to cessation of CCR disposal in the LCPA and are not representative of groundwater conditions since the initiation of closure.

Trend tests using the Sen's Slope/Mann-Kendall method require a minimum of eight independent results, as outlined in the USEPA Unified Guidance. Therefore, trend tests were completed for the following Appendix IV constituents: arsenic, barium, chromium, fluoride, lithium, molybdenum, radium 226 + 228, and selenium.

Several constituents were reported at concentrations below the Practical Quantitation Limit (PQL) during the spring 2020, 2021, 2022, and/or 2023 sampling events, including: antimony, beryllium, cadmium, chromium, cobalt, lead, mercury, and thallium. During years when a constituent reported at concentrations below the PQL in all wells, they were not re-sampled/tested during the subsequent semi-annual sampling event each calendar year. As a result, there are fewer results available for these constituents. This is the first Corrective Action statistical evaluation where Sen's Slope/Mann-Kendall analyses were completed for chromium, which now has eight results at each monitoring well.

2.0 STATISTICAL EVALUATION

The Appendix IV constituents were evaluated for exceedances above the GWPS using the methods and procedures outlined in the Corrective Action Groundwater Monitoring Plan's (CAGMP's) Statistical Analysis Plan (SAP). An outlier analysis was completed as the first step of the statistical evaluation. The outlier analysis was performed only on the results collected as a part of the Corrective Action Monitoring Program. In addition to outliers noted in previous Corrective Action evaluations, the following outliers were removed prior to the calculation of confidence limits:

- Arsenic
    - L-LMW-2S at 39 micrograms per liter (µg/L) on 5/19/2023: result is statistically lower than other arsenic values at the same monitoring well. This low result is not consistent with previous or subsequent arsenic results at the well and is an outlier.
    - L-MW-35[D] at non-detect (<1 µg/L) on 5/18/2023: result is statistically higher than other arsenic values at the same monitoring well due to the high detection limit reported following data validation procedures. This high result is not consistent with previous or subsequent arsenic results at the well and is an outlier.
- Chromium
    - L-MW-33[D] at 9.2 µg/L on 5/24/2023: result is statistically higher than other chromium values at the same monitoring well. This high result is not consistent with previous or subsequent chromium results at the well and is an outlier.
- Lead
    - L-LMW-7S at 7.1 J µg/L on 4/15/2021: result is statistically higher than other lead values at the same monitoring well. This high result is not consistent with previous or subsequent lead results at the well and is an outlier.
    - L-TP-3M at 5.4 J µg/L on 4/16/2021: result is statistically higher than other lead values at the same monitoring well. This high result is not consistent with previous or subsequent lead results at the well and is an outlier.

- L-TP-4D at 5.8 J µg/L on 4/16/2021: result is statistically higher than other lead values at the same monitoring well. This high result is not consistent with previous or subsequent lead results at the well and is an outlier.
- L-MW-24 at 3.9 J µg/L on 4/16/2021: result is statistically higher than other lead values at the same monitoring well. This high result is not consistent with previous or subsequent lead results at the well and is an outlier.

- Lithium
  - L-MW-33[D] at 29 µg/L on 4/15/2020: result is statistically lower than other lithium values at the same monitoring well. This low result is not consistent with subsequent lithium results at the well and is an outlier.

- Radium 226 + 228
  - L-TP-3D at 1.878 picocuries per liter (pCi/L) on 4/7/2022: result is statistically higher than other radium values at the same monitoring well. This high result is not consistent with previous or subsequent radium 226 + 228 results at the well and is an outlier.

- Selenium
  - L-LMW-7S at 0.71 J µg/L on 5/18/2023: result is statistically higher than other selenium values at the same monitoring well. This high result is not consistent with previous or subsequent selenium results at the well and is an outlier.

- Thallium
  - L-LMW-2S at 0.24 J µg/L on 5/19/2023: result is statistically higher than other thallium results at the same monitoring well. This high result is not consistent with previous or subsequent thallium results at the well and is an outlier.

An analysis of the outliers removed to date was completed, and the following statistical outliers previously removed were added back into the dataset prior to the calculation of confidence limits:

- Chromium
  - L-AM-1D at 1.6 µg/L on 4/20/2021: removed during the statistical evaluation for the April 2022 sampling event because the result was statistically higher than other chromium results at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed, and the result is no longer an outlier.

- Fluoride
  - L-AM-1D at non-detect [<0.12 milligrams per liter (mg/L)] on 10/26/2022: removed during the statistical evaluation for the May 2023 sampling event because the result was statistically lower

than other fluoride results at the same monitoring well. Based on review of subsequent sampling results, the low result was confirmed, and the result is no longer an outlier.

- L-TP-2D at 0.14 J mg/L on 10/26/2022: removed during the statistical evaluation for the May 2023 sampling event because the result was statistically lower than other fluoride results at the same monitoring well. Based on review of subsequent sampling results, the low result was confirmed, and the result is no longer an outlier.

- Radium 226 + 228
  - L-AMW-8 at 1.824 pCi/L on 4/20/2021: removed during the statistical evaluation for the November 2021 sampling event because the result was statistically higher than other radium 226 + 228 results at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed, and the result is no longer an outlier.

Following the outlier analysis, the second step in the statistical analysis was to calculate confidence intervals and compare those to the site-specific GWPS (**Appendix A**). Confidence interval evaluation was supplemented with Sen's Slope/Mann Kendall Analyses on constituents that have eight independent sampling results at a given well, per the USEPA Unified Guidance (**Appendix B**). The Sen's Slope/Mann-Kendall Analysis identifies well-analyte pairs that have statistically significant trends and calculates confidence bands that vary with time. The upper confidence band, in relation to the GWPS for a given constituent, is used to determine exceedances, as outlined in the site CAGMP. As discussed previously, antimony, beryllium, cadmium, cobalt, lead, mercury, and thallium do not have the requisite quantity of results to perform Sen's Slope/Mann Kendall Analyses, so only confidence intervals were produced for those constituents.

Using these corrective action statistical methods with data through November 2023, monitoring wells with constituents exceeding the GWPS are as follows:

- Arsenic at L-LMW-2S
- Lithium at L-LMW-7S
- Molybdenum at L-LMW-2S, L-LMW-4S, L-LMW-8S, L-AM-1D, L-TP-2D, L-TP-3D, L-TP-3M, L-AMW-8, L-MW-33[D], L-MW-34[D], and L-MW-35[D]

Cobalt at L-AM-1S was identified as an exceedance in previous Corrective Action statistical evaluations. It is no longer an exceedance as of November 2023 since the upper confidence limit is below the GWPS. All other arsenic, lithium, and molybdenum exceedances previously identified in May 2023 remain as of this evaluation. Variability in the initial groundwater sampling results during and directly after the closure of the LCPA is expected, especially at wells nearest the CCR unit, where closure grading and disturbance activities were greatest. The concentrations reported in these results following closure are expected to be variable but are expected to decrease over time as stabilization occurs and supplemental corrective measures are put into service.

3.0 CLOSING

Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

Sincerely,

Rocksmith Geoengineering, LLC

Jeff Ingram, R.G.
Senior Geologist, Partner

Mark Sandfort, P.E., R.G.
Principal Engineer, Senior Partner

Attachments

Tables

Table 1 – LCPA Groundwater Protection Standards

Appendices

Appendix A – Sanitas Confidence Interval Statistical Output

Appendix B – Sanitas Trending Confidence Bands Statistical Output

Tables

Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring [6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	44.2	44.2
Barium	µg/L	2000	2000	1290
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	DQR
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.3074
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	47.4	47.4
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	4.14
Selenium	µg/L	50	50	DQR
Thallium	µg/L	2	2	DQR

Notes:
1. µg/L - micrograms per liter.
2. mg/L - milligrams per liter.
3. pCi/L - picocuries per liter.
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results through May 2023 from monitoring wells BMW-1D and BMW-2D.

ROCKSMITH GEOENGINEERING

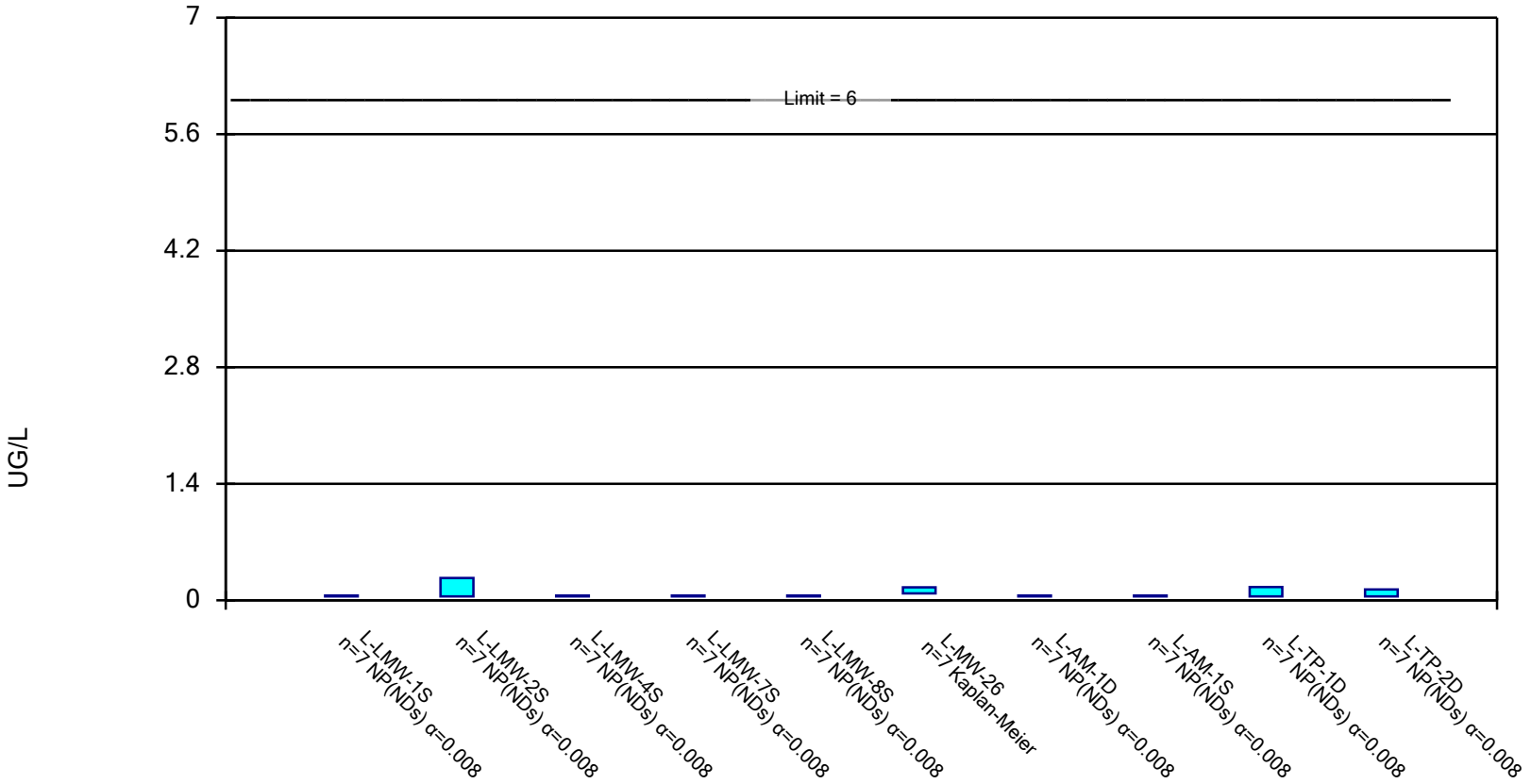
Prepared by: GTM
Checked by: JSI
Reviewed by: MNH

Appendix A
Sanitas Confidence Interval Statistical Output

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



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Labadie E.C. Client: Ameren Data: LEC DATA

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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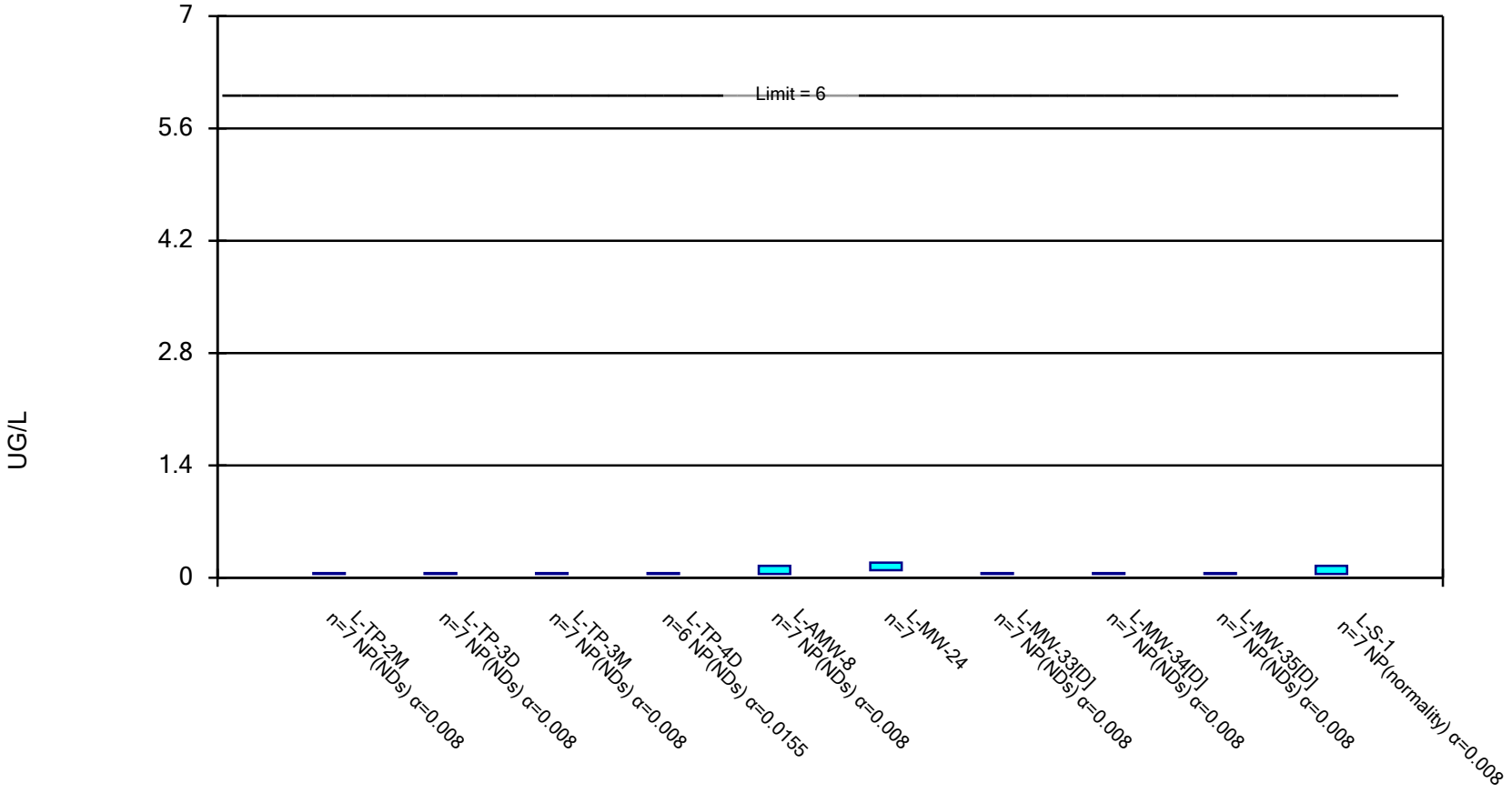

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric Confidence Interval, Corrective Action Mode

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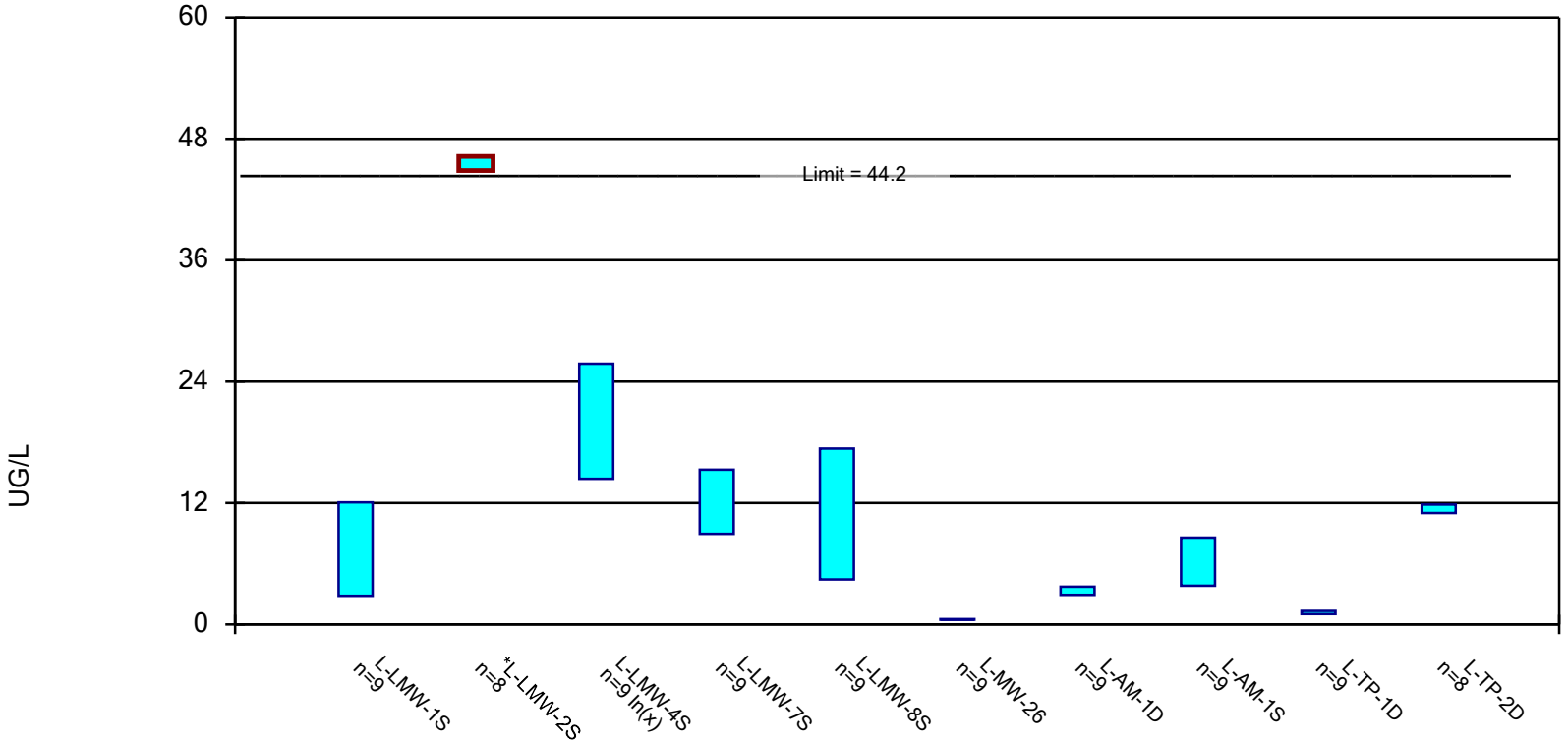

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric Confidence Interval, Corrective Action Mode

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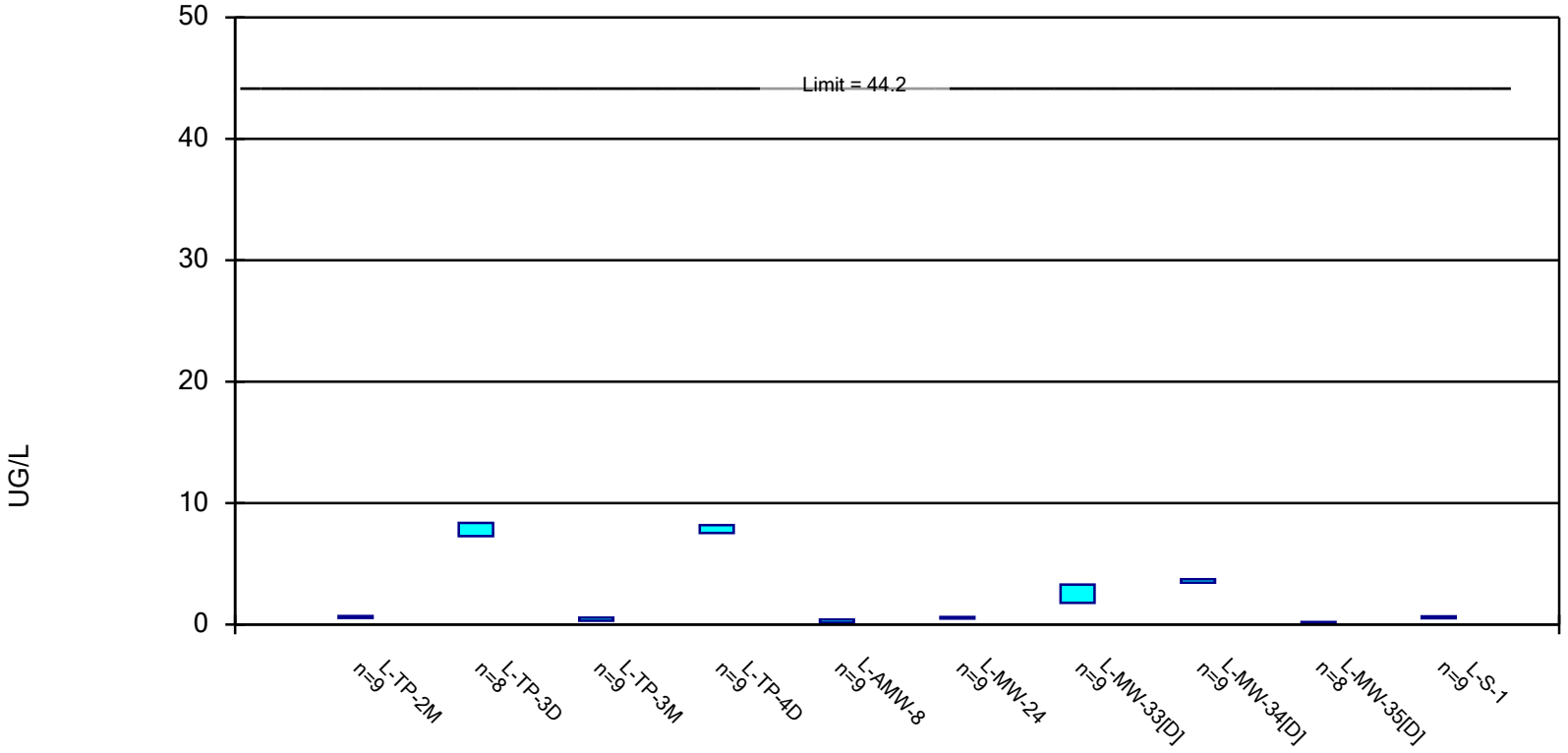

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric Confidence Interval, Corrective Action Mode

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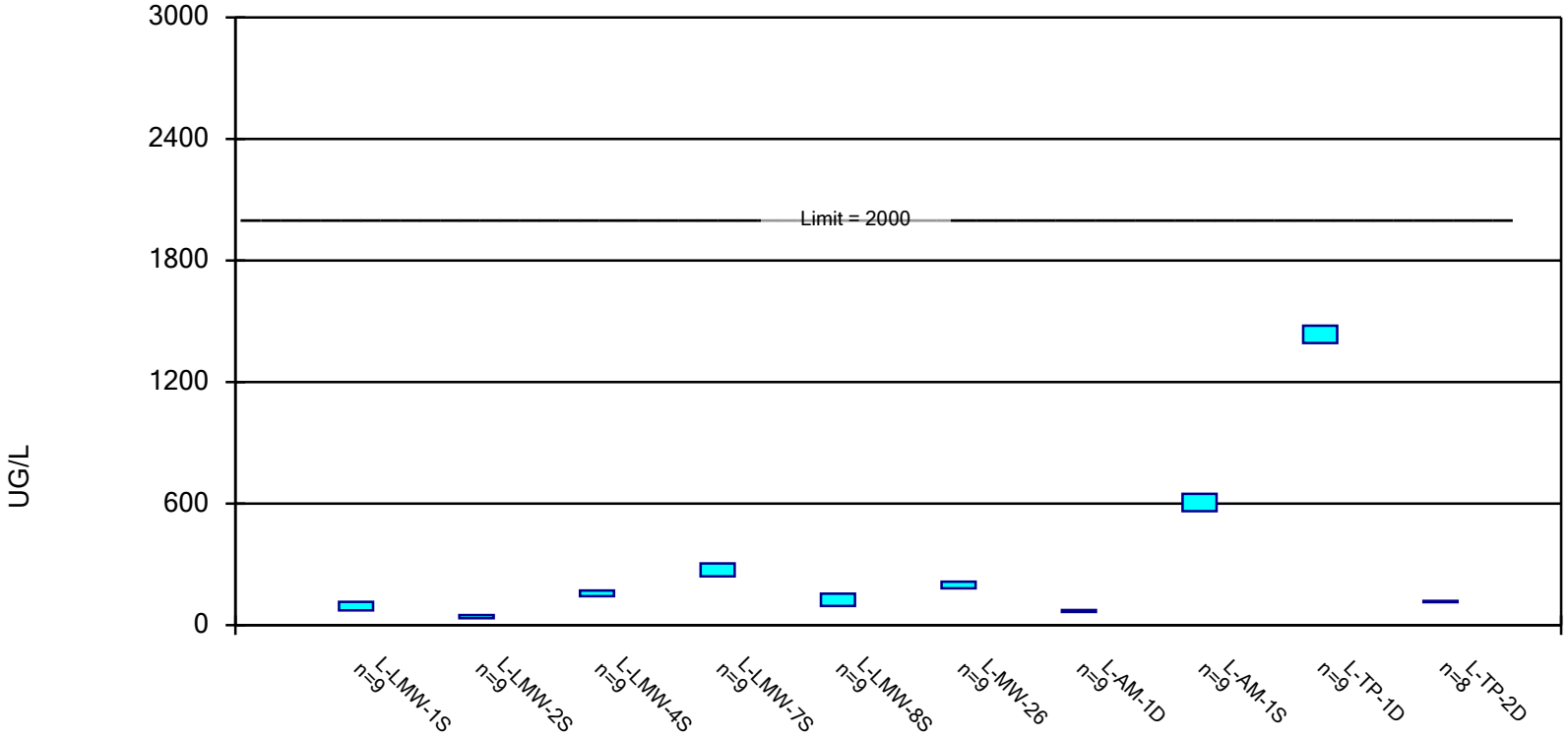

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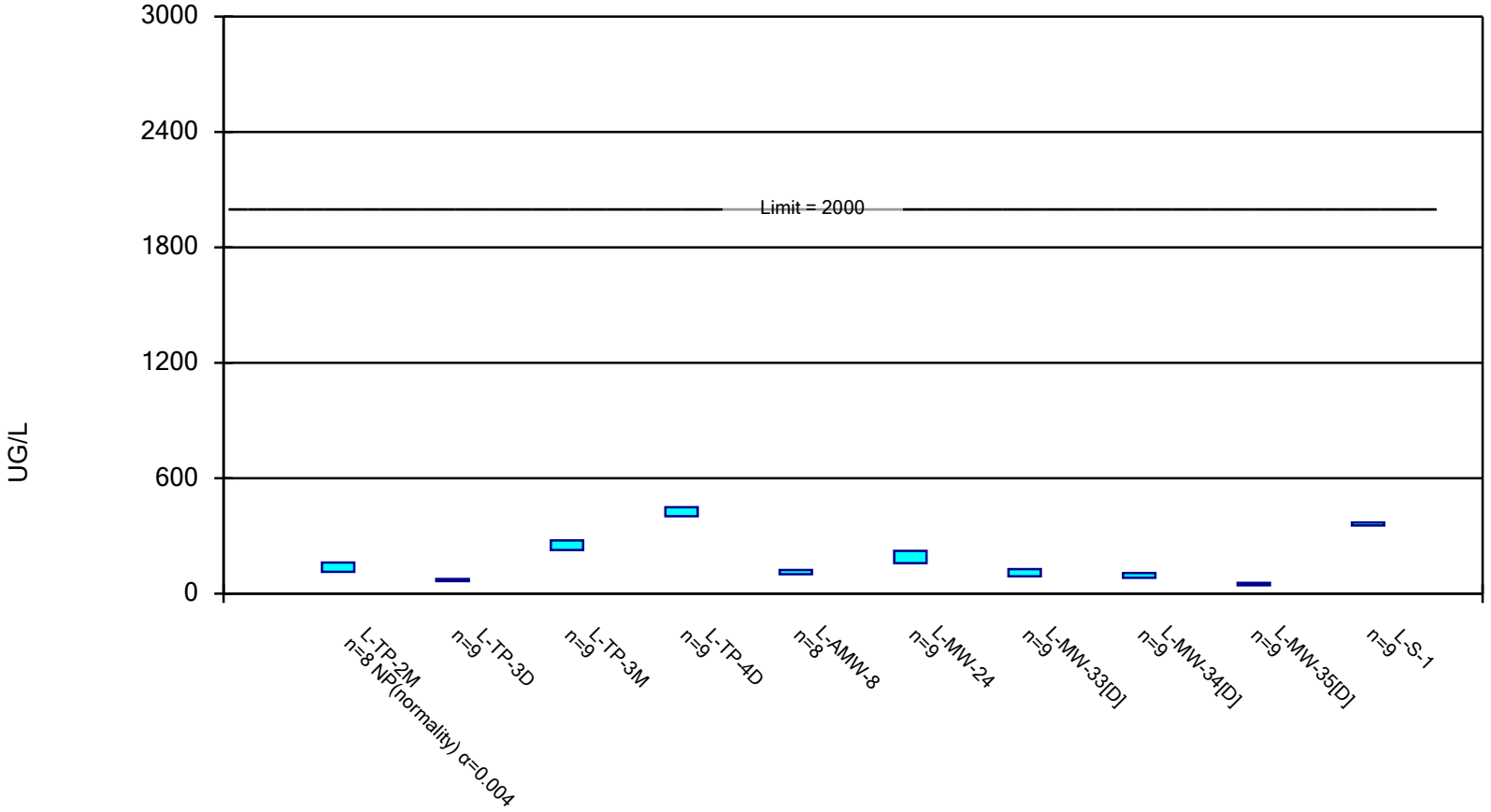

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Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval, Corrective Action Mode

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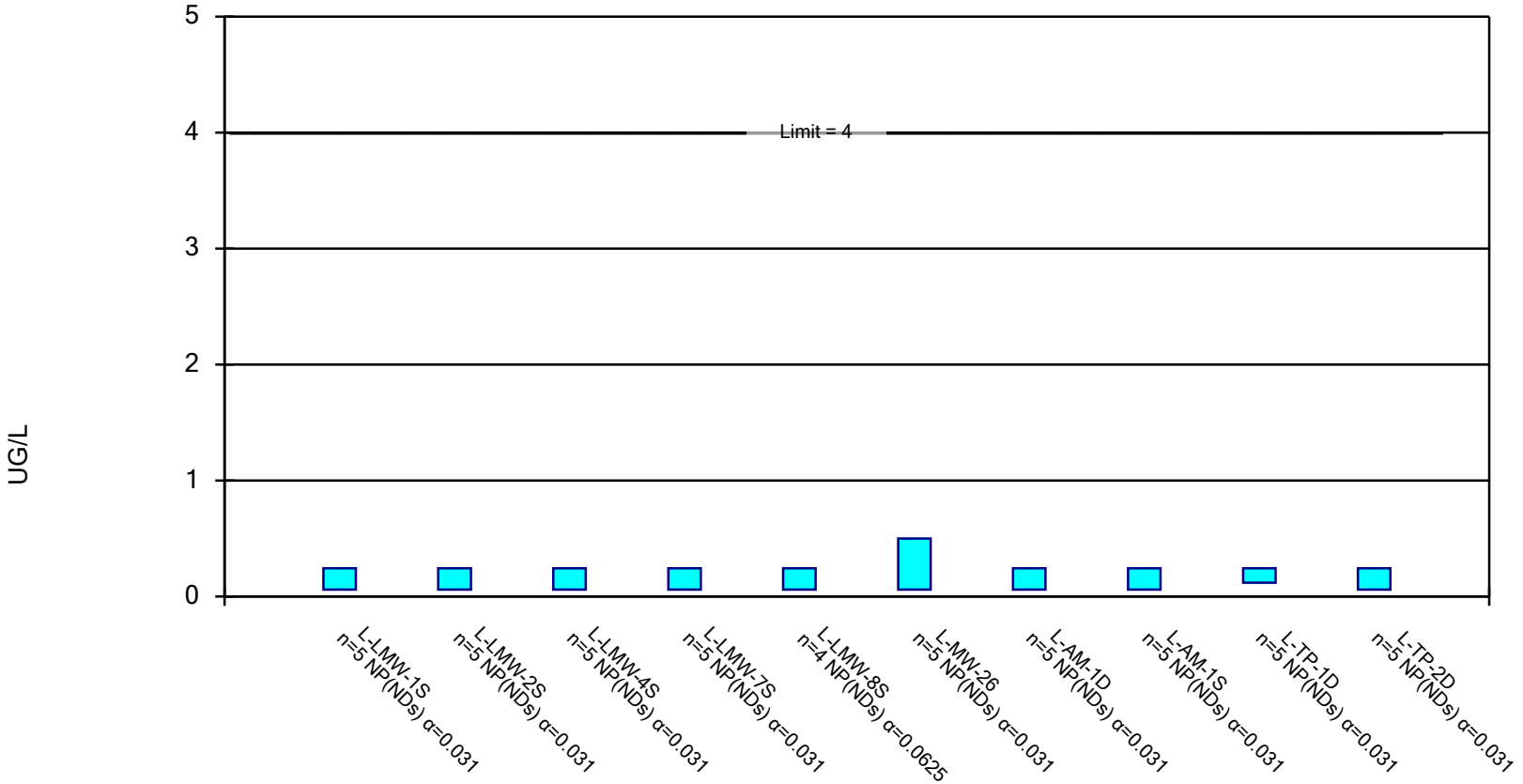

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Labadie E.C. Client: Ameren Data: LEC DATA

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Non-Parametric Confidence Interval, Corrective Action Mode

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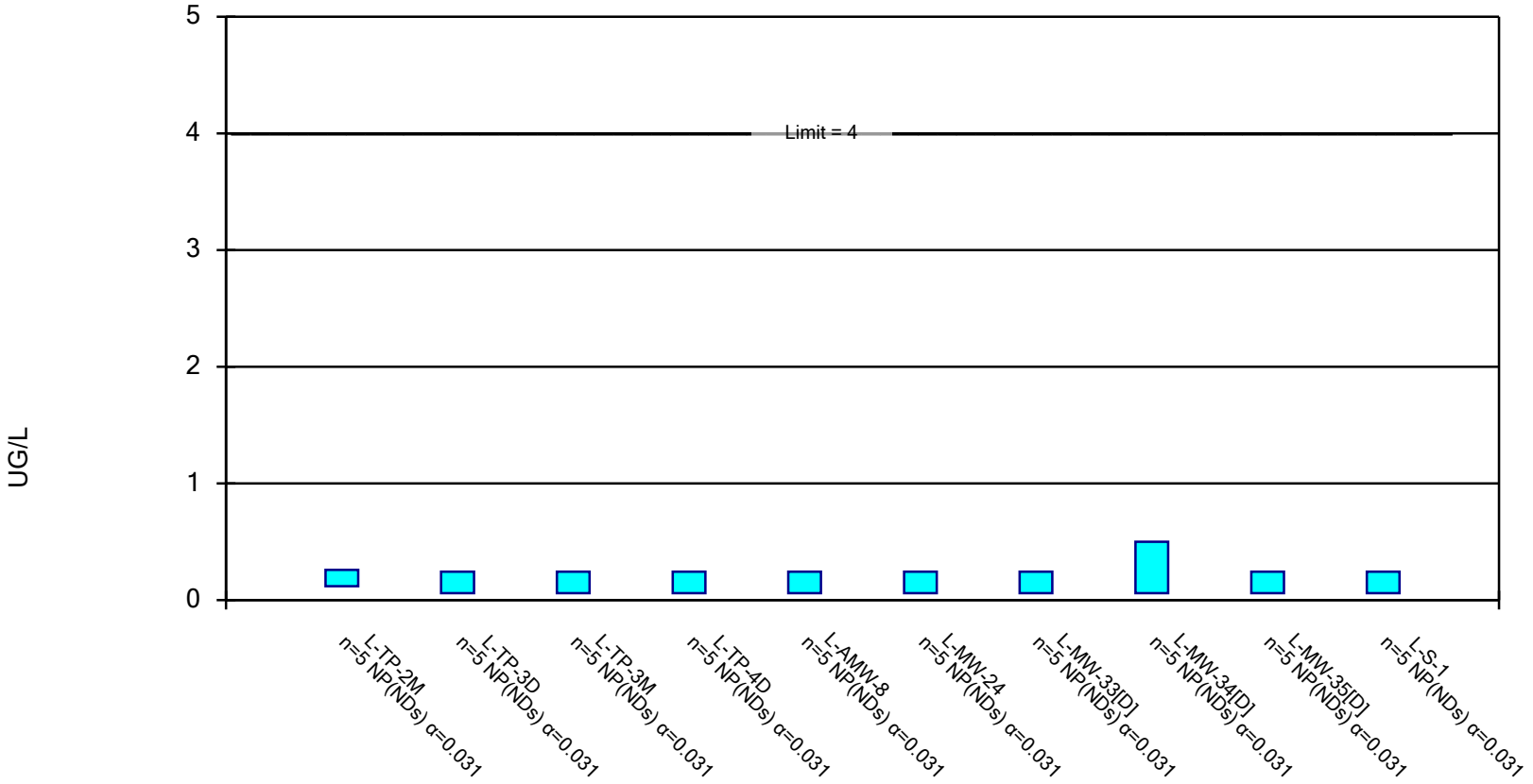

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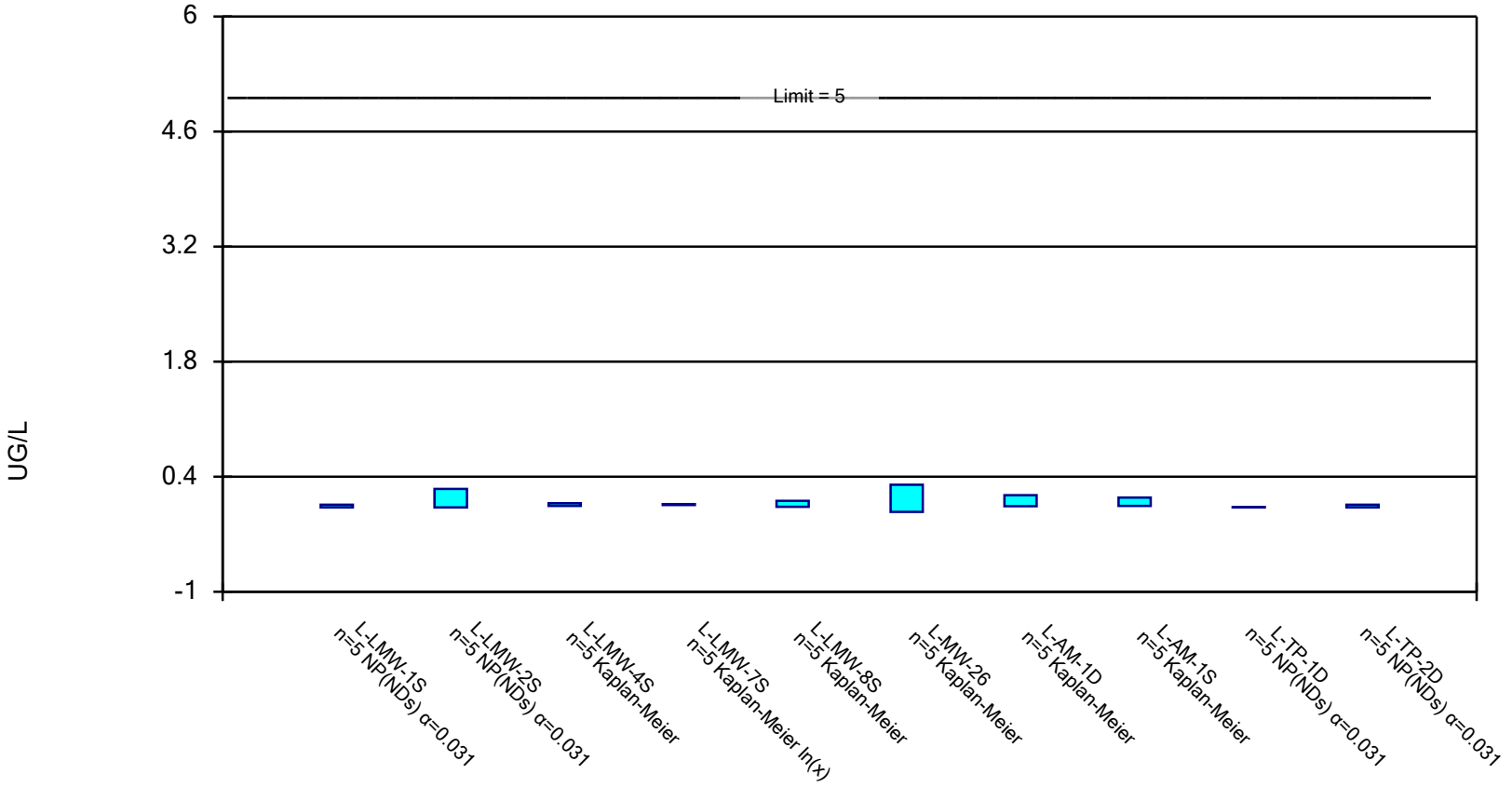
Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



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Labadie E.C. Client: Ameren Data: LEC DATA

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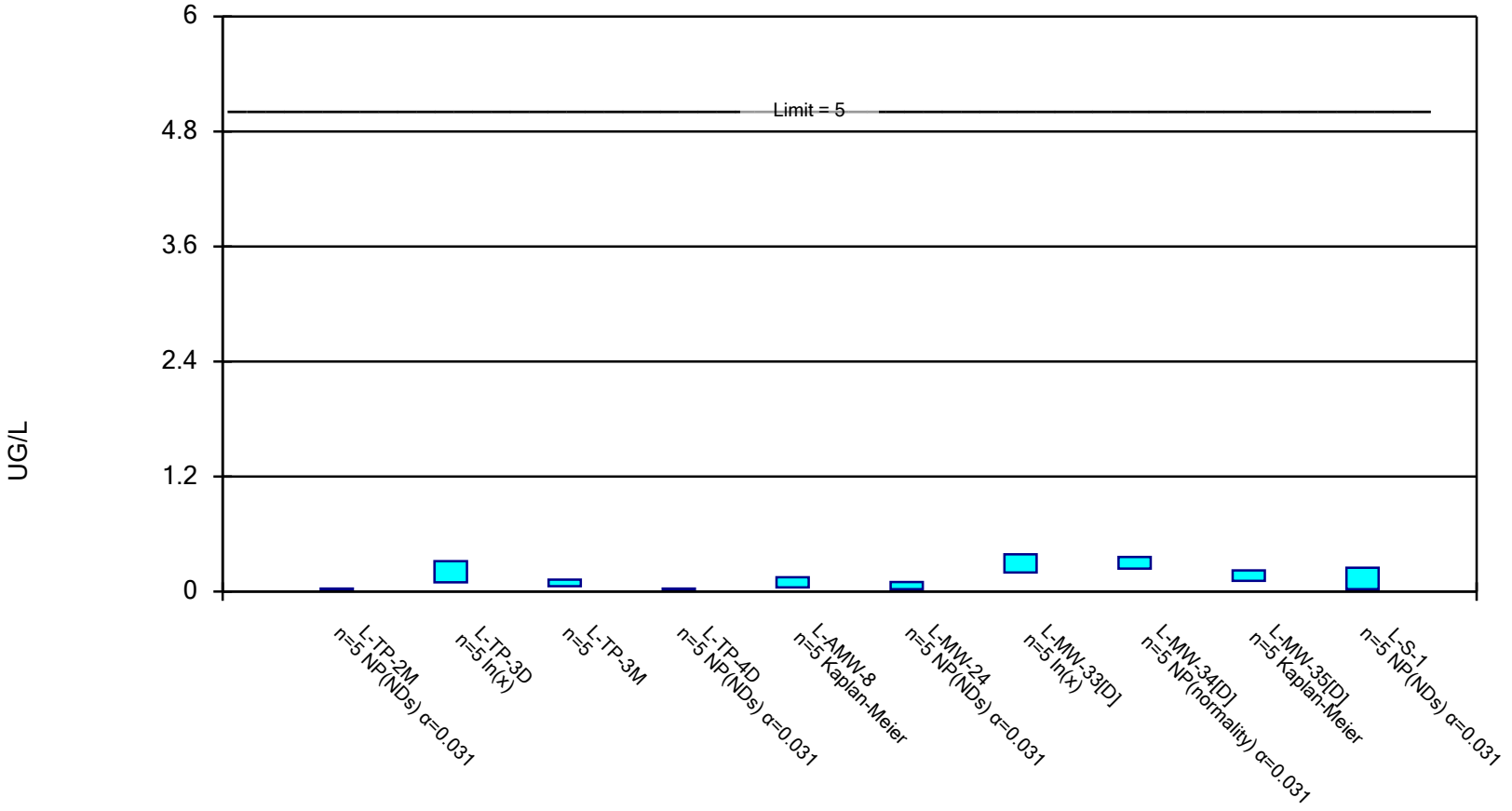
Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



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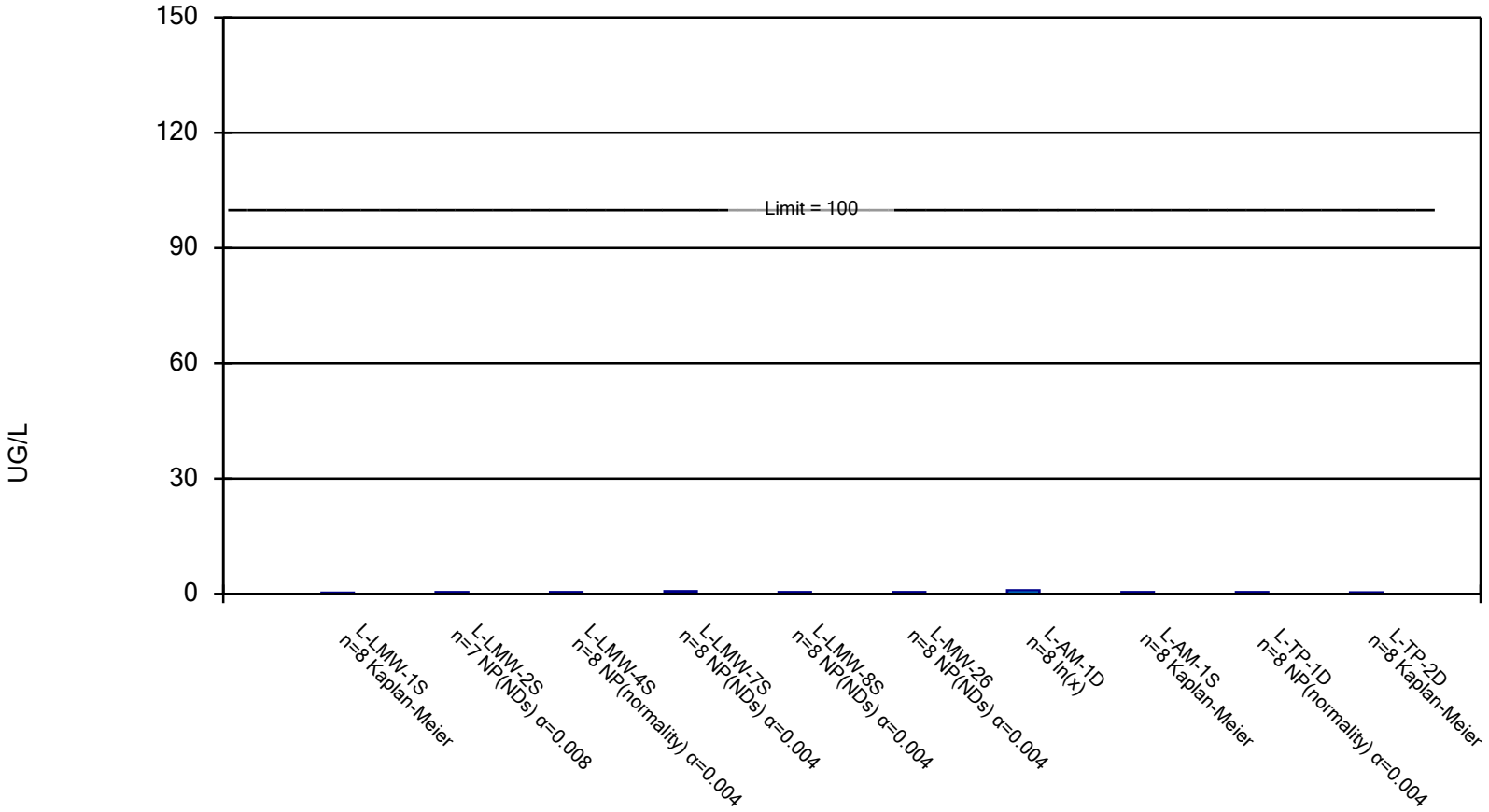

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Labadie E.C. Client: Ameren Data: LEC DATA

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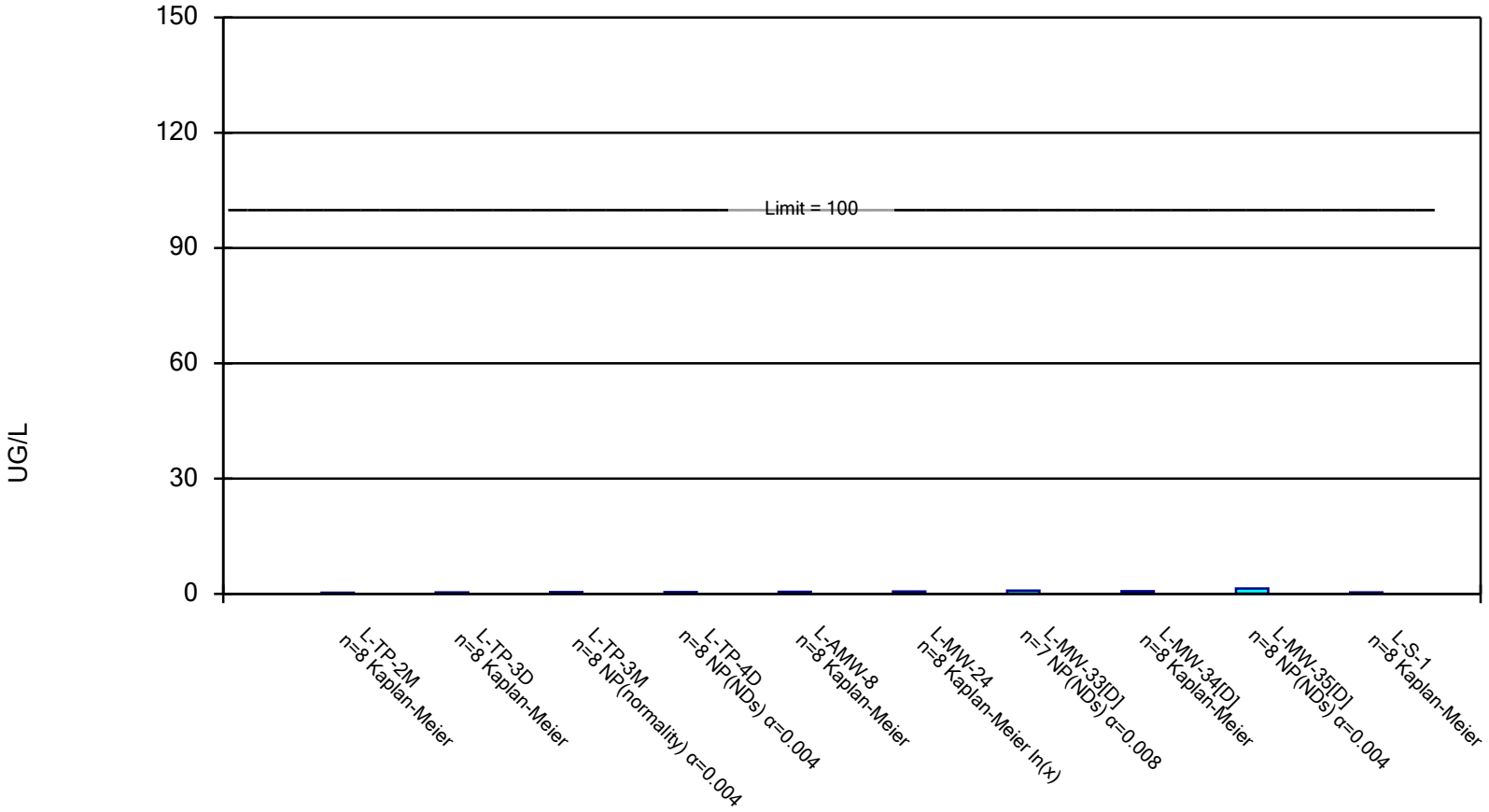

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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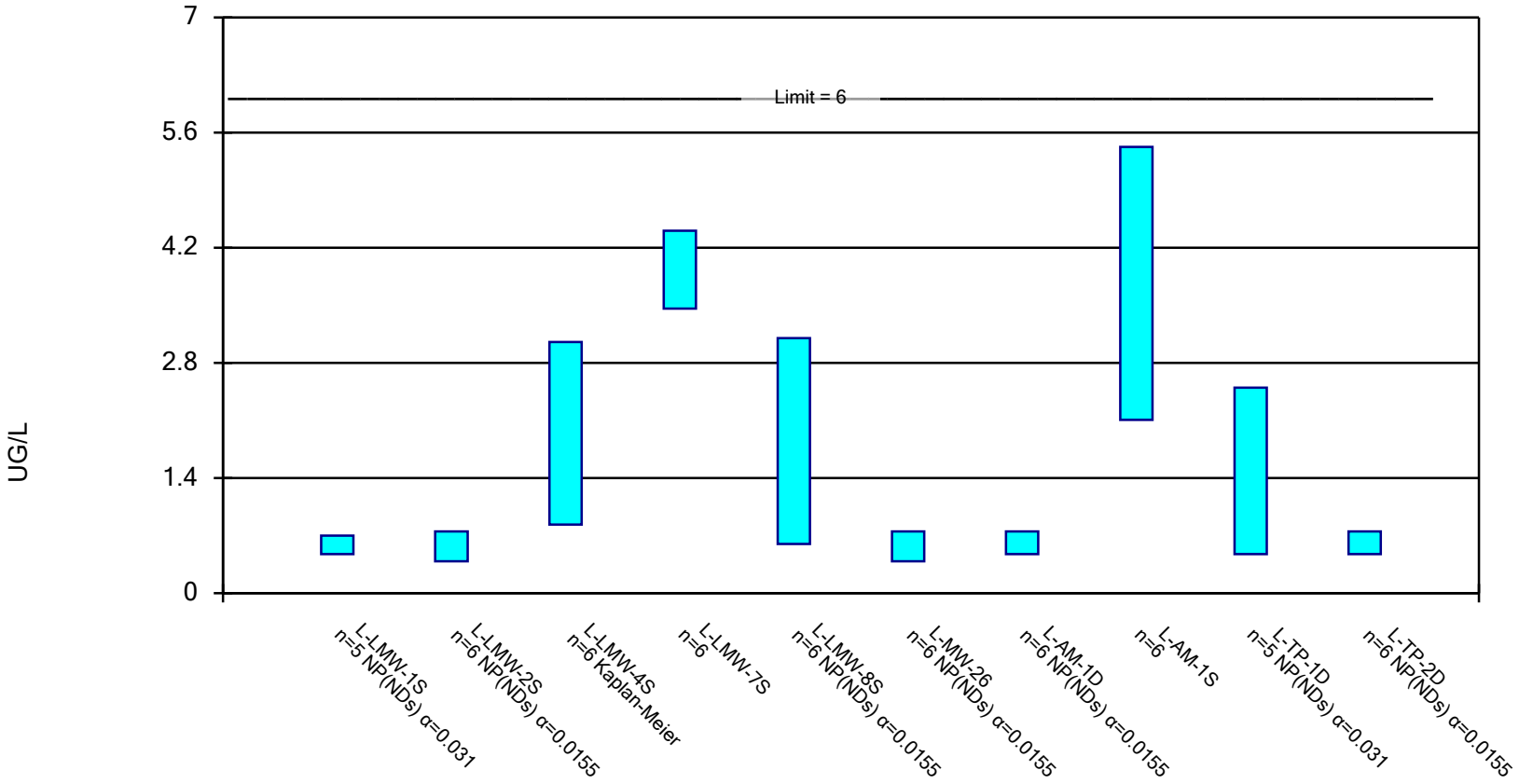

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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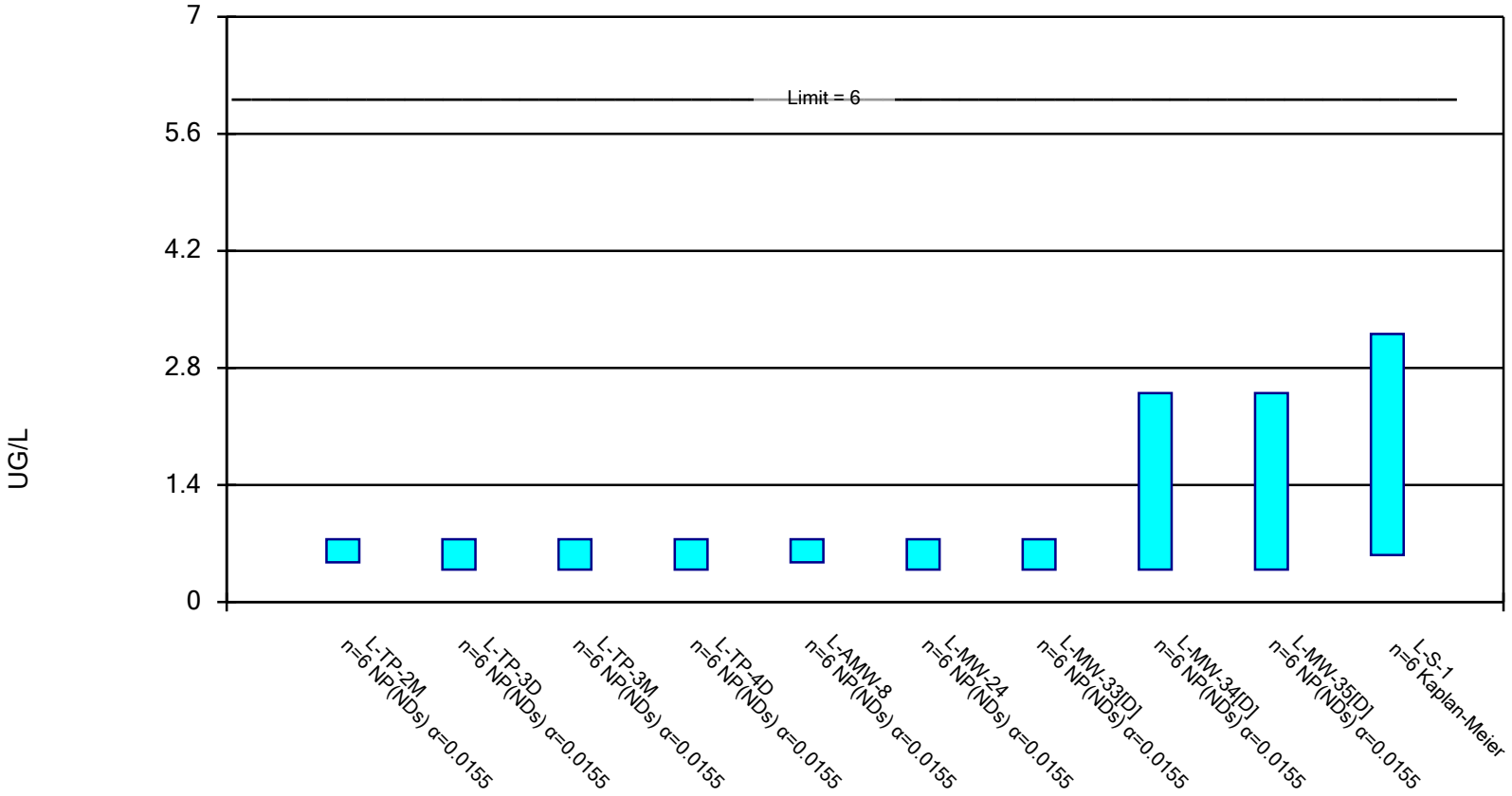

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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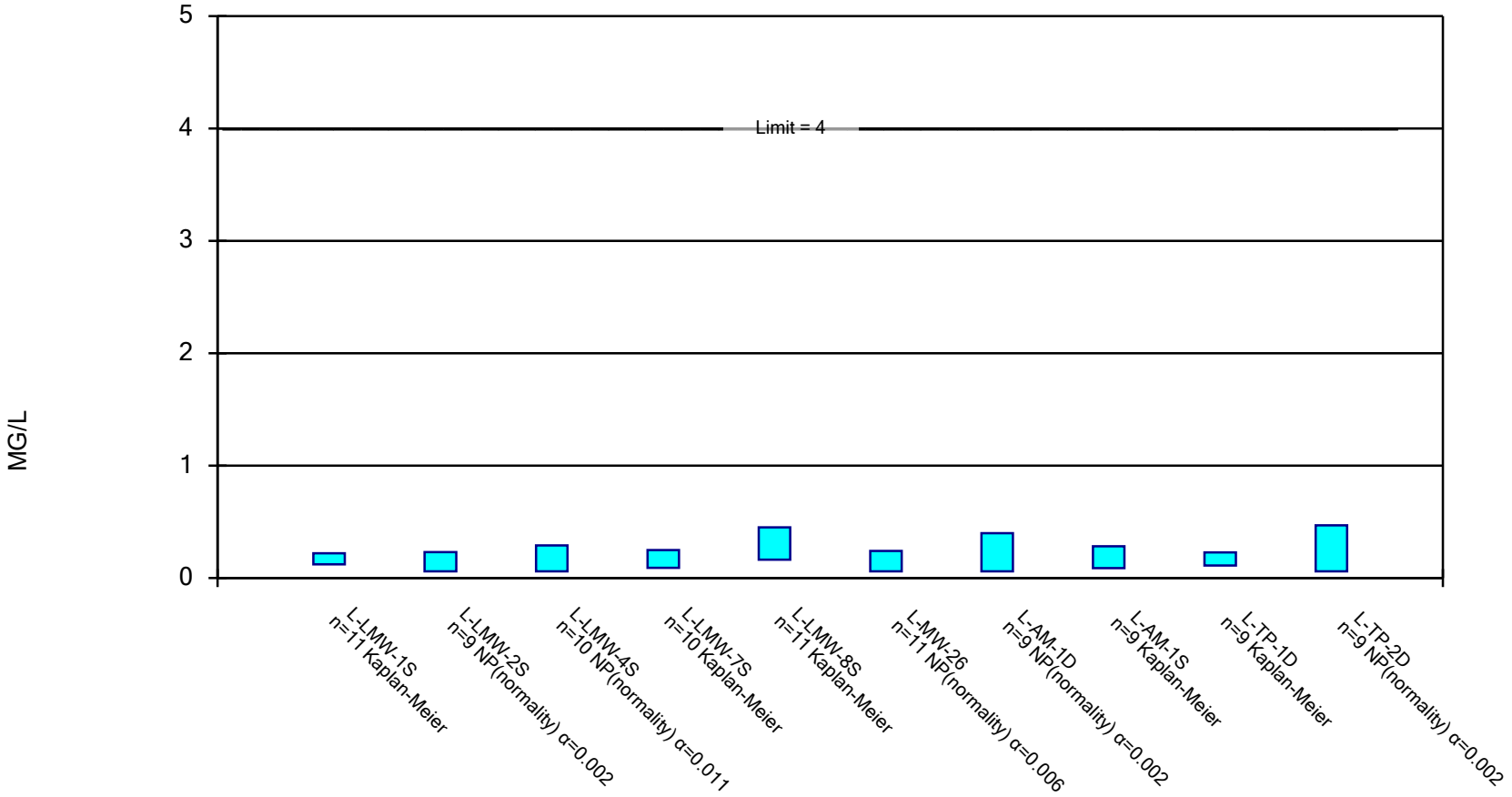

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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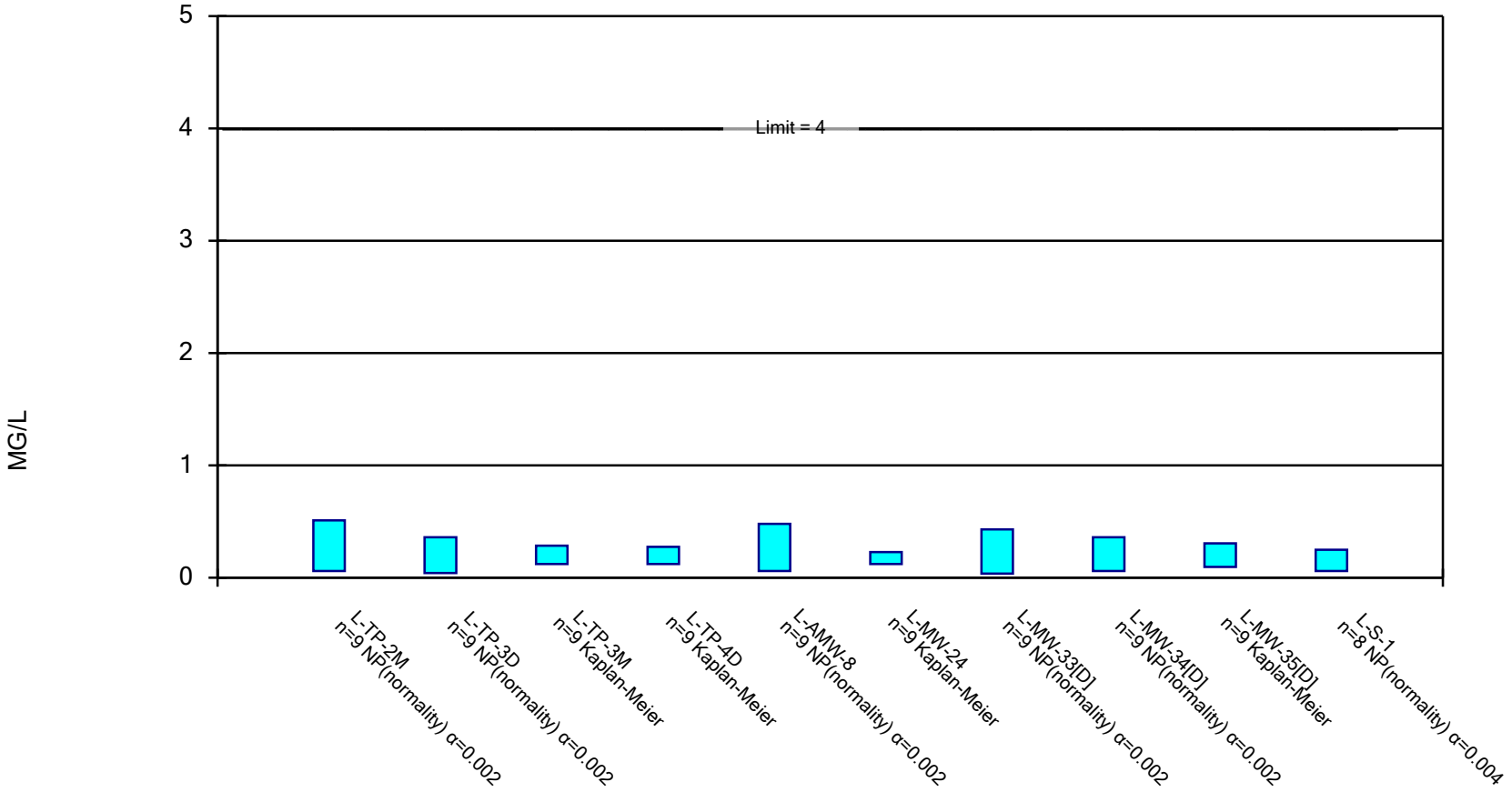

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Non-Parametric Confidence Interval, Corrective Action Mode

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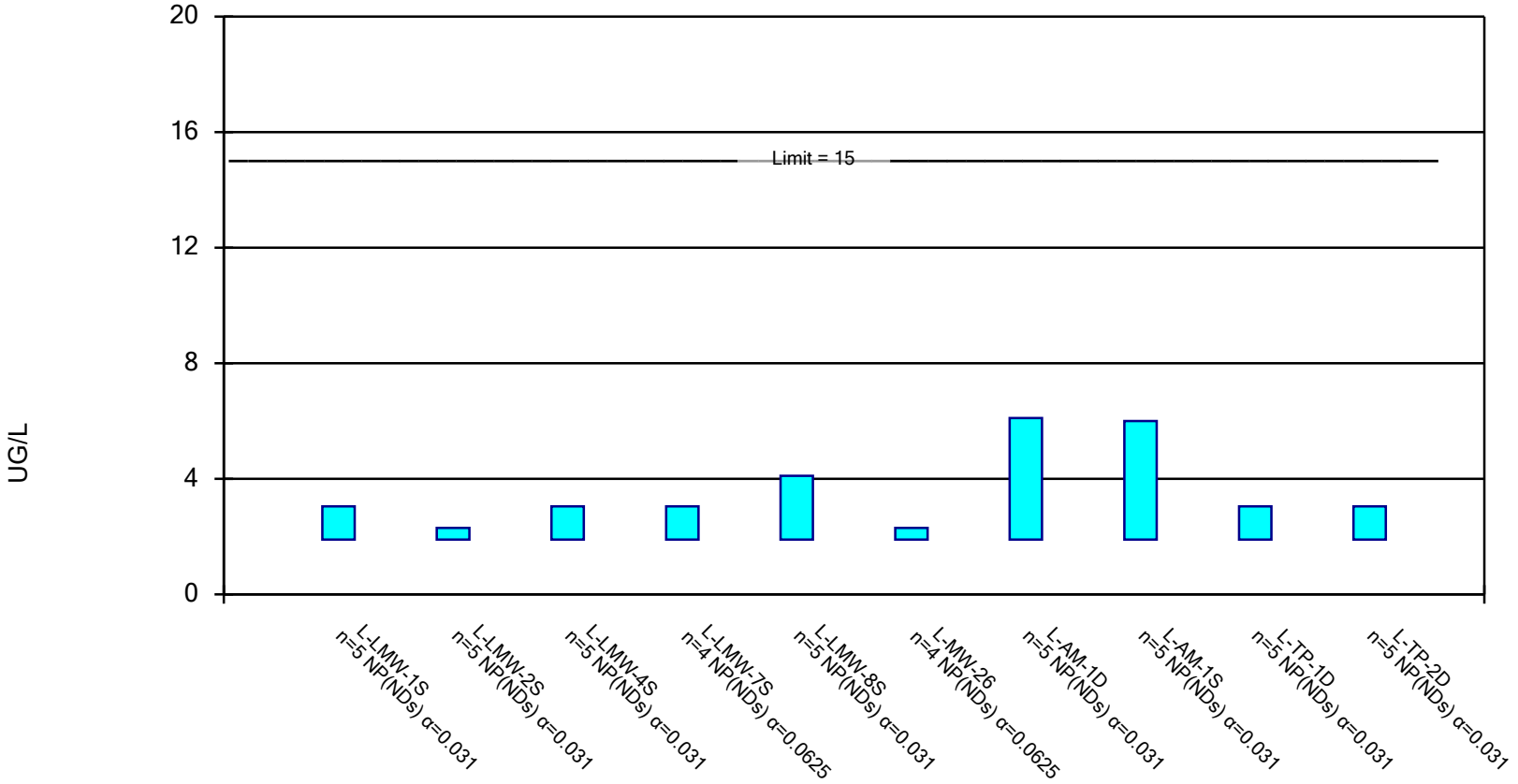

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval, Corrective Action Mode

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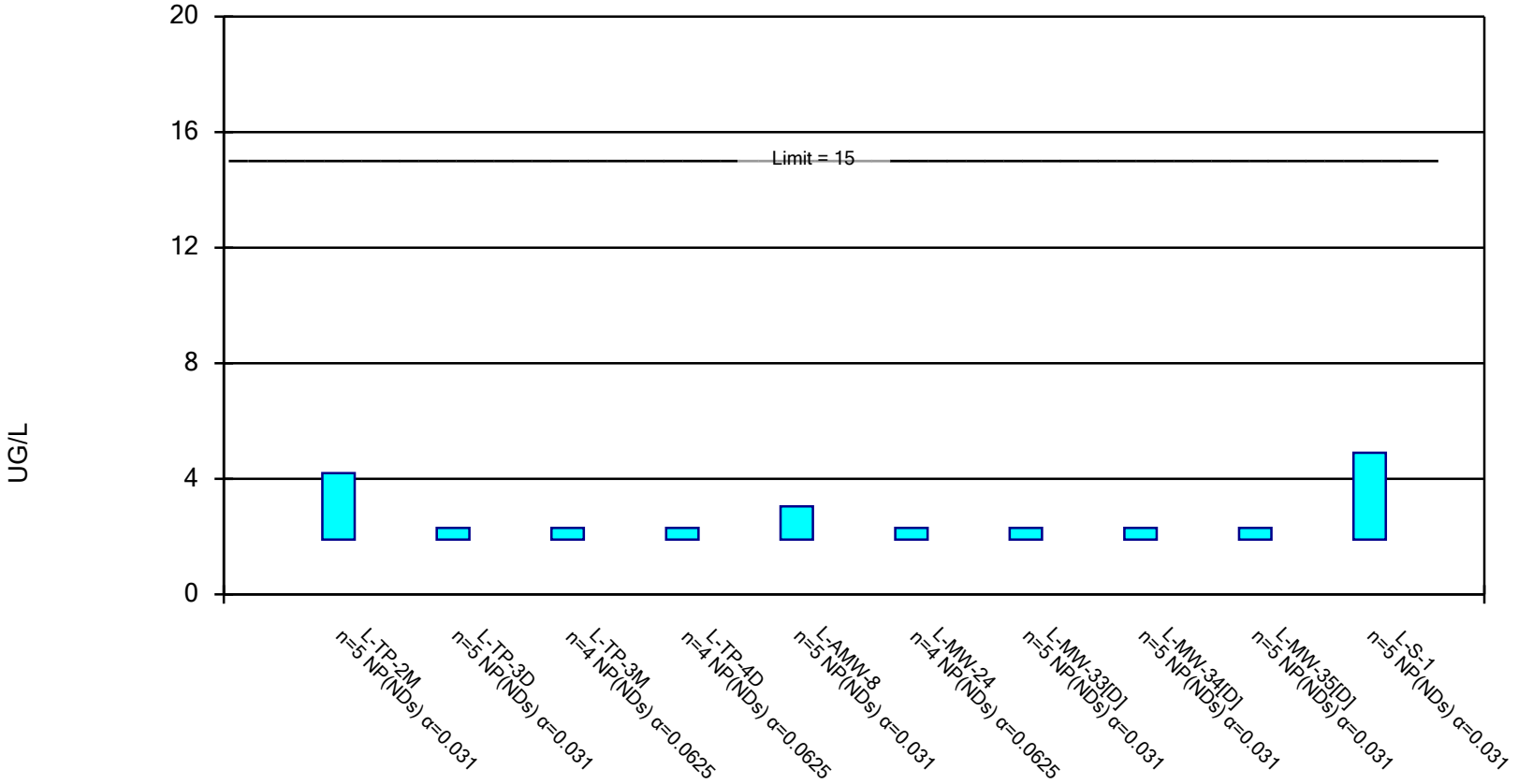

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Labadie E.C. Client: Ameren Data: LEC DATA

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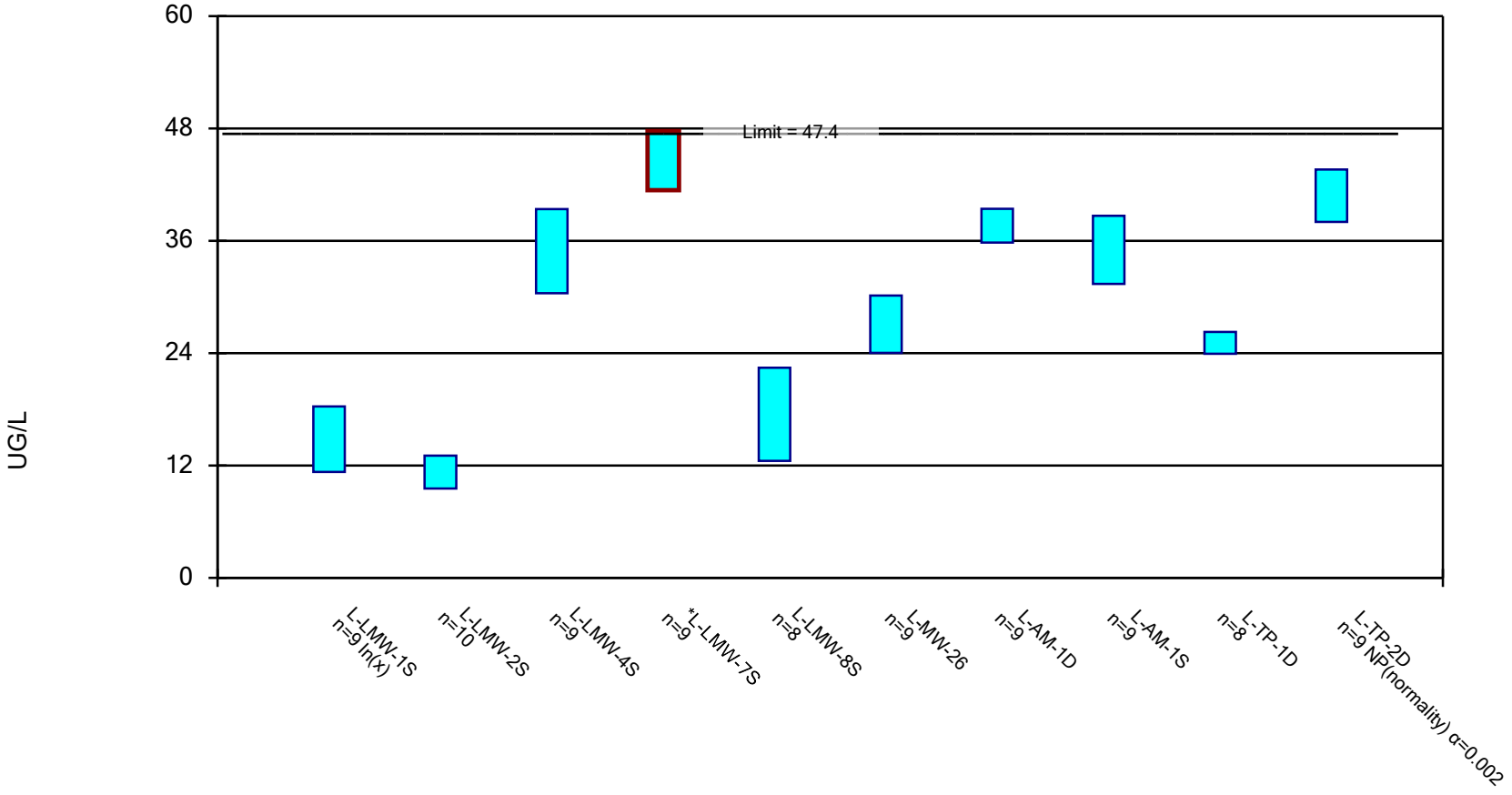
Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric Confidence Interval, Corrective Action Mode

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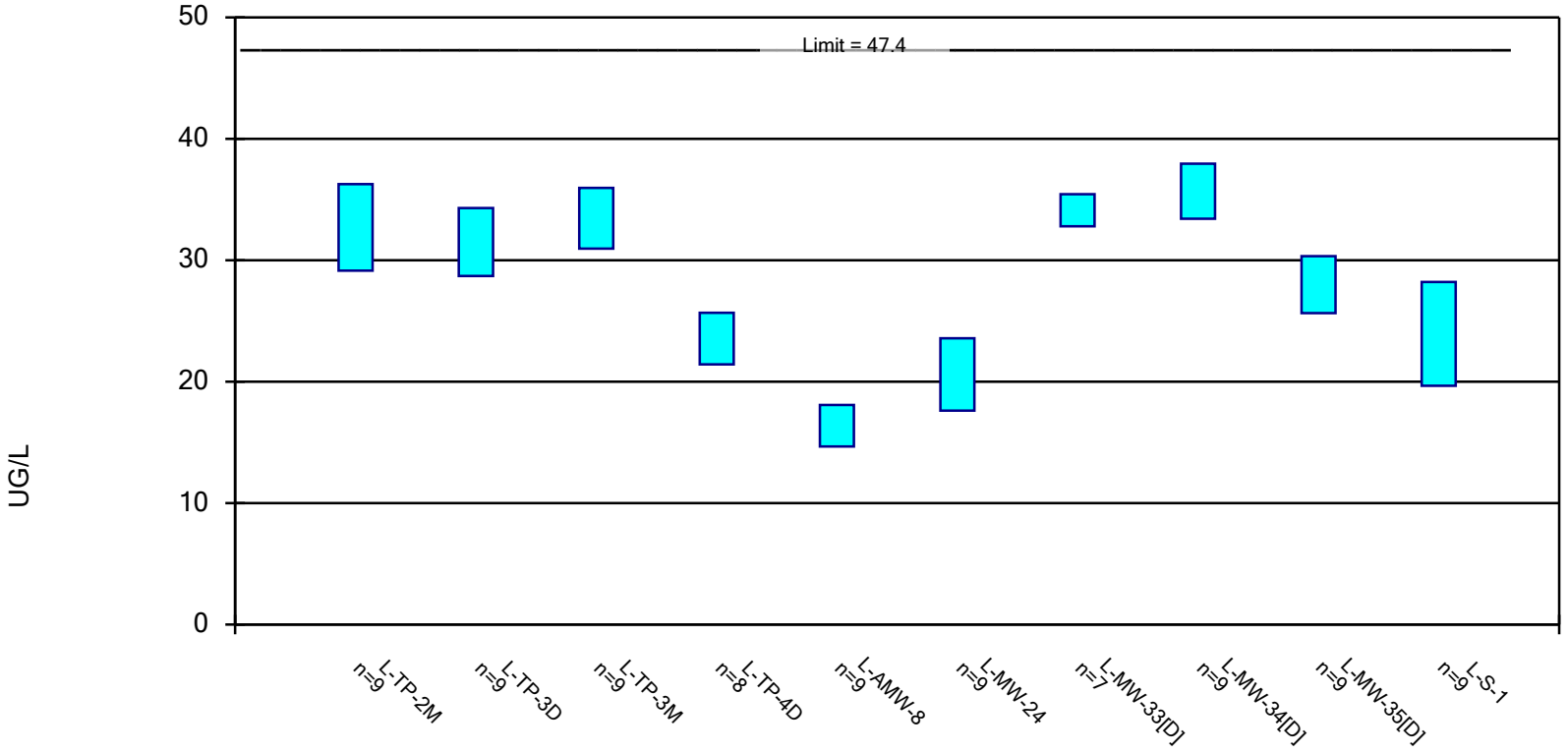

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval, Corrective Action Mode

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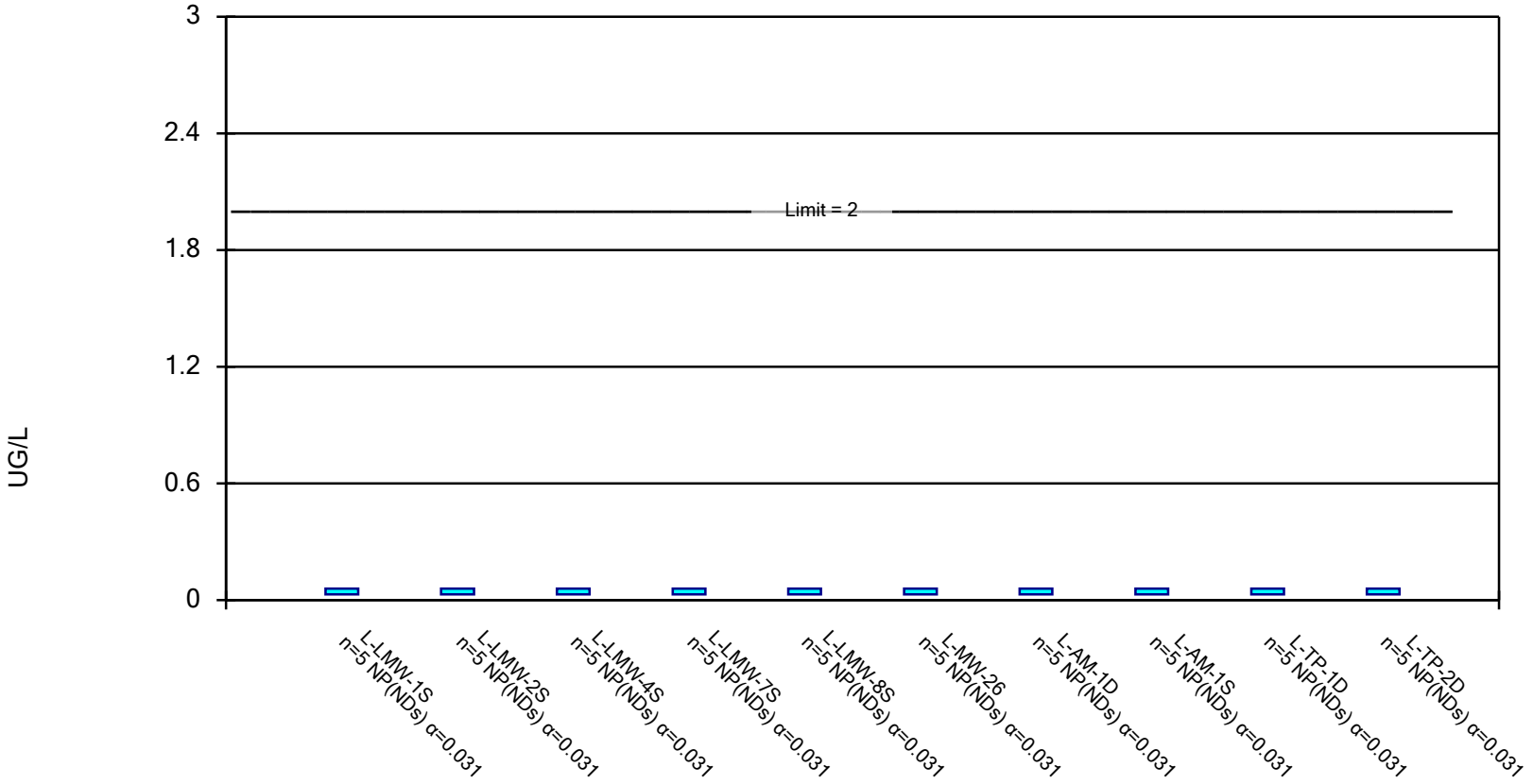

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval, Corrective Action Mode

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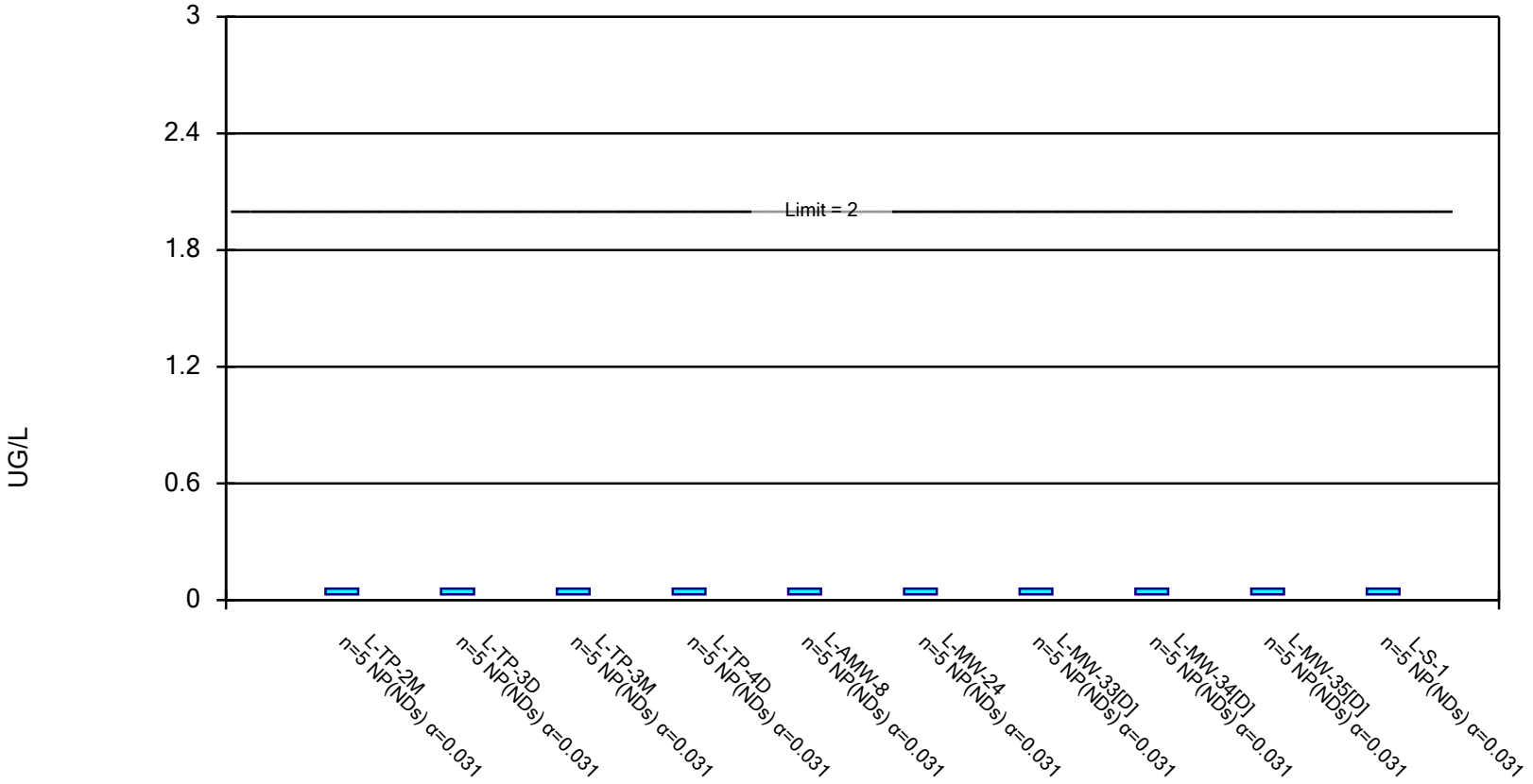


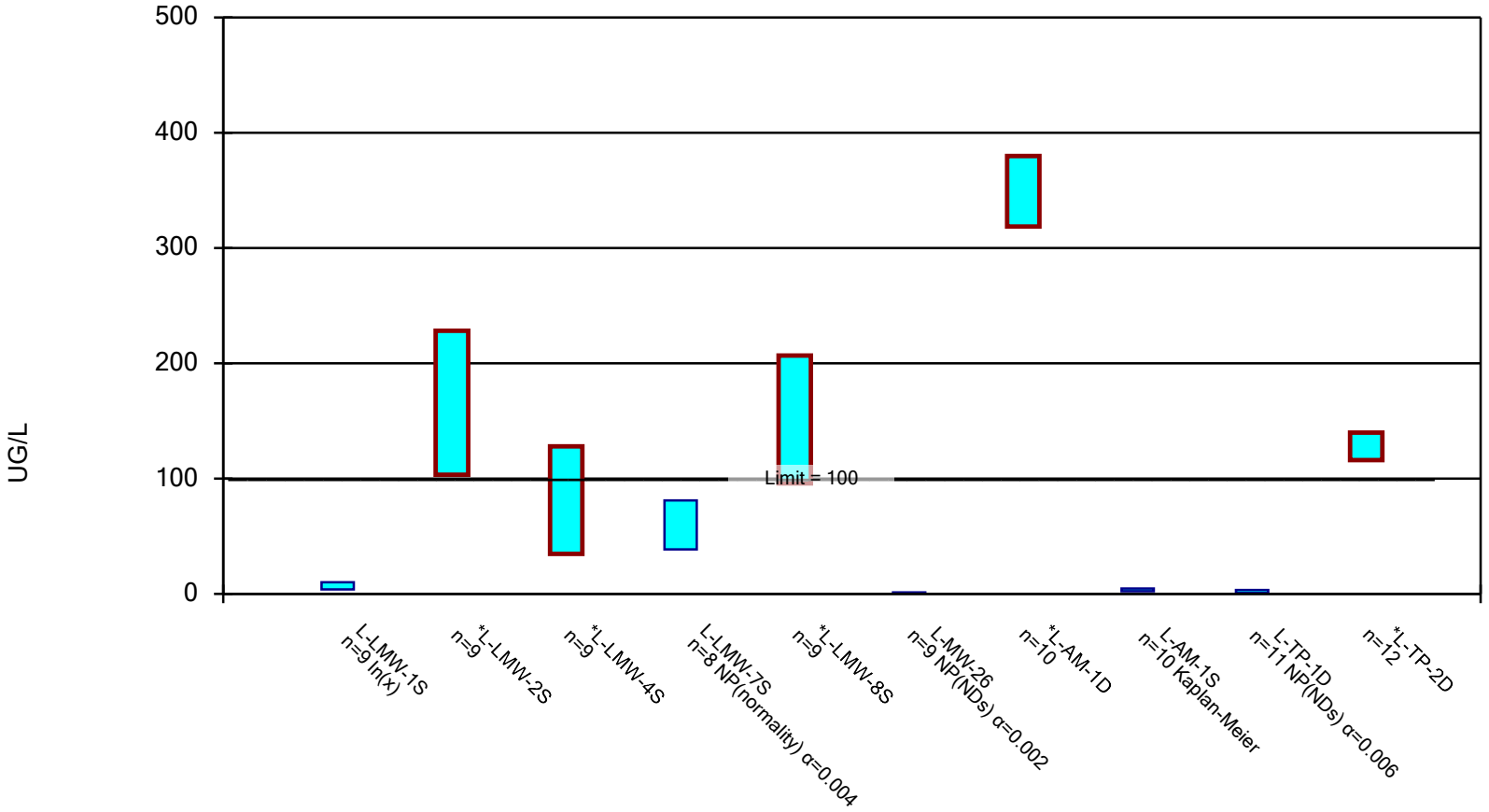
Constituent: MERCURY, TOTAL Analysis Run 4/1/2024 2:54 PM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



Constituent: MOLYBDENUM, TOTAL Analysis Run 4/1/2024 2:54 PM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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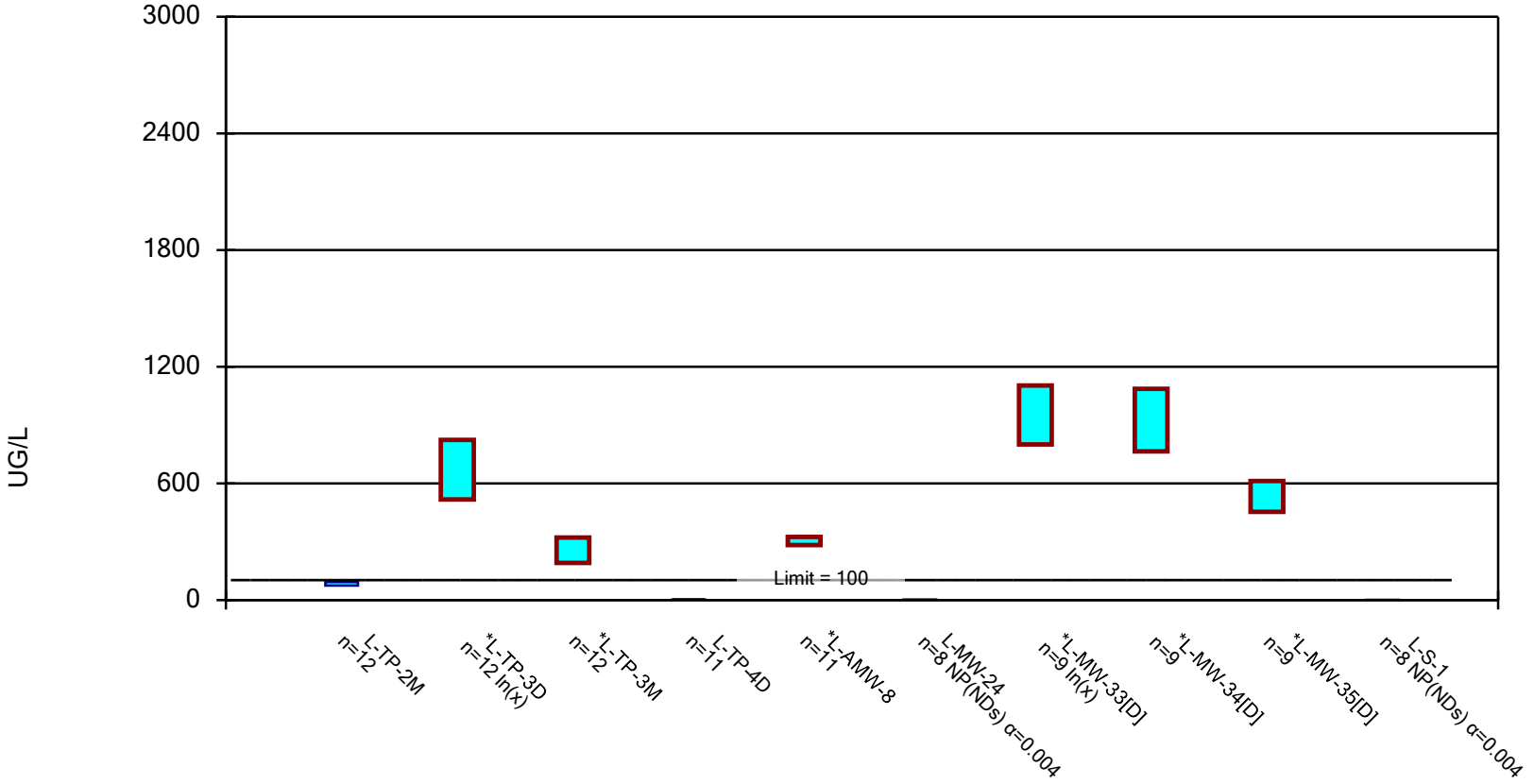


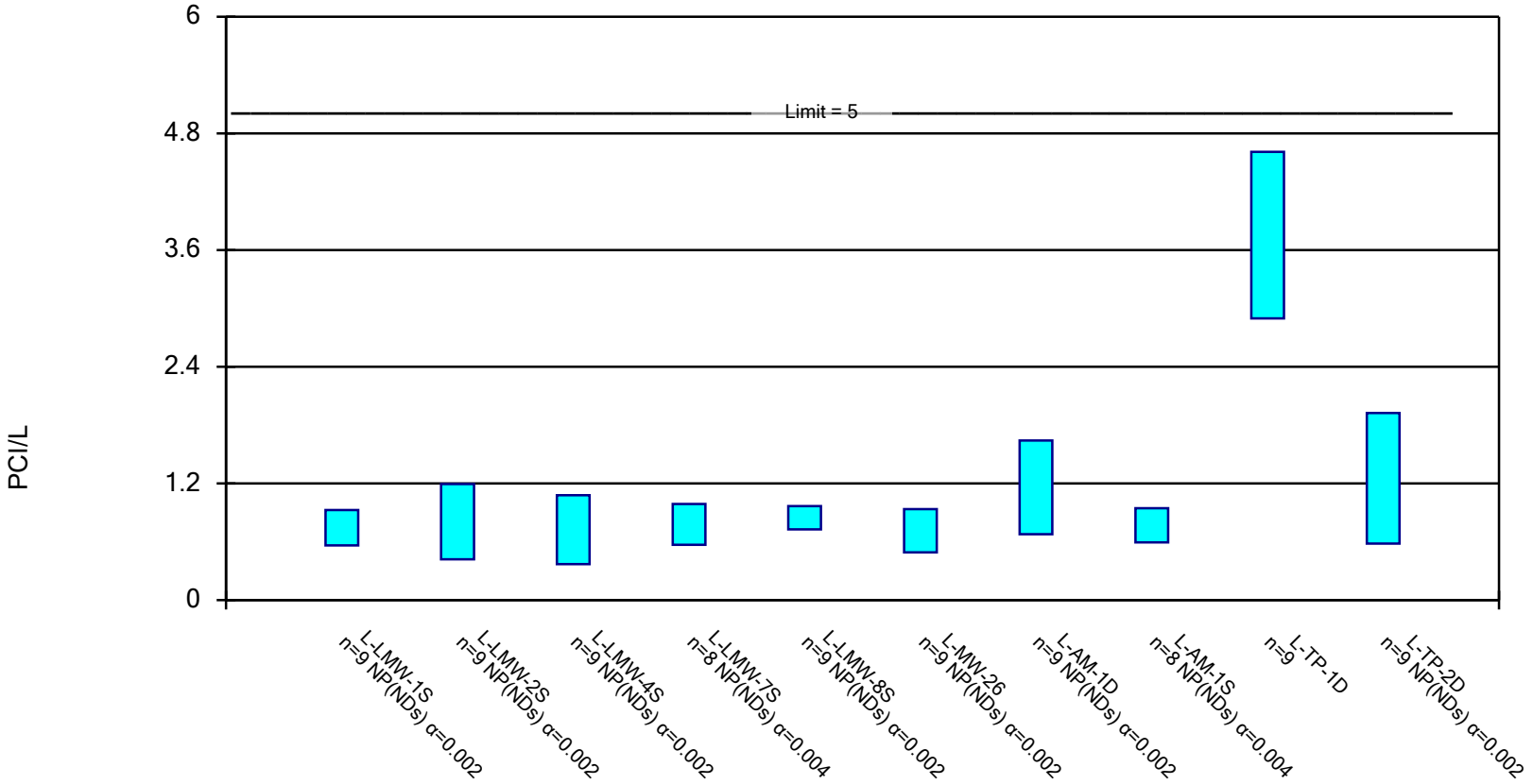
Constituent: MOLYBDENUM, TOTAL Analysis Run 4/1/2024 2:54 PM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



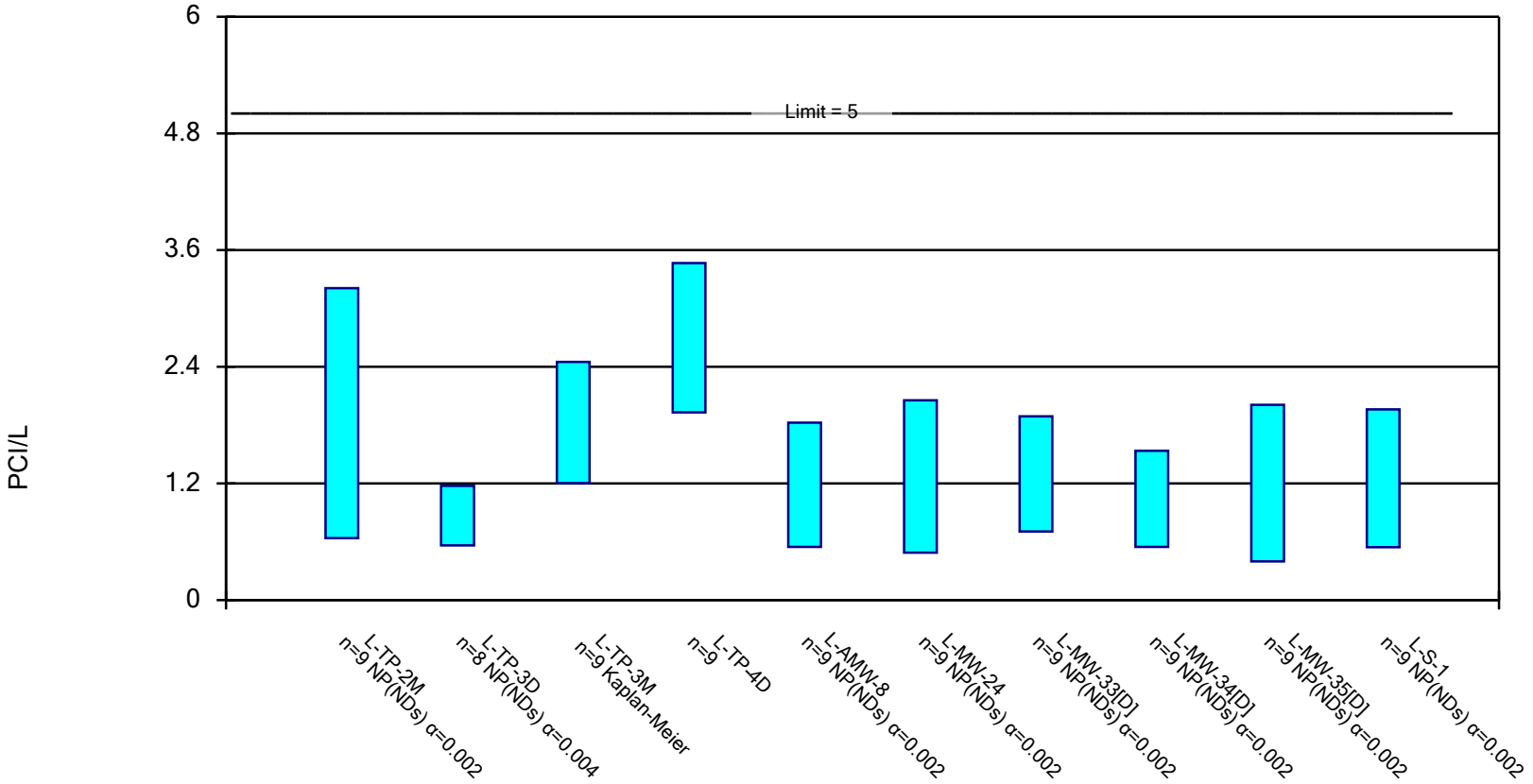
Constituent: Radium [226 + 228] Analysis Run 4/1/2024 2:54 PM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



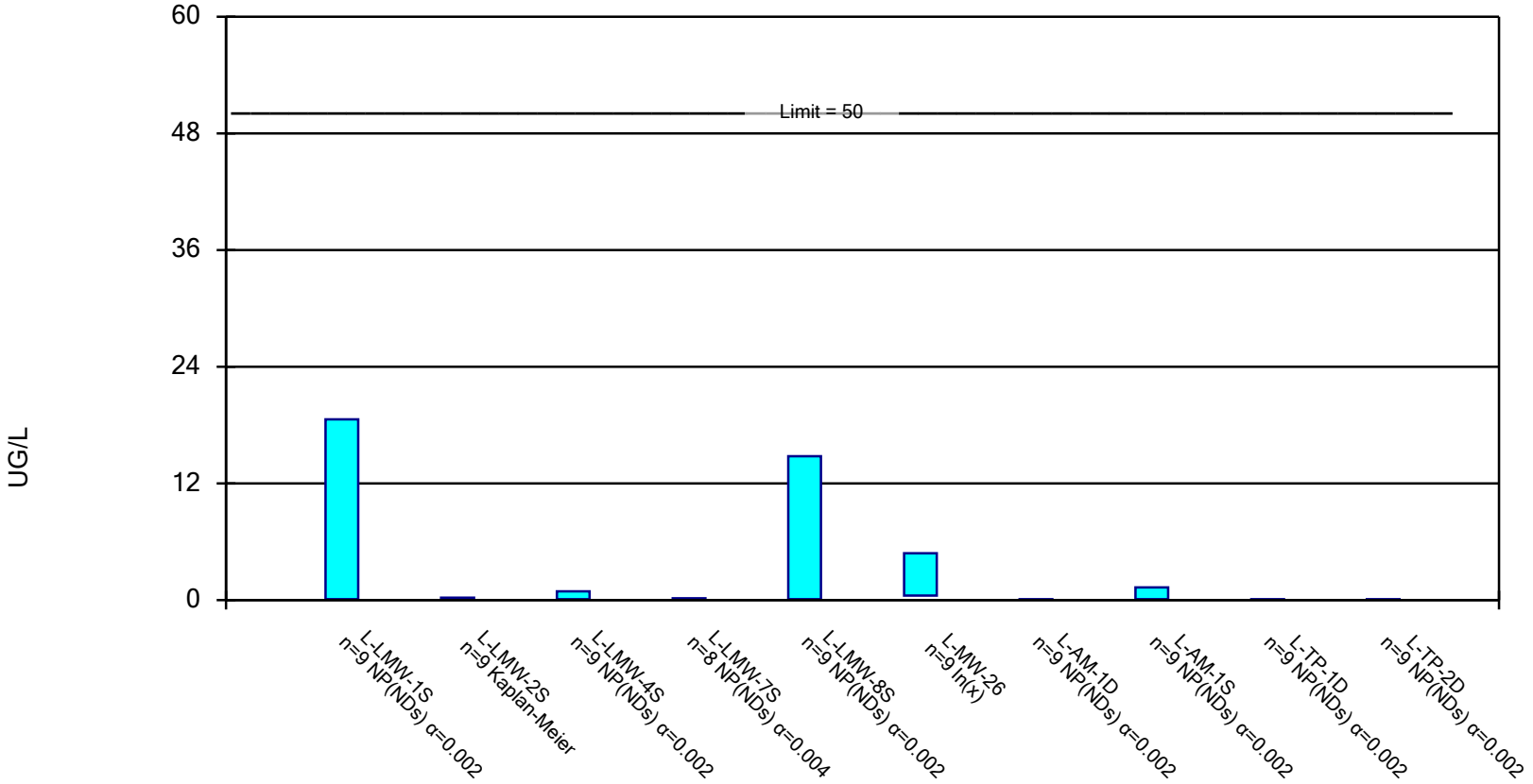
Constituent: Radium [226 + 228] Analysis Run 4/1/2024 2:54 PM

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



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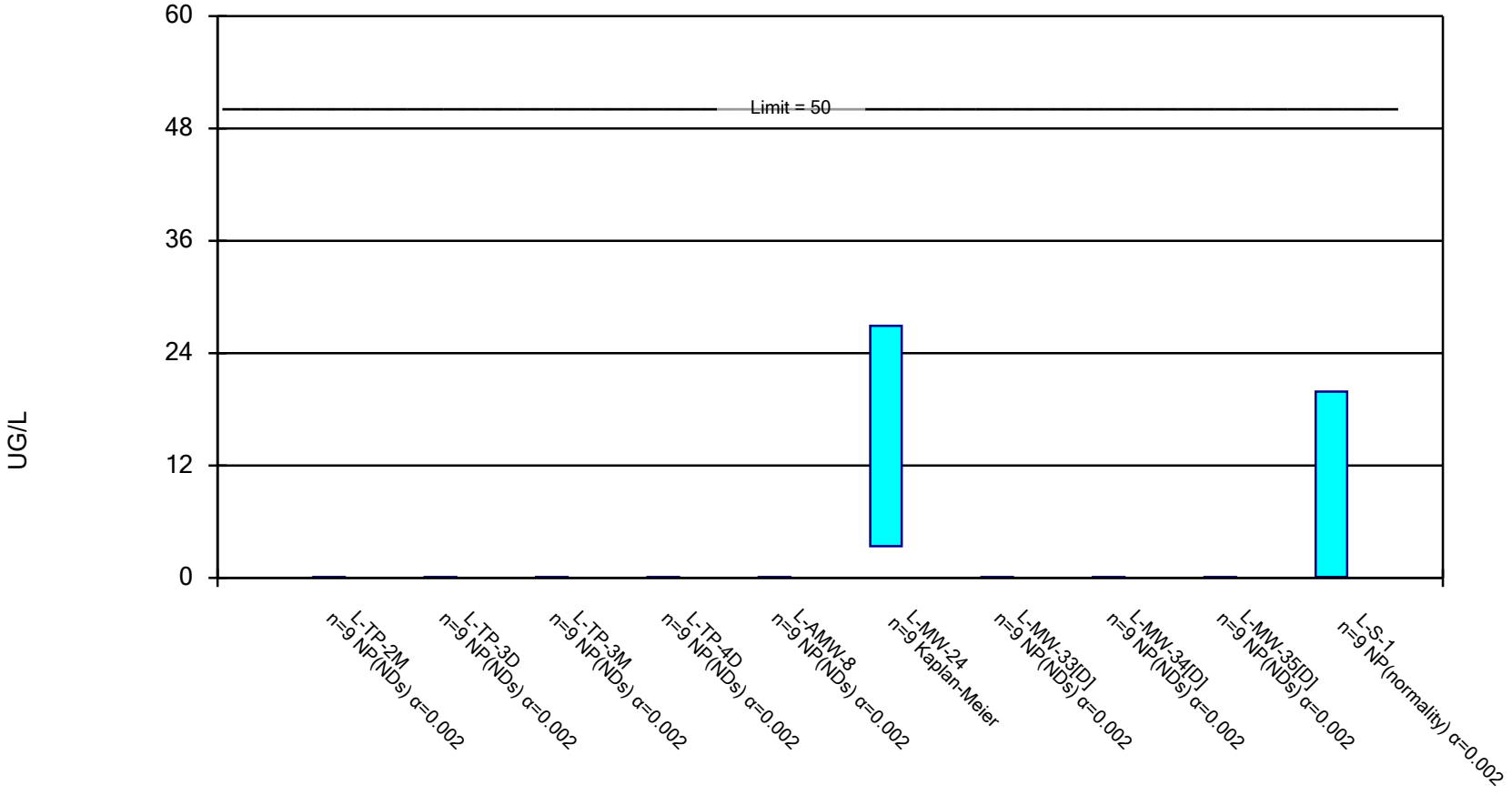
Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



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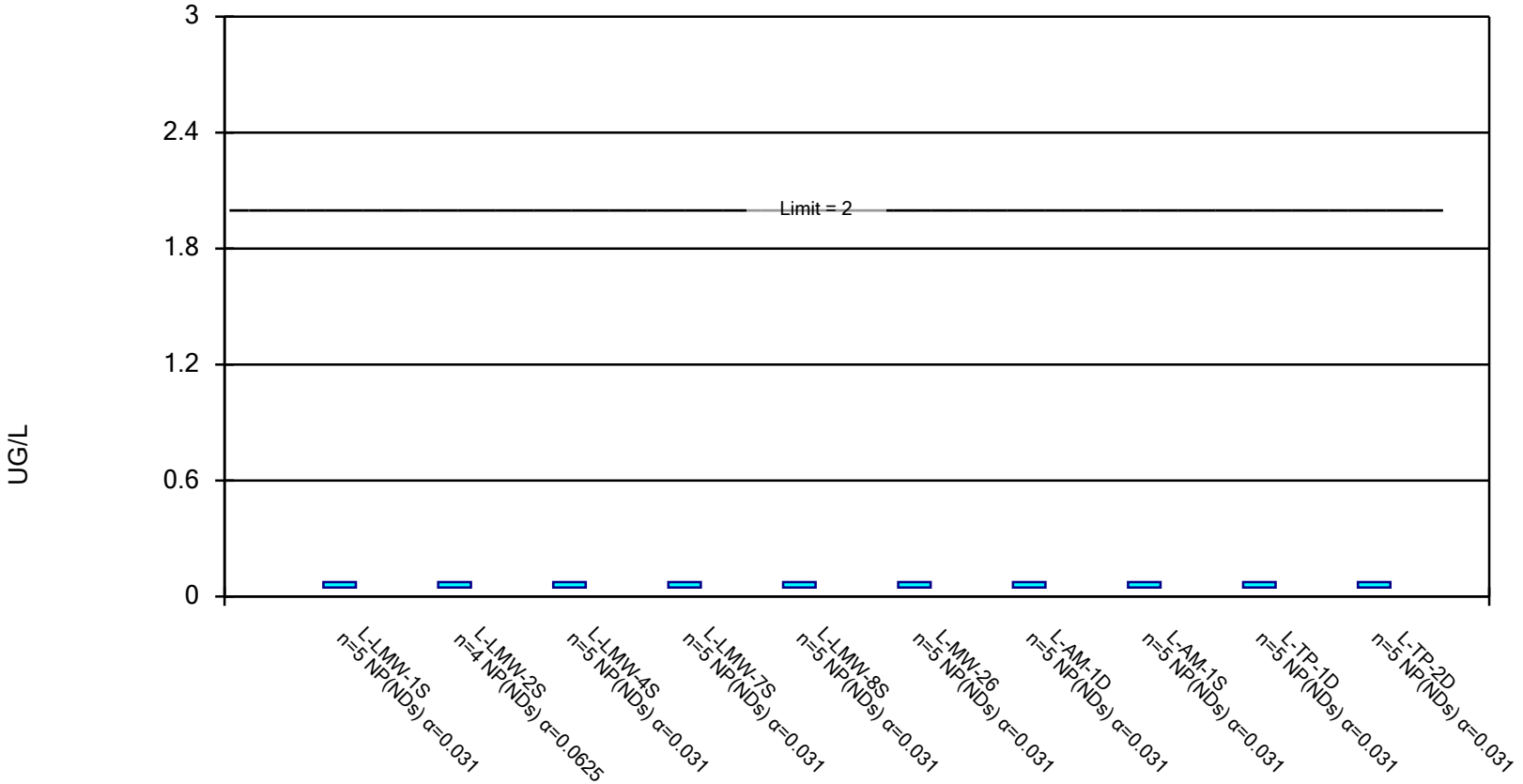
Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.



Constituent: THALLIUM, TOTAL Analysis Run 4/1/2024 2:54 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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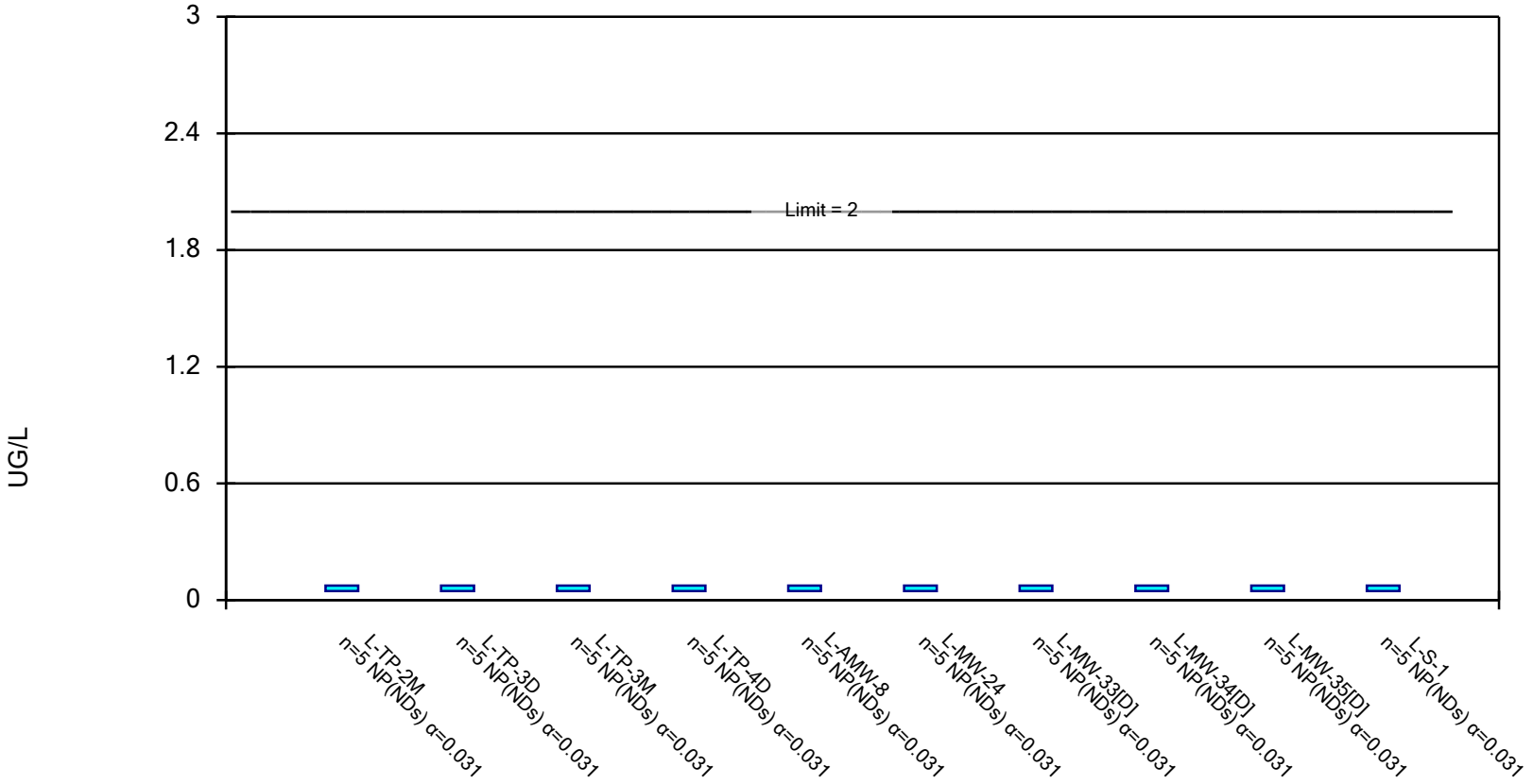
Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.



Constituent: THALLIUM, TOTAL Analysis Run 4/1/2024 2:54 PM

Labadie E.C. Client: Ameren Data: LEC DATA

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 2:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-LMW-1S	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-2S	0.27	0.0485	6	No	7	57.14	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-4S	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-7S	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-8S	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-26	0.1551	0.08432	6	No	7	42.86	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-AM-1D	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AM-1S	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-1D	0.16	0.0485	6	No	7	71.43	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-2D	0.13	0.0485	6	No	7	85.71	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-2M	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3D	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3M	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-4D	0.06	0.0485	6	No	6	100	No	0.0155	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AMW-8	0.15	0.0485	6	No	7	85.71	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-24	0.1892	0.09649	6	No	7	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-MW-33[D]	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-34[D]	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-35[D]	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-S-1	0.15	0.0485	6	No	7	42.86	No	0.008	NP (normality)
ARSENIC, TOTAL (UG/L)	L-LMW-1S	12.05	2.84	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	**L-LMW-2S**	**46.26**	**44.87**	**44.2**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	L-LMW-4S	25.77	14.38	44.2	No	9	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-7S	15.3	8.949	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-8S	17.37	4.451	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-26	0.5437	0.4629	44.2	No	9	11.11	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1D	3.728	2.938	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1S	8.571	3.829	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-1D	1.354	1.017	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-2D	11.85	11	44.2	No	8	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-2M	0.7064	0.5469	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-3D	8.362	7.288	44.2	No	8	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-3M	0.5601	0.3177	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-4D	8.187	7.546	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AMW-8	0.4225	0.1709	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-24	0.6281	0.4919	44.2	No	9	11.11	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-33[D]	3.289	1.778	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-34[D]	3.721	3.457	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-35[D]	0.2217	0.1358	44.2	No	8	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-S-1	0.6846	0.5154	44.2	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-1S	114.6	73.25	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-2S	50.49	34.62	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-4S	170.8	143.6	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-7S	305.5	240.7	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-8S	155.6	94.95	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-26	215.2	182.2	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1D	74.7	64.84	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1S	648.8	562.1	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-1D	1478	1393	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-2D	119.2	113.8	2000	No	8	0	No	0.01	Param.

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 2:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
BARIUM, TOTAL (UG/L)	L-TP-2M	162	114	2000	No	8	0	No	0.004	NP (normality)
BARIUM, TOTAL (UG/L)	L-TP-3D	75.64	65.71	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-3M	276.4	227.6	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-4D	450	402.5	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AMW-8	122.3	101.4	2000	No	8	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-24	222.5	159.3	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-33[D]	127.2	90.4	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-34[D]	107.6	82.19	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-35[D]	56.84	43.23	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-S-1	370.7	354.9	2000	No	9	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	L-LMW-1S	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-2S	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-4S	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-7S	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-8S	0.245	0.06	4	No	4	100	No	0.0625	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-26	0.5	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-AM-1D	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-AM-1S	0.245	0.06	4	No	5	80	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-1D	0.245	0.12	4	No	5	60	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-2D	0.245	0.06	4	No	5	80	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-2M	0.26	0.12	4	No	5	60	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-3D	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-3M	0.245	0.06	4	No	5	80	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-4D	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-AMW-8	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-24	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-33[D]	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-34[D]	0.5	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-35[D]	0.245	0.06	4	No	5	80	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-S-1	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-LMW-1S	0.058	0.025	5	No	5	80	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-LMW-2S	0.25	0.0265	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-LMW-4S	0.07768	0.04445	5	No	5	40	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-LMW-7S	0.06612	0.05709	5	No	5	40	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-LMW-8S	0.1064	0.03563	5	No	5	40	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-MW-26	0.3034	-0.02655	5	No	5	40	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-AM-1D	0.1744	0.04156	5	No	5	40	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-AM-1S	0.146	0.04449	5	No	5	40	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-TP-1D	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-TP-2D	0.06	0.025	5	No	5	80	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-TP-2M	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-TP-3D	0.3183	0.09723	5	No	5	0	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-TP-3M	0.1233	0.05668	5	No	5	0	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-TP-4D	0.031	0.025	5	No	5	100	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-AMW-8	0.1491	0.04248	5	No	5	20	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-MW-24	0.1	0.025	5	No	5	80	No	0.031	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-MW-33[D]	0.3877	0.1982	5	No	5	0	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-MW-34[D]	0.36	0.24	5	No	5	0	No	0.031	NP (normality)
CADMIUM, TOTAL (UG/L)	L-MW-35[D]	0.2223	0.1127	5	No	5	20	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-S-1	0.25	0.025	5	No	5	80	No	0.031	NP (NDs)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 2:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-LMW-1S	0.3522	0.2194	100	No	8	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-LMW-2S	0.51	0.11	100	No	7	71.43	No	0.008	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-4S	0.45	0.11	100	No	8	50	No	0.004	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-LMW-7S	0.73	0.11	100	No	8	62.5	No	0.004	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-8S	0.5	0.11	100	No	8	87.5	No	0.004	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-26	0.5	0.11	100	No	8	87.5	No	0.004	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AM-1D	0.9496	0.1641	100	No	8	12.5	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-AM-1S	0.456	0.2415	100	No	8	25	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-1D	0.51	0.11	100	No	8	37.5	No	0.004	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-TP-2D	0.3738	0.2006	100	No	8	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-2M	0.3214	0.2046	100	No	8	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-3D	0.4075	0.2144	100	No	8	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-3M	0.5	0.11	100	No	8	50	No	0.004	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-TP-4D	0.5	0.11	100	No	8	62.5	No	0.004	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AMW-8	0.5858	0.2142	100	No	8	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-MW-24	0.6081	0.2009	100	No	8	50	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-MW-33[D]	0.87	0.11	100	No	7	85.71	No	0.008	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-34[D]	0.7014	0.1353	100	No	8	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-MW-35[D]	1.4	0.11	100	No	8	75	No	0.004	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-S-1	0.3904	0.2268	100	No	8	37.5	No	0.01	Param.
COBALT, TOTAL (UG/L)	L-LMW-1S	0.7	0.475	6	No	5	100	No	0.031	NP (NDs)
COBALT, TOTAL (UG/L)	L-LMW-2S	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-LMW-4S	3.053	0.8342	6	No	6	16.67	No	0.01	Param.
COBALT, TOTAL (UG/L)	L-LMW-7S	4.407	3.46	6	No	6	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	L-LMW-8S	3.1	0.6	6	No	6	66.67	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-26	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-AM-1D	0.75	0.475	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-AM-1S	5.426	2.108	6	No	6	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	L-TP-1D	2.5	0.475	6	No	5	100	No	0.031	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-2D	0.75	0.475	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-2M	0.75	0.475	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-3D	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-3M	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-4D	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-AMW-8	0.75	0.475	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-24	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-33[D]	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-34[D]	2.5	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-35[D]	2.5	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-S-1	3.204	0.5623	6	No	6	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-1S	0.2202	0.1231	4	No	11	27.27	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-2S	0.23	0.06	4	No	9	33.33	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-4S	0.29	0.06	4	No	10	30	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-7S	0.2493	0.09066	4	No	10	40	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-8S	0.452	0.1639	4	No	11	27.27	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-26	0.24	0.06	4	No	11	45.45	No	0.006	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-AM-1D	0.4	0.06	4	No	9	22.22	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-AM-1S	0.2834	0.08864	4	No	9	44.44	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-1D	0.2283	0.1125	4	No	9	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-2D	0.47	0.06	4	No	9	11.11	No	0.002	NP (normality)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 2:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
FLUORIDE, TOTAL (MG/L)	L-TP-2M	0.51	0.06	4	No	9	11.11	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-TP-3D	0.36	0.043	4	No	9	44.44	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-TP-3M	0.2863	0.1211	4	No	9	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-4D	0.2752	0.1225	4	No	9	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AMW-8	0.48	0.06	4	No	9	22.22	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-24	0.2272	0.1217	4	No	9	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-33[D]	0.43	0.0375	4	No	9	33.33	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-34[D]	0.36	0.06	4	No	9	33.33	No	0.002	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-35[D]	0.3048	0.09569	4	No	9	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-S-1	0.25	0.06	4	No	8	37.5	No	0.004	NP (normality)
LEAD, TOTAL (UG/L)	L-LMW-1S	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-2S	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-4S	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-7S	3.05	1.9	15	No	4	100	No	0.0625	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-8S	4.1	1.9	15	No	5	80	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-26	2.3	1.9	15	No	4	100	No	0.0625	NP (NDs)
LEAD, TOTAL (UG/L)	L-AM-1D	6.1	1.9	15	No	5	80	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-AM-1S	6	1.9	15	No	5	80	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-1D	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-2D	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-2M	4.2	1.9	15	No	5	80	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-3D	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-3M	2.3	1.9	15	No	4	100	No	0.0625	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-4D	2.3	1.9	15	No	4	100	No	0.0625	NP (NDs)
LEAD, TOTAL (UG/L)	L-AMW-8	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-24	2.3	1.9	15	No	4	100	No	0.0625	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-33[D]	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-34[D]	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-35[D]	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-S-1	4.9	1.9	15	No	5	80	No	0.031	NP (NDs)
LITHIUM, TOTAL (UG/L)	L-LMW-1S	18.32	11.32	47.4	No	9	11.11	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-2S	13.06	9.541	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-4S	39.4	30.4	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**L-LMW-7S**	**47.71**	**41.4**	**47.4**	**Yes**	**9**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	L-LMW-8S	22.45	12.5	47.4	No	8	12.5	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-26	30.14	24.04	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1D	39.4	35.82	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1S	38.67	31.4	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-1D	26.28	23.95	47.4	No	8	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-2D	43.6	38	47.4	No	9	0	No	0.002	NP (normality)
LITHIUM, TOTAL (UG/L)	L-TP-2M	36.26	29.14	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3D	34.3	28.7	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3M	35.96	30.95	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-4D	25.67	21.43	47.4	No	8	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AMW-8	18.08	14.65	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-24	23.58	17.62	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-33[D]	35.44	32.78	47.4	No	7	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-34[D]	37.95	33.4	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-35[D]	30.34	25.63	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-S-1	28.22	19.65	47.4	No	9	0	No	0.01	Param.

Confidence Interval

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
MERCURY, TOTAL (UG/L)	L-LMW-1S	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-2S	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-4S	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-7S	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-8S	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-26	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-AM-1D	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-AM-1S	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-1D	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-2D	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-2M	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-3D	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-3M	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-4D	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-AMW-8	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-24	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-33[D]	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-34[D]	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-35[D]	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MERCURY, TOTAL (UG/L)	L-S-1	0.06	0.029	2	No	5	100	No	0.031	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-LMW-1S	10.07	3.897	100	No	9	11.11	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-2S**	**228.1**	**103.4**	**100**	**Yes**	**9**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-4S**	**127.9**	**34.72**	**100**	**Yes**	**9**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-LMW-7S	81.2	38.6	100	No	8	0	No	0.004	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-8S**	**206.8**	**95.95**	**100**	**Yes**	**9**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-MW-26	1.3	0.455	100	No	9	88.89	No	0.002	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	**L-AM-1D**	**379.6**	**318.6**	**100**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	4.797	2.38	100	No	10	20	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-1D	3.5	0.85	100	No	11	81.82	No	0.006	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	**L-TP-2D**	**139.9**	**116.1**	**100**	**Yes**	**12**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-TP-2M	92.84	75.17	100	No	12	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-TP-3D**	**824.2**	**518**	**100**	**Yes**	**12**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-TP-3M**	**321.1**	**191.7**	**100**	**Yes**	**12**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-TP-4D	3.471	2.347	100	No	11	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-AMW-8**	**325.2**	**282.4**	**100**	**Yes**	**11**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-MW-24	2.9	0.5	100	No	8	75	No	0.004	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	**L-MW-33[D]**	**1104**	**800.1**	**100**	**Yes**	**9**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-MW-34[D]**	**1087**	**764.7**	**100**	**Yes**	**9**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-MW-35[D]**	**612.7**	**454.6**	**100**	**Yes**	**9**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-S-1	1.7	0.5	100	No	8	87.5	No	0.004	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-1S	0.925	0.5615	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-2S	1.193	0.4195	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-4S	1.08	0.3715	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-7S	0.9895	0.57	5	No	8	100	No	0.004	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-8S	0.9655	0.728	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-26	0.9355	0.4905	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1D	1.641	0.677	5	No	9	88.89	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1S	0.946	0.5925	5	No	8	100	No	0.004	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-1D	4.61	2.896	5	No	9	0	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-2D	1.923	0.582	5	No	9	66.67	No	0.002	NP (NDs)

Confidence Interval

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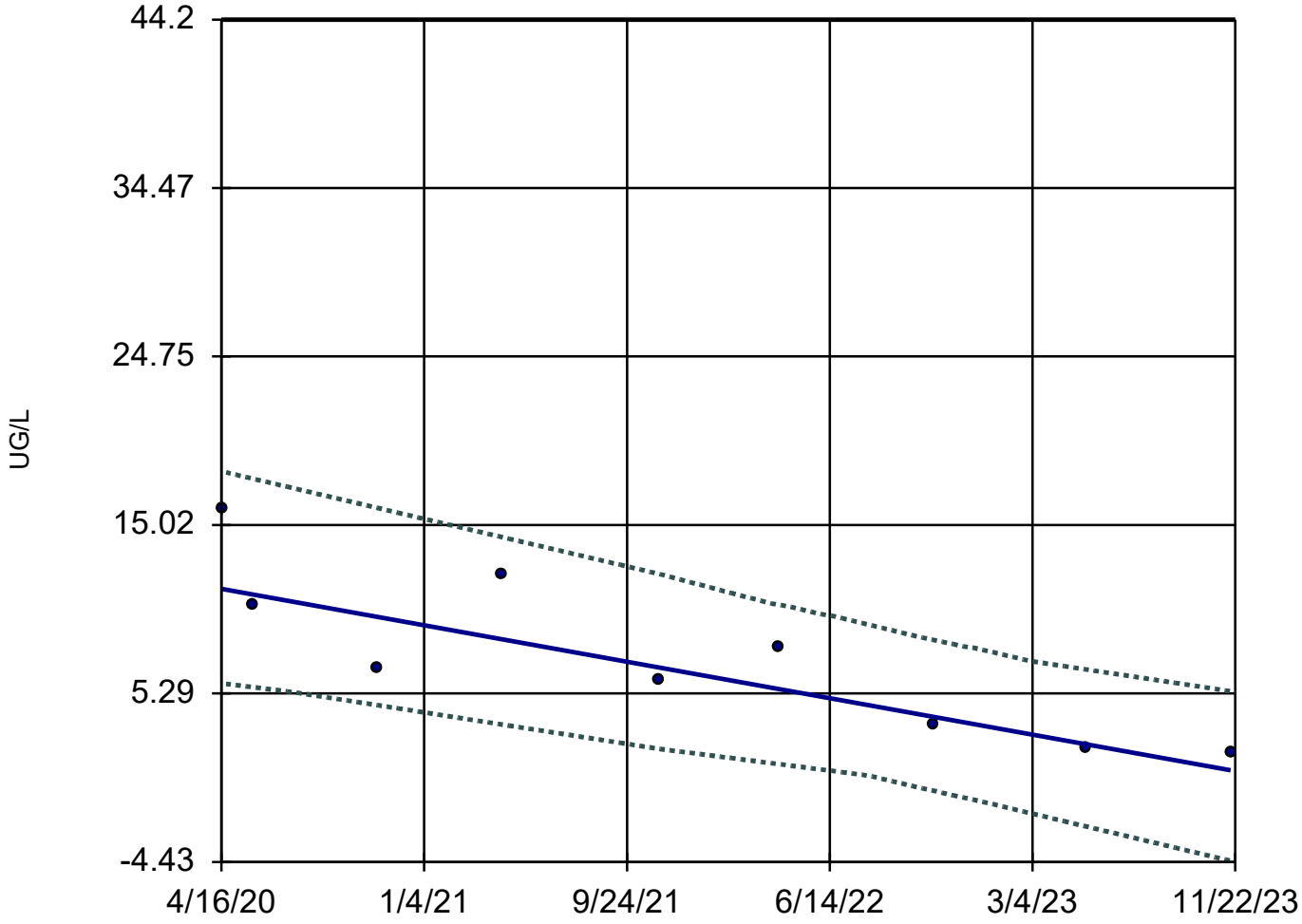
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	L-TP-2M	3.207	0.639	5	No	9	55.56	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-3D	1.175	0.5625	5	No	8	100	No	0.004	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-3M	2.45	1.203	5	No	9	44.44	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-4D	3.466	1.931	5	No	9	11.11	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-AMW-8	1.824	0.5478	5	No	9	77.78	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-24	2.056	0.4878	5	No	9	77.78	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-33[D]	1.89	0.707	5	No	9	66.67	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-34[D]	1.537	0.5485	5	No	9	66.67	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-35[D]	2.007	0.397	5	No	9	77.78	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-S-1	1.961	0.5455	5	No	9	66.67	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-1S	18.6	0.09	50	No	9	66.67	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-2S	0.2642	0.1624	50	No	9	33.33	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-LMW-4S	0.92	0.09	50	No	9	66.67	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-7S	0.2	0.09	50	No	8	87.5	No	0.004	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-8S	14.8	0.09	50	No	9	66.67	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-26	4.808	0.4631	50	No	9	0	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-AM-1D	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AM-1S	1.3	0.09	50	No	9	55.56	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-1D	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2D	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2M	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3D	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3M	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-4D	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AMW-8	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-24	26.91	3.393	50	No	9	22.22	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-MW-33[D]	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-34[D]	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-35[D]	0.09	0.09	50	No	9	100	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-S-1	19.9	0.09	50	No	9	44.44	No	0.002	NP (normality)
THALLIUM, TOTAL (UG/L)	L-LMW-1S	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-2S	0.075	0.0465	2	No	4	100	No	0.0625	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-4S	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-7S	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-8S	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-26	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-AM-1D	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-AM-1S	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-1D	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-2D	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-2M	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-3D	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-3M	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-4D	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-AMW-8	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-24	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-33[D]	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-34[D]	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-35[D]	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-S-1	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)

Appendix B
Sanitas Trending Confidence Bands Statistical Output

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-LMW-1S



n = 9

Slope = -2.918 units per year.

Mann-Kendall statistic = -28 critical = -23

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

Confidence band is below GWPS (44.2).

Constituent: ARSENIC, TOTAL Analysis Run 4/1/2024 3:11 PM

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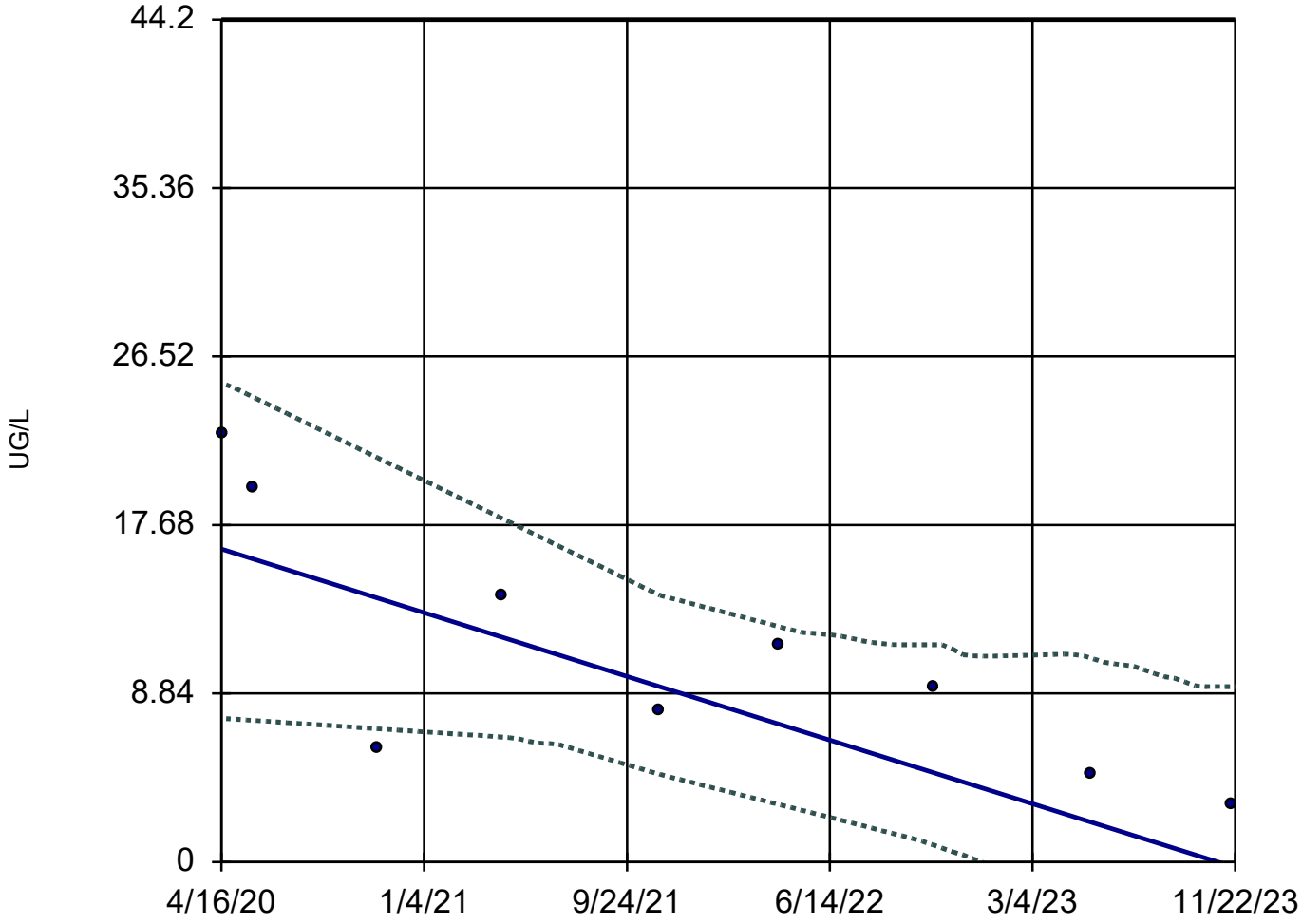
Sen's Slope and 95% Confidence Band

L-LMW-8S



n = 9

Slope = -4.636 units per year.

Mann-Kendall statistic = -24
critical = -23

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

Confidence band is below GWPS (44.2).

Constituent: ARSENIC, TOTAL Analysis Run 4/1/2024 3:11 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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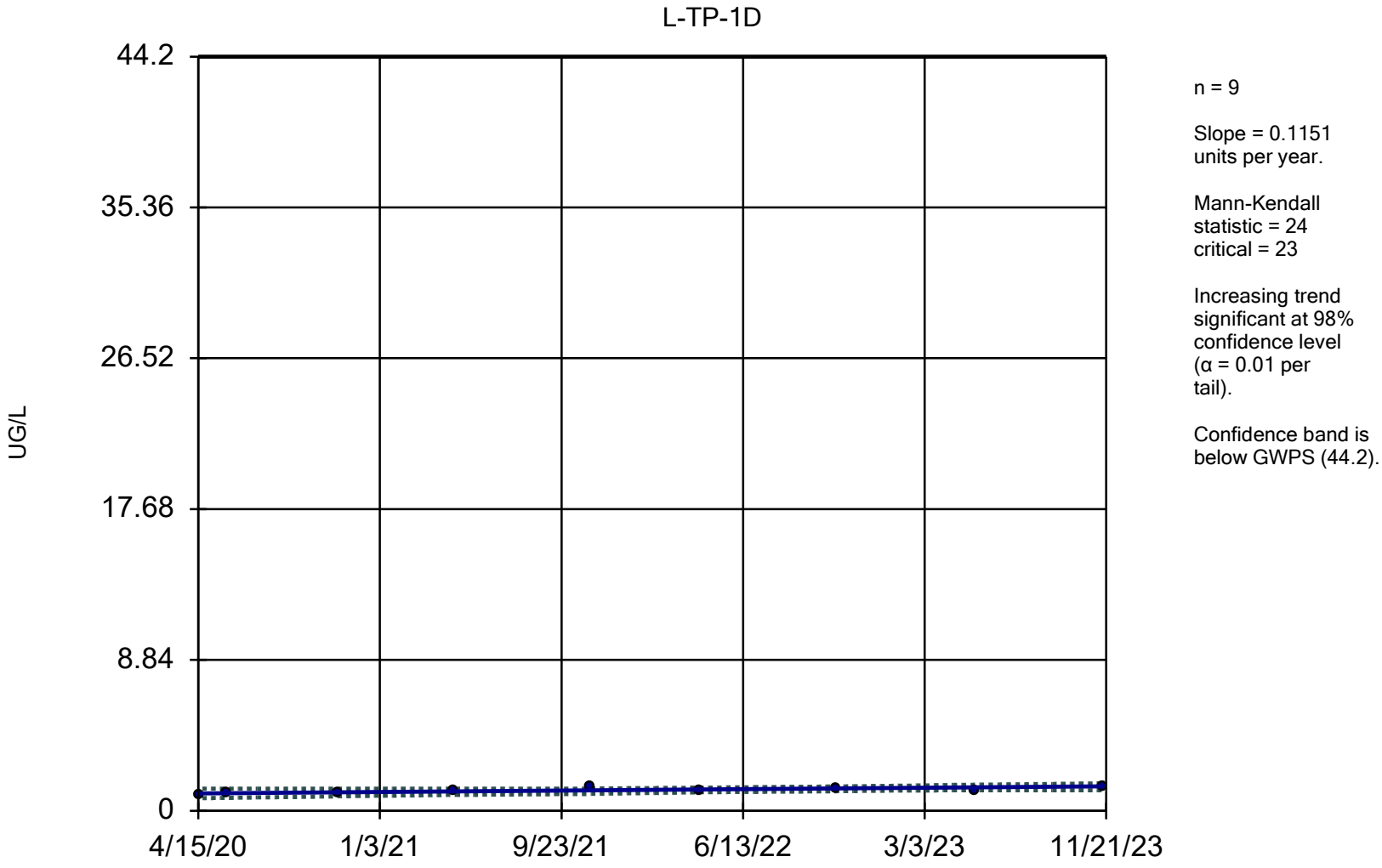
Sen's Slope and 95% Confidence Band



Constituent: ARSENIC, TOTAL Analysis Run 4/1/2024 3:11 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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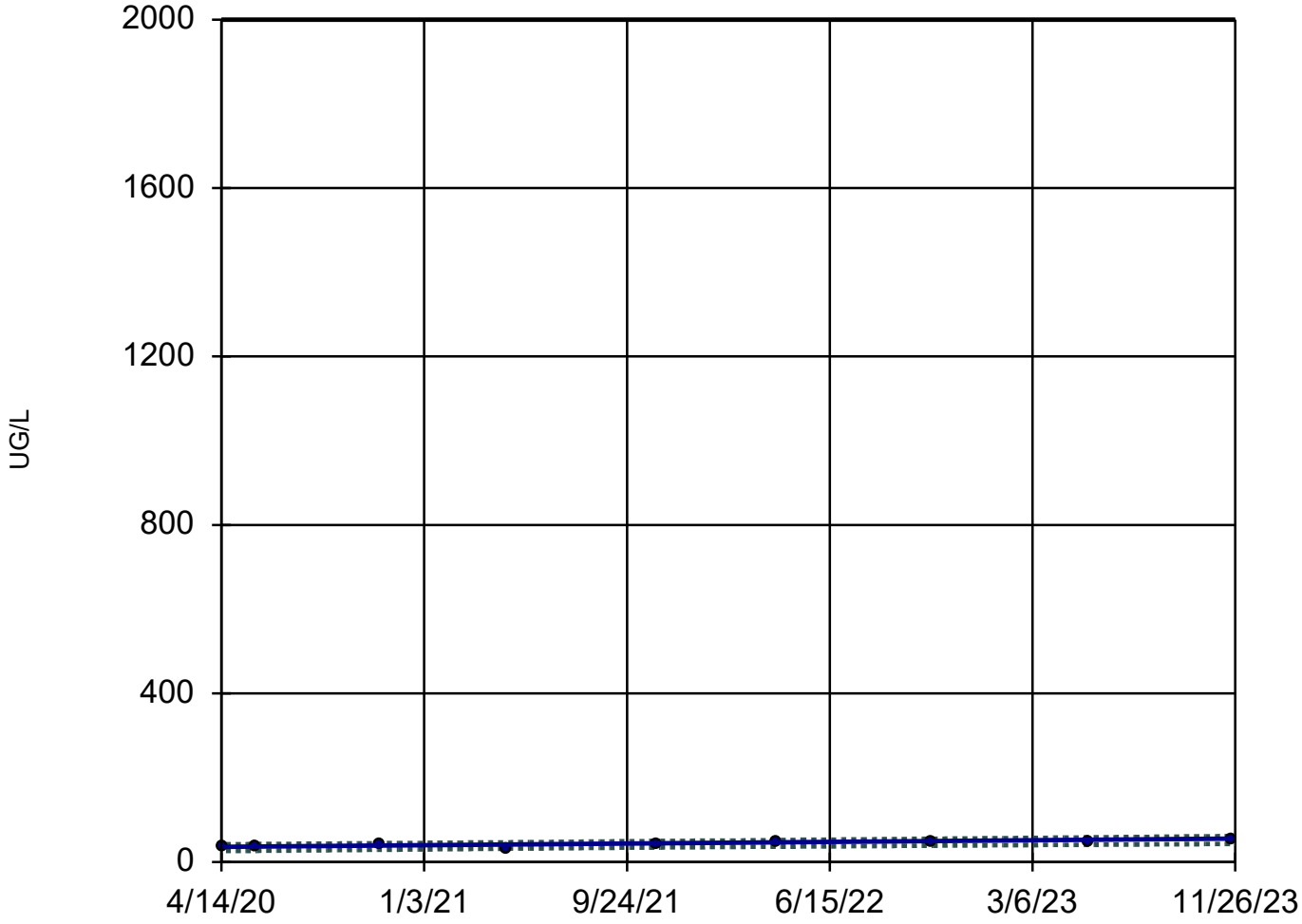
Sen's Slope and 95% Confidence Band

L-LMW-2S



n = 9

Slope = 5.419 units per year.

Mann-Kendall statistic = 28
critical = 23

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

Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 4/1/2024 3:11 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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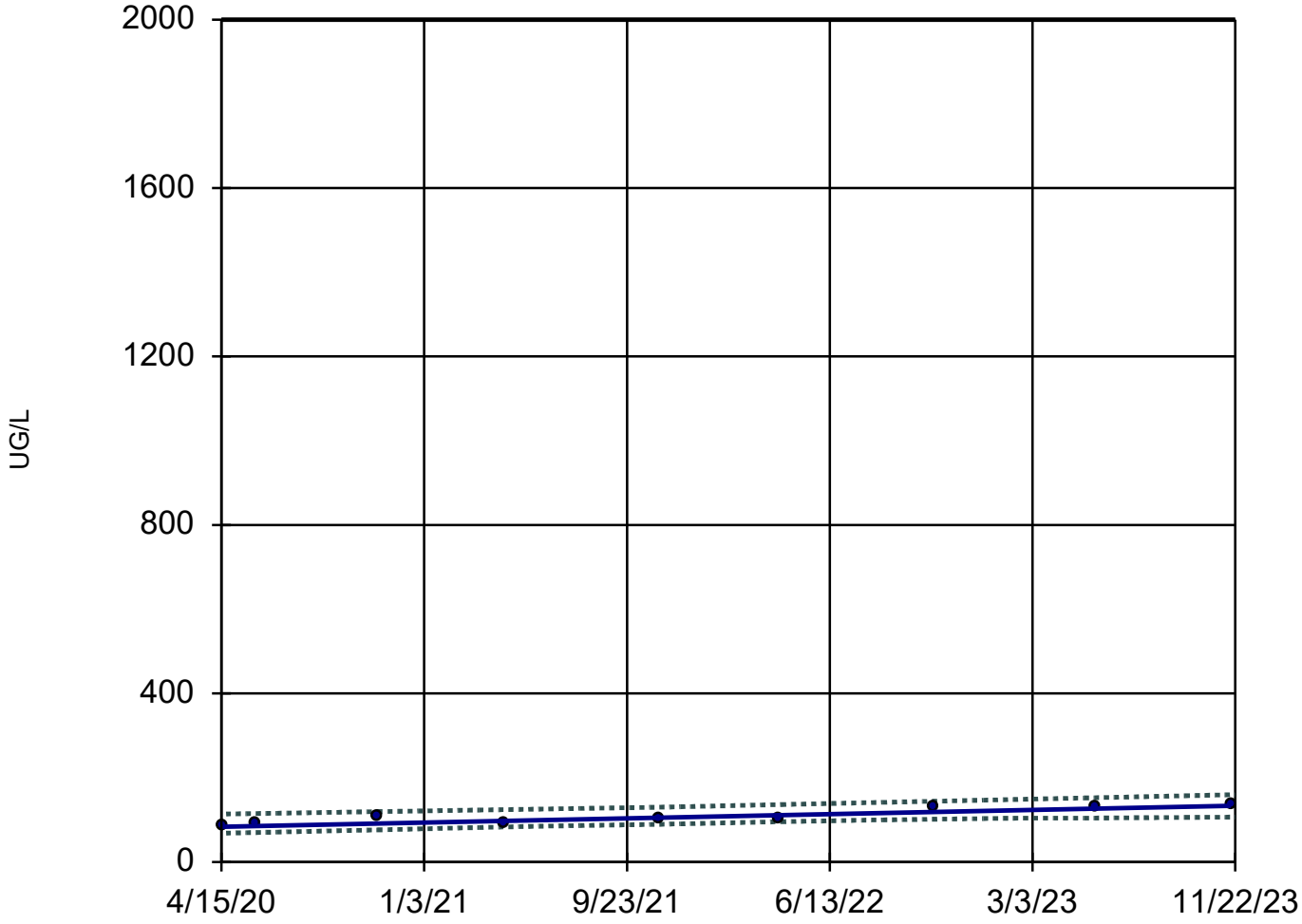
Sen's Slope and 95% Confidence Band

L-MW-33[D]



n = 9

Slope = 13.97 units per year.

Mann-Kendall statistic = 27
critical = 23

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

Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 4/1/2024 3:11 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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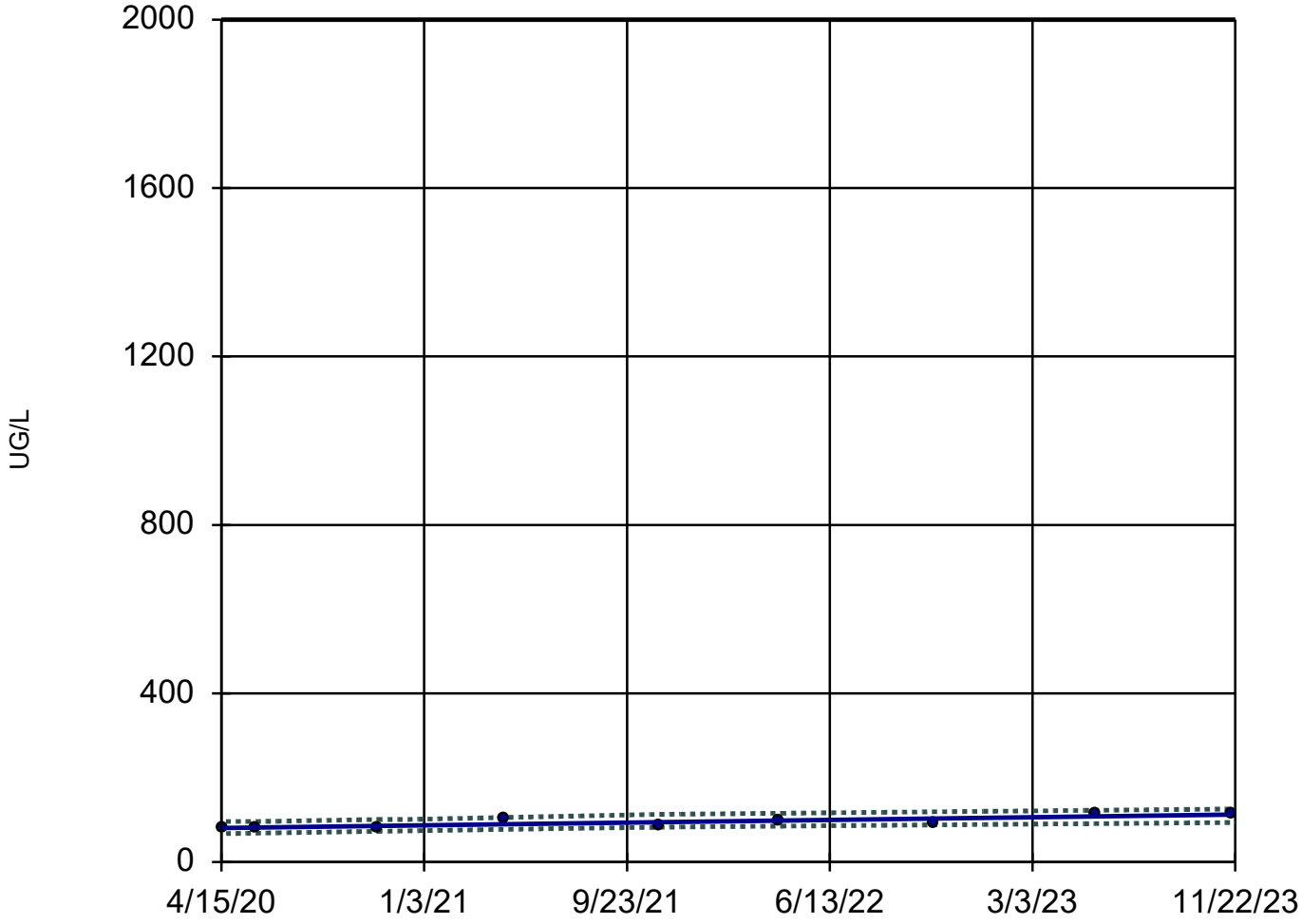
Sen's Slope and 95% Confidence Band

L-MW-34[D]



n = 9

Slope = 8.867 units per year.

Mann-Kendall statistic = 28
critical = 23

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

Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 4/1/2024 3:11 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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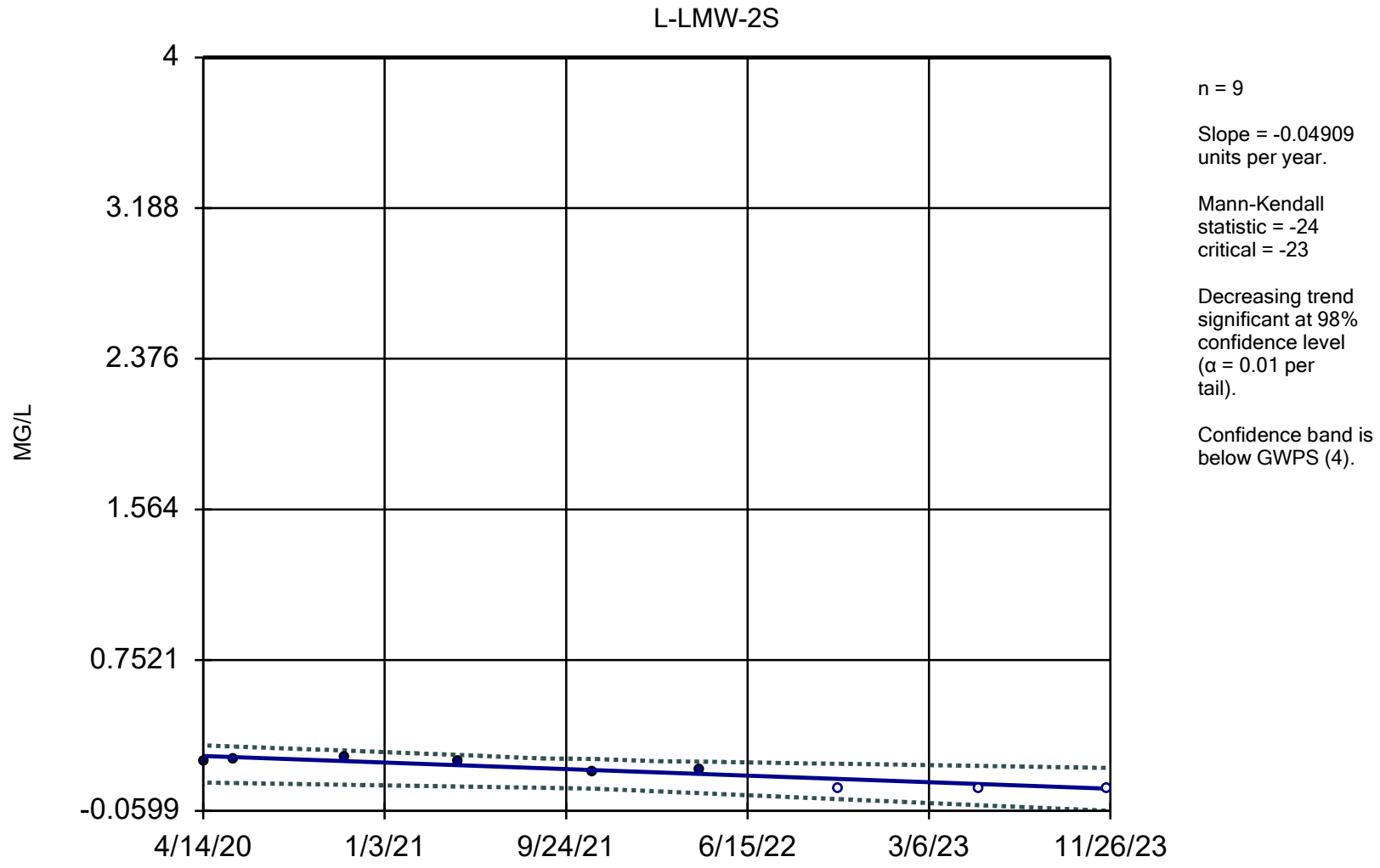
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



Constituent: FLUORIDE, TOTAL Analysis Run 4/1/2024 3:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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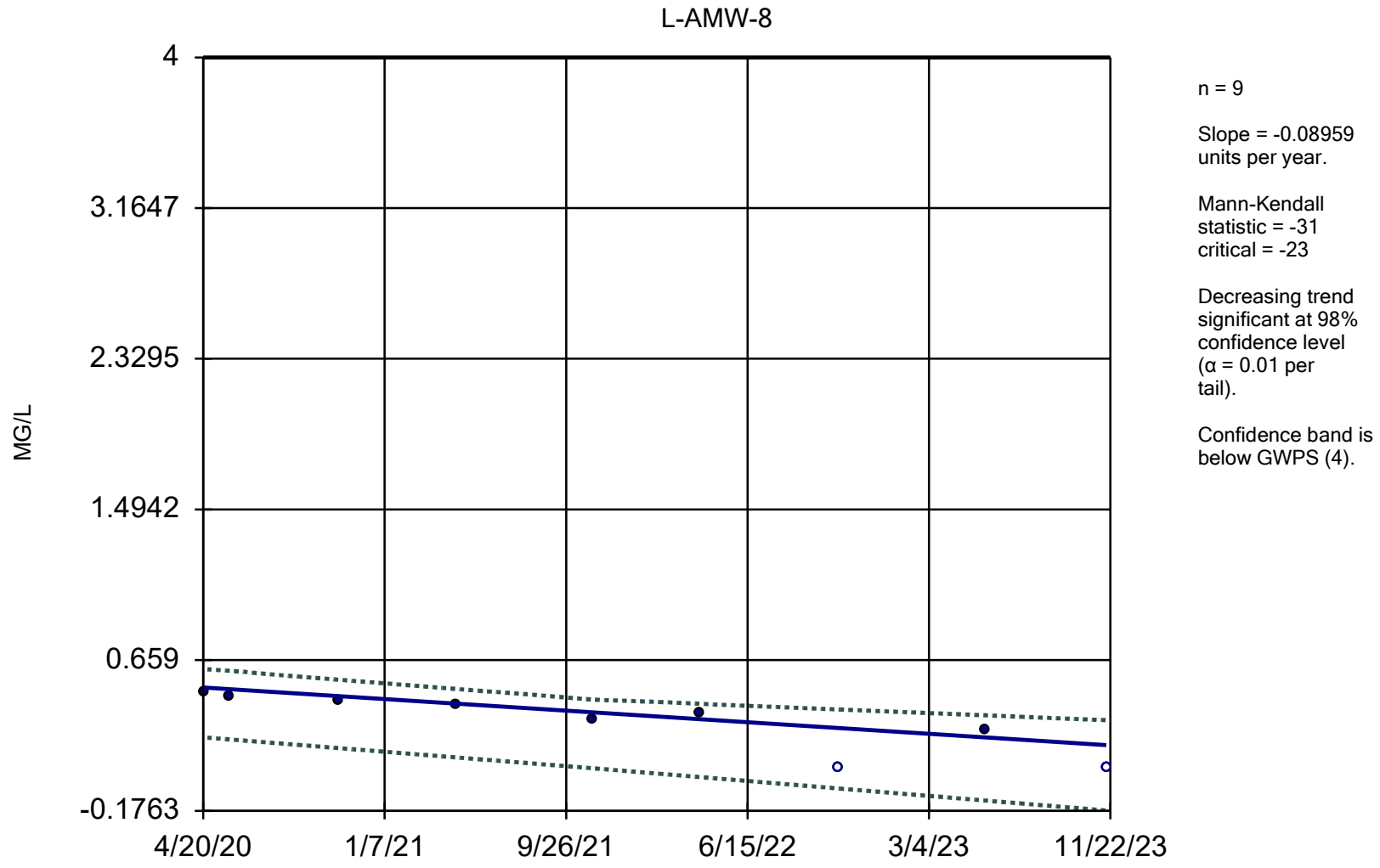
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



n = 9

Slope = -0.08959 units per year.

Mann-Kendall statistic = -31
critical = -23

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

Confidence band is below GWPS (4).

Constituent: FLUORIDE, TOTAL Analysis Run 4/1/2024 3:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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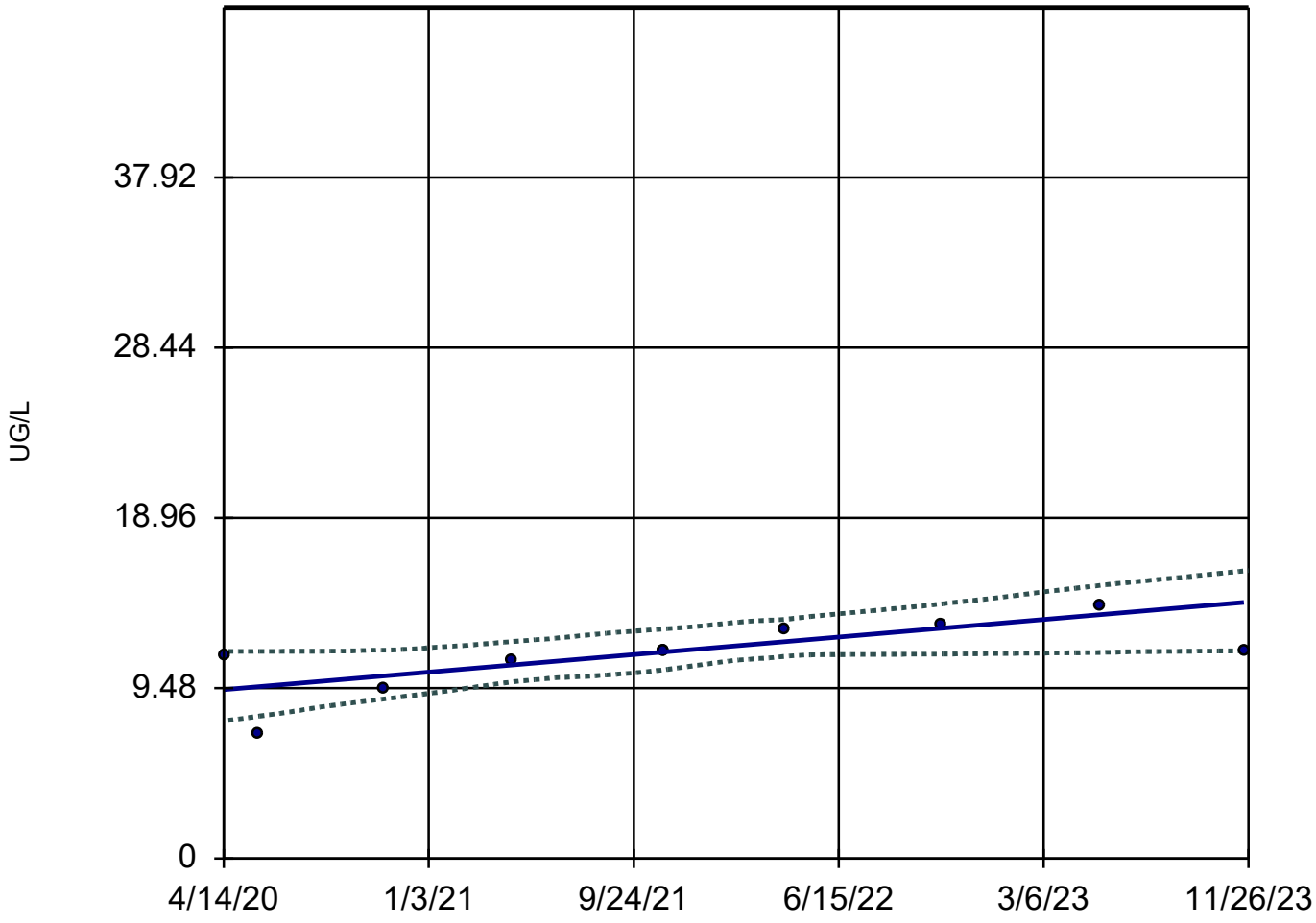
Sen's Slope and 95% Confidence Band

L-LMW-2S



n = 10

Slope = 1.349 units per year.

Mann-Kendall statistic = 32
critical = 27

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

Confidence band is below GWPS (47.4).

Constituent: LITHIUM, TOTAL Analysis Run 4/1/2024 3:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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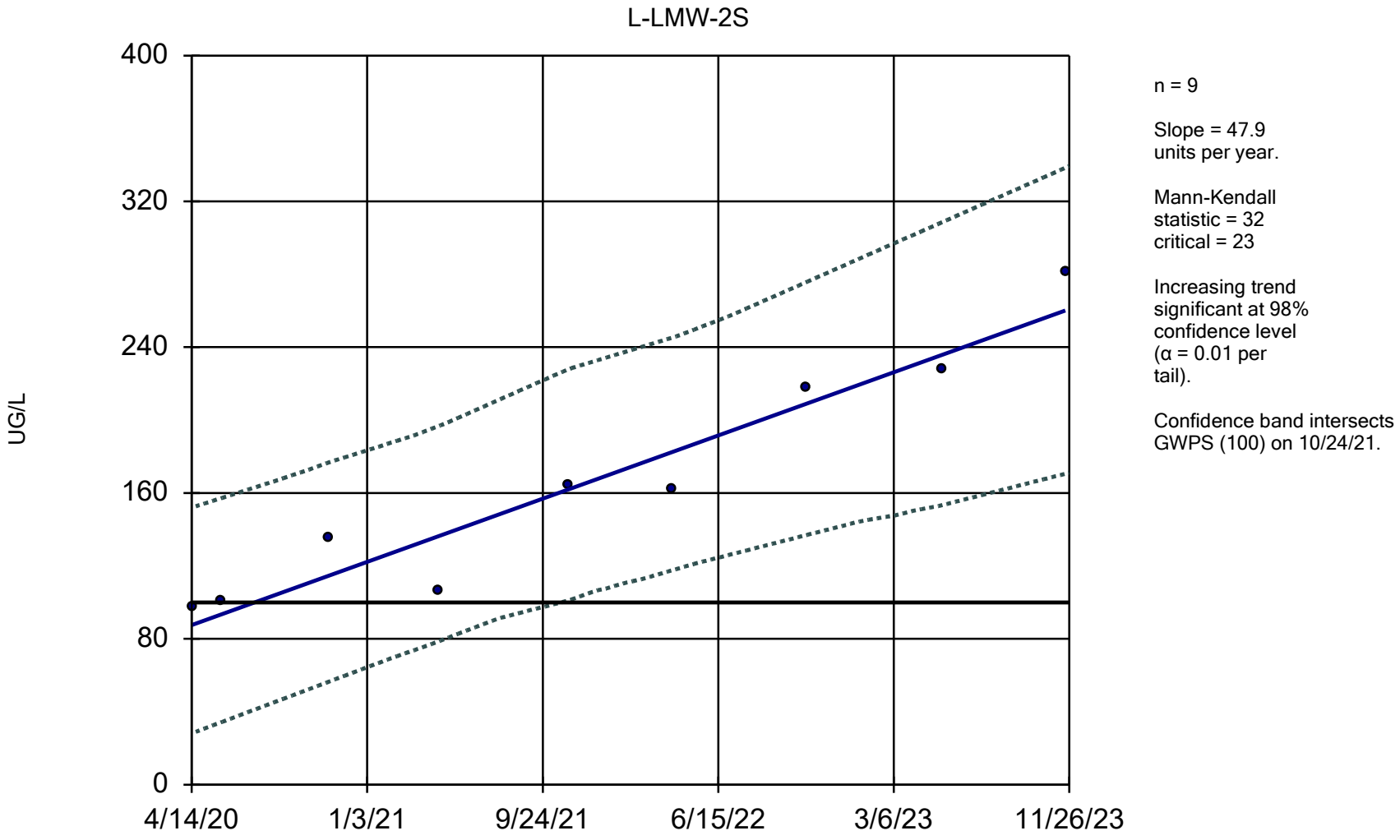
Sen's Slope and 95% Confidence Band



Constituent: MOLYBDENUM, TOTAL Analysis Run 4/1/2024 3:21 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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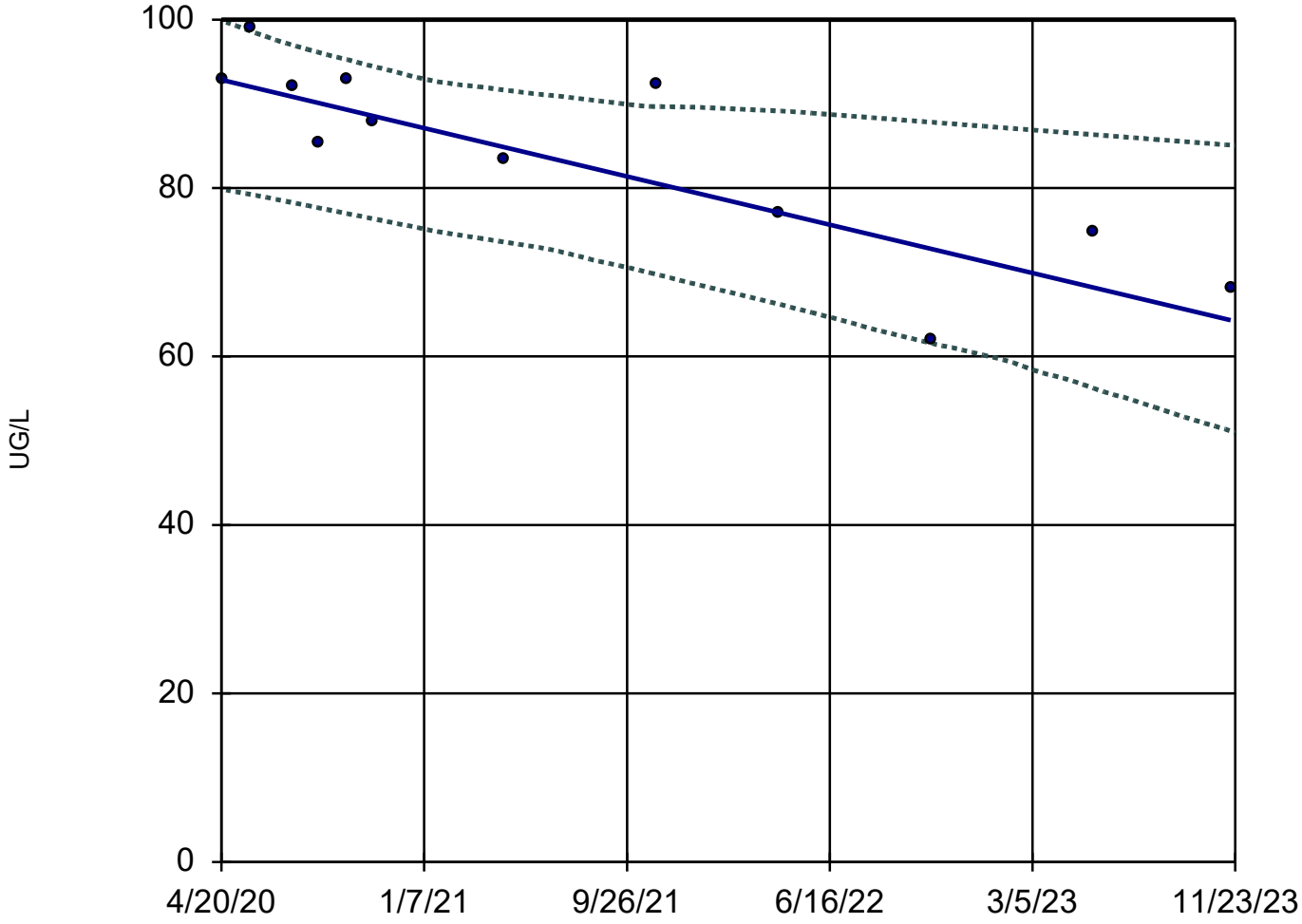
Sen's Slope and 95% Confidence Band

L-TP-2M



n = 12

Slope = -7.968 units per year.

Mann-Kendall statistic = -46
critical = -35

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

Confidence band is below GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 4/1/2024 3:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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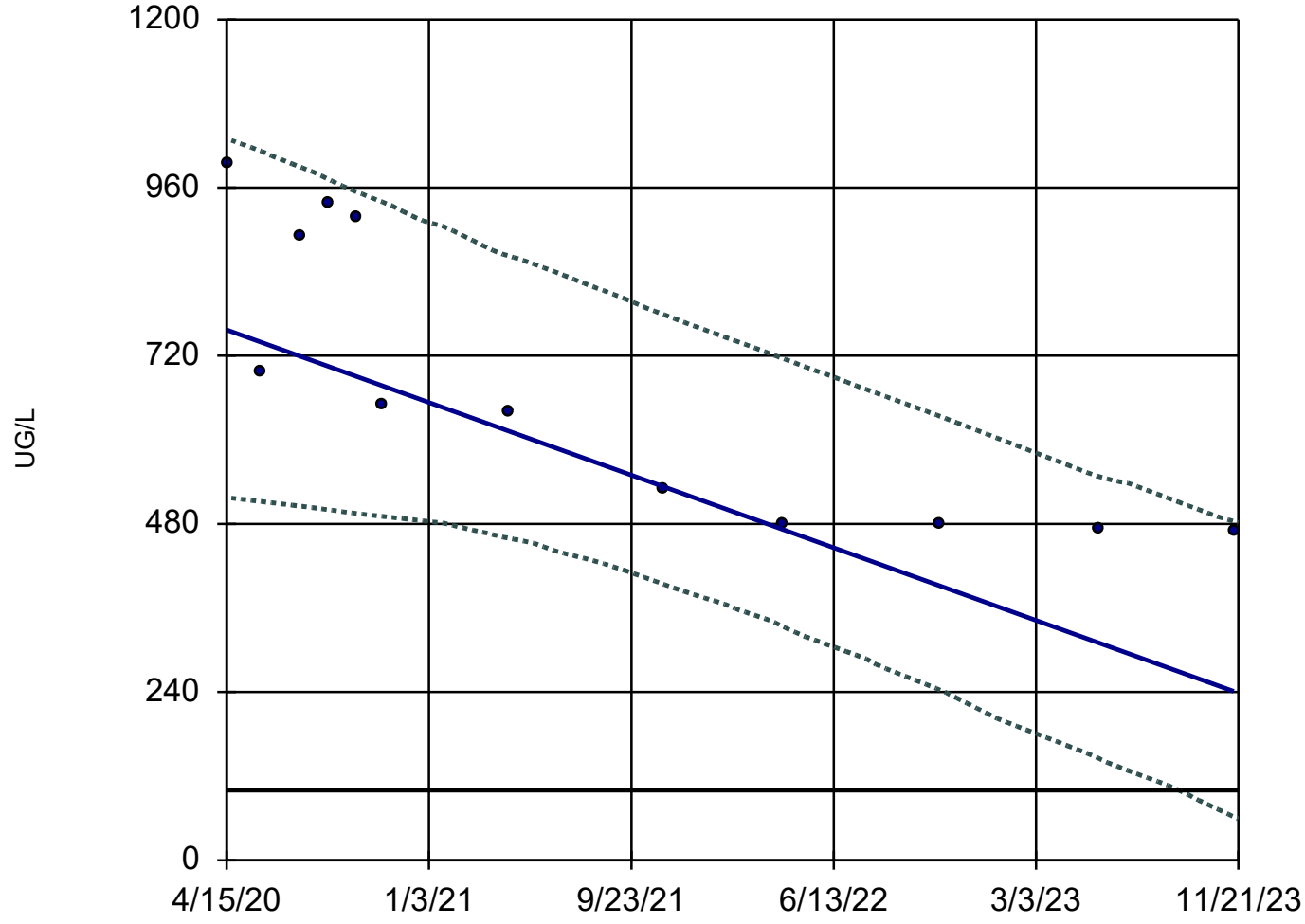
Sen's Slope and 95% Confidence Band

L-TP-3D



n = 12

Slope = -143.8 units per year.

Mann-Kendall statistic = -55
critical = -35

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

Confidence band intersects GWPS (100) on 09/17/23.

Constituent: MOLYBDENUM, TOTAL Analysis Run 4/1/2024 3:22 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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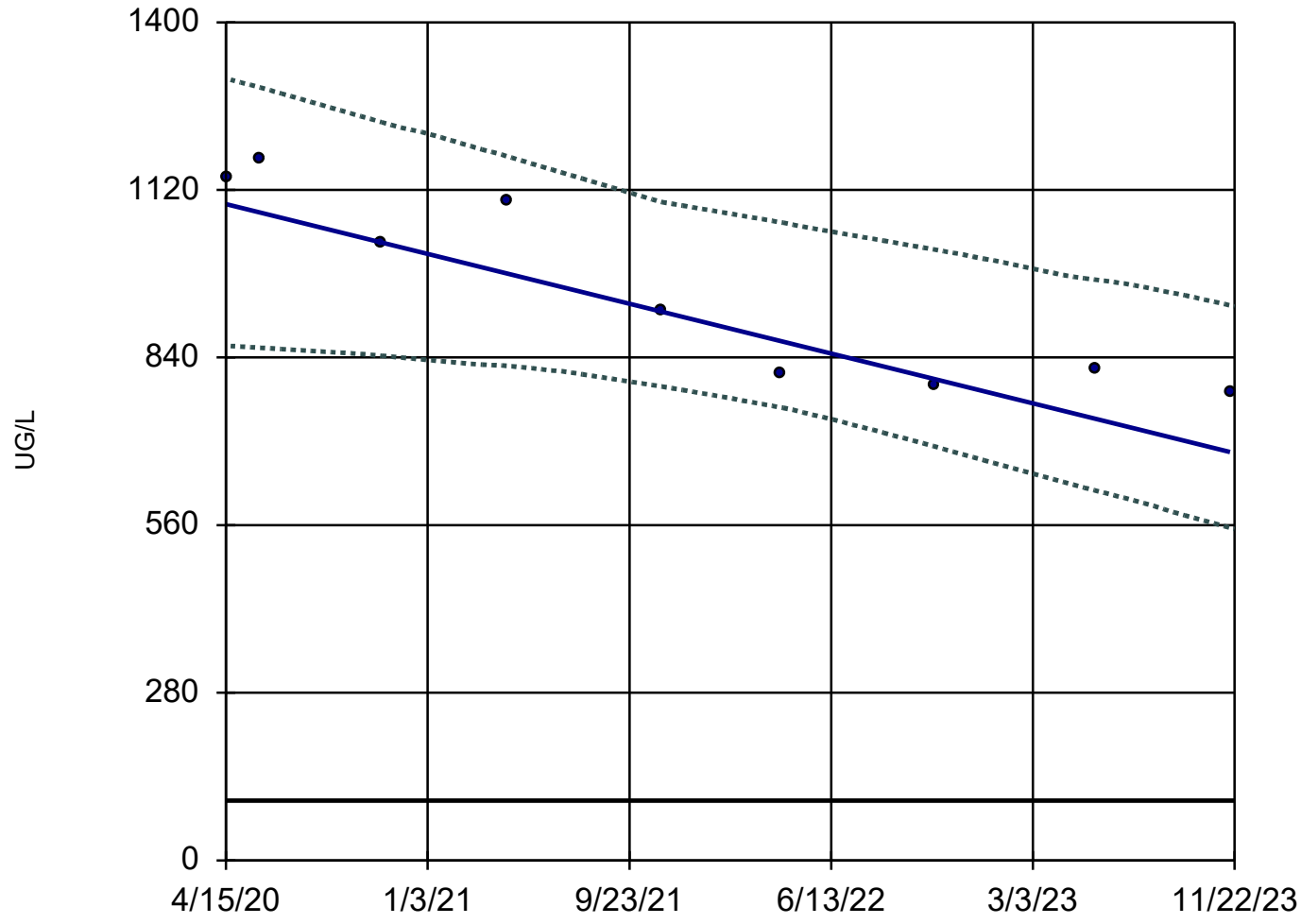
Sen's Slope and 95% Confidence Band

L-MW-33[D]



n = 9

Slope = -115.4 units per year.

Mann-Kendall statistic = -28
critical = -23

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

Confidence band is above GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 4/1/2024 3:24 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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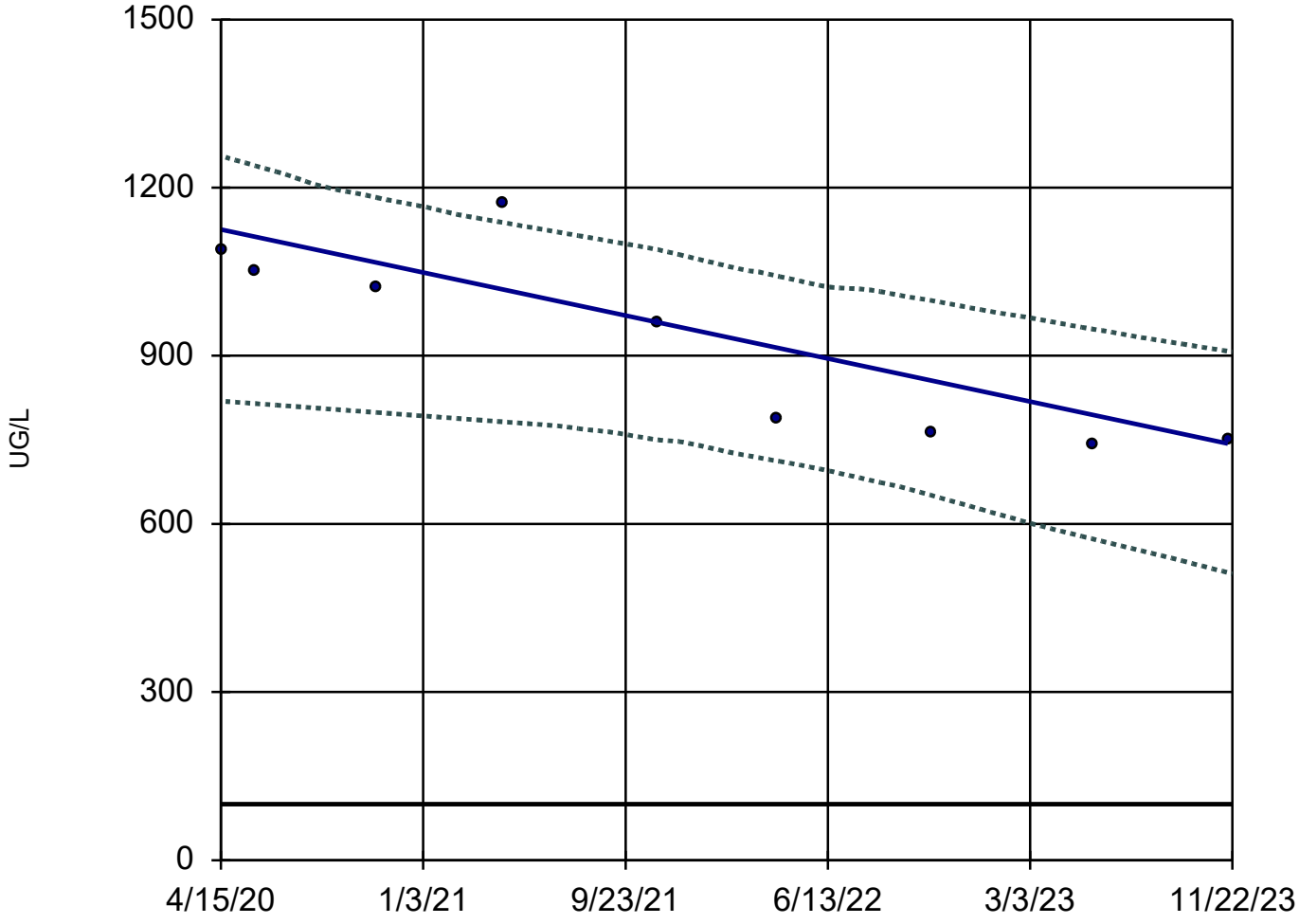
Sen's Slope and 95% Confidence Band

L-MW-34[D]



n = 9

Slope = -106.4 units per year.

Mann-Kendall statistic = -28
critical = -23

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

Confidence band is above GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 4/1/2024 3:25 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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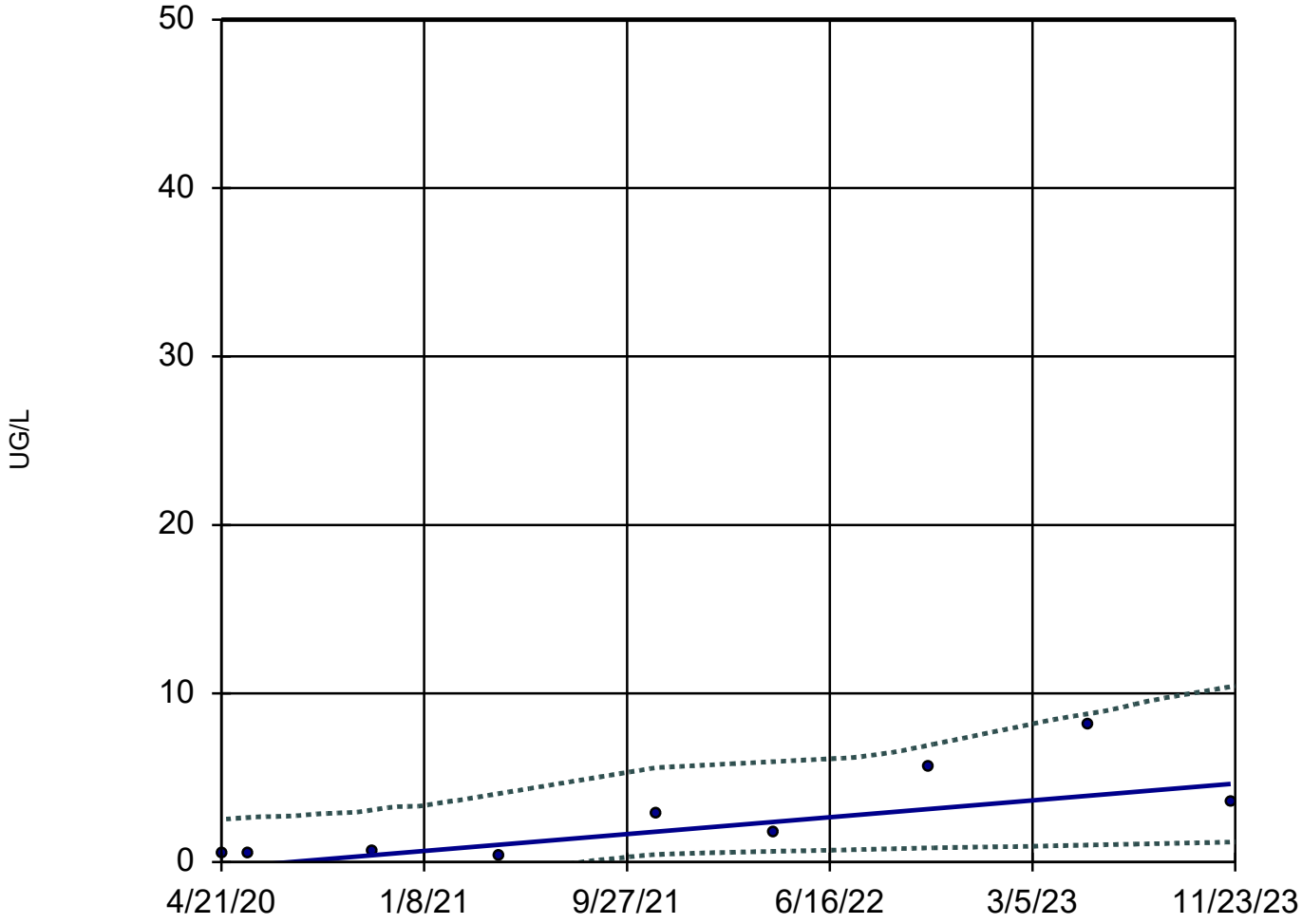
Sen's Slope and 95% Confidence Band

L-MW-26



n = 9

Slope = 1.392 units per year.

Mann-Kendall statistic = 24
critical = 23

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

Confidence band is below GWPS (50).

Constituent: SELENIUM, TOTAL Analysis Run 4/1/2024 3:13 PM

Labadie E.C. Client: Ameren Data: LEC DATA

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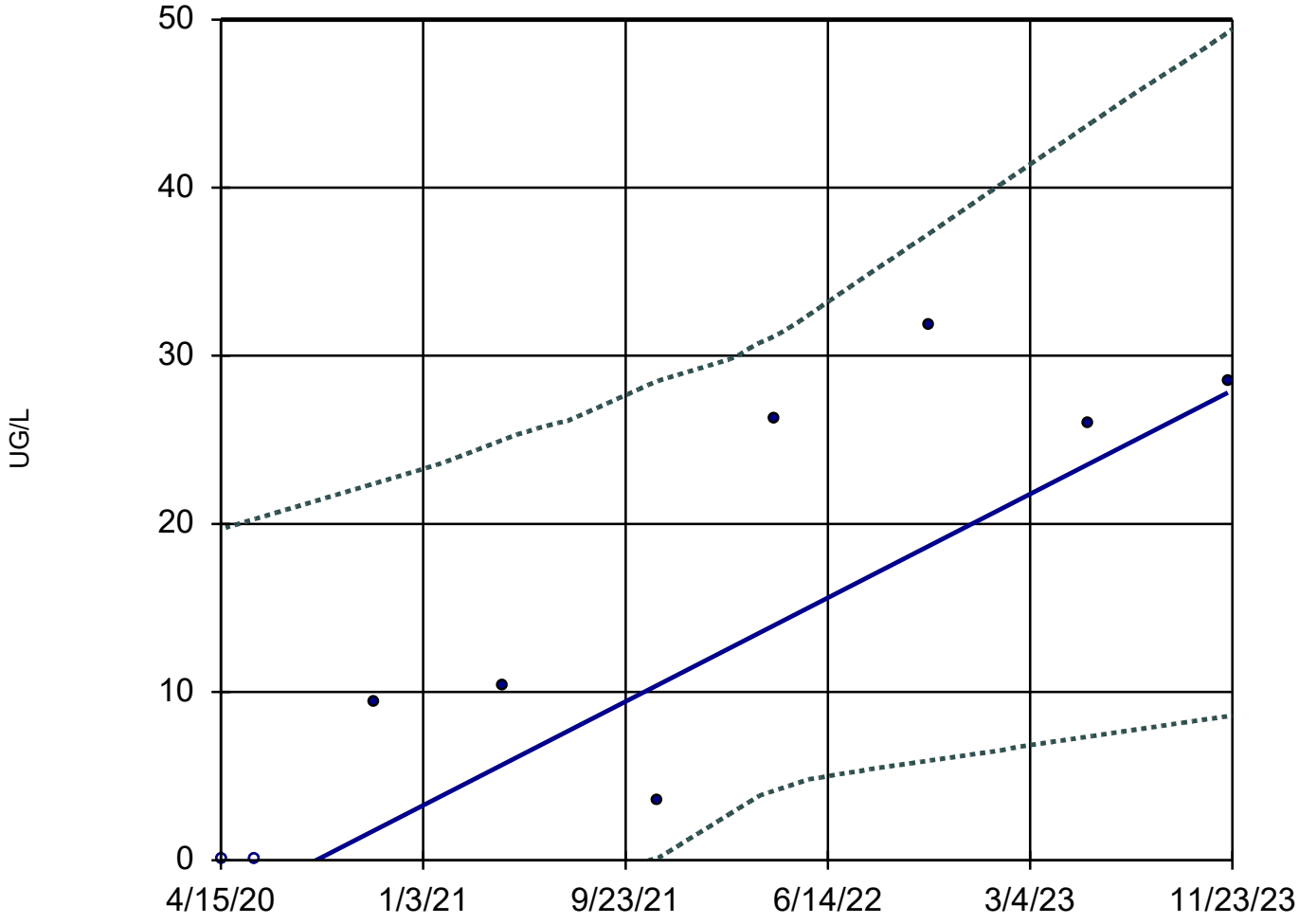
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-MW-24



n = 9

Slope = 8.55 units per year.

Mann-Kendall statistic = 25
critical = 23

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

Confidence band is below GWPS (50).

Constituent: SELENIUM, TOTAL Analysis Run 4/1/2024 3:13 PM

Labadie E.C. Client: Ameren Data: LEC DATA

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 3:14 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ARSENIC, TOTAL (UG/L)	**L-LMW-1S**	**-2.918**	**-28**	**-23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-LMW-2S	-0.0244	-1	-20	No	8	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-LMW-4S	0.6744	9	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-LMW-7S	-0.6842	-6	-23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**L-LMW-8S**	**-4.636**	**-24**	**-23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-MW-26	0.01049	3	23	No	9	11.11	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AM-1D	0.118	6	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AM-1S	0.4298	4	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**L-TP-1D**	**0.1151**	**24**	**23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-TP-2D	-0.1123	-7	-20	No	8	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-2M	-0.00...	-2	-23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-3D	0.4191	18	20	No	8	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-3M	-0.0274	-7	-23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-4D	-0.08064	-10	-23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AMW-8	0.01065	9	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-24	0.01579	4	23	No	9	11.11	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-33[D]	0.177	10	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-34[D]	-0.05052	-11	-23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-35[D]	-0.01235	-5	-20	No	8	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-S-1	0.02984	10	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-1S	10.83	14	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-LMW-2S**	**5.419**	**28**	**23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-LMW-4S	7.848	16	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-7S	-19.33	-16	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-8S	1.717	0	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-MW-26	-6.569	-12	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AM-1D	0.07346	0	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AM-1S	14.2	8	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-1D	16.88	11	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-2D	0	-1	-20	No	8	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-2M	7.479	19	20	No	8	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-3D	-1.754	-12	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-3M	-17.26	-18	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-4D	-8.968	-15	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AMW-8	3.656	15	20	No	8	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-MW-24	-24.4	-22	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-MW-33[D]**	**13.97**	**27**	**23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**L-MW-34[D]**	**8.867**	**28**	**23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-MW-35[D]	-2.657	-10	-23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-S-1	0.9707	1	23	No	9	0	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-1S	-0.00...	-2	-20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-2S	0.1148	13	17	No	7	71.43	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-4S	0.07758	13	20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-7S	0.0958	12	20	No	8	62.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-8S	0.01798	10	20	No	8	87.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-26	0.06198	12	20	No	8	87.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-AM-1D	0.08454	17	20	No	8	12.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-AM-1S	0.07068	13	20	No	8	25	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-1D	0.1105	18	20	No	8	37.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-2D	0.07659	15	20	No	8	50	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 3:14 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-TP-2M	0.05957	17	20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-3D	0.04231	11	20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-3M	0.08511	16	20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-4D	0.02977	9	20	No	8	62.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-AMW-8	-0.02116	-3	-20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-24	0.1684	15	20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-33[D]	0.2511	11	17	No	7	85.71	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-34[D]	0.09173	6	20	No	8	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-35[D]	0.1172	14	20	No	8	75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-S-1	0.06941	13	20	No	8	37.5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-LMW-1S	-0.04888	-29	-31	No	11	27.27	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-LMW-2S**	**-0.04909**	**-24**	**-23**	**Yes**	**9**	**33.33**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-LMW-4S	-0.06207	-21	-27	No	10	30	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-LMW-7S	-0.0553	-19	-27	No	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-LMW-8S	-0.01619	-3	-31	No	11	27.27	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-MW-26	-0.04602	-24	-31	No	11	45.45	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-AM-1D	-0.04163	-14	-23	No	9	22.22	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-AM-1S	-0.0669	-17	-23	No	9	44.44	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-TP-1D	-0.05399	-22	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-TP-2D	-0.05621	-16	-23	No	9	11.11	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-TP-2M	-0.07125	-23	-23	No	9	11.11	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-TP-3D	-0.07934	-18	-23	No	9	44.44	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-TP-3M	-0.04404	-10	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-TP-4D	-0.05772	-23	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-AMW-8**	**-0.08959**	**-31**	**-23**	**Yes**	**9**	**22.22**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-MW-24	-0.04917	-19	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-MW-33[D]	-0.06842	-10	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-MW-34[D]	-0.07806	-23	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-MW-35[D]	-0.0737	-15	-23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-S-1	-0.0515	-15	-20	No	8	37.5	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-LMW-1S	-1.571	-18	-23	No	9	11.11	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-LMW-2S**	**1.349**	**32**	**27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-LMW-4S	0.4328	9	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-LMW-7S	1.153	10	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-LMW-8S	-0.459	-6	-20	No	8	12.5	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-26	1.348	14	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AM-1D	-0.3544	-6	-23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AM-1S	1.872	18	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-1D	0.5386	11	20	No	8	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-2D	-0.04986	-1	-23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-2M	0.543	10	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-3D	1.521	18	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-3M	-1.504	-20	-23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-4D	0.8423	8	20	No	8	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AMW-8	0.05636	2	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-24	-1.68	-16	-23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-33[D]	0.4753	9	17	No	7	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-34[D]	1.242	20	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-35[D]	-0.4654	-5	-23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-S-1	0.2485	4	23	No	9	0	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 3:14 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	L-LMW-1S	-1.799	-21	-23	No	9	11.11	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-2S**	**47.9**	**32**	**23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-LMW-4S	-2.238	-2	-23	No	9	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-LMW-7S	-8.785	-20	-20	No	8	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-LMW-8S	-30.77	-15	-23	No	9	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-MW-26	0	-2	-23	No	9	88.89	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-AM-1D	-17.79	-20	-27	No	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	0.8091	11	27	No	10	20	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-TP-1D	0	14	31	No	11	81.82	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-TP-2D	-5.896	-29	-35	No	12	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-TP-2M**	**-7.968**	**-46**	**-35**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**L-TP-3D**	**-143.8**	**-55**	**-35**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-TP-3M	45.66	28	35	No	12	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-TP-4D	0.3718	29	31	No	11	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-AMW-8	-19.91	-29	-31	No	11	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-MW-24	0	1	20	No	8	75	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-MW-33[D]**	**-115.4**	**-28**	**-23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**L-MW-34[D]**	**-106.4**	**-28**	**-23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-MW-35[D]	-35.47	-14	-23	No	9	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-S-1	-0.1704	-11	-20	No	8	87.5	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-1S	0.003077	0	23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-2S	-0.1314	-12	-23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-4S	-0.0537	-12	-23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-7S	0.03644	4	20	No	8	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-8S	-0.00...	-2	-23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-26	-0.1216	-20	-23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AM-1D	-0.02126	-2	-23	No	9	88.89	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AM-1S	-0.0392	-2	-20	No	8	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-1D	-0.3519	-14	-23	No	9	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-2D	-0.1064	-6	-23	No	9	66.67	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-2M	-0.3309	-12	-23	No	9	55.56	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-3D	-0.03366	-6	-20	No	8	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-3M	-0.4394	-12	-23	No	9	44.44	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-4D	0.04766	0	23	No	9	11.11	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AMW-8	0.07647	6	23	No	9	77.78	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-24	-0.1362	-22	-23	No	9	77.78	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-33[D]	-0.02621	-4	-23	No	9	66.67	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-34[D]	-0.115	-14	-23	No	9	66.67	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-35[D]	-0.1743	-14	-23	No	9	77.78	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-S-1	0.03695	2	23	No	9	66.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-1S	1.659	19	23	No	9	66.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-2S	0.03035	14	23	No	9	33.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-4S	0.1134	19	23	No	9	66.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-7S	0	-3	-20	No	8	87.5	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-8S	0.9901	21	23	No	9	66.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	**L-MW-26**	**1.392**	**24**	**23**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.02**	**NP**
SELENIUM, TOTAL (UG/L)	L-AM-1D	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-AM-1S	0.08817	18	23	No	9	55.56	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-1D	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-2D	0	0	23	No	9	100	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 4/1/2024, 3:14 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
SELENIUM, TOTAL (UG/L)	L-TP-2M	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-3D	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-3M	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-4D	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-AMW-8	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	**L-MW-24**	**8.55**	**25**	**23**	**Yes**	**9**	**22.22**	**n/a**	**n/a**	**0.02**	**NP**
SELENIUM, TOTAL (UG/L)	L-MW-33[D]	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-MW-34[D]	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-MW-35[D]	0	0	23	No	9	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-S-1	1.898	22	23	No	9	44.44	n/a	n/a	0.02	NP

Appendix F

May 2024 Corrective Action Statistical Evaluation

Memorandum
September 23, 2024

To:	Bill Kutosky – Ameren Missouri	**Project Number:**	23007-24
CC:	Ameren Missouri - Susan Knowles, Craig Giesmann, Charlie Henderson		
From:	Rocksmith Geoengineering – Jeff Ingram, R.G., Mark Haddock, P.E., R.G., Grant Morey	**Email:**	jeff.ingram@rocksmithgeo.com
RE:	**Corrective Action Statistical Evaluation – LCPA Surface Impoundment Labadie Energy Center, Franklin County, Missouri**		

1.0 INTRODUCTION

This Technical Memorandum provides the results of the Corrective Action Monitoring statistical analysis from the May 2024 sampling event for the LCPA Surface Impoundment at the Labadie Energy Center (LEC) located in Franklin County, Missouri. As outlined in the 2019 Remedy Selection Report for the LCPA, Corrective Action at the LCPA consists of two phases, as follows:

1) Source control, stabilization, and containment of CCR by installation of a low-permeability geomembrane cap.
2) Once source control is achieved, monitor the natural attenuation (MNA) of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modeling evaluations to document concentration trends following Corrective Action.

Phase 1 of Corrective Action commenced on September 28, 2019 and was substantially completed on December 30, 2020 with the installation of a low permeability cover system. Since that time, the LCPA has been subject to the post-closure care requirements of the CCR Rule. A Supplemental Remedy Selection report was prepared for the LCPA in August 2024 by Haley & Aldrich. This report documents the results of the above corrective measures since their inception as well as future supplemental measures that may be applied in the future. The report notes that source control, in addition to ongoing natural attenuation, appears to contribute to a general reduction in groundwater constituent concentrations near the LCPA. As of this evaluation, potential supplemental corrective measures are being planned for the LEC, including a groundwater treatment system similar to those in use at other Ameren facilities. Such a treatment system is expected to supplement the current source control and MNA remedy and enhance reductions in constituent concentrations.

Included in this memorandum is a summary of constituents that are currently in exceedance of the groundwater protection standard (GWPS), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A** and **Appendix B**).

As required by the CCR Rule, a Corrective Action monitoring program was implemented within 90 days of selecting a remedy, and the first sampling event was completed in April 2020. 10 sampling events have been completed in total as a part of the Corrective Action Program at the LEC. This analysis uses results collected

since the beginning of Corrective Action monitoring (April 2020) for the determination of constituents exceeding the GWPS, as data collected prior to this time were collected during active conditions at the LCPA, prior to cessation of CCR disposal in the LCPA and are not representative of groundwater conditions since the initiation of closure.

Trend tests using the Sen's Slope/Mann-Kendall method require a minimum of eight independent results, as outlined in the USEPA Unified Guidance. Therefore, trend tests were completed for the following Appendix IV constituents: antimony, arsenic, barium, chromium, fluoride, lithium, molybdenum, radium 226 + 228, and selenium.

Several constituents were reported at concentrations below the Practical Quantitation Limit (PQL) during the spring 2020, 2021, 2022, 2023 and/or 2024 sampling events, including: antimony, beryllium, cadmium, chromium, cobalt, lead, mercury, and thallium. During years when a constituent reported at concentrations below the PQL in all wells, they were not re-sampled/tested during the subsequent semi-annual sampling event each calendar year. As a result, there are fewer results available for these constituents. This is the first Corrective Action statistical evaluation where Sen's Slope/Mann-Kendall analyses were completed for antimony, which now has eight results at each monitoring well.

2.0 STATISTICAL EVALUATION

The Appendix IV constituents were evaluated for exceedances above the GWPS using the methods and procedures outlined in the Corrective Action Groundwater Monitoring Plan's (CAGMP's) Statistical Analysis Plan (SAP). An outlier analysis was completed as the first step of the statistical evaluation. The outlier analysis was performed only on the results collected as a part of the Corrective Action Monitoring Program. In addition to outliers noted in previous Corrective Action statistical evaluations, the following outliers were removed from the dataset prior to the calculation of confidence limits:

- Barium
    - L-TP-2M at 162 micrograms per liter (µg/L) on 11/17/2023: result is statistically higher than other barium values at the same monitoring well. This high result is not consistent with previous or subsequent barium results at the well and is an outlier.
- Cobalt
    - L-TP-1D at non-detect (<5.0 µg/L) on 11/15/2023: result is statistically higher than other cobalt values at the same monitoring well due to the high detection limit reported following data validation procedures. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.
    - L-MW-34[D] at non-detect (<5.0 µg/L) on 11/16/2023: result is statistically higher than other cobalt values at the same monitoring well due to the high detection limit reported following data validation procedures. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.
    - L-MW-35[D] at non-detect (<5.0 µg/L) on 11/17/2023: result is statistically higher than other cobalt values at the same monitoring well due to the high detection limit reported following data

validation procedures. This high result is not consistent with previous or subsequent cobalt results at the well and is an outlier.

- Lead
    - L-AM-1D at 6.1 J µg/L on 4/20/2021: result is statistically higher than other lead values at the same monitoring well. This high result is not consistent with previous or subsequent lead results at the well and is an outlier.
    - L-AM-1D at 6.0 J µg/L on 4/20/2021: result is statistically higher than other lead values at the same monitoring well. This high result is not consistent with previous or subsequent lead results at the well and is an outlier.
- Selenium
    - L-LMW-1S at 18.6 µg/L on 11/16/2023: result is statistically higher than other selenium values at the same monitoring well. This high result is not consistent with previous or subsequent selenium results at the well and is an outlier.
    - L-S-1 at 19.9 µg/L on 5/16/2023: result is statistically higher than other selenium values at the same monitoring well. This high result is not consistent with previous or subsequent selenium results at the well and is an outlier.

An analysis of the outliers removed to-date was completed, and the following statistical outliers previously removed were added back into the dataset prior to the calculation of confidence limits:

- Arsenic
    - L-LMW-2S at 39.0 µg/L on 5/19/2023: removed during the statistical evaluation for the November 2023 sampling event because the result was statistically lower than other arsenic results at the same monitoring well. Based on review of subsequent sampling results, the low result was confirmed, and the result is no longer an outlier.
- Cobalt
    - L-LMW-1S at 1.8 J µg/L on 4/16/2020: removed during the statistical evaluation for the May 2023 sampling event because the result was statistically higher than other cobalt results at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed, and the result is no longer an outlier.
- Lithium
    - L-BMW-1S at 23.8 µg/L on 4/6/2022: removed during the statistical evaluation for the May 2023 sampling event because the result was statistically higher than other lithium results at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed, and the result is no longer an outlier.

- Molybdenum
    - L-LMW-7S at 137 µg/L on 4/15/2021: removed during the statistical evaluation for the April 2022 sampling event because the result was statistically higher than other molybdenum results at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed, and the result is no longer an outlier.
    - L-TP-1D at non-detect (<20.0 µg/L) on 10/26/2022: removed during the statistical evaluation for the May 2023 sampling event because the result was statistically higher than other molybdenum results at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed, and the result is no longer an outlier.
    - L-TP-4D at non-detect (<20.0 µg/L) on 10/24/2022: removed during the statistical evaluation for the May 2023 sampling event because the result was statistically higher than other molybdenum results at the same monitoring well. Based on review of subsequent sampling results, the high result was confirmed, and the result is no longer an outlier.

Following the outlier analysis, the second step in the statistical analysis was to calculate confidence intervals and compare those to the site-specific GWPS (**Appendix A**). Confidence interval evaluation was supplemented with Sen's Slope/Mann Kendall Analyses on constituents that have eight independent sampling results at a given well, per the USEPA Unified Guidance (**Appendix B**). The Sen's Slope/Mann-Kendall Analysis identifies well-analyte pairs that have statistically significant trends and calculates confidence bands that vary with time. The upper confidence band, in relation to the GWPS for a given constituent, is used to determine exceedances, as outlined in the site CAGMP. As discussed previously, beryllium, cadmium, cobalt, lead, mercury, and thallium do not have the requisite quantity of results to perform Sen's Slope/Mann Kendall Analyses, so only confidence intervals were produced for those constituents.

Using these corrective action statistical methods with data through May 2024, monitoring wells with constituents exceeding the GWPS are as follows:

- Arsenic at L-LMW-2S
- Lithium at L-LMW-7S
- Molybdenum at L-LMW-2S, L-LMW-4S, L-LMW-7S, L-LMW-8S, L-AM-1D, L-TP-2D, L-TP-3D, L-TP-3M, L-AMW-8, L-MW-33[D], L-MW-34[D], and L-MW-35[D]

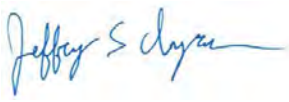
Molybdenum at L-LMW-7S is again an exceedance using Corrective Action statistical methods on data through May 2024. This has previously been identified as an exceedance as recently as the statistical evaluation for the November 2021 sampling event but was not an exceedance in subsequent evaluations. As of May 2024, the UPL for molybdenum at L-LMW-7S is 124.8 µg/L, slightly greater than the GWPS of 100 µg/L for molybdenum. All other arsenic, lithium, and molybdenum exceedances previously identified in November 2023 remain as of this evaluation. Variability in the initial groundwater sampling results during and directly after the closure of the LCPA is expected, especially at wells nearest the CCR unit, where closure grading and disturbance activities were greatest. The concentrations reported in these results following closure are expected to be variable but are expected to decrease over time as stabilization occurs and supplemental corrective measures are put into service.

3.0 CLOSING

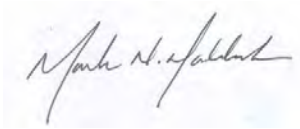
Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

Sincerely,

Rocksmith Geoengineering, LLC



Jeff Ingram, R.G.
Senior Geologist, Partner



Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

Attachments

Tables

Table 1 – LCPA Groundwater Protection Standards

Appendices

Appendix A – Sanitas Confidence Interval Statistical Output

Appendix B – Sanitas Trending Confidence Bands Statistical Output

Tables

Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring [6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	44.2	44.2
Barium	µg/L	2000	2000	1290
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	DQR
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.3074
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	47.4	47.4
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	4.14
Selenium	µg/L	50	50	DQR
Thallium	µg/L	2	2	DQR

Notes:
1. µg/L - micrograms per liter.
2. mg/L - milligrams per liter.
3. pCi/L - picocuries per liter.
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9, 2023 at http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results through May 2023 from monitoring wells BMW-1D and BMW-2D.

ROCKSMITH GEOENGINEERING

Prepared by: GTM
Checked by: JSI
Reviewed by: MNH

Appendix A
Sanitas Confidence Interval Statistical Output

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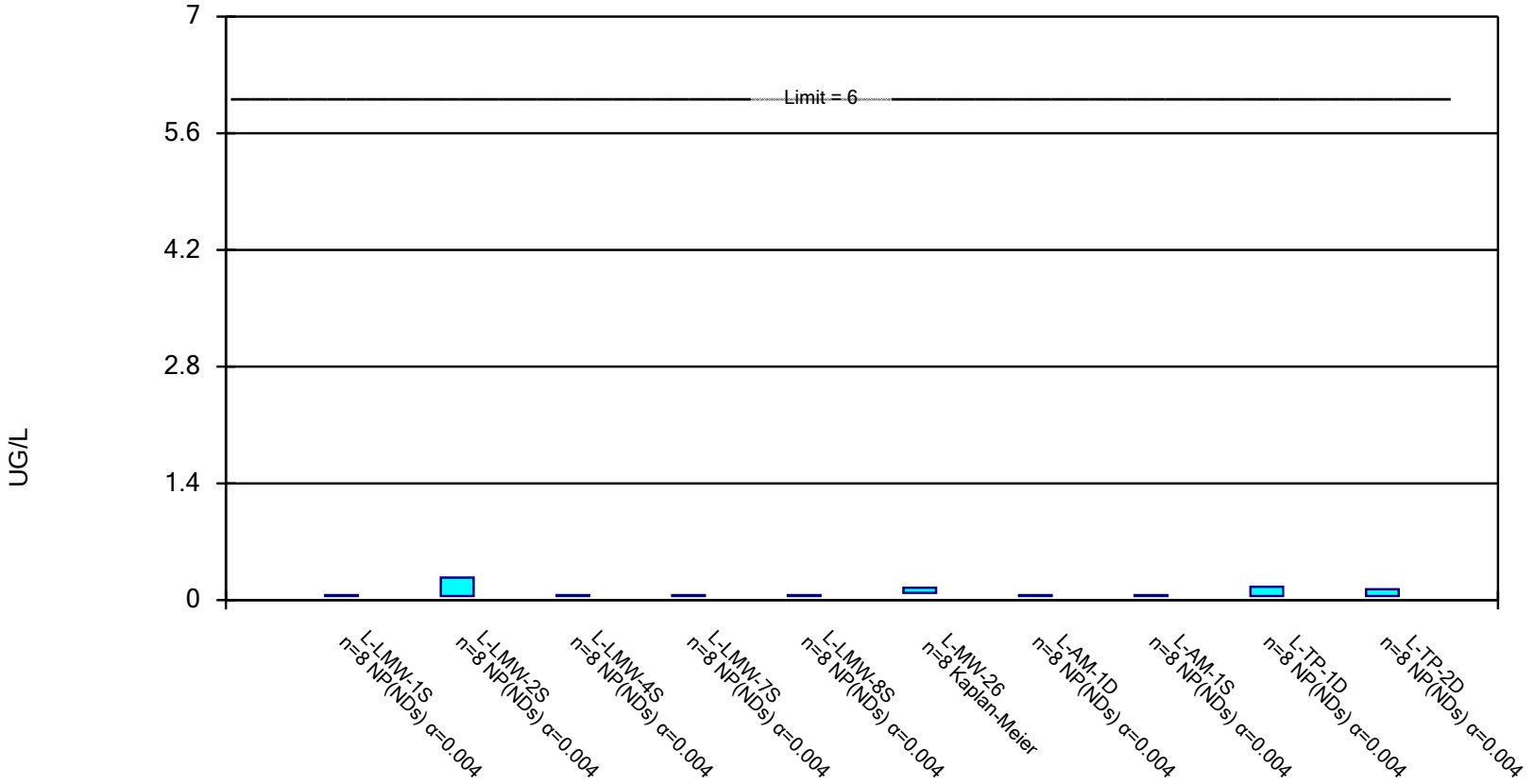
Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



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Labadie E.C. Client: Ameren Data: LEC DATA

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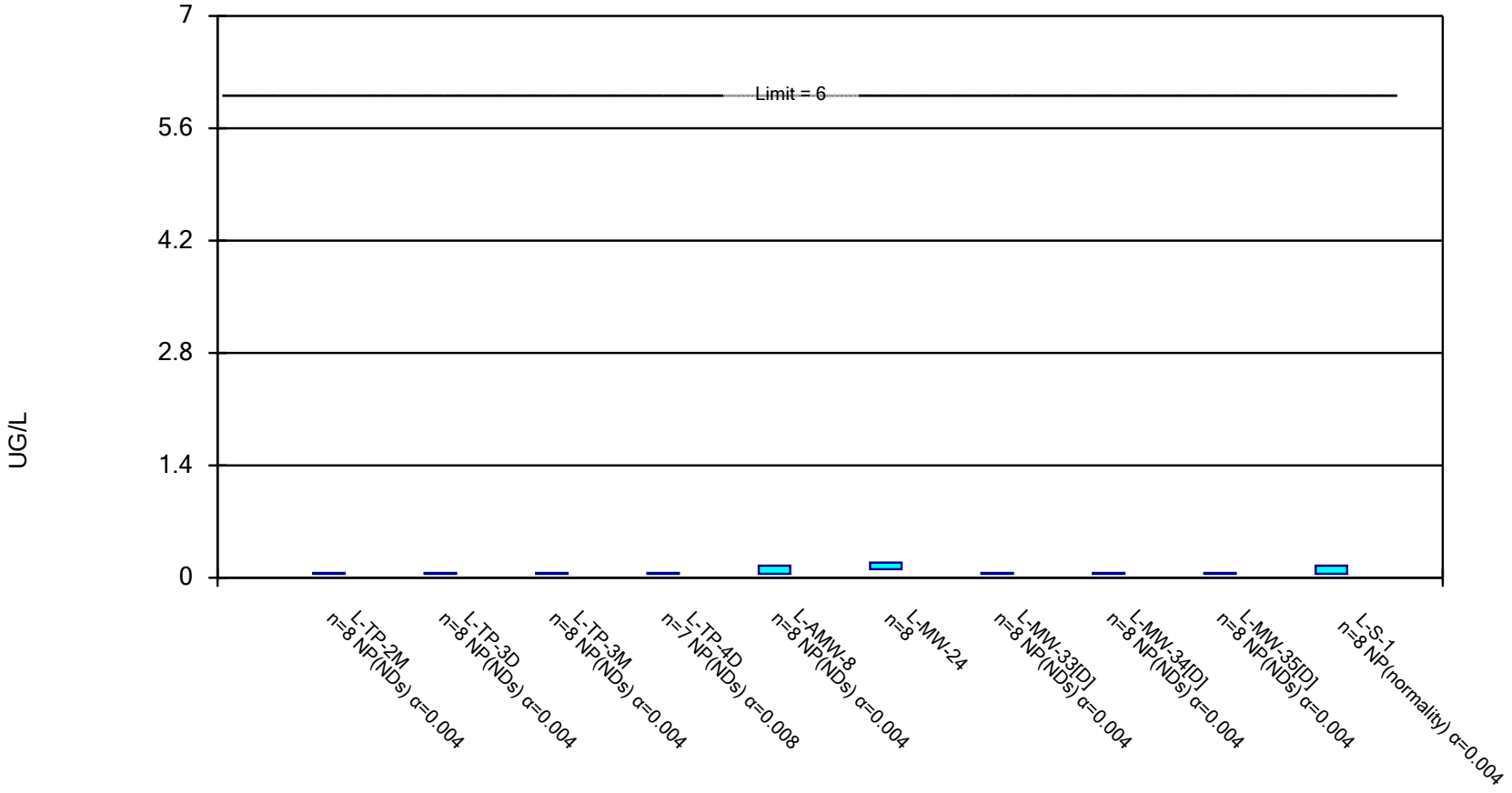

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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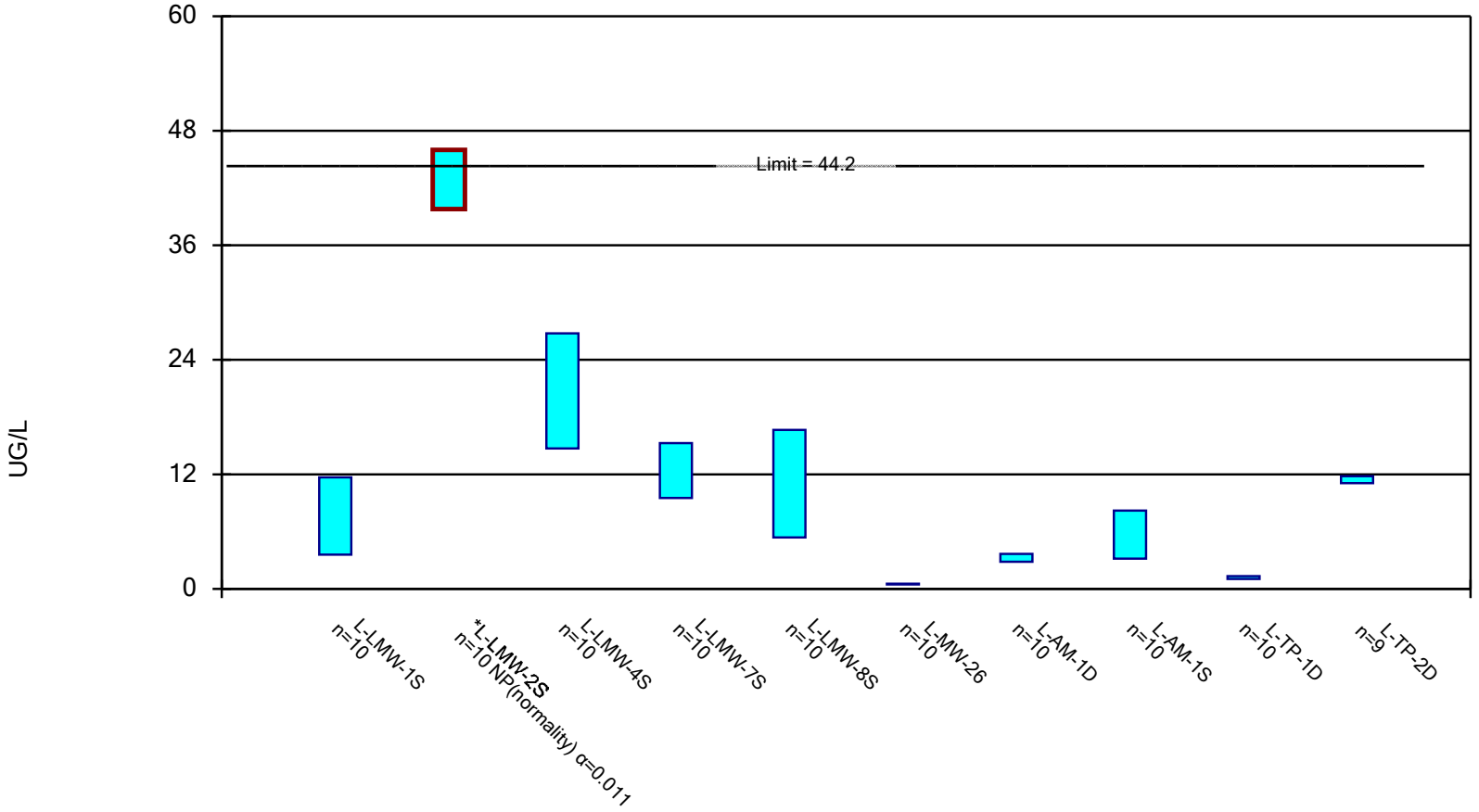

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Parametric Confidence Interval, Corrective Action Mode

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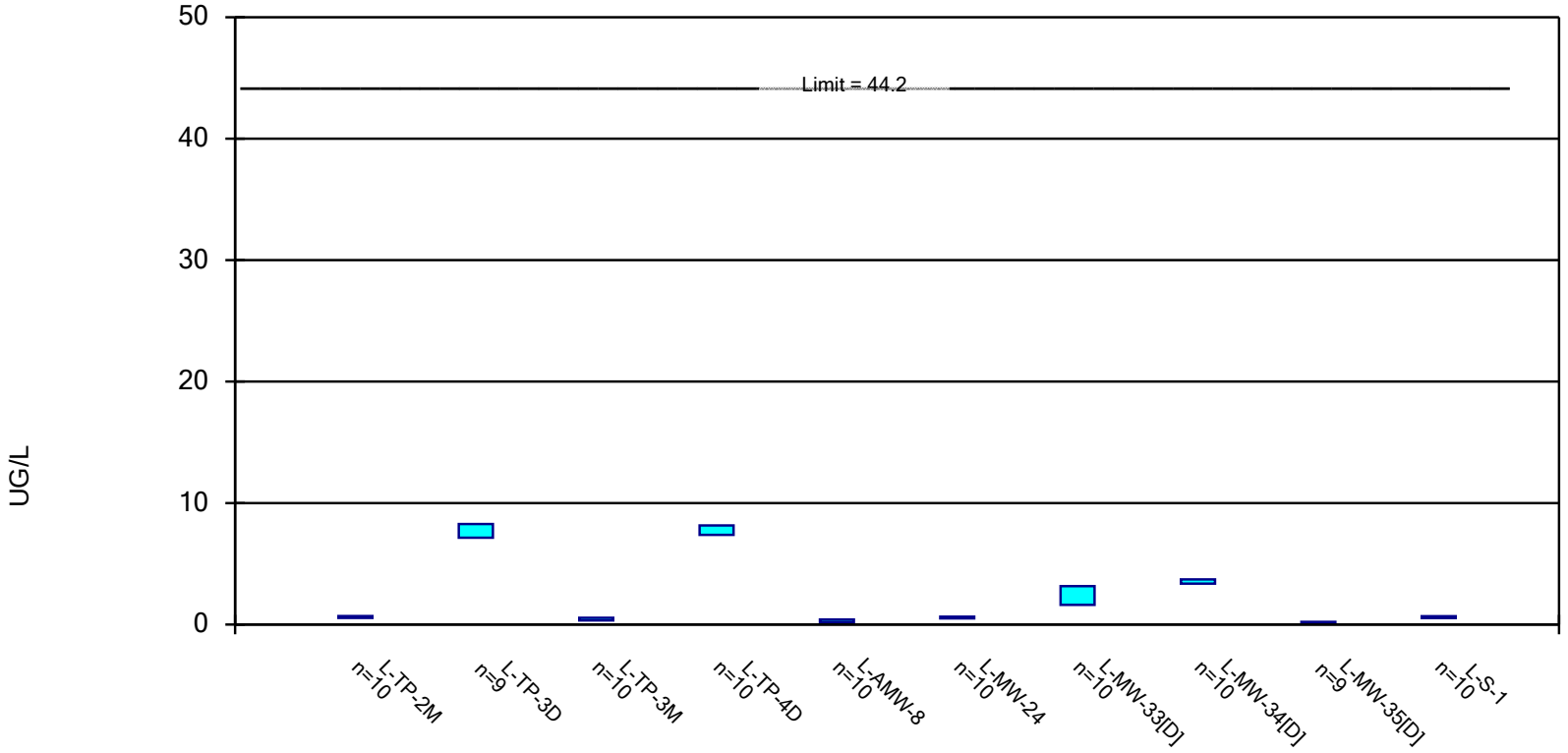

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Labadie E.C. Client: Ameren Data: LEC DATA

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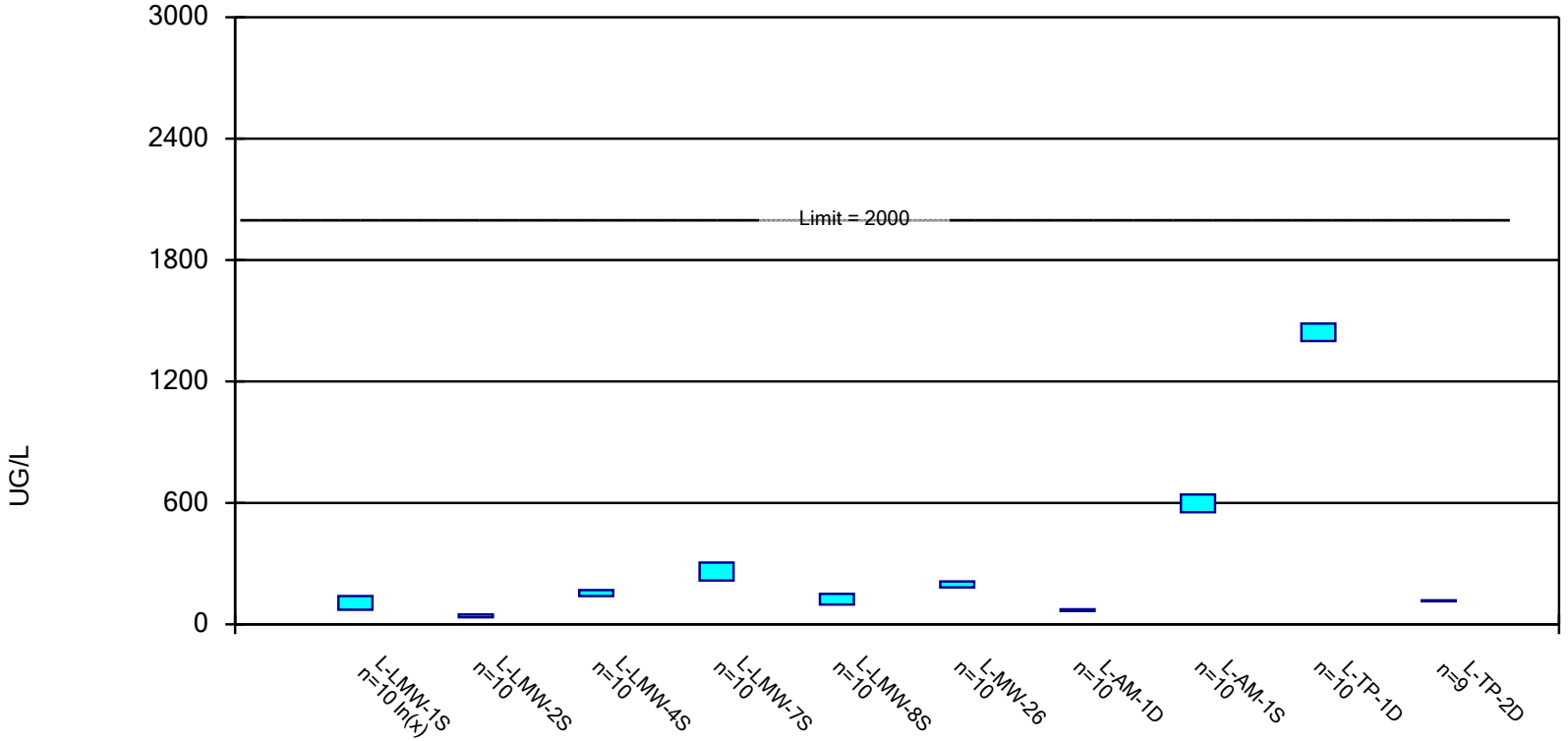

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric Confidence Interval, Corrective Action Mode

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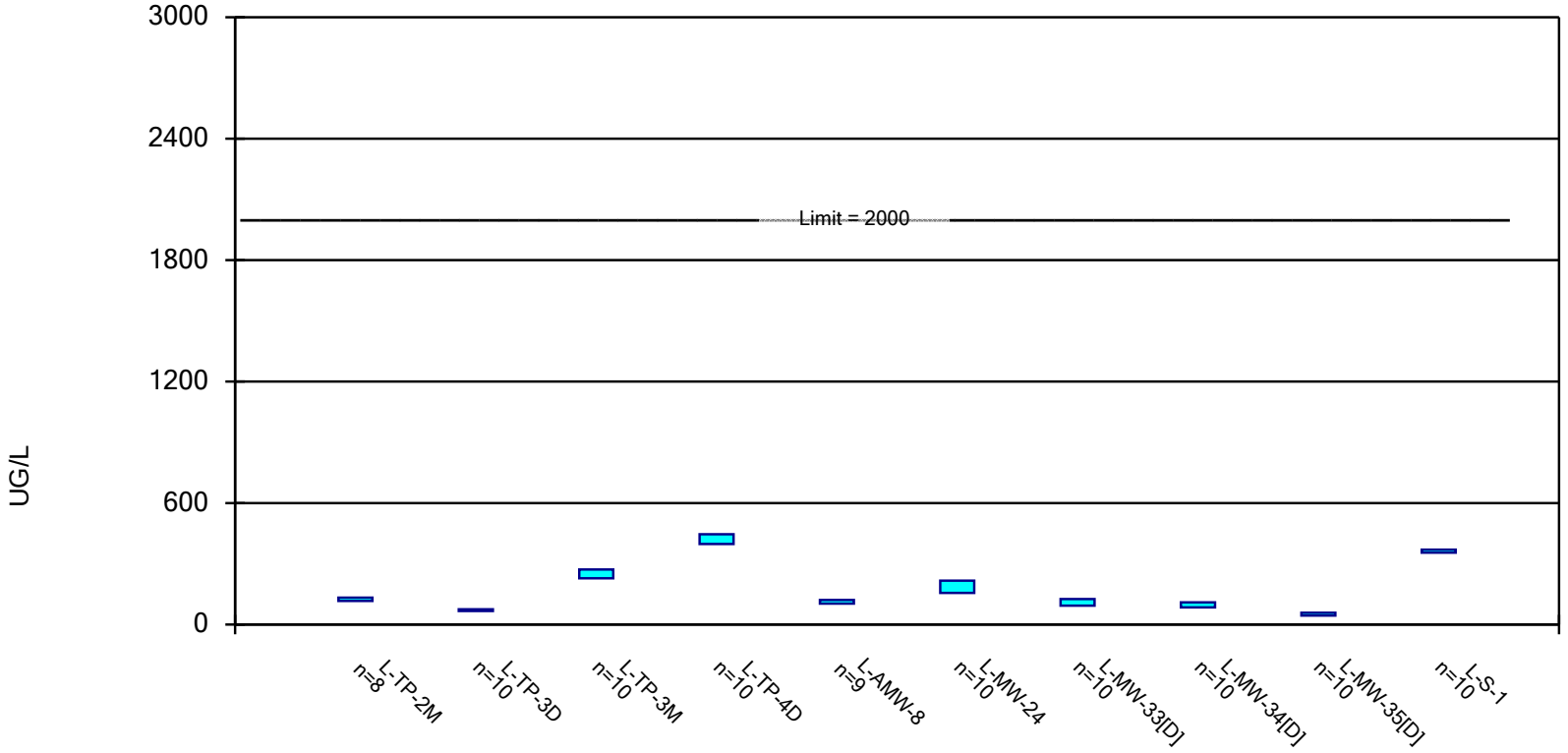

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval, Corrective Action Mode

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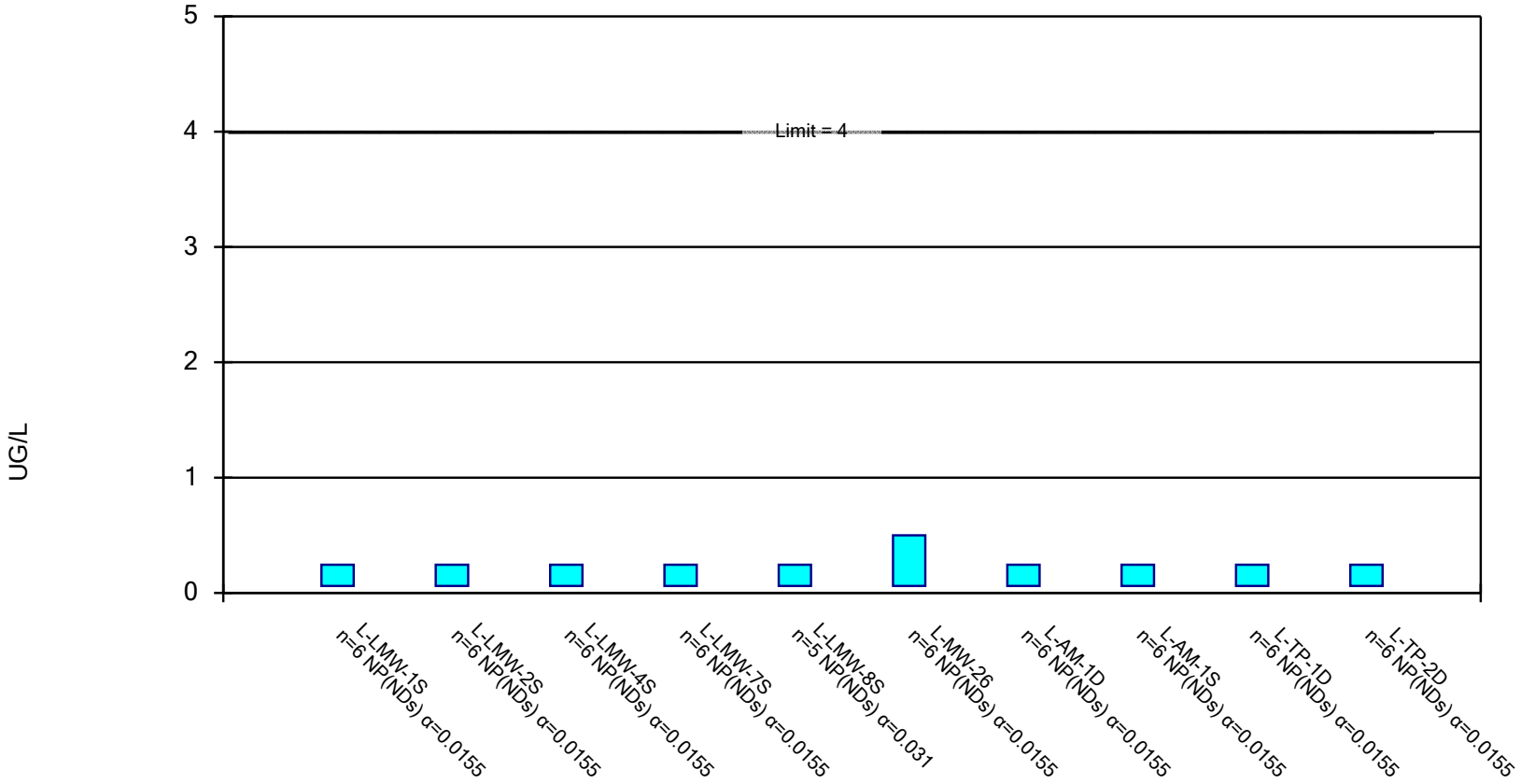

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Labadie E.C. Client: Ameren Data: LEC DATA

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Non-Parametric Confidence Interval, Corrective Action Mode

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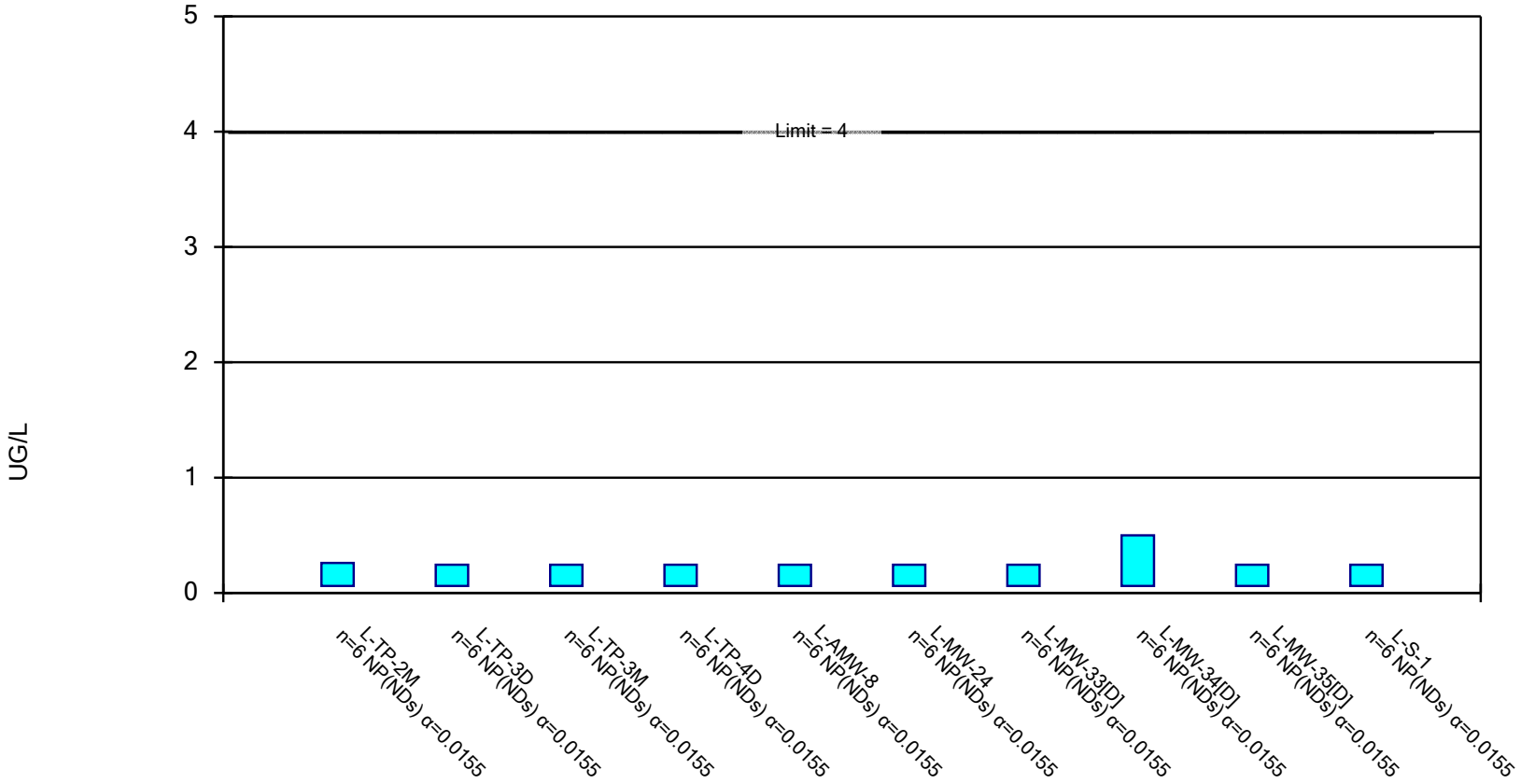

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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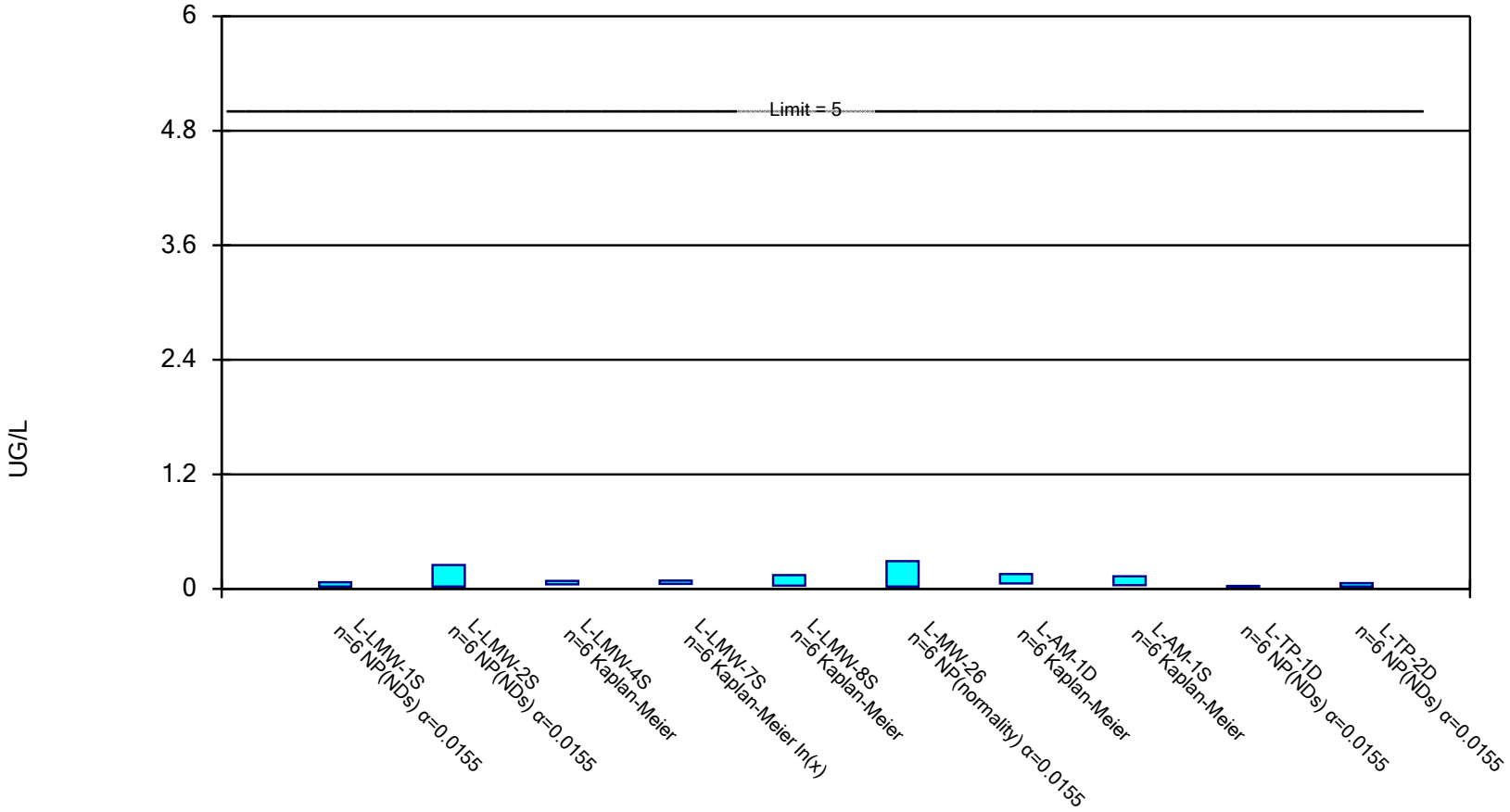

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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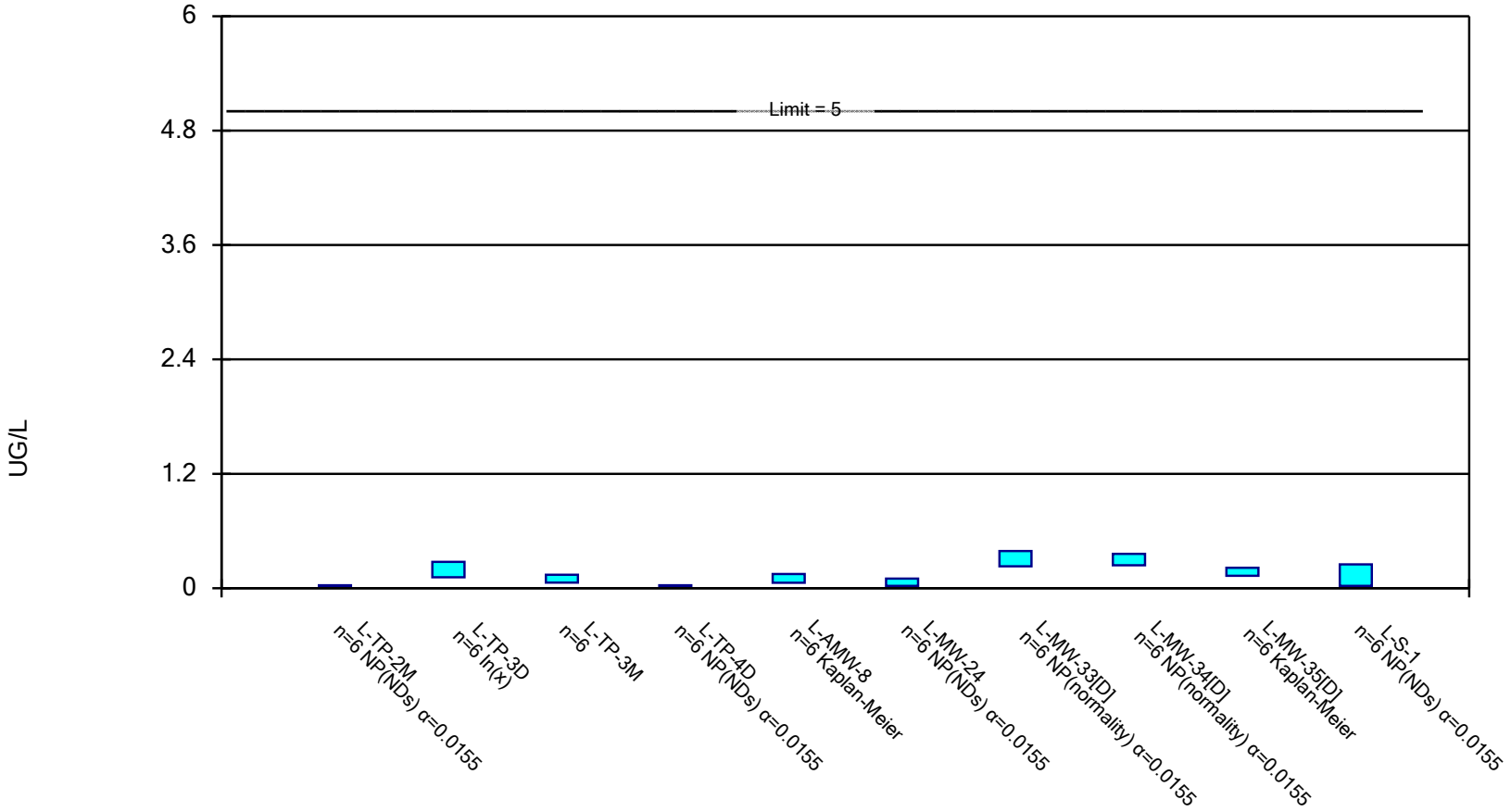

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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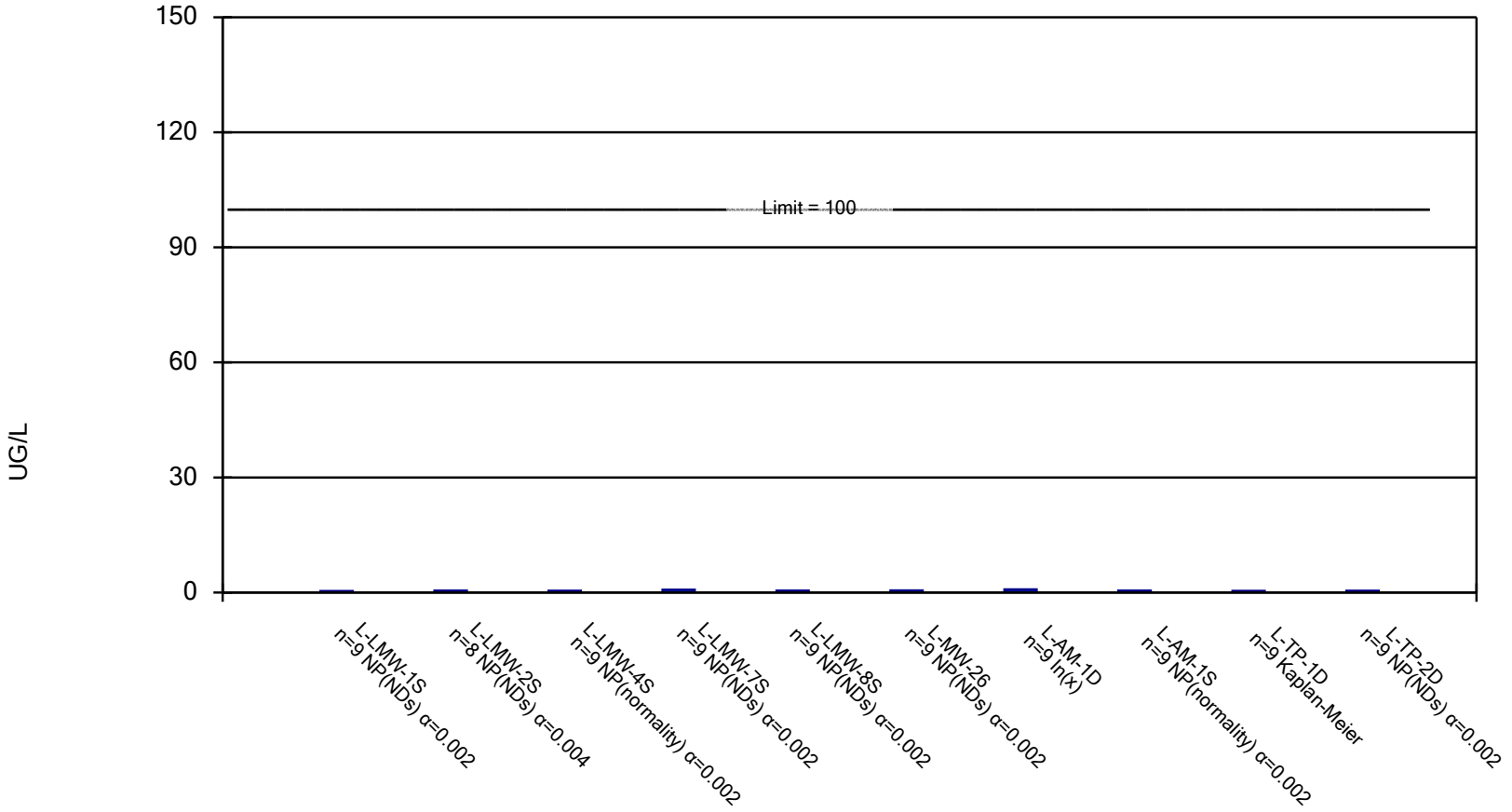

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Labadie E.C. Client: Ameren Data: LEC DATA

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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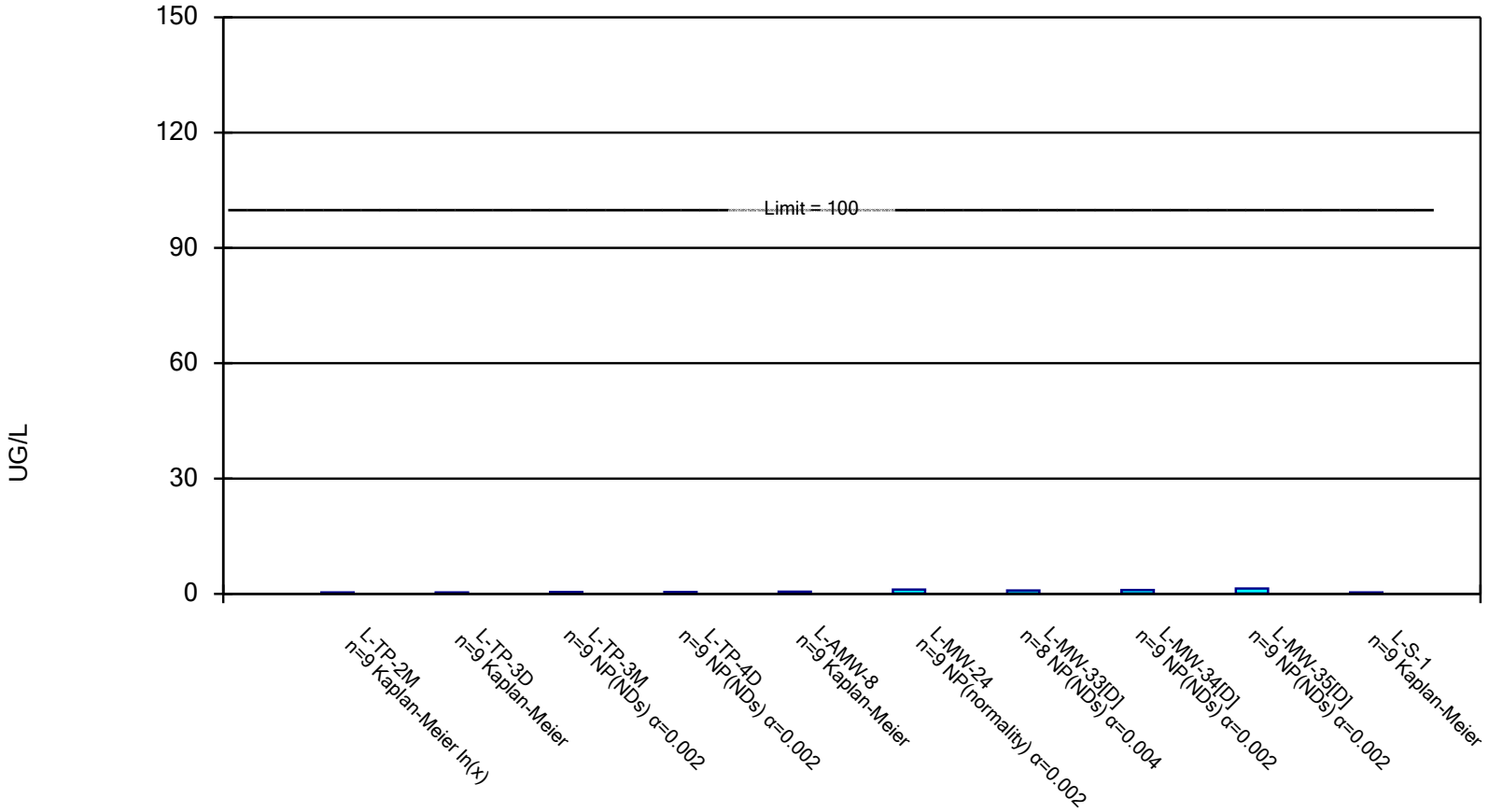

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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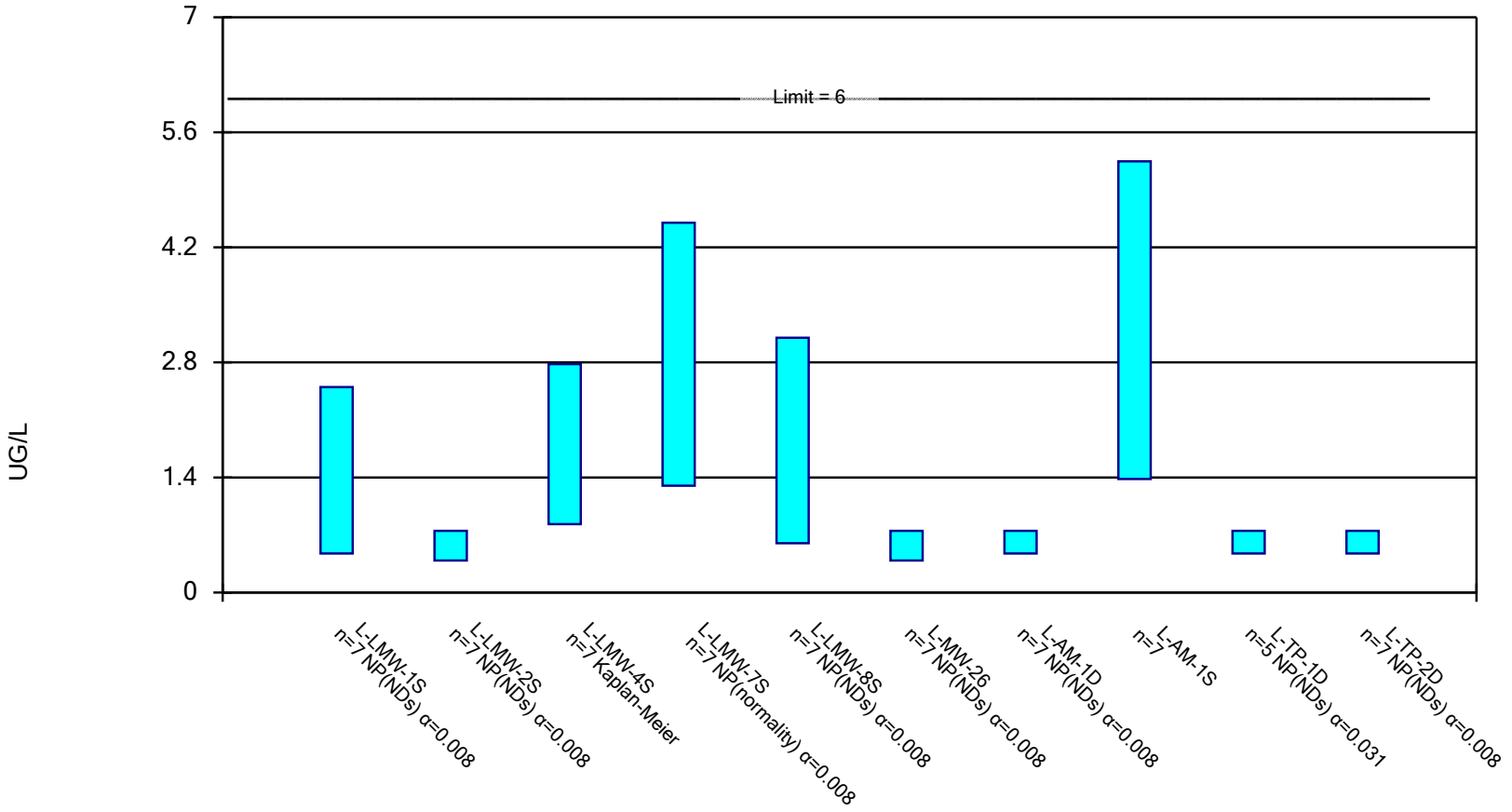

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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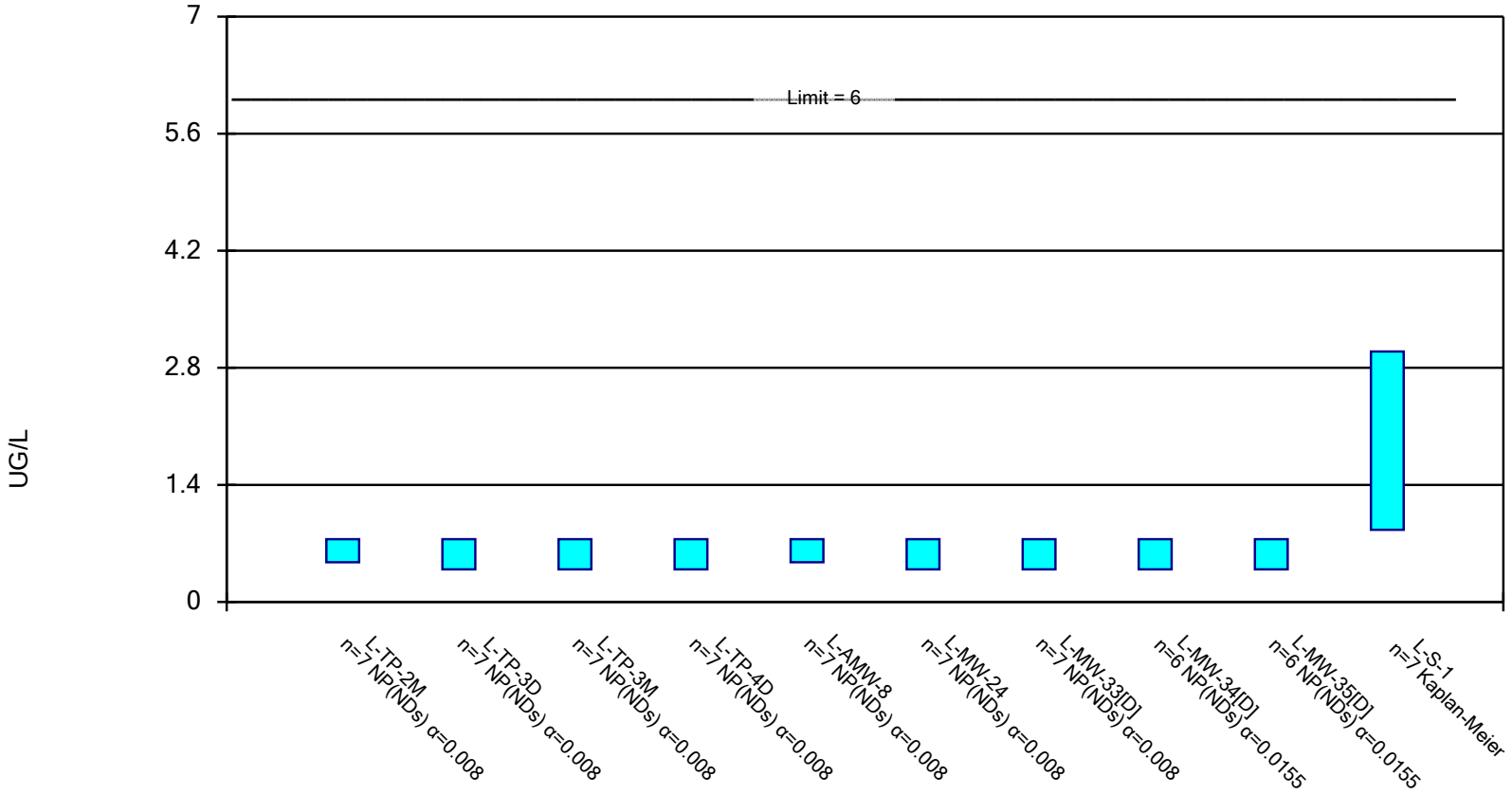

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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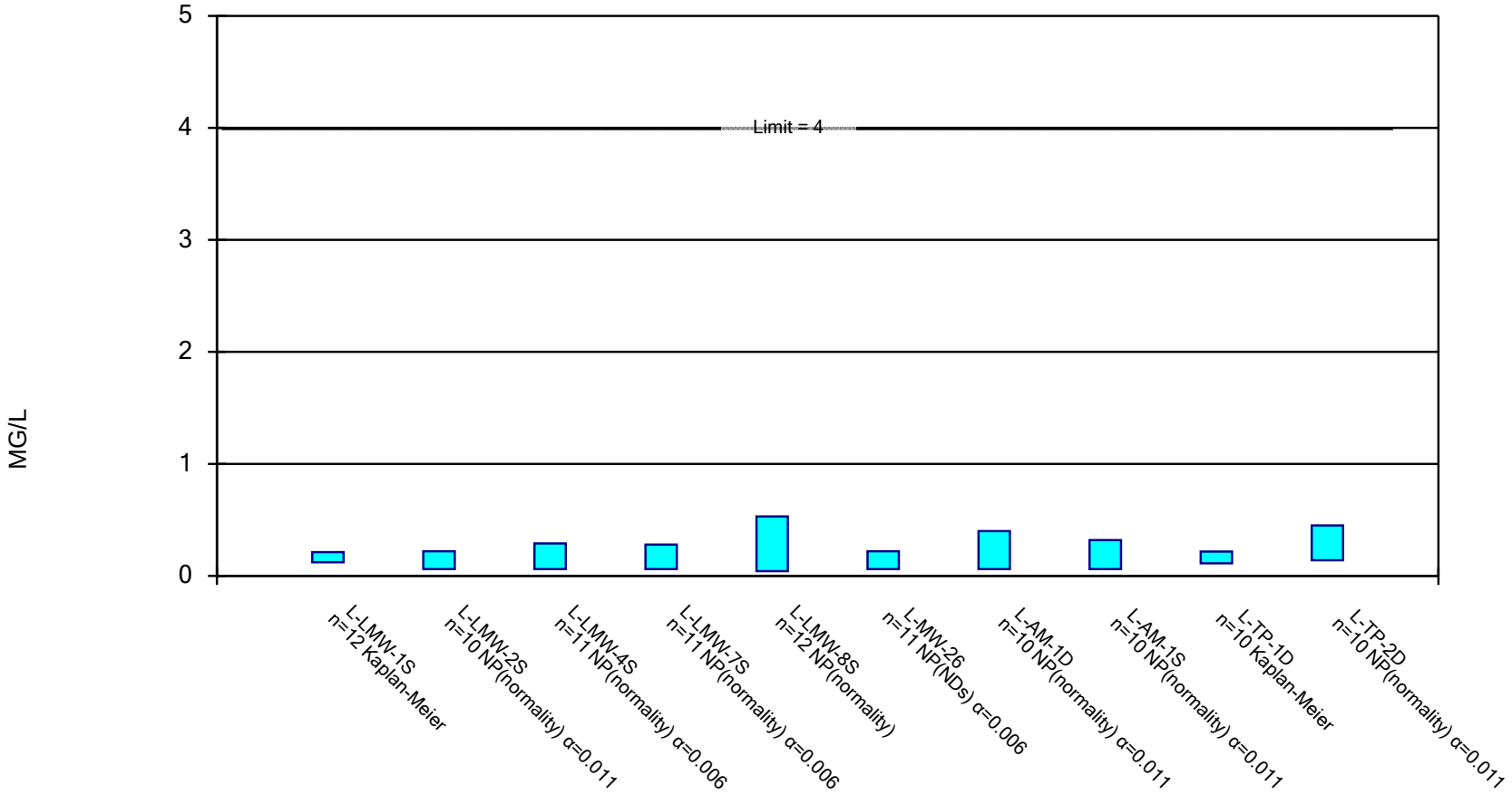

Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 10:09 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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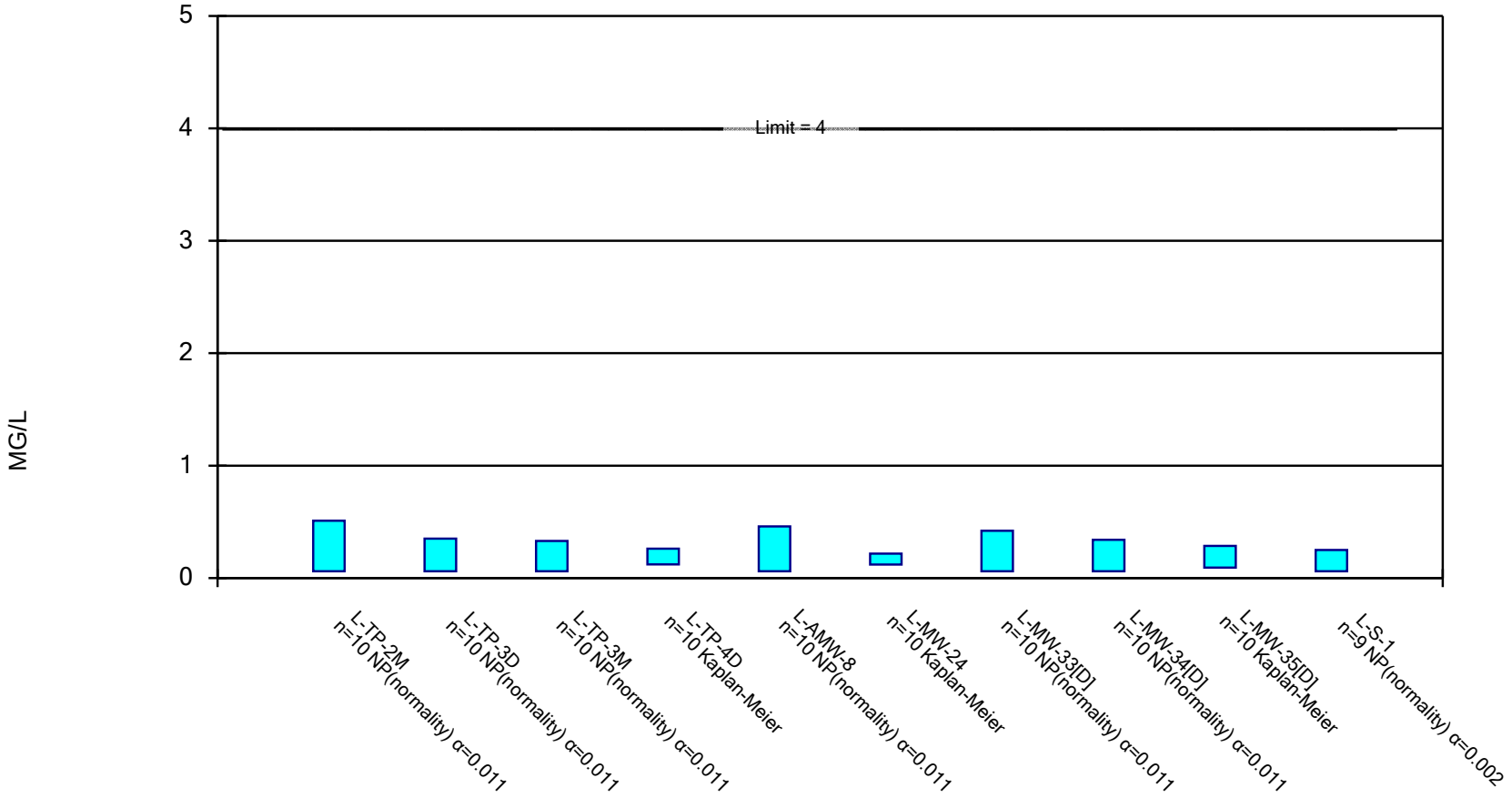

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Non-Parametric Confidence Interval, Corrective Action Mode

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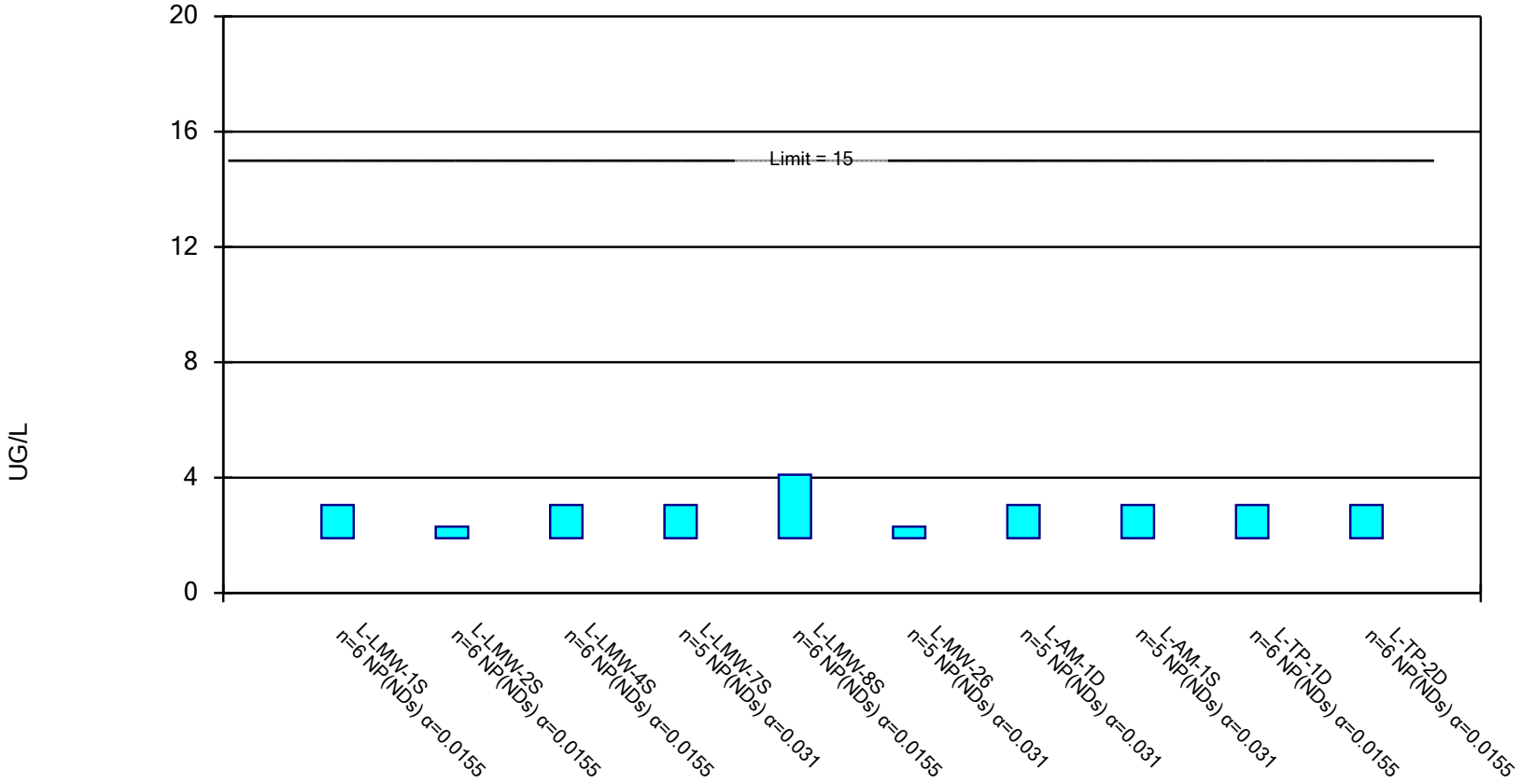

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Labadie E.C. Client: Ameren Data: LEC DATA

Non-Parametric Confidence Interval, Corrective Action Mode

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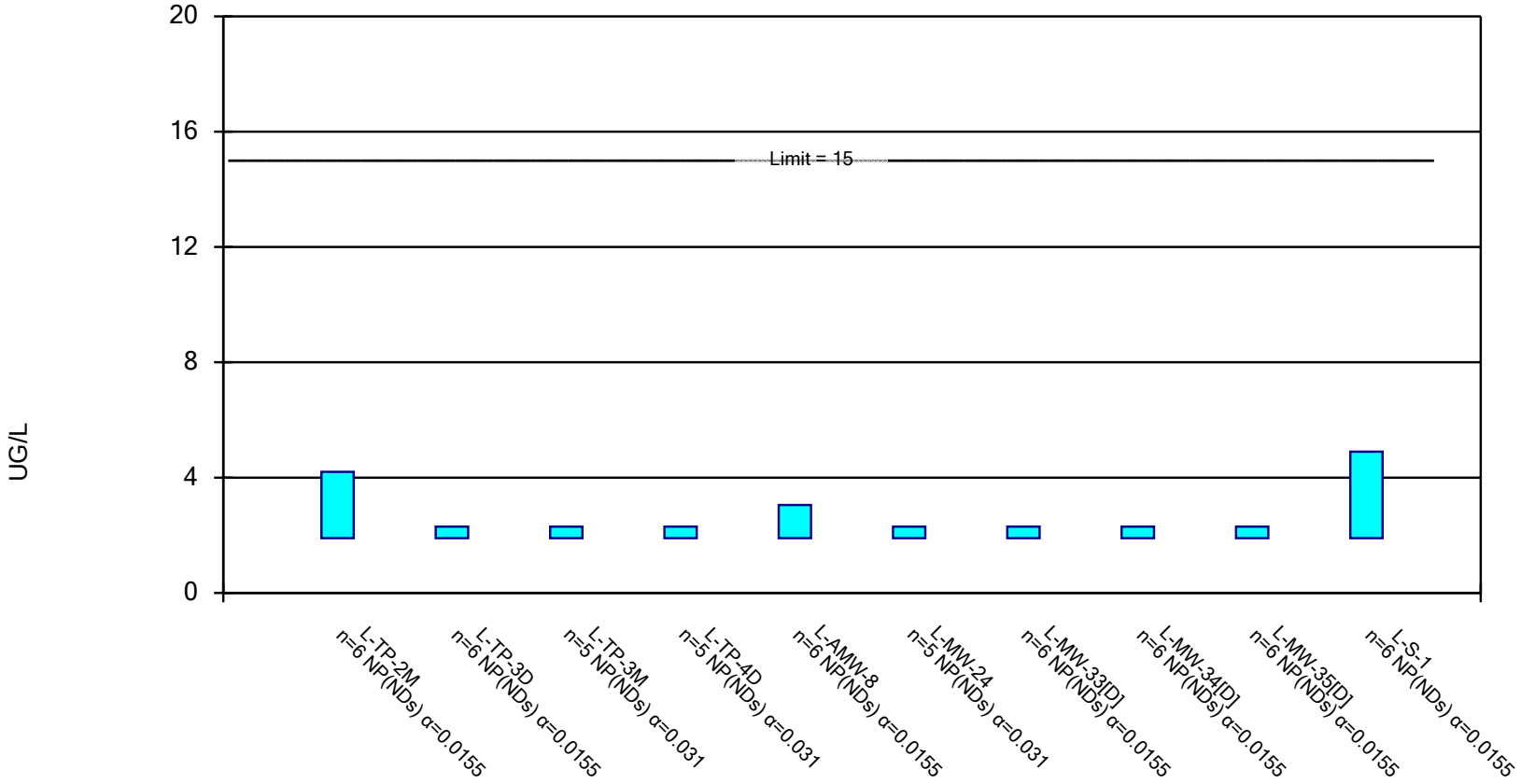

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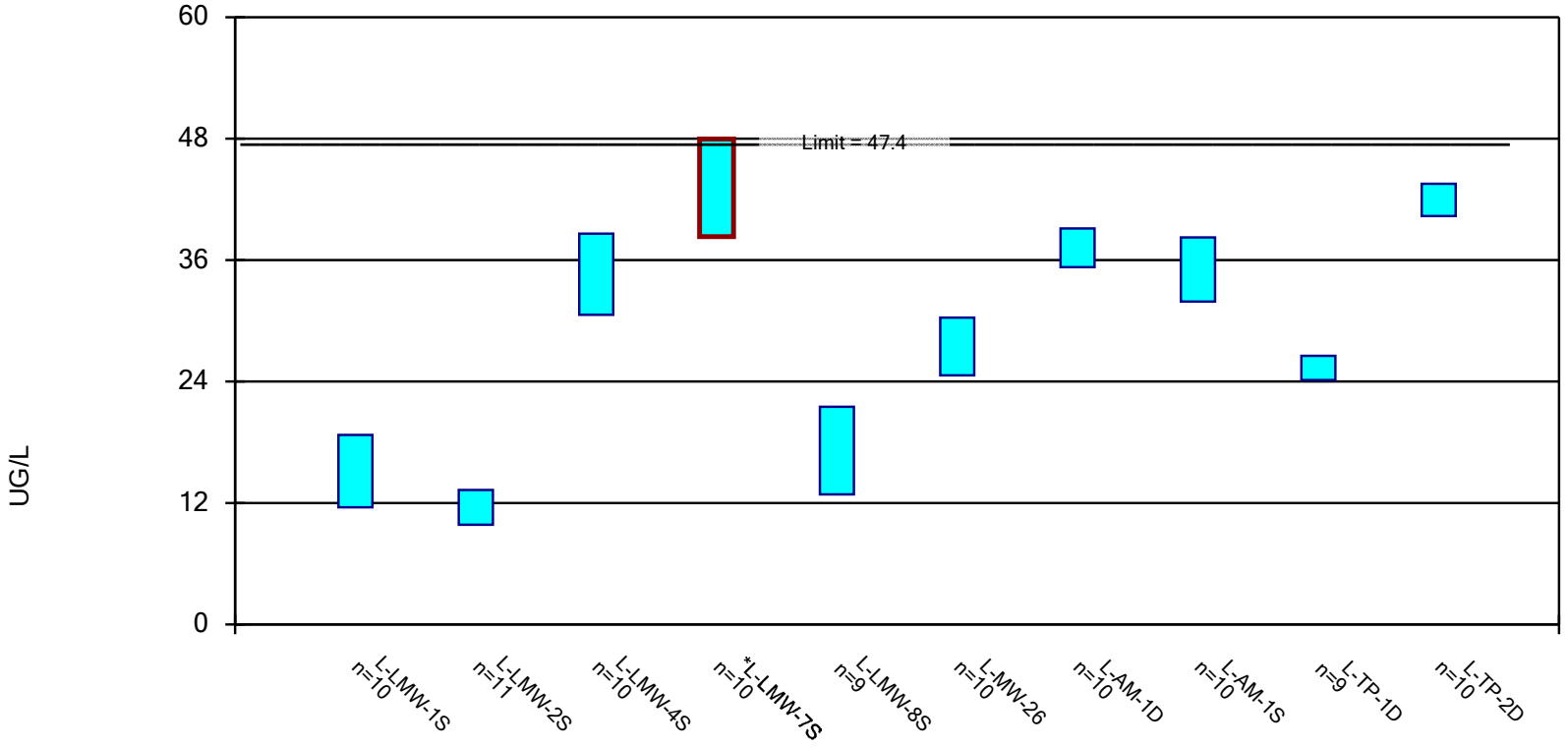

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Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric Confidence Interval, Corrective Action Mode

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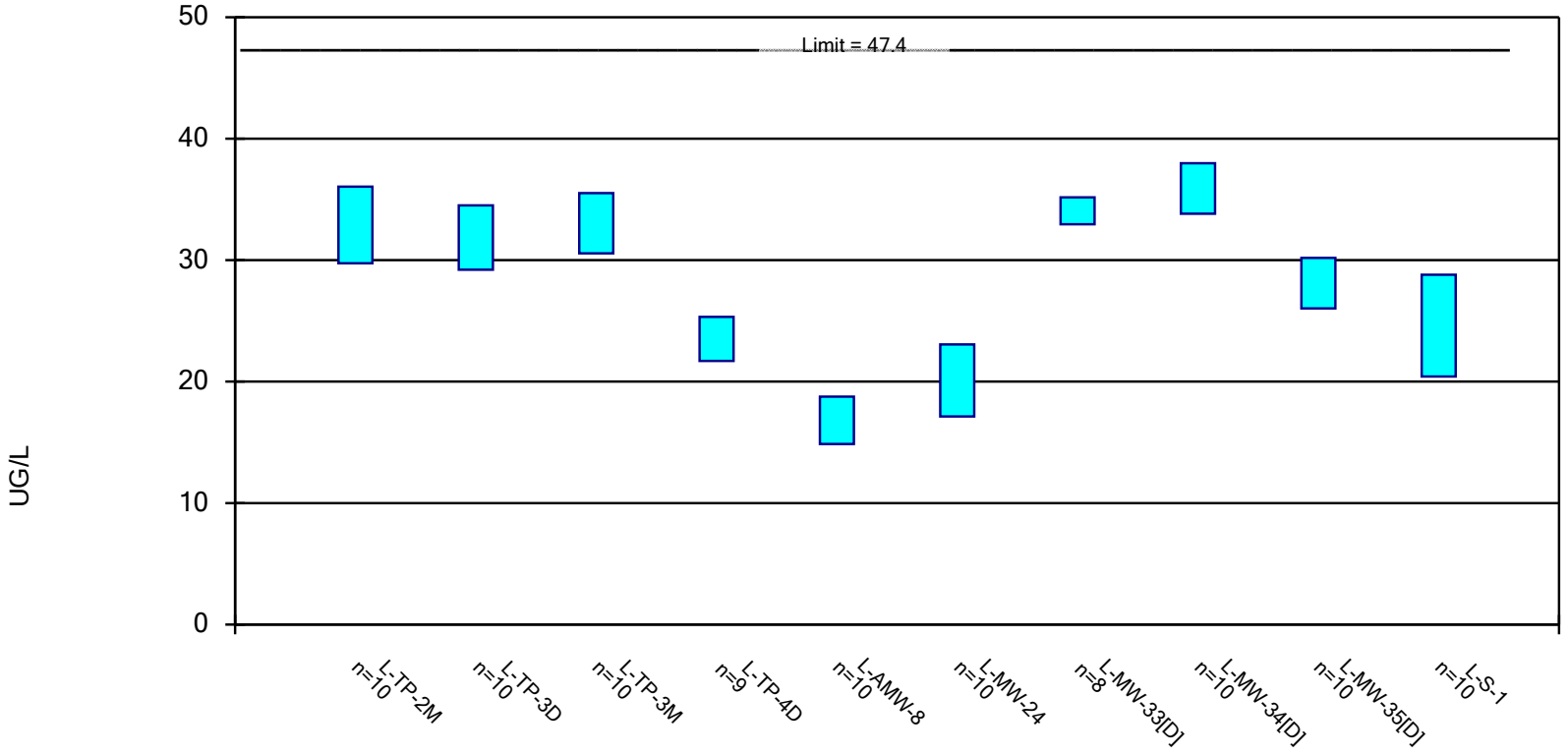

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Non-Parametric Confidence Interval, Corrective Action Mode

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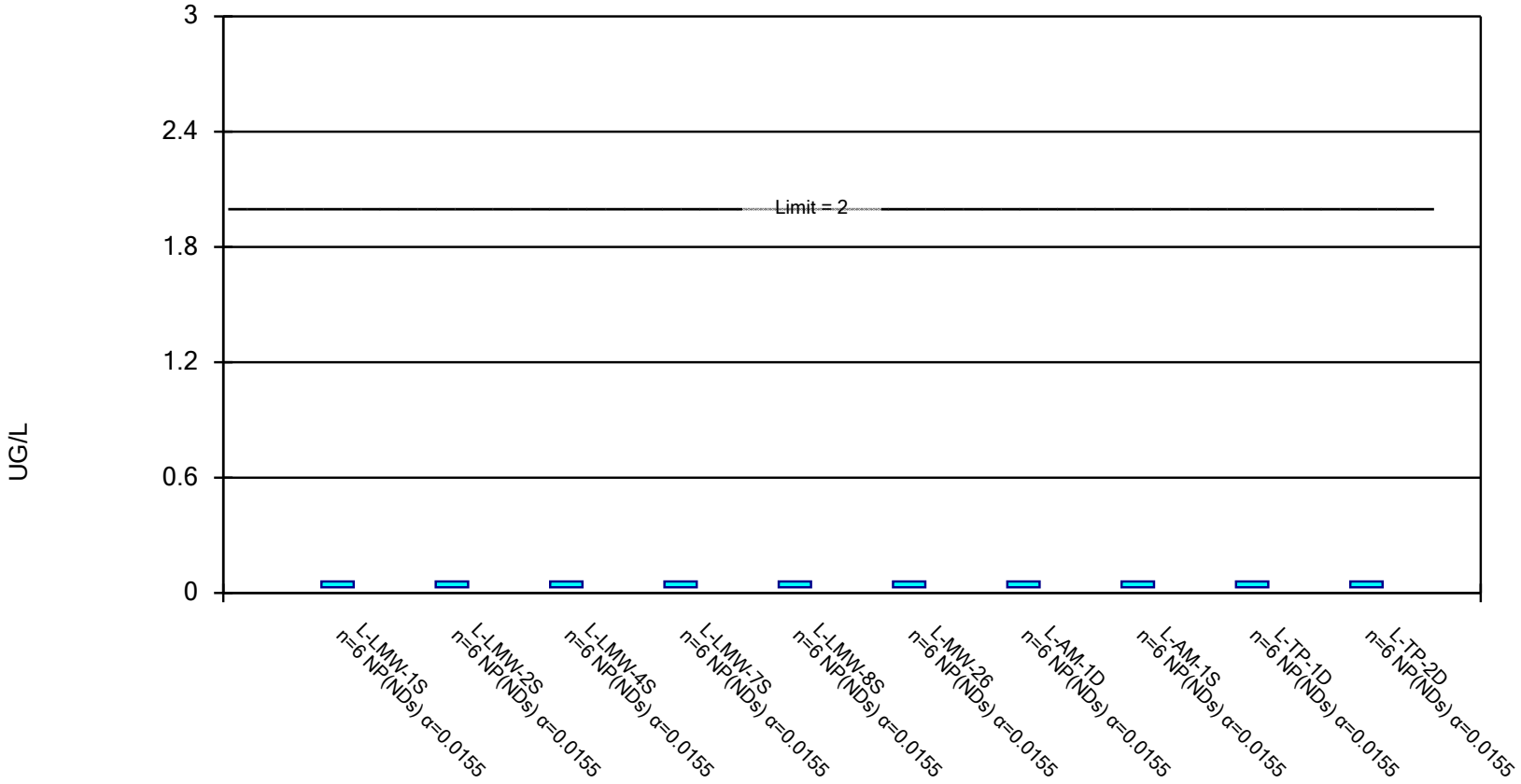

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Non-Parametric Confidence Interval, Corrective Action Mode

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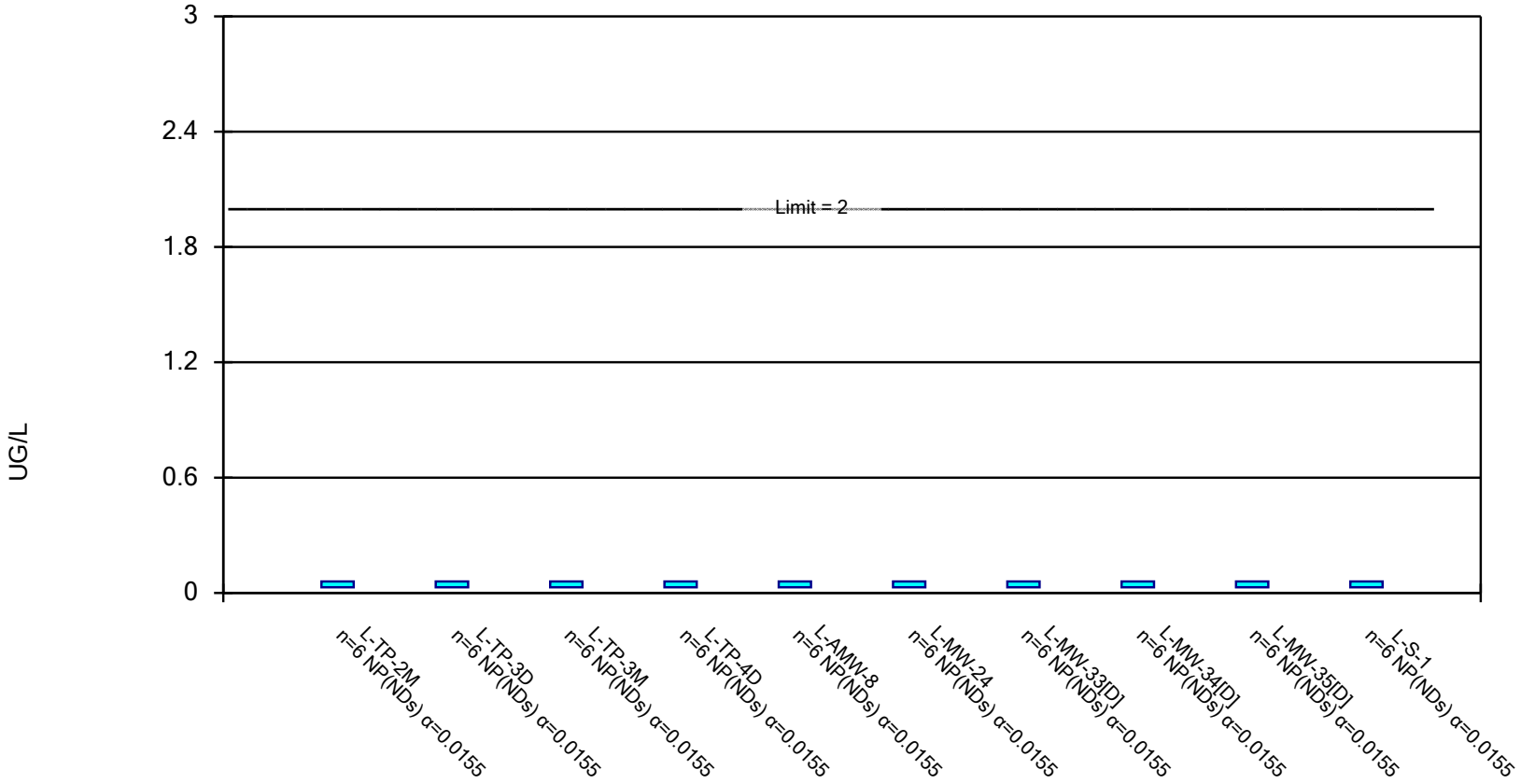

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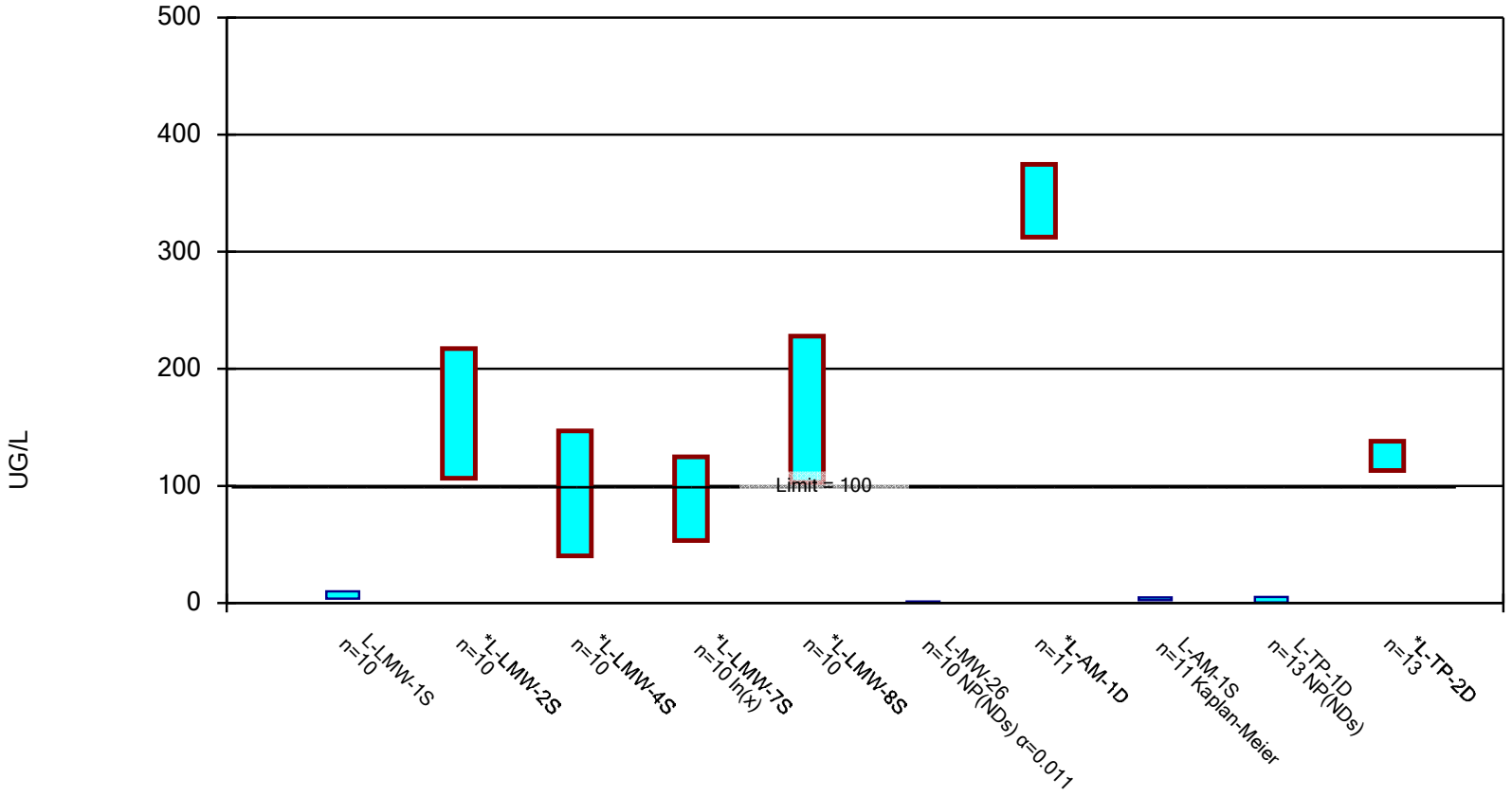
Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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



Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 10:09 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

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Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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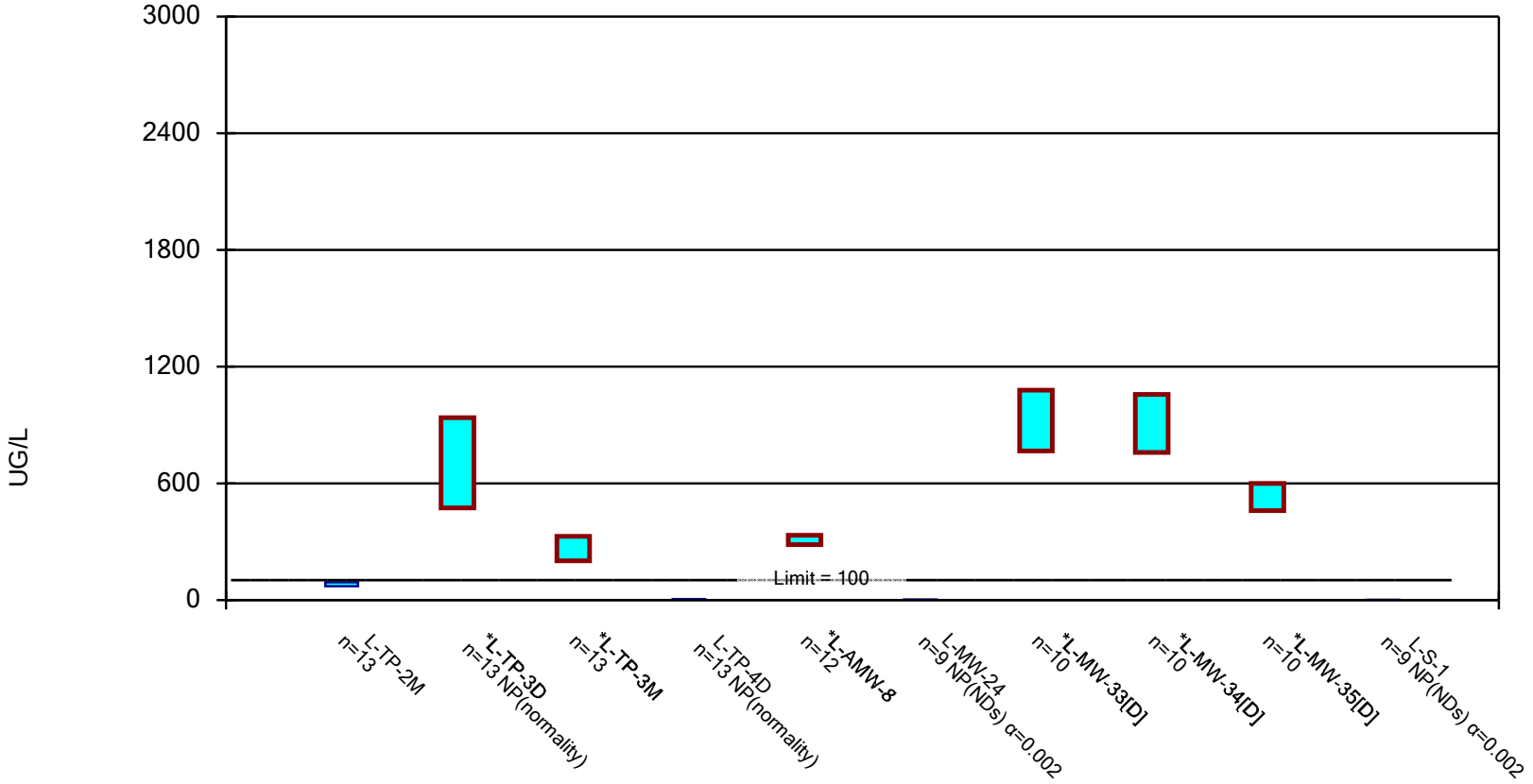

Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 10:09 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

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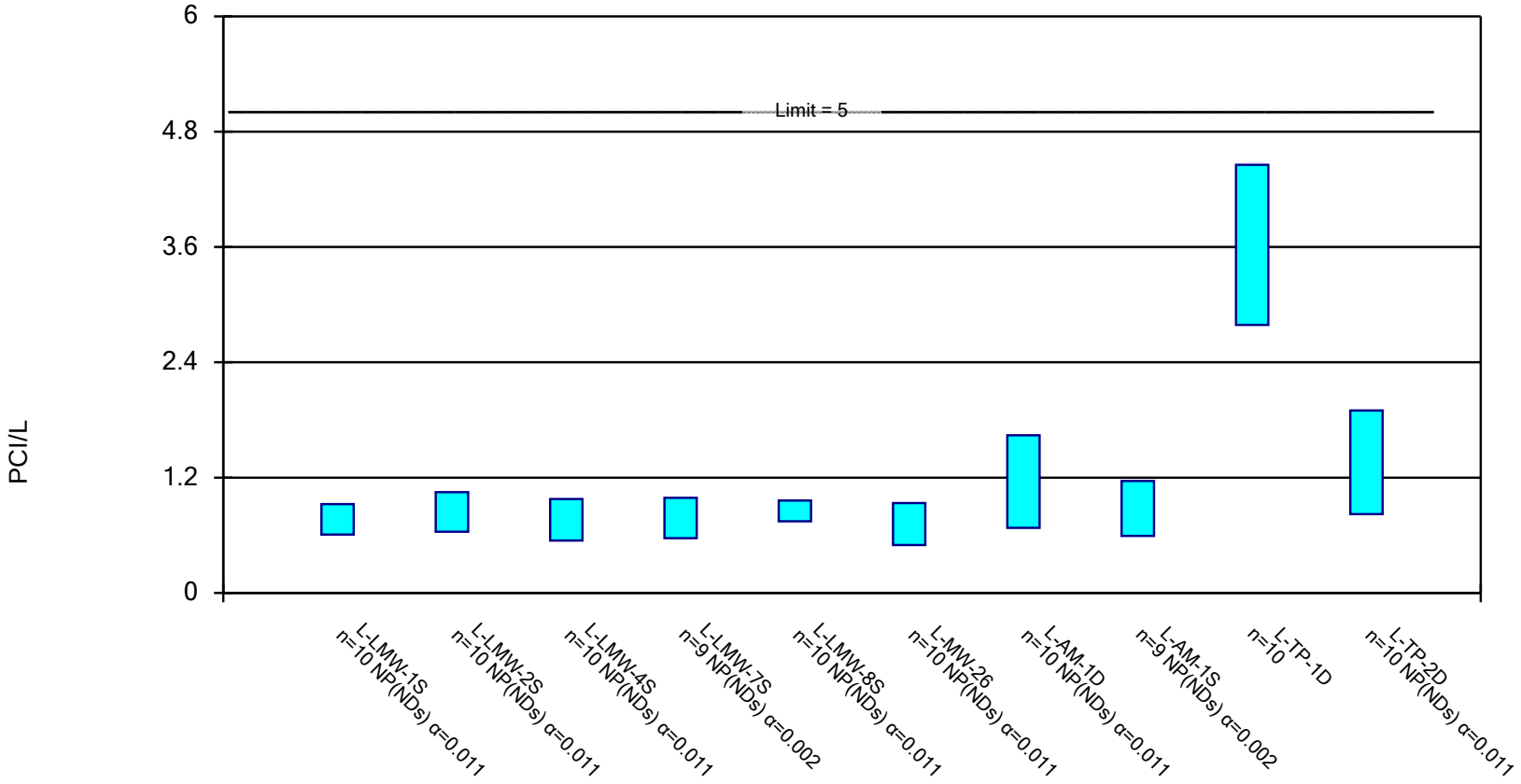

Constituent: Radium [226 + 228] Analysis Run 8/27/2024 10:10 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

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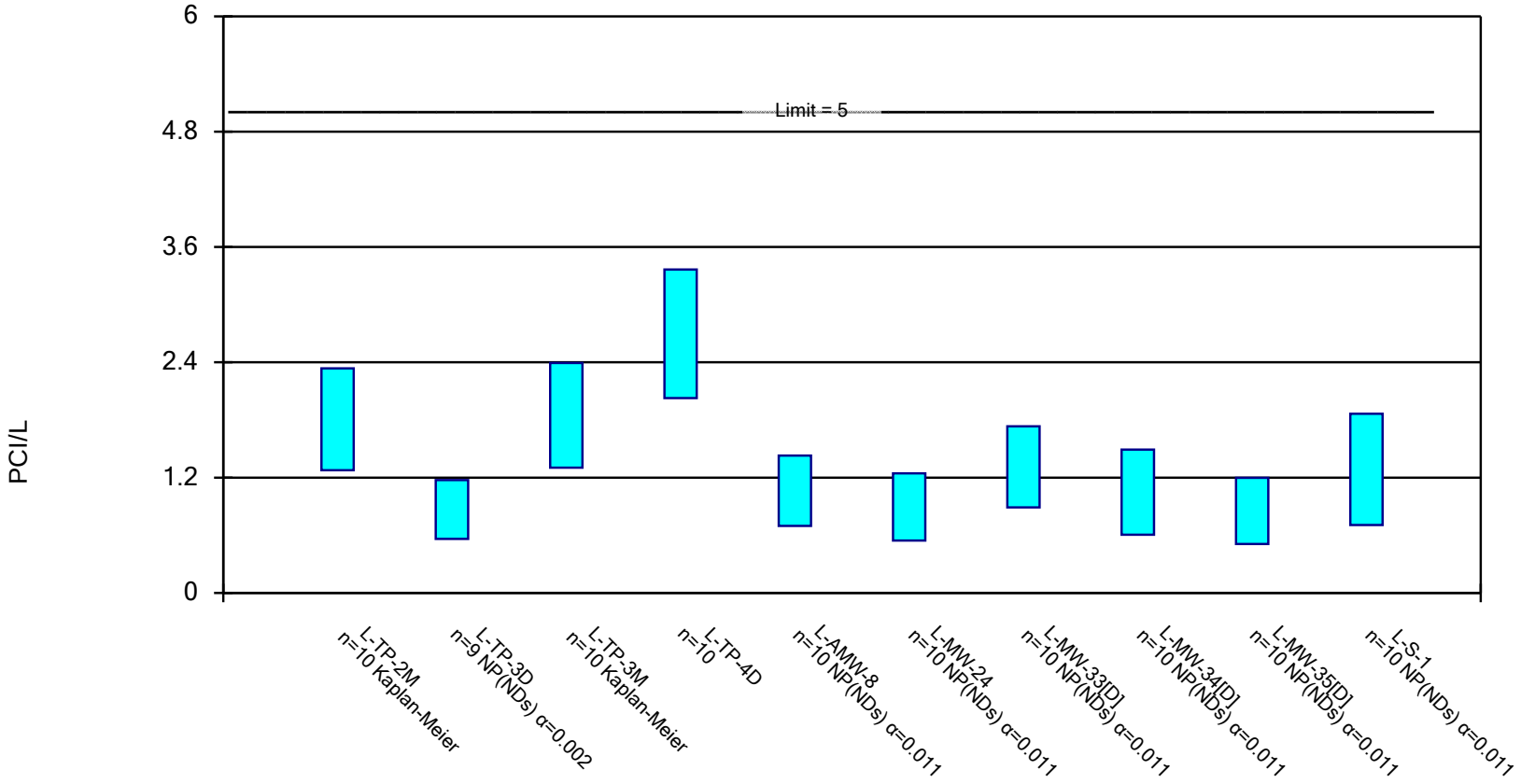

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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

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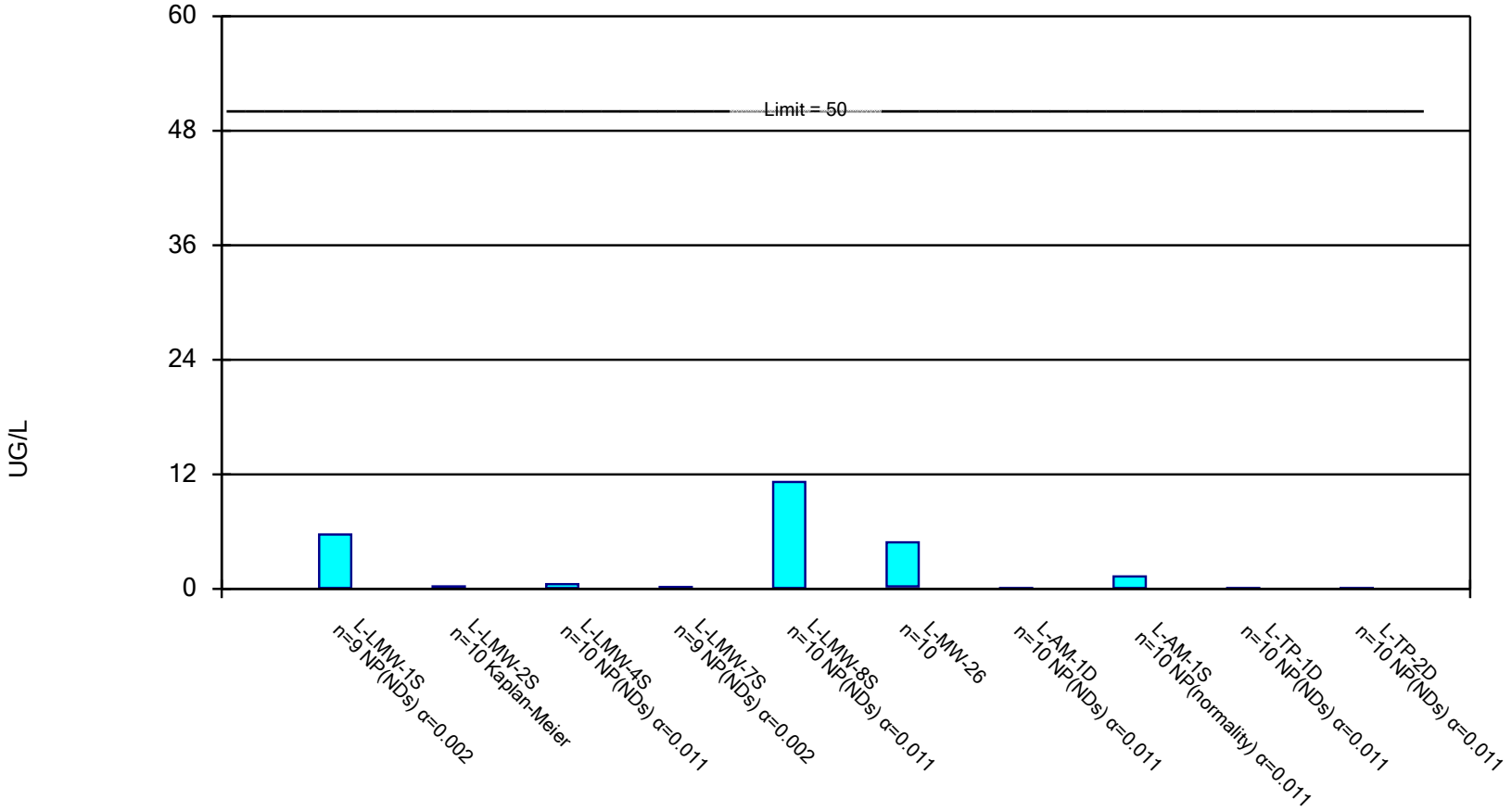
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



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Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

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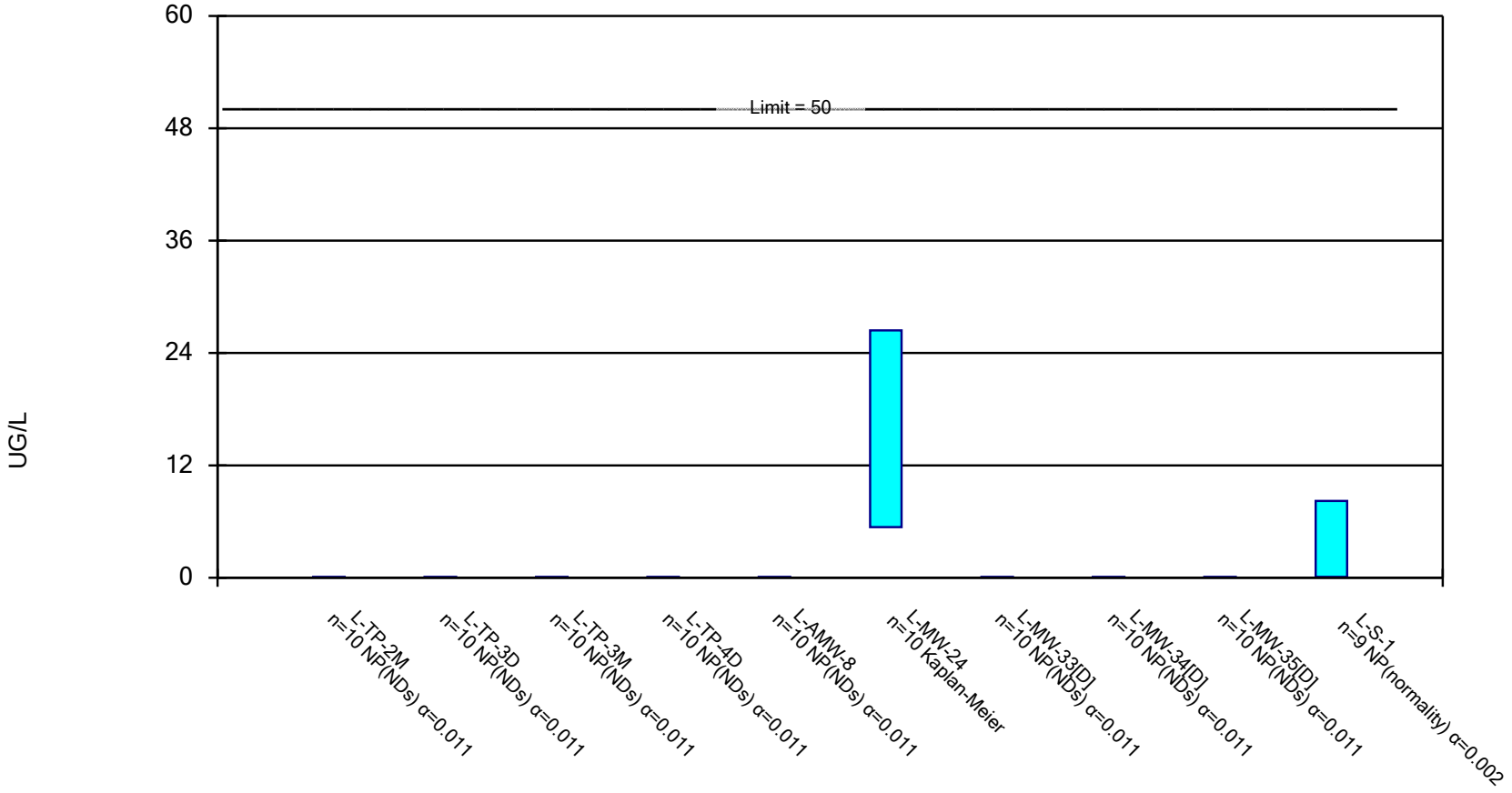

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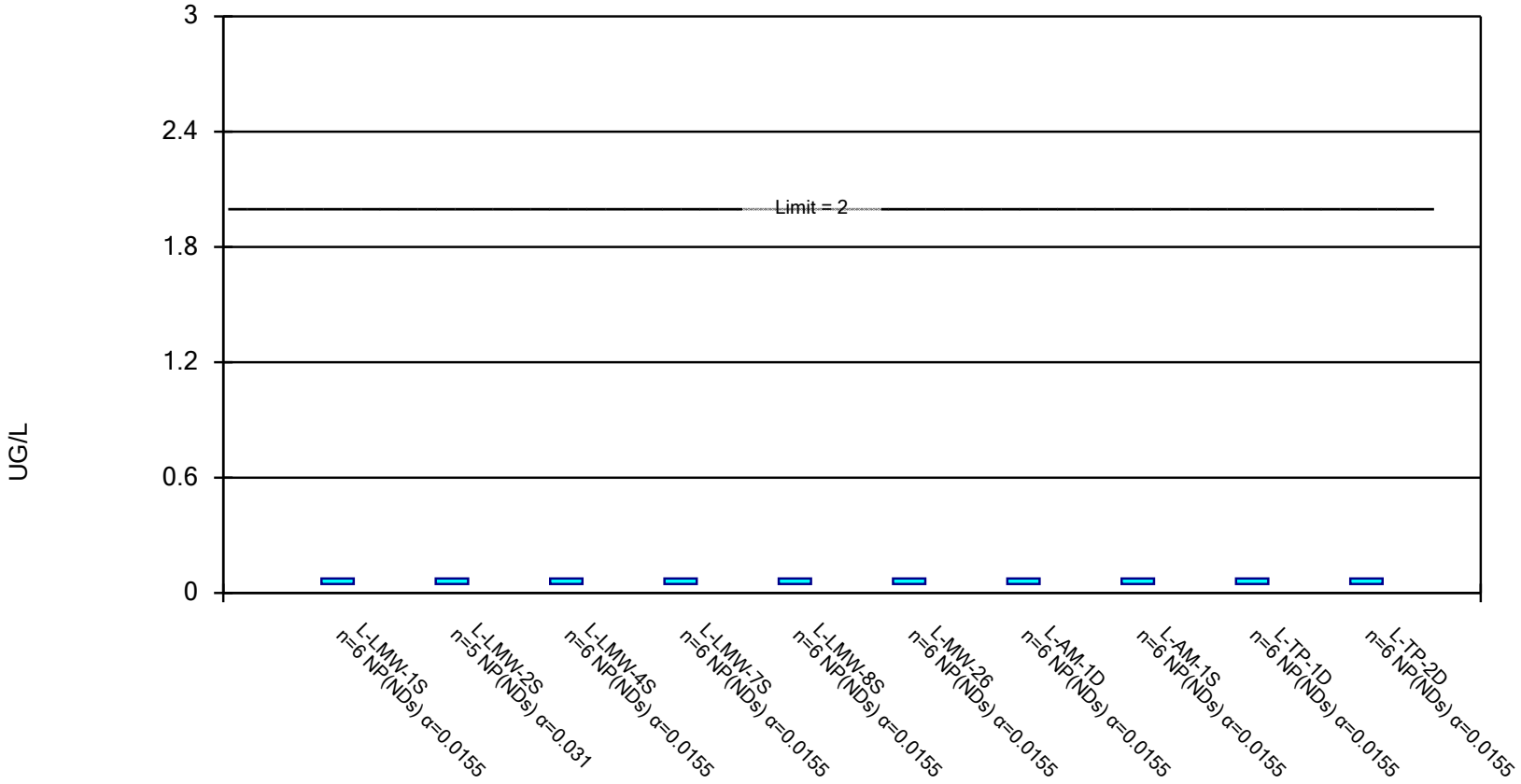
Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.

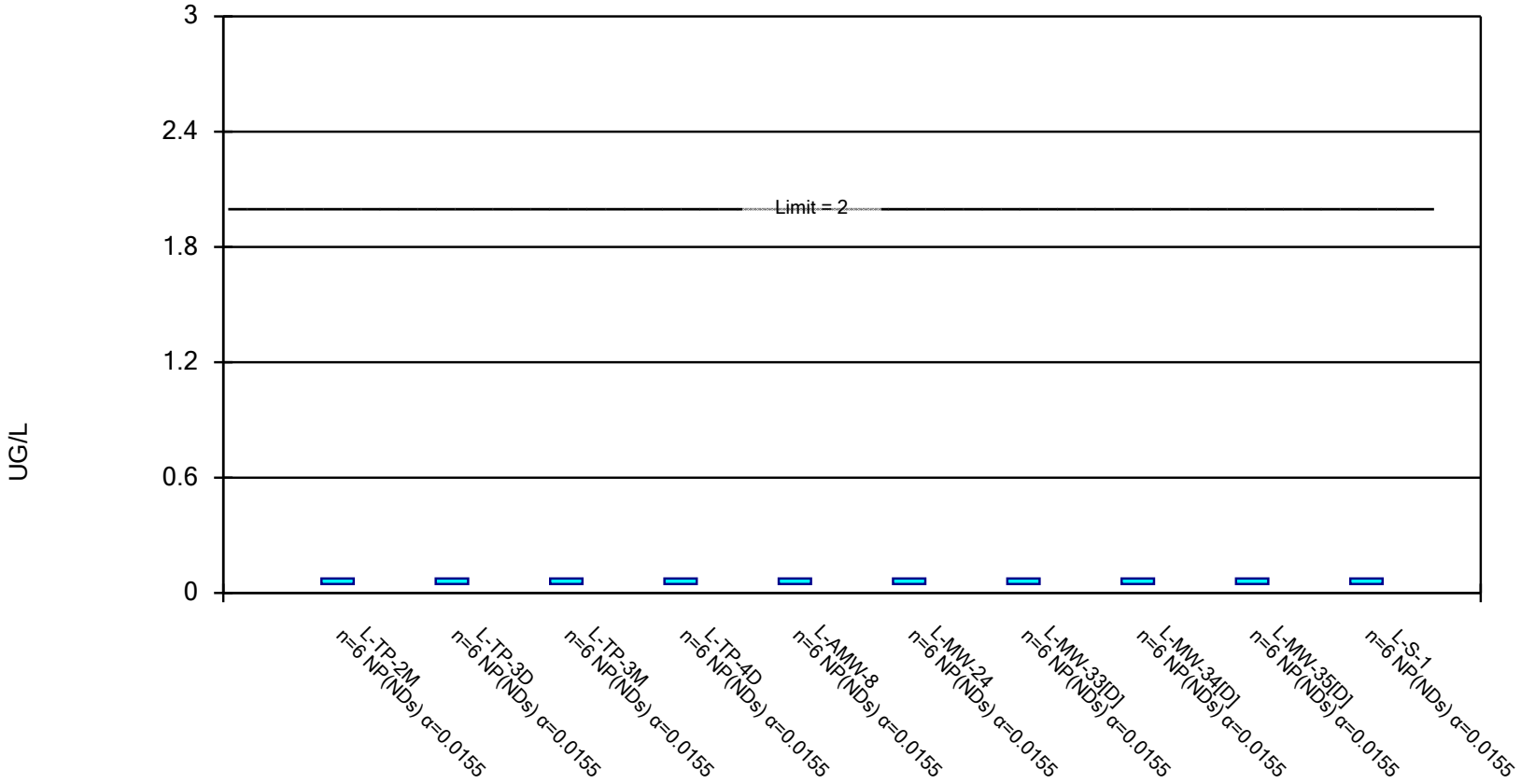


Constituent: THALLIUM, TOTAL Analysis Run 8/27/2024 10:10 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Non-Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded.



Constituent: THALLIUM, TOTAL Analysis Run 8/27/2024 10:10 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 10:11 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-LMW-1S	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-2S	0.27	0.0485	6	No	8	62.5	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-4S	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-7S	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-8S	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-26	0.1475	0.08628	6	No	8	37.5	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-AM-1D	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AM-1S	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-1D	0.16	0.0485	6	No	8	75	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-2D	0.13	0.0485	6	No	8	87.5	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-2M	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3D	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3M	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-4D	0.06	0.0485	6	No	7	100	No	0.008	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AMW-8	0.15	0.0485	6	No	8	87.5	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-24	0.1883	0.1067	6	No	8	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-MW-33[D]	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-34[D]	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-35[D]	0.06	0.0485	6	No	8	100	No	0.004	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-S-1	0.15	0.0485	6	No	8	50	No	0.004	NP (normality)
ARSENIC, TOTAL (UG/L)	L-LMW-1S	11.69	3.591	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	**L-LMW-2S**	**46**	**39.8**	**44.2**	**Yes**	**10**	**0**	**No**	**0.011**	**NP (normality)**
ARSENIC, TOTAL (UG/L)	L-LMW-4S	26.77	14.71	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-7S	15.27	9.526	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-8S	16.66	5.384	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-26	0.5368	0.4552	44.2	No	10	10	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1D	3.667	2.833	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1S	8.207	3.173	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-1D	1.334	1.04	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-2D	11.81	11.08	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-2M	0.6917	0.5403	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-3D	8.275	7.147	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-3M	0.5535	0.3385	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-4D	8.16	7.38	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AMW-8	0.4126	0.1914	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-24	0.6506	0.5014	44.2	No	10	10	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-33[D]	3.163	1.617	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-34[D]	3.719	3.361	44.2	No	10	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-35[D]	0.2145	0.1411	44.2	No	9	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-S-1	0.6816	0.5304	44.2	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-1S	140.1	72.02	2000	No	10	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-2S	49.14	35.1	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-4S	168.9	139.3	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-7S	305.3	216.7	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-8S	150.9	97.8	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-26	212.2	182	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1D	74.36	65.66	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1S	641.4	553.8	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-1D	1486	1400	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-2D	118.6	114	2000	No	9	0	No	0.01	Param.

Confidence Interval

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
BARIUM, TOTAL (UG/L)	L-TP-2M	132.7	116	2000	No	8	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-3D	75.26	66.52	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-3M	272	228	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-4D	445.9	397.9	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AMW-8	121.2	103.3	2000	No	9	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-24	216.8	155.6	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-33[D]	125.8	93.42	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-34[D]	109.1	84.49	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-35[D]	57.98	44.42	2000	No	10	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-S-1	369.3	355.1	2000	No	10	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	L-LMW-1S	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-2S	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-4S	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-7S	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-LMW-8S	0.245	0.06	4	No	5	100	No	0.031	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-26	0.5	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-AM-1D	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-AM-1S	0.245	0.06	4	No	6	83.33	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-1D	0.245	0.06	4	No	6	66.67	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-2D	0.245	0.06	4	No	6	83.33	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-2M	0.26	0.06	4	No	6	66.67	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-3D	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-3M	0.245	0.06	4	No	6	83.33	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-TP-4D	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-AMW-8	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-24	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-33[D]	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-34[D]	0.5	0.06	4	No	6	100	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-MW-35[D]	0.245	0.06	4	No	6	83.33	No	0.0155	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-S-1	0.245	0.06	4	No	6	100	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-LMW-1S	0.069	0.025	5	No	6	66.67	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-LMW-2S	0.25	0.025	5	No	6	100	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-LMW-4S	0.08304	0.0474	5	No	6	33.33	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-LMW-7S	0.08701	0.05208	5	No	6	33.33	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-LMW-8S	0.1442	0.03344	5	No	6	33.33	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-MW-26	0.29	0.025	5	No	6	50	No	0.0155	NP (normality)
CADMIUM, TOTAL (UG/L)	L-AM-1D	0.1553	0.05749	5	No	6	33.33	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-AM-1S	0.1314	0.03862	5	No	6	50	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-TP-1D	0.031	0.025	5	No	6	100	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-TP-2D	0.06	0.025	5	No	6	83.33	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-TP-2M	0.031	0.025	5	No	6	100	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-TP-3D	0.2758	0.1151	5	No	6	0	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-TP-3M	0.1416	0.05841	5	No	6	0	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-TP-4D	0.031	0.025	5	No	6	100	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-AMW-8	0.149	0.0573	5	No	6	16.67	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-MW-24	0.1	0.025	5	No	6	83.33	No	0.0155	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-MW-33[D]	0.39	0.23	5	No	6	0	No	0.0155	NP (normality)
CADMIUM, TOTAL (UG/L)	L-MW-34[D]	0.36	0.24	5	No	6	0	No	0.0155	NP (normality)
CADMIUM, TOTAL (UG/L)	L-MW-35[D]	0.214	0.13	5	No	6	16.67	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	L-S-1	0.25	0.025	5	No	6	66.67	No	0.0155	NP (NDs)

Confidence Interval

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-LMW-1S	0.39	0.11	100	No	9	55.56	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-2S	0.51	0.11	100	No	8	75	No	0.004	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-4S	0.45	0.11	100	No	9	44.44	No	0.002	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-LMW-7S	0.73	0.11	100	No	9	55.56	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-8S	0.5	0.11	100	No	9	77.78	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-26	0.53	0.11	100	No	9	77.78	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AM-1D	0.8237	0.1842	100	No	9	11.11	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-AM-1S	0.5	0.11	100	No	9	33.33	No	0.002	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-TP-1D	0.4262	0.2005	100	No	9	33.33	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-2D	0.44	0.11	100	No	9	55.56	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-TP-2M	0.3956	0.2058	100	No	9	44.44	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-3D	0.3887	0.2171	100	No	9	44.44	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-3M	0.5	0.11	100	No	9	55.56	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-TP-4D	0.5	0.11	100	No	9	55.56	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AMW-8	0.5548	0.2377	100	No	9	44.44	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-MW-24	1.1	0.11	100	No	9	44.44	No	0.002	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-MW-33[D]	0.87	0.11	100	No	8	87.5	No	0.004	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-34[D]	0.99	0.11	100	No	9	55.56	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-35[D]	1.4	0.11	100	No	9	66.67	No	0.002	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-S-1	0.3784	0.2391	100	No	9	33.33	No	0.01	Param.
COBALT, TOTAL (UG/L)	L-LMW-1S	2.5	0.475	6	No	7	71.43	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-LMW-2S	0.75	0.39	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-LMW-4S	2.78	0.8317	6	No	7	28.57	No	0.01	Param.
COBALT, TOTAL (UG/L)	L-LMW-7S	4.5	1.3	6	No	7	0	No	0.008	NP (normality)
COBALT, TOTAL (UG/L)	L-LMW-8S	3.1	0.6	6	No	7	71.43	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-26	0.75	0.39	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-AM-1D	0.75	0.475	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-AM-1S	5.247	1.381	6	No	7	14.29	No	0.01	Param.
COBALT, TOTAL (UG/L)	L-TP-1D	0.75	0.475	6	No	5	100	No	0.031	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-2D	0.75	0.475	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-2M	0.75	0.475	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-3D	0.75	0.39	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-3M	0.75	0.39	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-TP-4D	0.75	0.39	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-AMW-8	0.75	0.475	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-24	0.75	0.39	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-33[D]	0.75	0.39	6	No	7	100	No	0.008	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-34[D]	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-MW-35[D]	0.75	0.39	6	No	6	100	No	0.0155	NP (NDs)
COBALT, TOTAL (UG/L)	L-S-1	2.994	0.8629	6	No	7	28.57	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-1S	0.2117	0.1209	4	No	12	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-2S	0.22	0.06	4	No	10	40	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-4S	0.29	0.06	4	No	11	36.36	No	0.006	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-7S	0.28	0.06	4	No	11	45.45	No	0.006	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-8S	0.53	0.043	4	No	12	33.33	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-26	0.22	0.06	4	No	11	54.55	No	0.006	NP (NDs)
FLUORIDE, TOTAL (MG/L)	L-AM-1D	0.4	0.06	4	No	10	30	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-AM-1S	0.32	0.06	4	No	10	50	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-TP-1D	0.2176	0.1124	4	No	10	40	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-2D	0.45	0.14	4	No	10	10	No	0.011	NP (normality)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 10:11 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
FLUORIDE, TOTAL (MG/L)	L-TP-2M	0.51	0.06	4	No	10	20	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-TP-3D	0.35	0.06	4	No	10	50	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-TP-3M	0.33	0.06	4	No	10	40	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-TP-4D	0.2612	0.1208	4	No	10	40	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AMW-8	0.46	0.06	4	No	10	30	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-24	0.2175	0.1205	4	No	10	40	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-33[D]	0.42	0.06	4	No	10	40	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-34[D]	0.34	0.06	4	No	10	40	No	0.011	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-35[D]	0.2855	0.09345	4	No	10	40	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-S-1	0.25	0.06	4	No	9	44.44	No	0.002	NP (normality)
LEAD, TOTAL (UG/L)	L-LMW-1S	3.05	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-2S	2.3	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-4S	3.05	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-7S	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-LMW-8S	4.1	1.9	15	No	6	83.33	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-26	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-AM-1D	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-AM-1S	3.05	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-1D	3.05	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-2D	3.05	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-2M	4.2	1.9	15	No	6	83.33	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-3D	2.3	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-3M	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-TP-4D	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-AMW-8	3.05	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-24	2.3	1.9	15	No	5	100	No	0.031	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-33[D]	2.3	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-34[D]	2.3	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-MW-35[D]	2.3	1.9	15	No	6	100	No	0.0155	NP (NDs)
LEAD, TOTAL (UG/L)	L-S-1	4.9	1.9	15	No	6	83.33	No	0.0155	NP (NDs)
LITHIUM, TOTAL (UG/L)	L-LMW-1S	18.73	11.57	47.4	No	10	10	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-2S	13.28	9.843	47.4	No	11	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-4S	38.61	30.59	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**L-LMW-7S**	**47.98**	**38.32**	**47.4**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	L-LMW-8S	21.5	12.85	47.4	No	9	11.11	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-26	30.31	24.61	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1D	39.13	35.31	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1S	38.24	31.9	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-1D	26.54	24.15	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-2D	43.53	40.35	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-2M	36.06	29.74	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3D	34.5	29.22	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3M	35.51	30.57	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-4D	25.32	21.7	47.4	No	9	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AMW-8	18.76	14.86	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-24	23.06	17.12	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-33[D]	35.17	32.95	47.4	No	8	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-34[D]	37.98	33.82	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-35[D]	30.19	26.03	47.4	No	10	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-S-1	28.8	20.42	47.4	No	10	0	No	0.01	Param.

Confidence Interval

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
MERCURY, TOTAL (UG/L)	L-LMW-1S	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-2S	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-4S	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-7S	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-LMW-8S	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-26	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-AM-1D	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-AM-1S	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-1D	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-2D	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-2M	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-3D	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-3M	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-TP-4D	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-AMW-8	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-24	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-33[D]	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-34[D]	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-MW-35[D]	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MERCURY, TOTAL (UG/L)	L-S-1	0.06	0.029	2	No	6	100	No	0.0155	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-LMW-1S	9.937	3.743	100	No	10	10	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-2S**	**217.3**	**106.5**	**100**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-4S**	**146.9**	**40.23**	**100**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-7S**	**124.8**	**53.27**	**100**	**Yes**	**10**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-8S**	**227.9**	**102.9**	**100**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-MW-26	1.3	0.5	100	No	10	80	No	0.011	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	**L-AM-1D**	**374.7**	**312.4**	**100**	**Yes**	**11**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	4.717	2.46	100	No	11	27.27	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-1D	5.1	0.5	100	No	13	84.62	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	**L-TP-2D**	**138.1**	**113.2**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-TP-2M	91.83	71.55	100	No	13	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-TP-3D**	**938**	**474**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**NP (normality)**
MOLYBDENUM, TOTAL (UG/L)	**L-TP-3M**	**327.9**	**201.9**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-TP-4D	4.1	2.3	100	No	13	15.38	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	**L-AMW-8**	**333**	**285.1**	**100**	**Yes**	**12**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-MW-24	2.9	0.5	100	No	9	66.67	No	0.002	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	**L-MW-33[D]**	**1079**	**766.6**	**100**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-MW-34[D]**	**1057**	**758.8**	**100**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-MW-35[D]**	**599.5**	**460.1**	**100**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-S-1	1.7	0.5	100	No	9	88.89	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-1S	0.925	0.608	5	No	10	100	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-2S	1.048	0.6365	5	No	10	100	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-4S	0.9765	0.5448	5	No	10	100	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-7S	0.9895	0.57	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-8S	0.9615	0.746	5	No	10	100	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-26	0.9355	0.498	5	No	10	100	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1D	1.641	0.6775	5	No	10	80	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1S	1.165	0.5925	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-1D	4.455	2.789	5	No	10	0	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-2D	1.899	0.8205	5	No	10	70	No	0.011	NP (NDs)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 10:11 AM

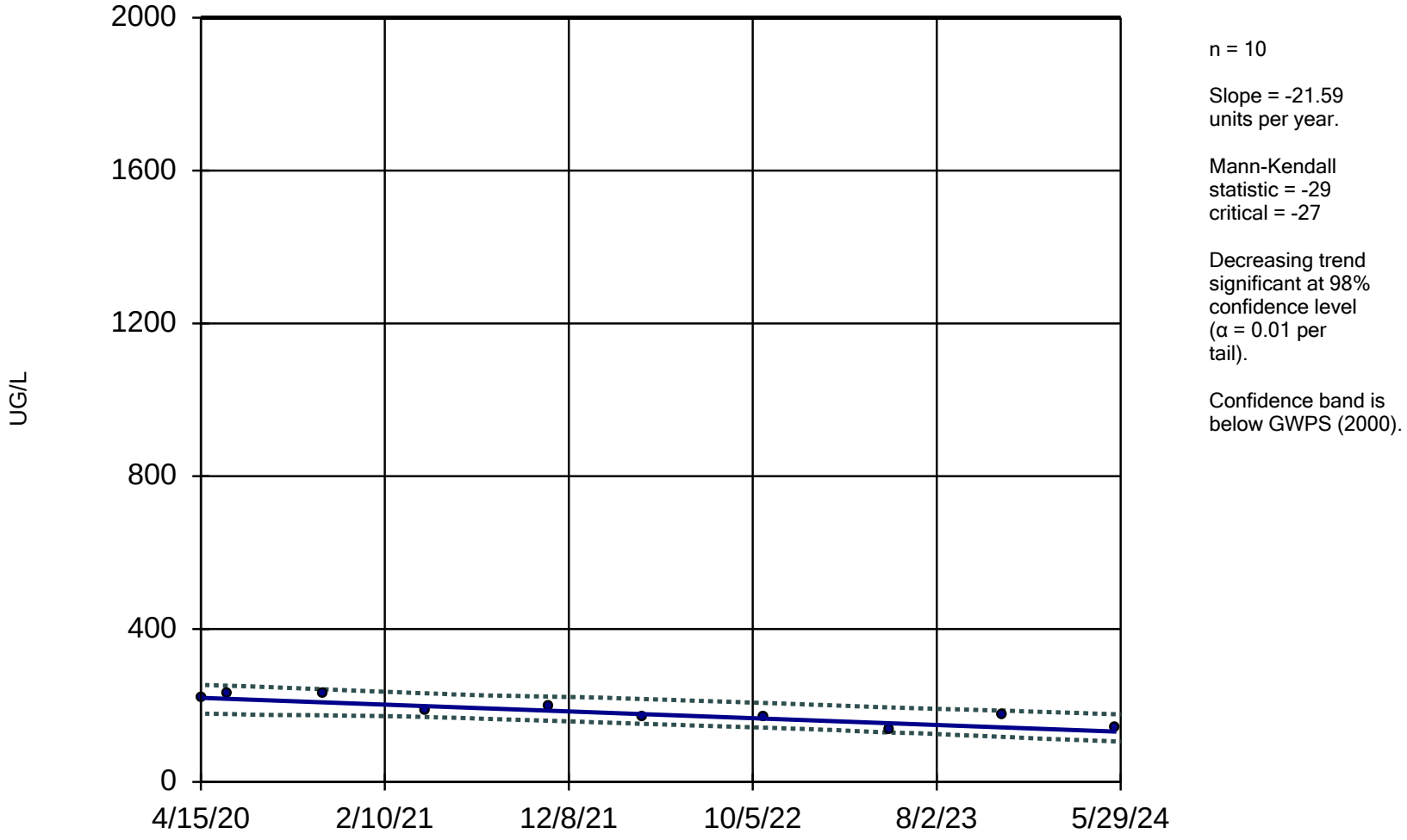
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	L-TP-2M	2.338	1.277	5	No	10	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-3D	1.175	0.5625	5	No	9	100	No	0.002	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-3M	2.393	1.303	5	No	10	40	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-4D	3.366	2.028	5	No	10	10	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-AMW-8	1.429	0.6975	5	No	10	80	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-24	1.245	0.5455	5	No	10	80	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-33[D]	1.734	0.89	5	No	10	70	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-34[D]	1.491	0.606	5	No	10	70	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-35[D]	1.197	0.509	5	No	10	80	No	0.011	NP (NDs)
Radium [226 + 228] (PCI/L)	L-S-1	1.865	0.706	5	No	10	70	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-1S	5.7	0.09	50	No	9	66.67	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-2S	0.257	0.1678	50	No	10	30	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-LMW-4S	0.49	0.09	50	No	10	70	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-7S	0.2	0.09	50	No	9	88.89	No	0.002	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-8S	11.2	0.09	50	No	10	60	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-26	4.868	0.2679	50	No	10	0	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-AM-1D	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AM-1S	1.3	0.09	50	No	10	50	No	0.011	NP (normality)
SELENIUM, TOTAL (UG/L)	L-TP-1D	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2D	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2M	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3D	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3M	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-4D	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AMW-8	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-24	26.41	5.402	50	No	10	20	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-MW-33[D]	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-34[D]	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-35[D]	0.09	0.09	50	No	10	100	No	0.011	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-S-1	8.2	0.09	50	No	9	44.44	No	0.002	NP (normality)
THALLIUM, TOTAL (UG/L)	L-LMW-1S	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-2S	0.075	0.0465	2	No	5	100	No	0.031	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-4S	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-7S	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-LMW-8S	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-26	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-AM-1D	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-AM-1S	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-1D	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-2D	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-2M	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-3D	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-3M	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-TP-4D	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-AMW-8	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-24	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-33[D]	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-34[D]	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-MW-35[D]	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-S-1	0.075	0.0465	2	No	6	100	No	0.0155	NP (NDs)

Appendix B
Sanitas Trending Confidence Bands Statistical Output

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-MW-24



n = 10

Slope = -21.59 units per year.

Mann-Kendall statistic = -29
critical = -27

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

Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

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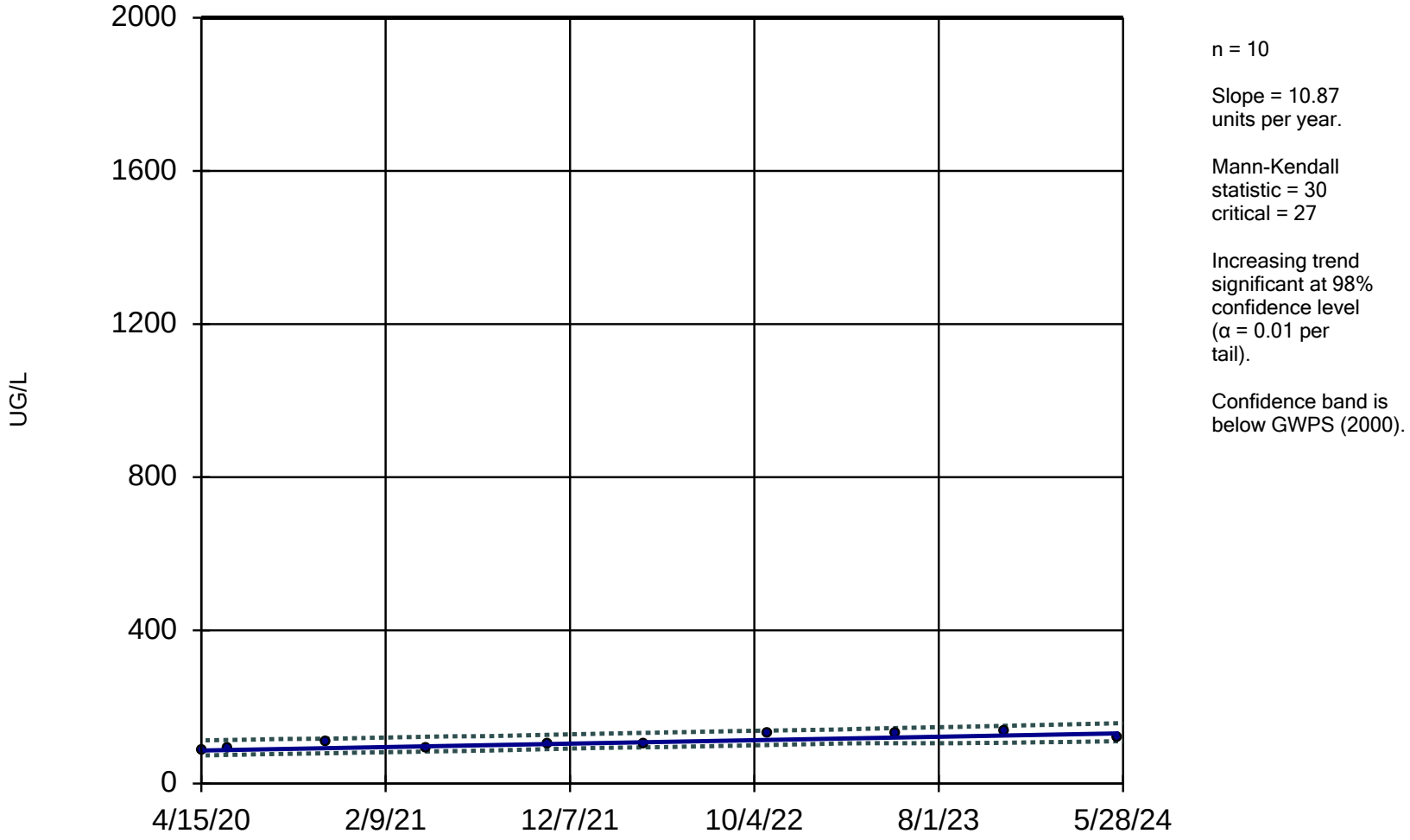
Sen's Slope and 95% Confidence Band

L-MW-33[D]



n = 10

Slope = 10.87 units per year.

Mann-Kendall statistic = 30
critical = 27

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

Confidence band is below GWPS (2000).

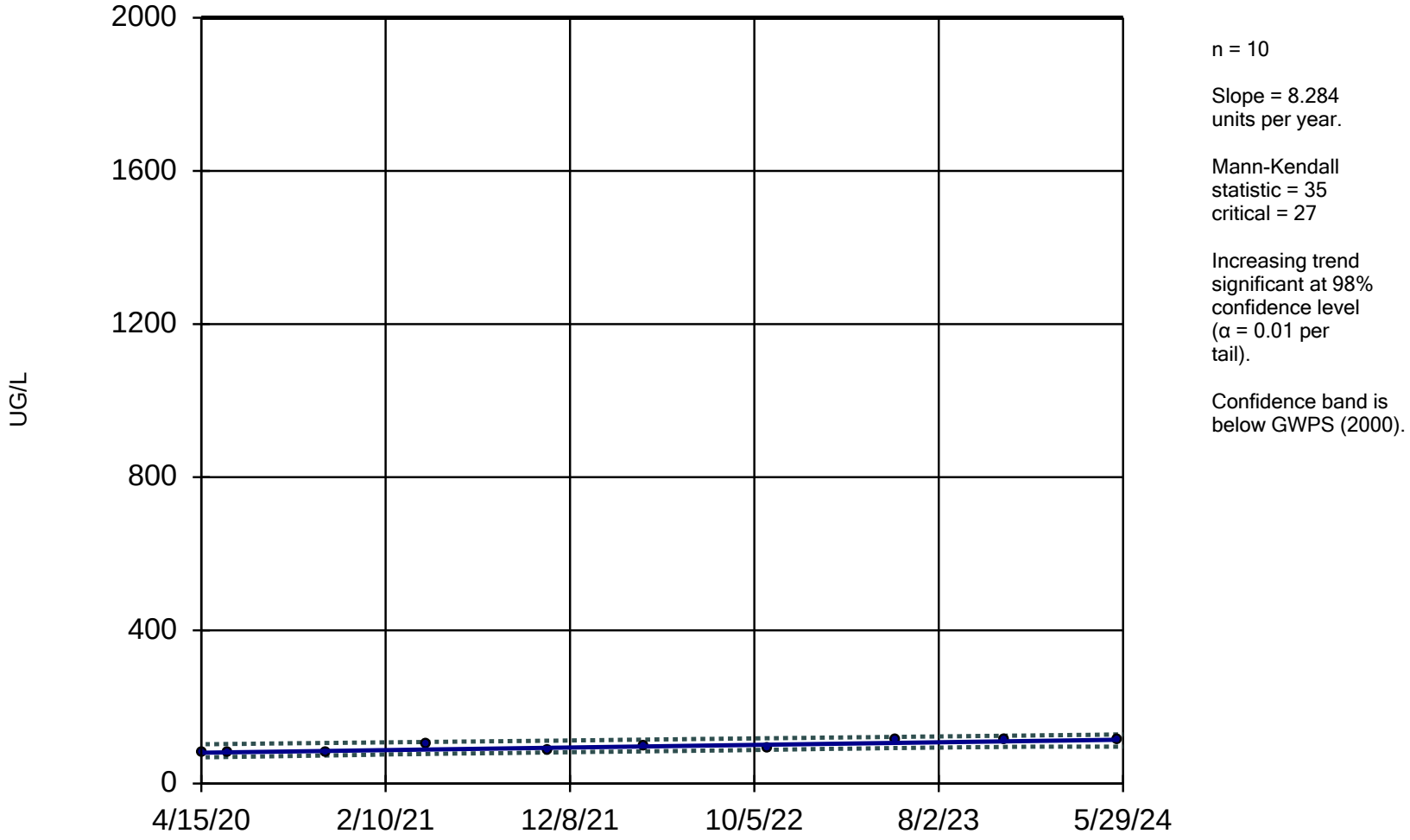
Constituent: BARIUM, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-MW-34[D]



n = 10

Slope = 8.284 units per year.

Mann-Kendall statistic = 35
critical = 27

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

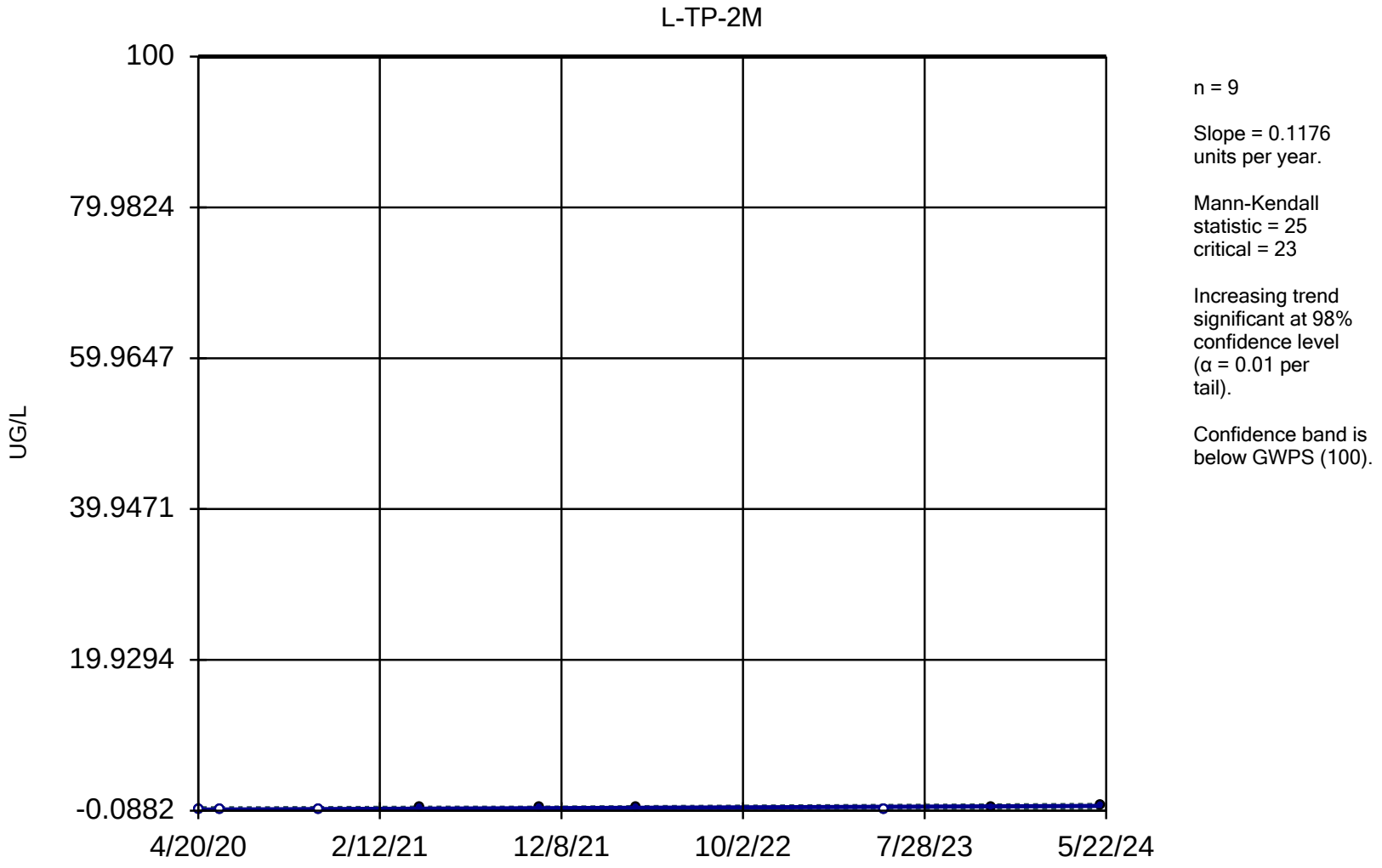
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

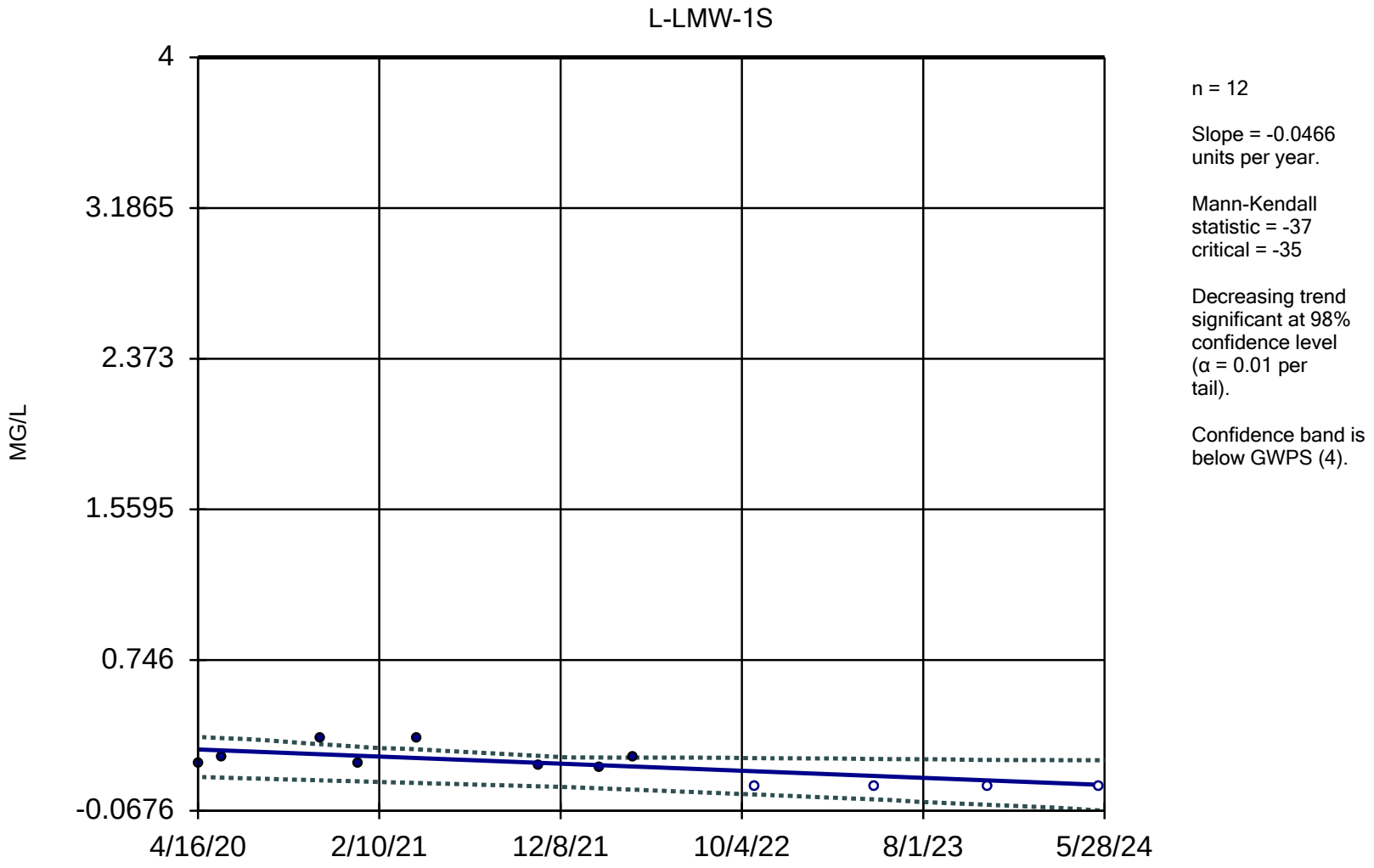


Constituent: CHROMIUM, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

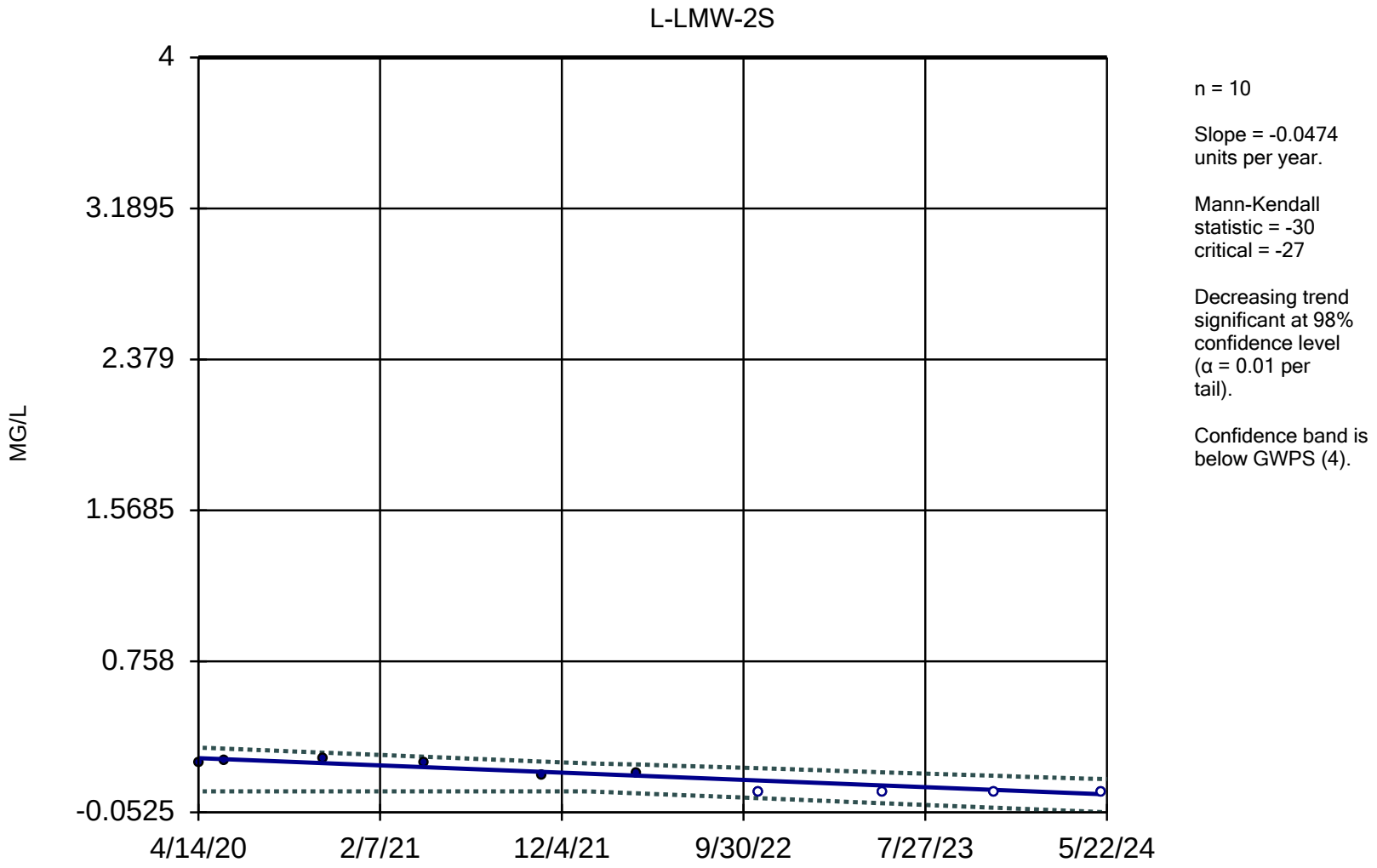


Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

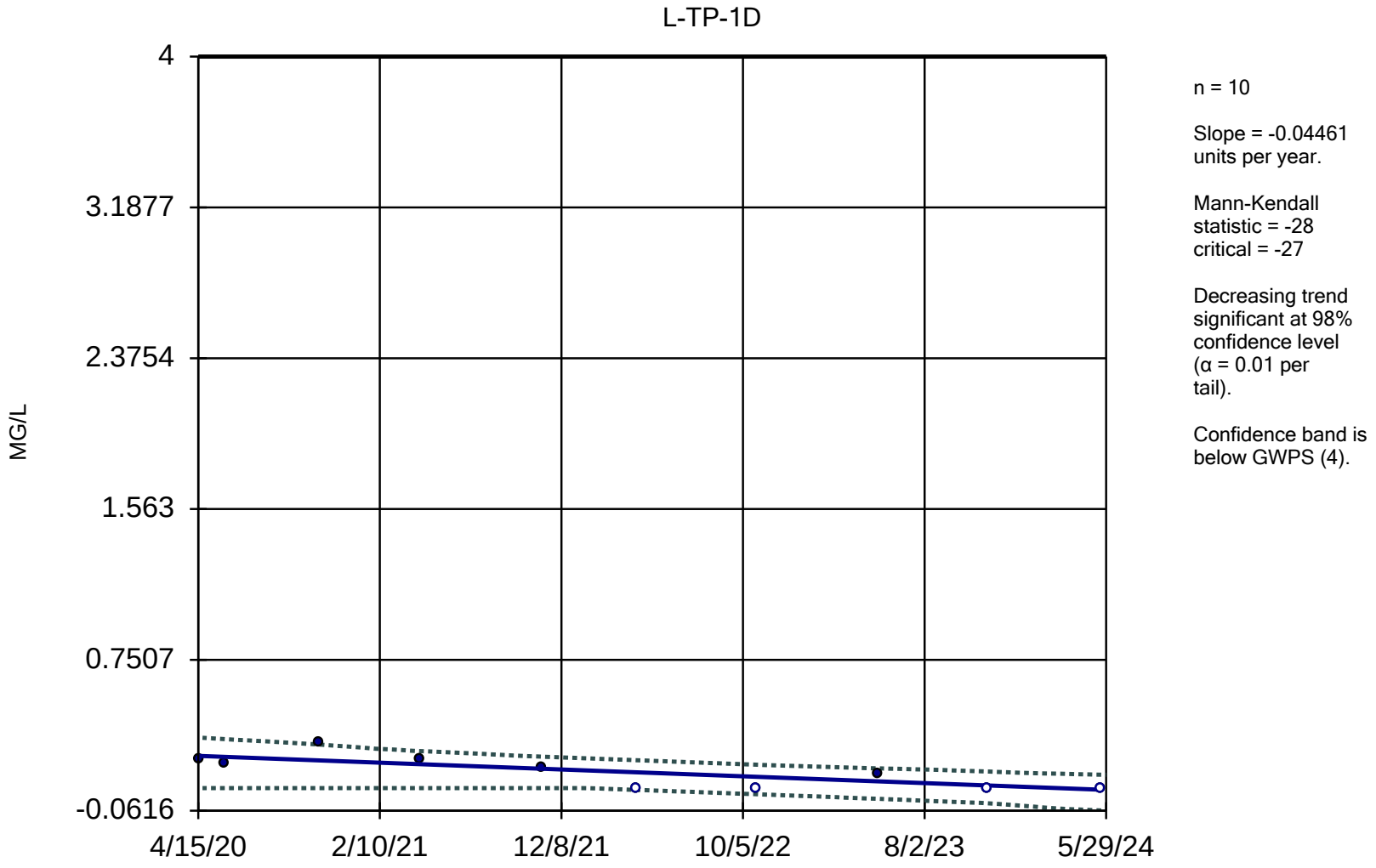


Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

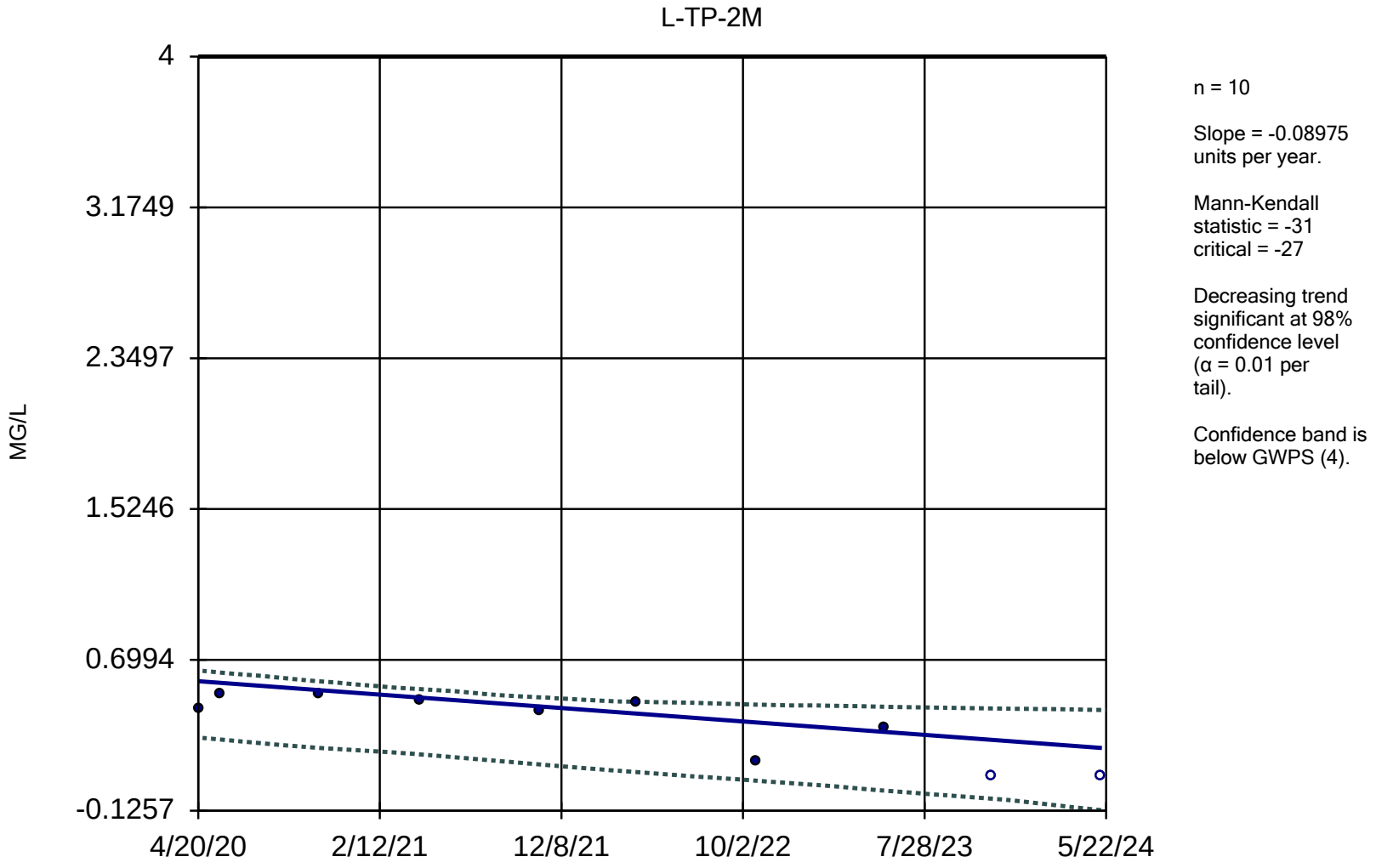


Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

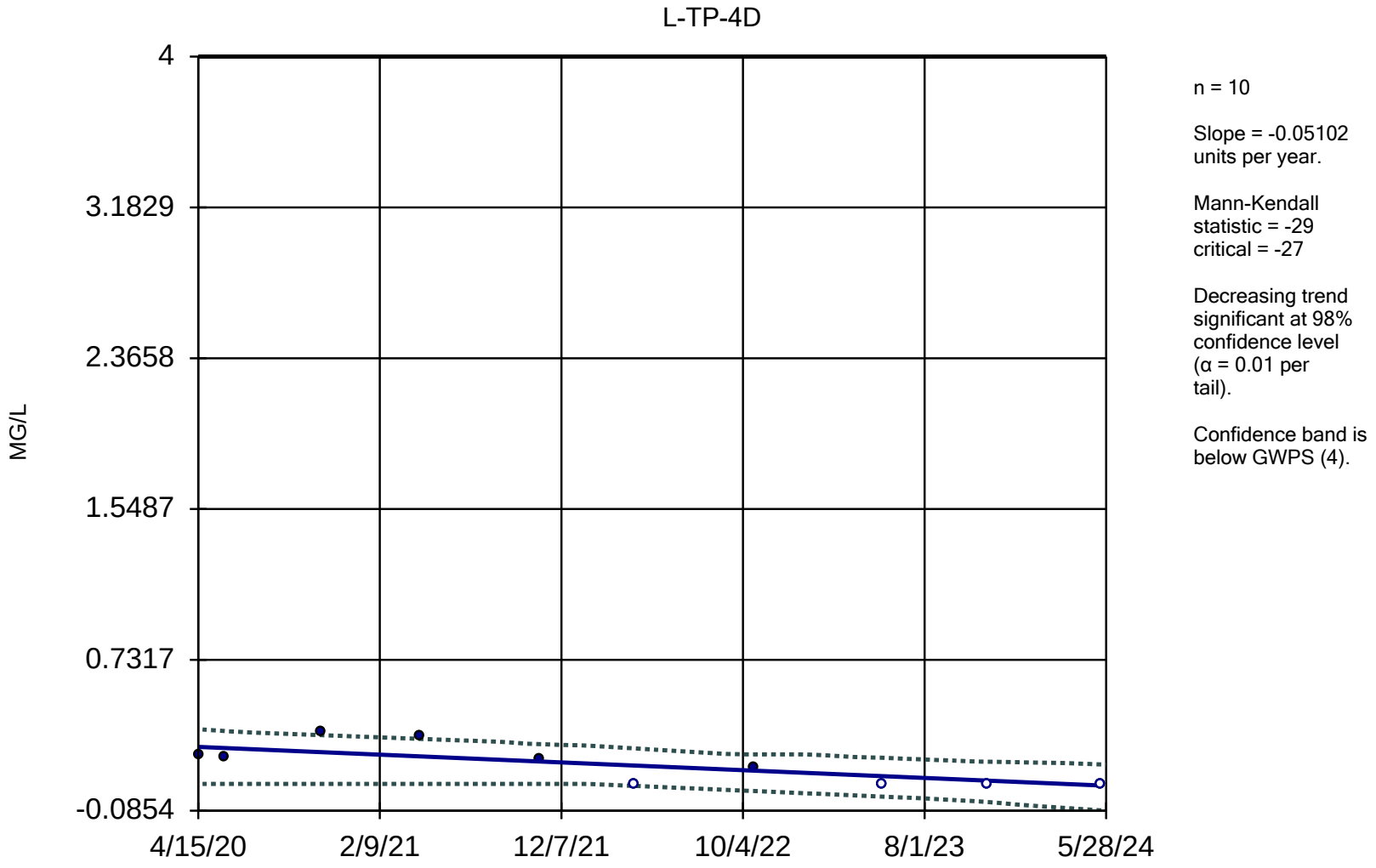


Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

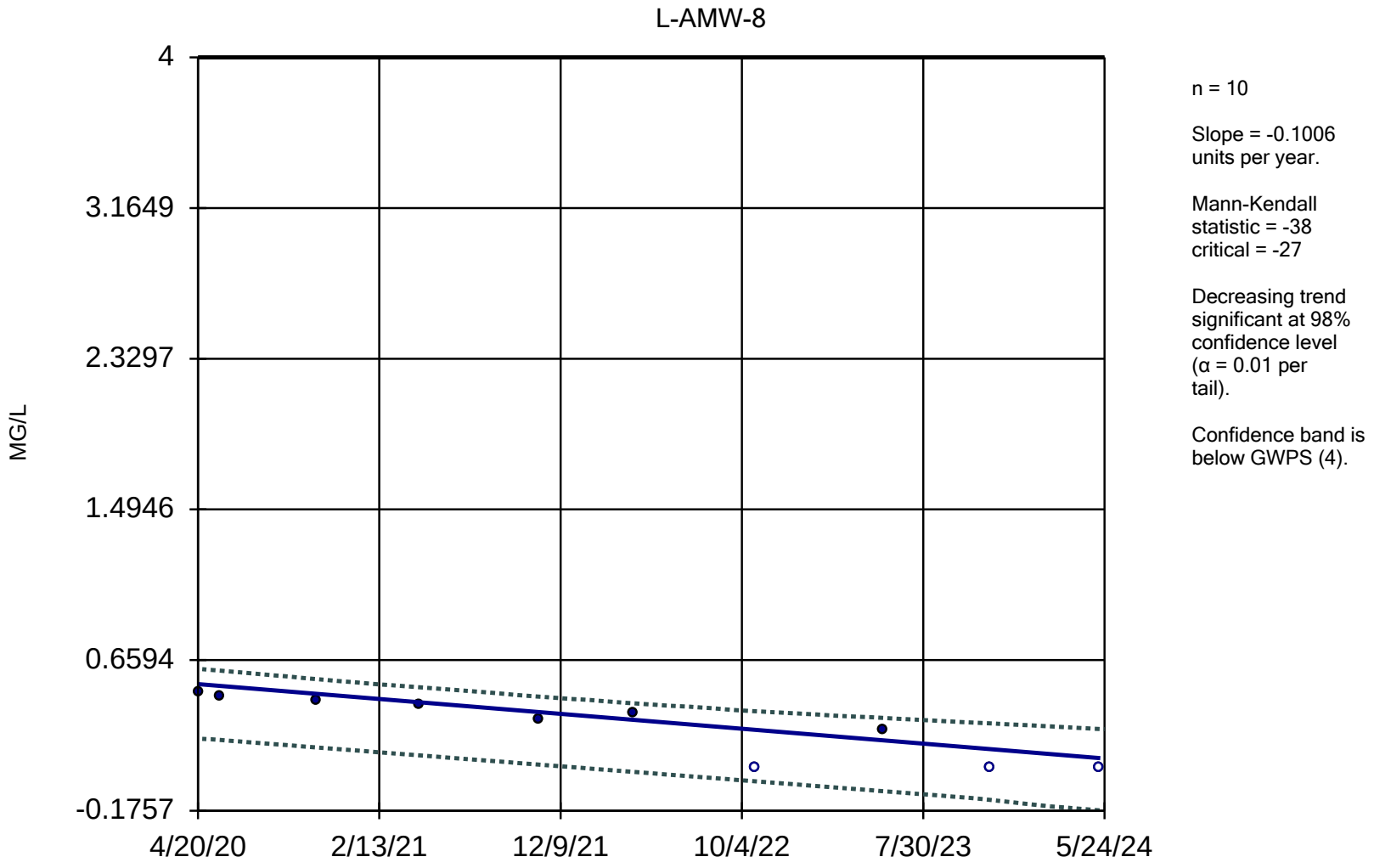


Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

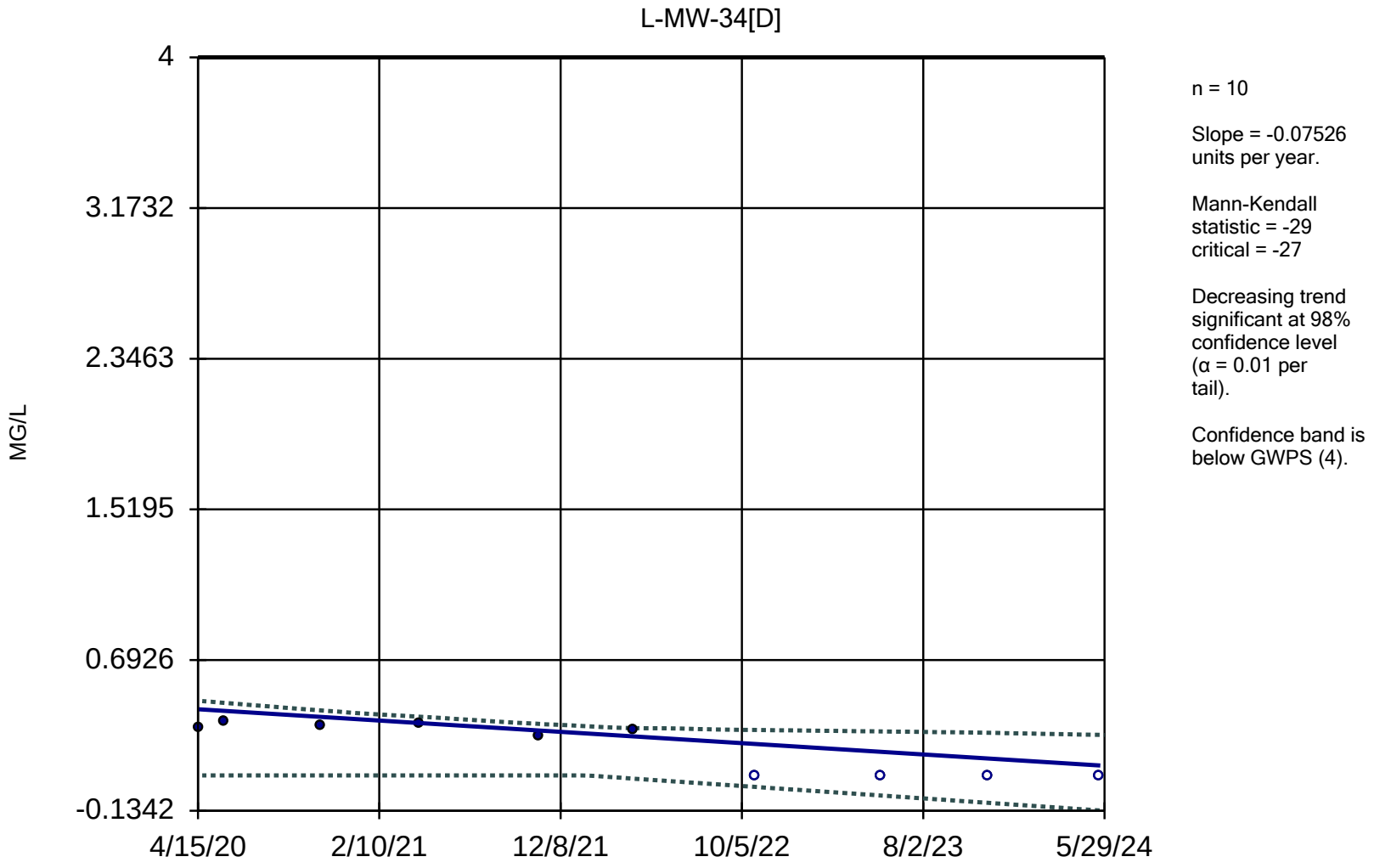


Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



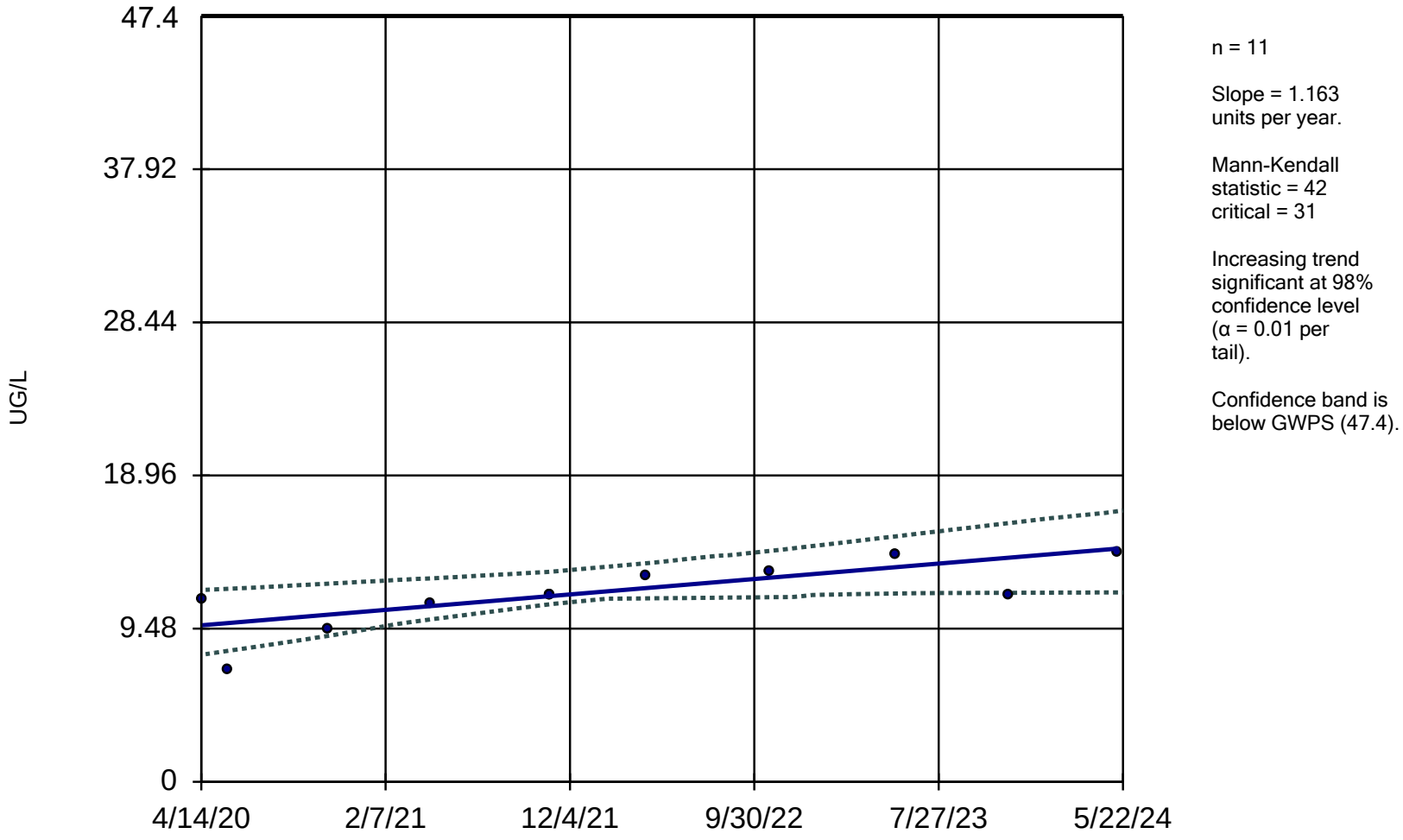
Constituent: FLUORIDE, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-LMW-2S



n = 11

Slope = 1.163 units per year.

Mann-Kendall statistic = 42
critical = 31

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

Confidence band is below GWPS (47.4).

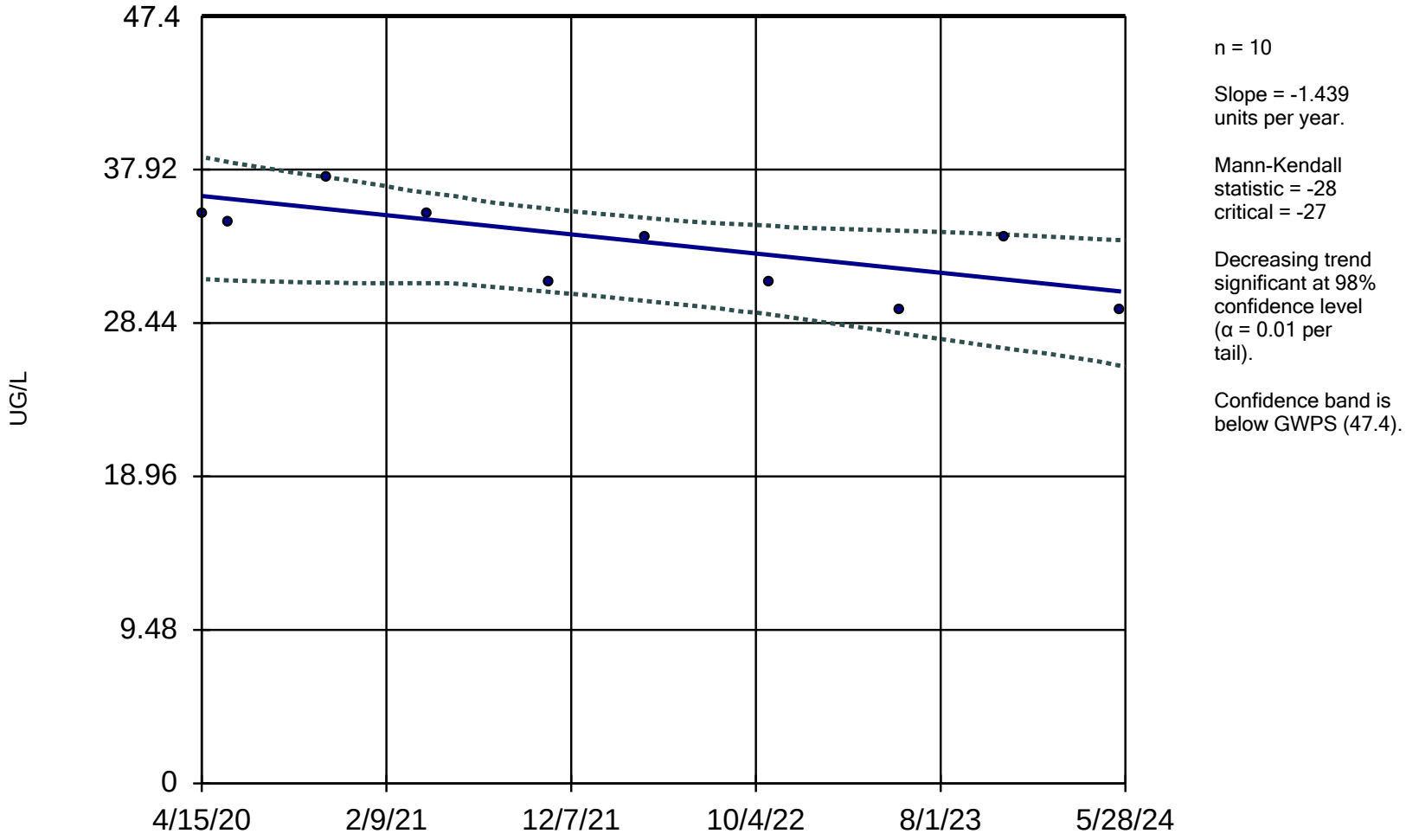
Constituent: LITHIUM, TOTAL Analysis Run 8/27/2024 11:28 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-TP-3M



n = 10

Slope = -1.439 units per year.

Mann-Kendall statistic = -28 critical = -27

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

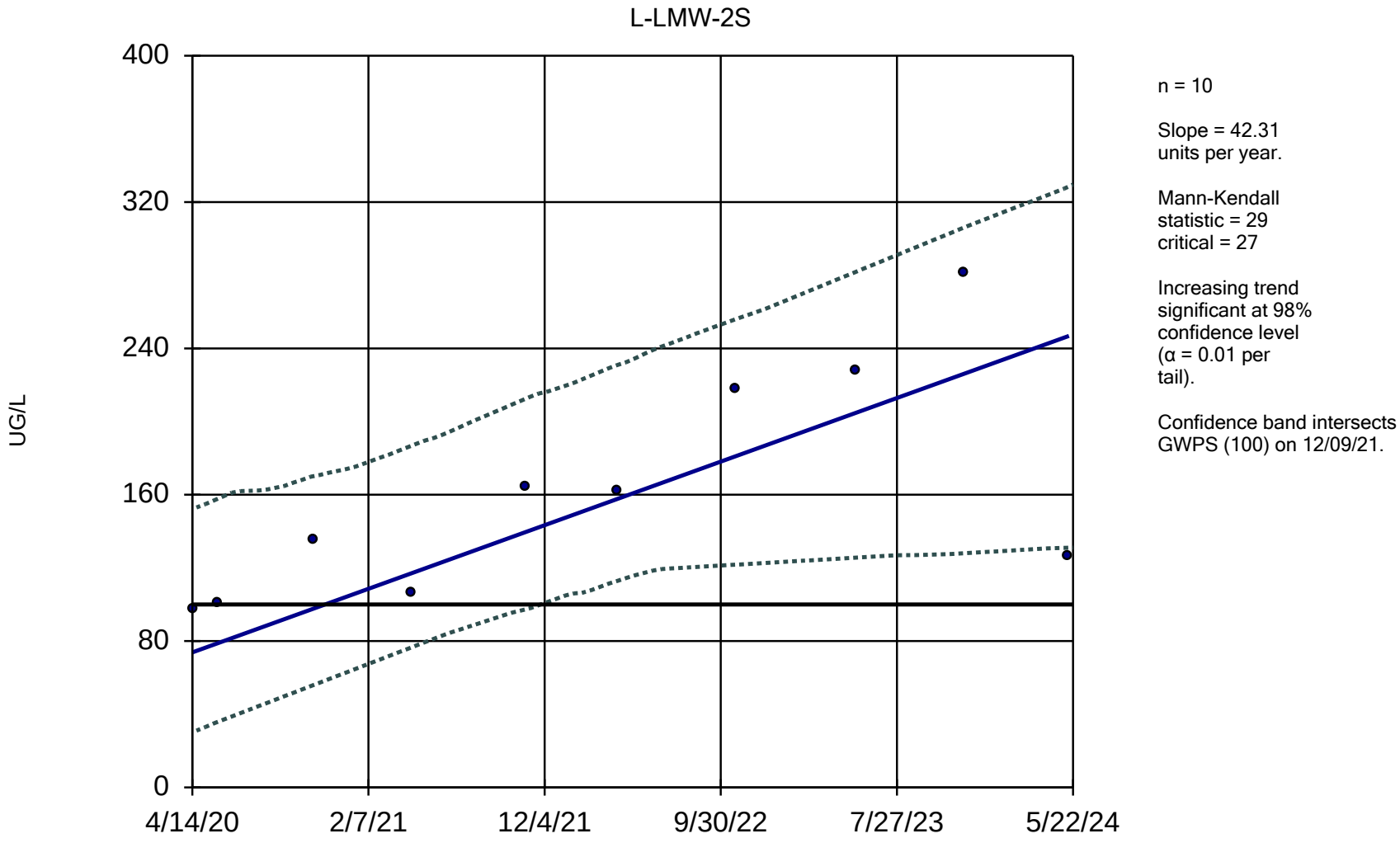
Confidence band is below GWPS (47.4).

Constituent: LITHIUM, TOTAL Analysis Run 8/27/2024 11:29 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band



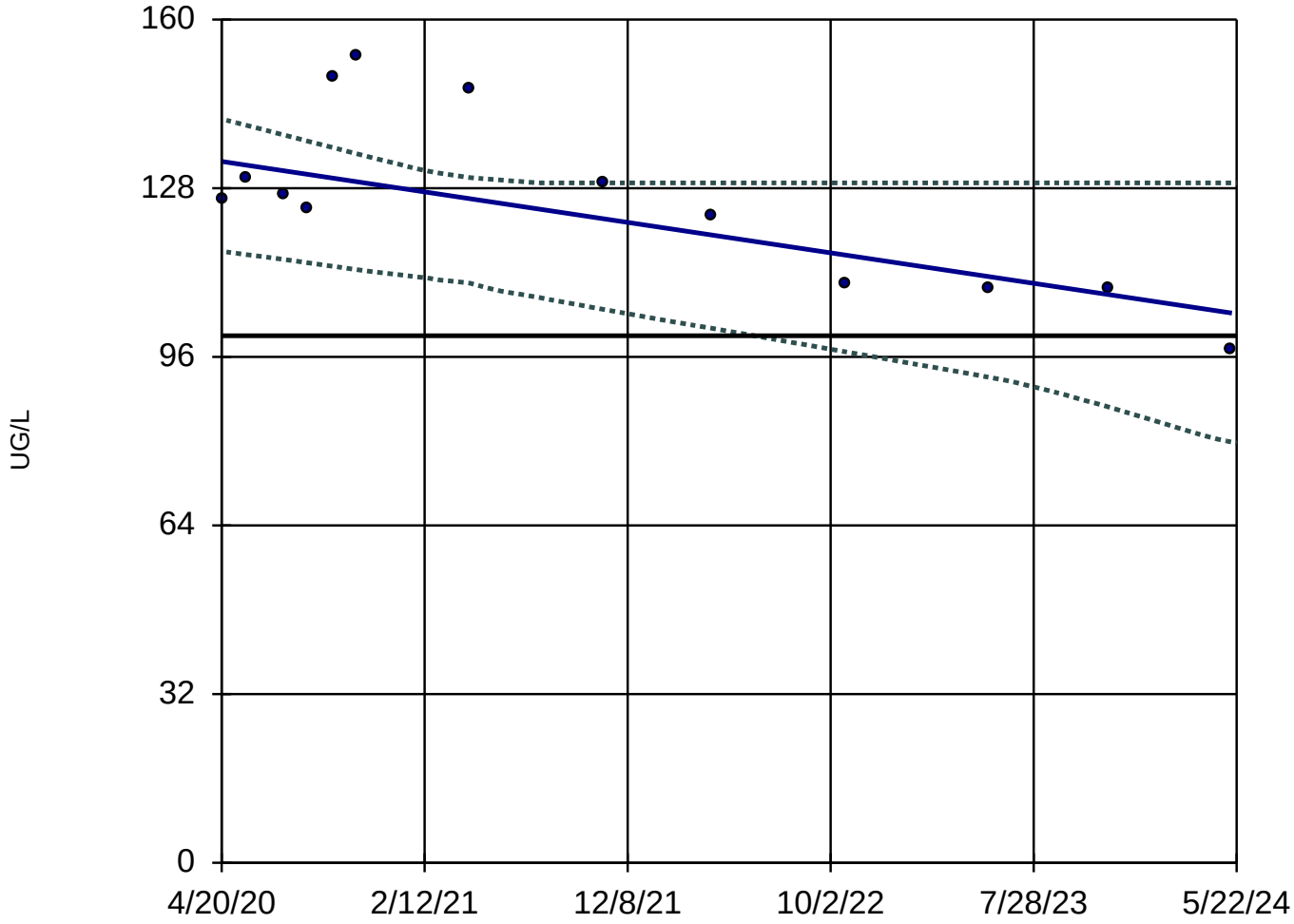
Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 11:32 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-TP-2D



n = 13

Slope = -7.065
units per year.

Mann-Kendall
statistic = -41
critical = -39

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

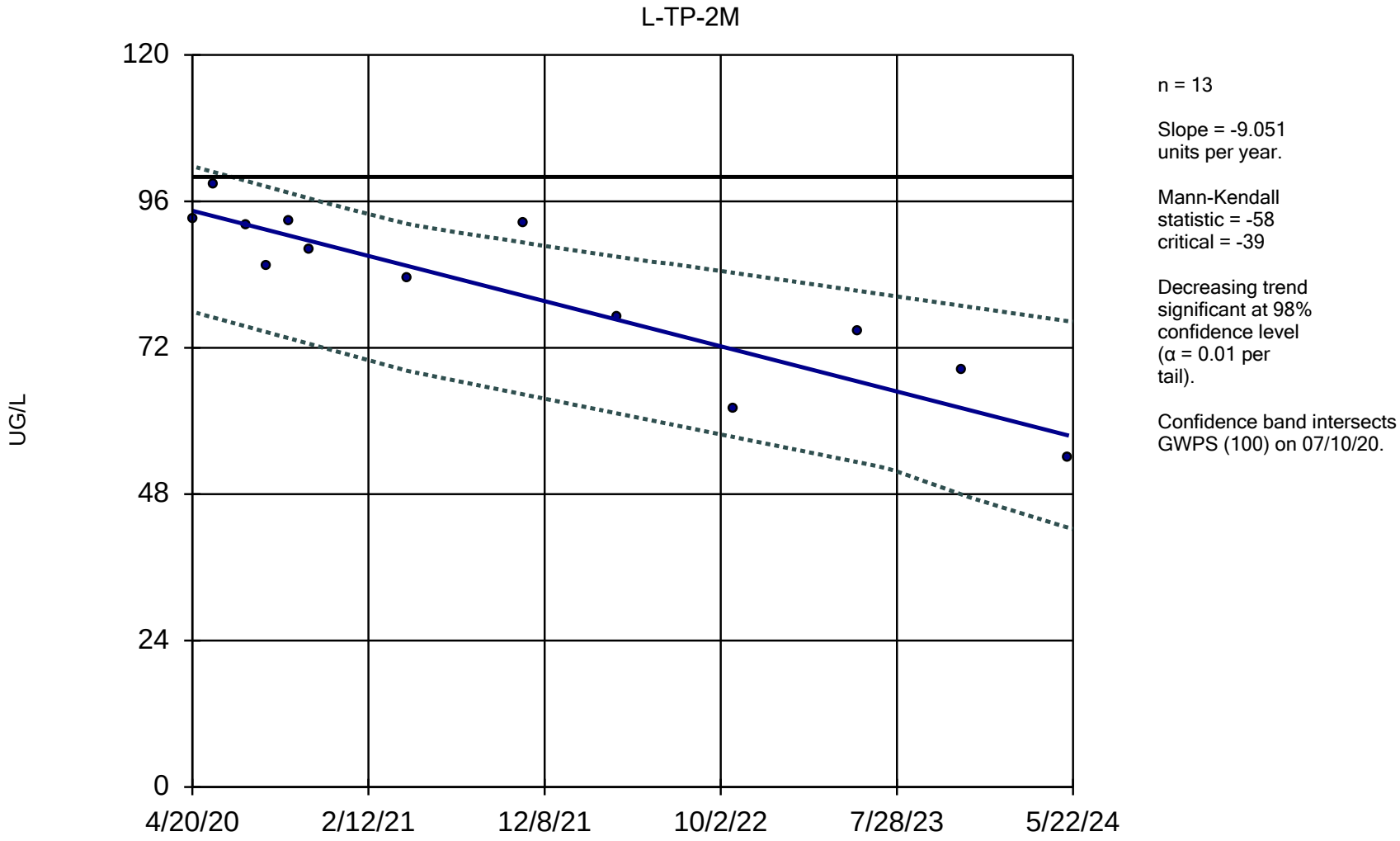
Confidence band intersects
GWPS (100) on 06/24/22.

Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 11:34 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band



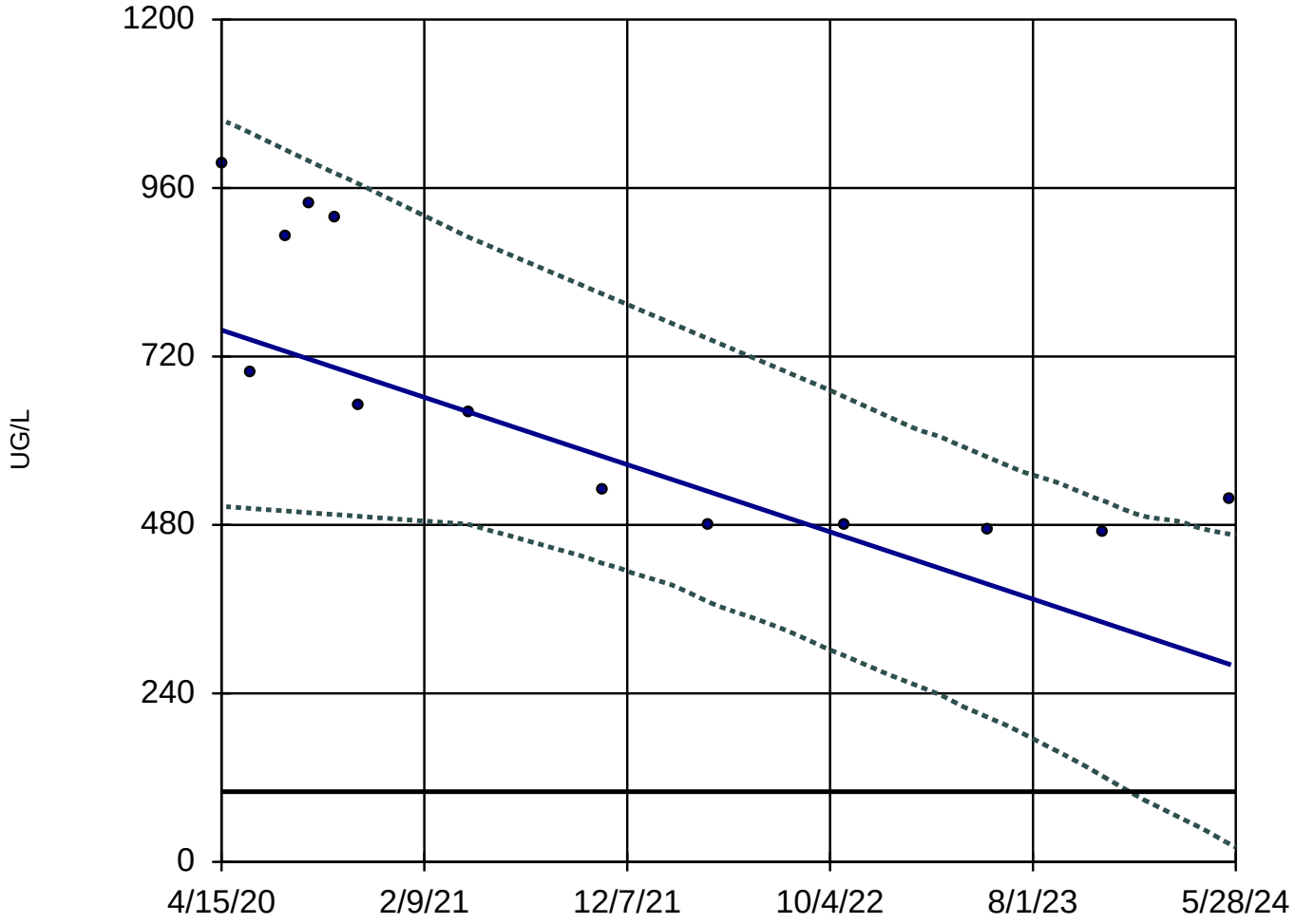
Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 11:36 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-TP-3D



n = 13

Slope = -116.3 units per year.

Mann-Kendall statistic = -59
critical = -39

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

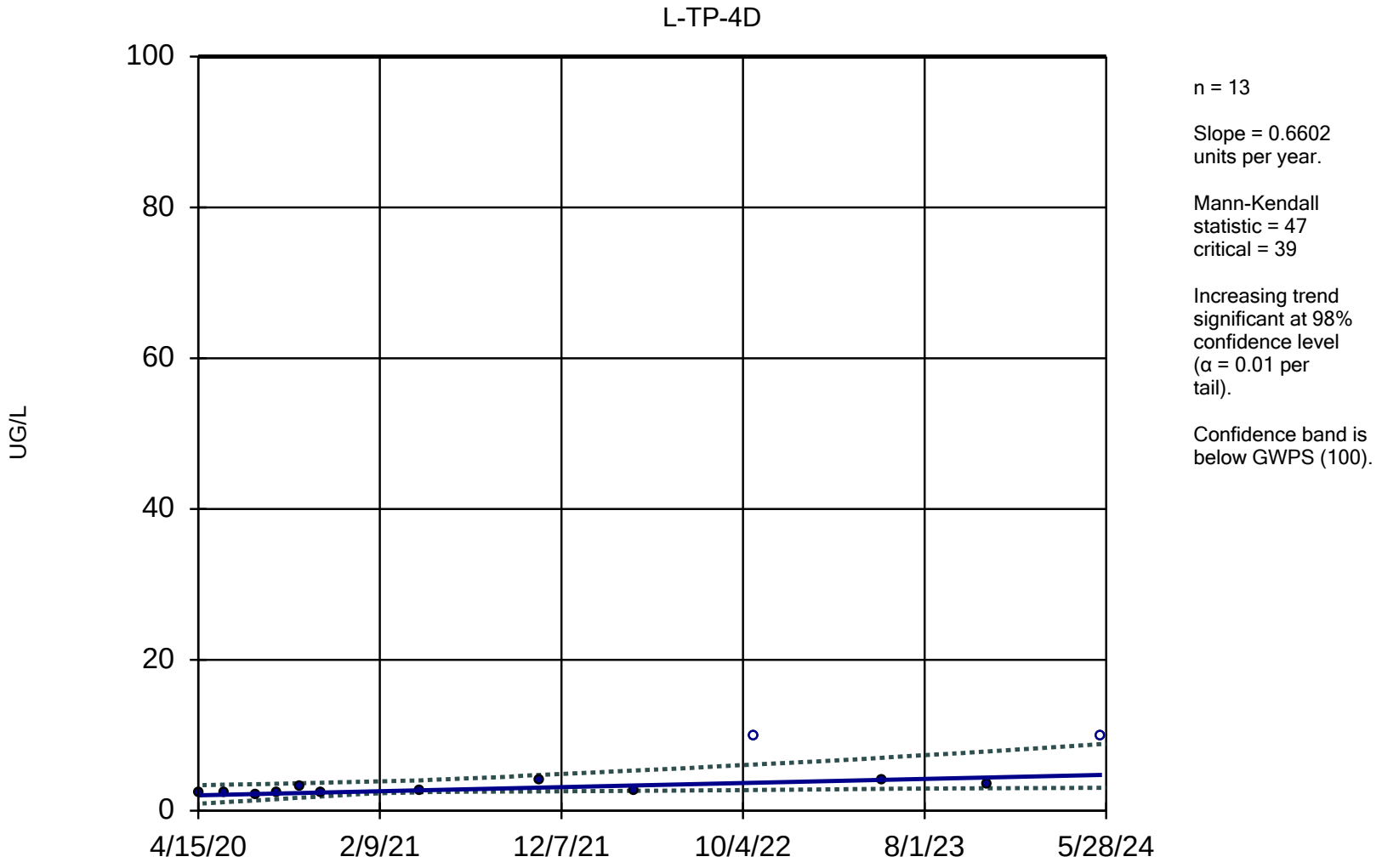
Confidence band intersects GWPS (100) on 12/30/23.

Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 11:38 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



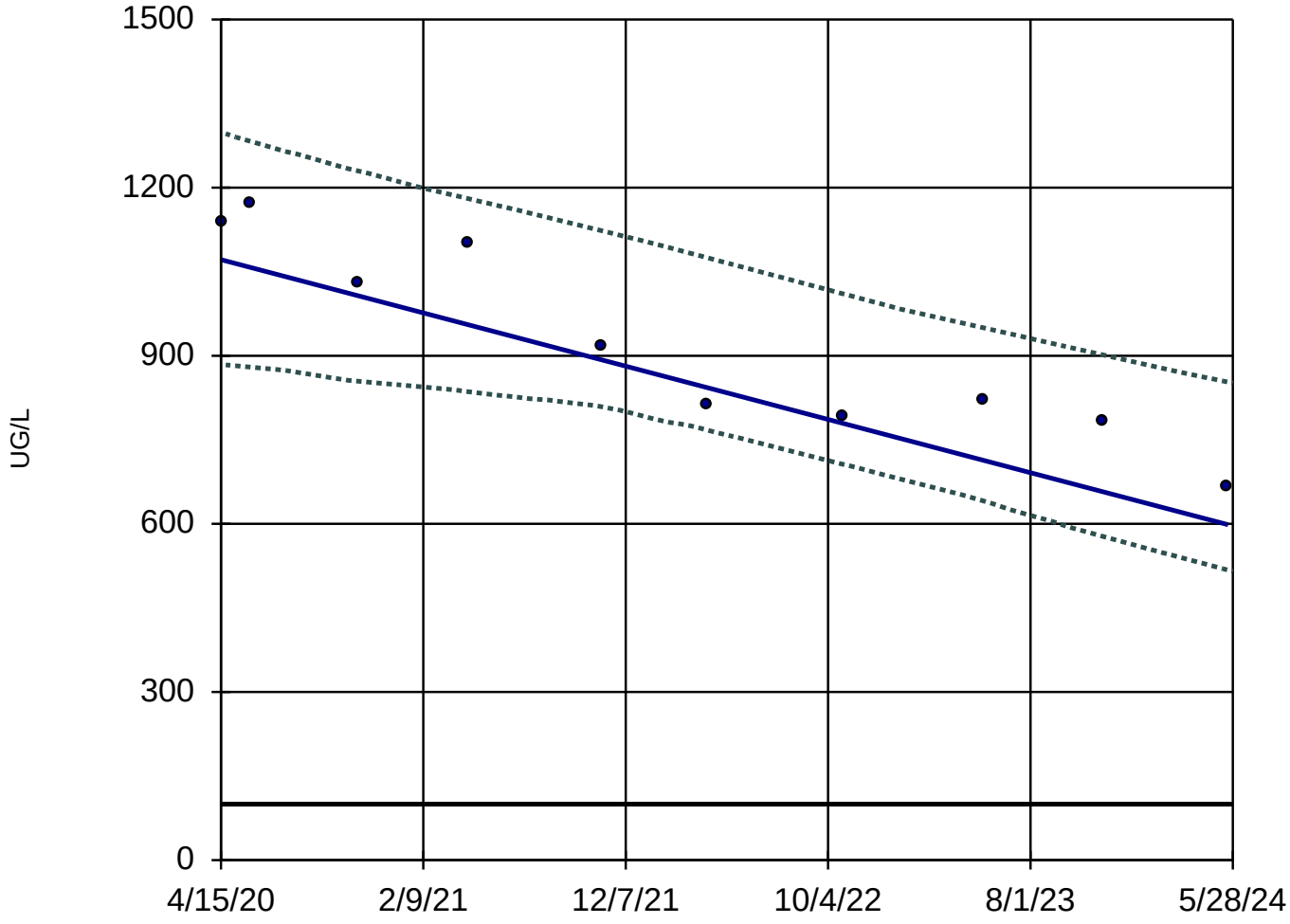
Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 11:29 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-MW-33[D]



n = 10

Slope = -115.3 units per year.

Mann-Kendall statistic = -37
critical = -27

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

Confidence band is above GWPS (100).

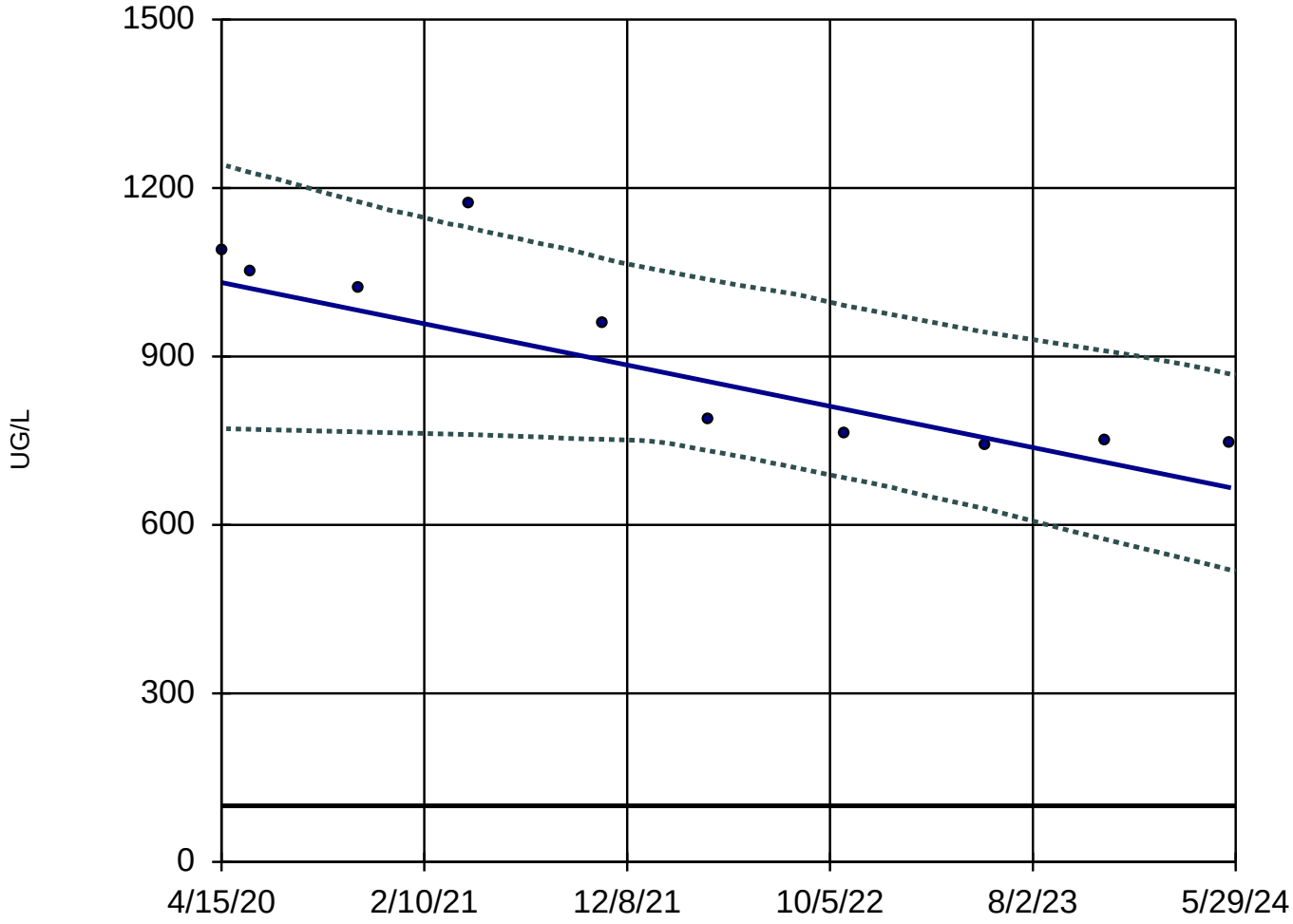
Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 11:39 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Sanitas™ v.9.6.37 Software licensed to Rocksmith Geoengineering. UG

Sen's Slope and 95% Confidence Band

L-MW-34[D]



n = 10

Slope = -89.02 units per year.

Mann-Kendall statistic = -35
critical = -27

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

Confidence band is above GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 8/27/2024 11:40 AM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 11:30 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-LMW-1S	0.003216	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-LMW-2S	0	1	20	No	8	62.5	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-LMW-4S	0.003232	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-LMW-7S	0.003218	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-LMW-8S	0.003217	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-MW-26	0	1	20	No	8	37.5	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-AM-1D	0.003221	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-AM-1S	0.003221	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-TP-1D	0	-2	-20	No	8	75	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-TP-2D	0.002162	9	20	No	8	87.5	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-TP-2M	0.003235	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-TP-3D	0.003217	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-TP-3M	0.003217	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-TP-4D	0.003244	14	17	No	7	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-AMW-8	0.00216	9	20	No	8	87.5	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-MW-24	0.01502	17	20	No	8	0	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-MW-33[D]	0.003216	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-MW-34[D]	0.003214	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-MW-35[D]	0.003213	19	20	No	8	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-S-1	0.002151	6	20	No	8	50	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-LMW-1S	-2.594	-25	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-LMW-2S	-0.4061	-14	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-LMW-4S	1.2	16	27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-LMW-7S	-0.1291	-1	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-LMW-8S	-3.975	-21	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-26	-0.00...	-6	-27	No	10	10	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AM-1D	-0.06477	-3	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AM-1S	-0.3	-5	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-1D	0.09481	24	27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-2D	-0.05723	-5	-23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-2M	-0.02265	-9	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-3D	0.3262	10	23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-3M	0	-2	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-TP-4D	-0.1884	-19	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AMW-8	0.02226	14	27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-24	0.03341	13	27	No	10	10	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-33[D]	0	1	27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-34[D]	-0.07883	-20	-27	No	10	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-MW-35[D]	-0.00...	-5	-23	No	9	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-S-1	0.02844	13	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-1S	17.23	23	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-2S	4.813	25	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-4S	3.344	7	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-7S	-26.14	-25	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-LMW-8S	-3.01	-3	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-MW-26	-5.904	-18	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AM-1D	0.5351	3	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AM-1S	1.956	1	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-1D	22.56	18	27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-2D	-0.1676	-4	-23	No	9	0	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 11:30 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
BARIUM, TOTAL (UG/L)	L-TP-2M	4.893	18	20	No	8	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-3D	-0.7536	-7	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-3M	-13.05	-23	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-TP-4D	-12.92	-24	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AMW-8	3.255	17	23	No	9	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-MW-24**	**-21.59**	**-29**	**-27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**L-MW-33[D]**	**10.87**	**30**	**27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**L-MW-34[D]**	**8.284**	**35**	**27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-MW-35[D]	-1.031	-3	-27	No	10	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-S-1	-1.722	-2	-27	No	10	0	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-1S	-0.00...	-4	-23	No	9	55.56	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-2S	0.02196	10	20	No	8	75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-4S	0.06294	16	23	No	9	44.44	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-7S	0.05388	12	23	No	9	55.56	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-LMW-8S	0.02787	14	23	No	9	77.78	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-26	0.09062	20	23	No	9	77.78	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-AM-1D	0.0519	19	23	No	9	11.11	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-AM-1S	0.07528	21	23	No	9	33.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-1D	0.07475	22	23	No	9	33.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-2D	0.01446	14	23	No	9	55.56	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	**L-TP-2M**	**0.1176**	**25**	**23**	**Yes**	**9**	**44.44**	**n/a**	**n/a**	**0.02**	**NP**
CHROMIUM, TOTAL (UG/L)	L-TP-3D	0.02868	12	23	No	9	44.44	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-3M	0.04144	14	23	No	9	55.56	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-TP-4D	0.02977	11	23	No	9	55.56	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-AMW-8	-0.02263	-5	-23	No	9	44.44	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-24	0.08961	17	23	No	9	44.44	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-33[D]	0.01121	11	20	No	8	87.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-34[D]	0.005017	2	23	No	9	55.56	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-MW-35[D]	0.07452	14	23	No	9	66.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-S-1	0.04617	11	23	No	9	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-LMW-1S**	**-0.0466**	**-37**	**-35**	**Yes**	**12**	**33.33**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	**L-LMW-2S**	**-0.0474**	**-30**	**-27**	**Yes**	**10**	**40**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-LMW-4S	-0.05964	-28	-31	No	11	36.36	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-LMW-7S	-0.05498	-24	-31	No	11	45.45	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-LMW-8S	-0.04167	-9	-35	No	12	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-MW-26	-0.03188	-25	-31	No	11	54.55	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-AM-1D	-0.06845	-21	-27	No	10	30	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-AM-1S	-0.05506	-21	-27	No	10	50	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-TP-1D**	**-0.04461**	**-28**	**-27**	**Yes**	**10**	**40**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-TP-2D	-0.06806	-22	-27	No	10	10	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-TP-2M**	**-0.08975**	**-31**	**-27**	**Yes**	**10**	**20**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-TP-3D	-0.0717	-22	-27	No	10	50	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-TP-3M	-0.0427	-16	-27	No	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-TP-4D**	**-0.05102**	**-29**	**-27**	**Yes**	**10**	**40**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	**L-AMW-8**	**-0.1006**	**-38**	**-27**	**Yes**	**10**	**30**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-MW-24	-0.0462	-25	-27	No	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-MW-33[D]	-0.07026	-15	-27	No	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-MW-34[D]**	**-0.07526**	**-29**	**-27**	**Yes**	**10**	**40**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-MW-35[D]	-0.07457	-20	-27	No	10	40	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-S-1	-0.04514	-20	-23	No	9	44.44	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 11:30 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
LITHIUM, TOTAL (UG/L)	L-LMW-1S	-1.039	-12	-27	No	10	10	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-LMW-2S**	**1.163**	**42**	**31**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-LMW-4S	0.3074	4	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-LMW-7S	0.6697	1	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-LMW-8S	-0.459	-10	-23	No	9	11.11	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-26	1.297	19	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AM-1D	-0.7549	-15	-27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AM-1S	1.488	17	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-1D	0.6631	19	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-2D	0.4858	8	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-2M	0.5984	13	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-TP-3D	1.537	27	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-TP-3M**	**-1.439**	**-28**	**-27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-TP-4D	0.3921	6	23	No	9	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AMW-8	0.5794	11	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-24	-1.717	-25	-27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-33[D]	0.1614	8	20	No	8	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-34[D]	1.118	25	27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-MW-35[D]	-0.1949	-2	-27	No	10	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-S-1	0.9076	11	27	No	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-LMW-1S	-1.398	-22	-27	No	10	10	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-LMW-2S**	**42.31**	**29**	**27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-LMW-4S	11.34	7	27	No	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-LMW-7S	-7.125	-13	-27	No	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-LMW-8S	-22.21	-6	-27	No	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-MW-26	0.07973	7	27	No	10	80	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-AM-1D	-22.08	-30	-31	No	11	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	1.26	20	31	No	11	27.27	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-TP-1D	0.3073	32	39	No	13	84.62	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-TP-2D**	**-7.065**	**-41**	**-39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**L-TP-2M**	**-9.051**	**-58**	**-39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**L-TP-3D**	**-116.3**	**-59**	**-39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-TP-3M	44.76	38	39	No	13	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-TP-4D**	**0.6602**	**47**	**39**	**Yes**	**13**	**15.38**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-AMW-8	-12.32	-18	-35	No	12	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-MW-24	0.2659	6	23	No	9	66.67	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-MW-33[D]**	**-115.3**	**-37**	**-27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**L-MW-34[D]**	**-89.02**	**-35**	**-27**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-MW-35[D]	-30.74	-15	-27	No	10	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-S-1	-0.1639	-17	-23	No	9	88.89	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-1S	0.03273	9	27	No	10	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-2S	-0.04894	-5	-27	No	10	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-4S	-0.00...	-5	-27	No	10	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-7S	0.02958	4	23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-LMW-8S	0.001652	3	27	No	10	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-26	-0.07113	-11	-27	No	10	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AM-1D	0.01542	7	27	No	10	80	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AM-1S	0.03203	6	23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-1D	-0.3949	-21	-27	No	10	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-2D	-0.08768	-5	-27	No	10	70	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA Printed 8/27/2024, 11:30 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Radium [226 + 228] (PCI/L)	L-TP-2M	-0.2314	-9	-27	No	10	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-3D	-0.01886	-2	-23	No	9	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-3M	-0.256	-9	-27	No	10	40	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-TP-4D	0.1038	1	27	No	10	10	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AMW-8	0.02306	5	27	No	10	80	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-24	-0.03683	-17	-27	No	10	80	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-33[D]	0.00294	1	27	No	10	70	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-34[D]	-0.08357	-13	-27	No	10	70	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-MW-35[D]	-0.1028	-9	-27	No	10	80	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-S-1	0.02536	1	27	No	10	70	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-1S	0.04026	15	23	No	9	66.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-2S	0.01315	13	27	No	10	30	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-4S	0	16	27	No	10	70	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-7S	0	-4	-23	No	9	88.89	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-LMW-8S	0.09056	24	27	No	10	60	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-MW-26	0.8838	24	27	No	10	0	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-AM-1D	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-AM-1S	0.1817	27	27	No	10	50	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-1D	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-2D	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-2M	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-3D	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-3M	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-TP-4D	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-AMW-8	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-MW-24	7.472	26	27	No	10	20	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-MW-33[D]	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-MW-34[D]	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-MW-35[D]	0	0	27	No	10	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-S-1	0.1543	20	23	No	9	44.44	n/a	n/a	0.02	NP

Appendix G

Alternative Source Demonstration – November 2023 Corrective Action Sampling Event

REPORT

LCPA Corrective Action – Alternative Source Demonstration for a Lithium Exceedance at LMW-7S

Labadie Energy Center, Franklin County, Missouri, USA

July 23, 2024

Project Number 23007-24

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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Certification Statement

This *LCPA Corrective Action – Alternative Source Demonstration for a Lithium Exceedance at LMW-7S, Labadie Energy Center, Franklin County, Missouri, USA* has been prepared to comply with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule under the direction of a licensed professional engineer with Rocksmith Geoengineering, LLC.

I hereby certify that this *LCPA Corrective Action – Alternative Source Demonstration for a Lithium Exceedance at LMW-7S, Labadie Energy Center, Franklin County, Missouri, USA* located at 226 Labadie Power Plant Road, Labadie Missouri 63055 has been prepared to meet the requirements of 40 CFR §257.98(a)(1)(i) and 257.95(g)(3)(ii).

Rocksmith Geoengineering, LLC

_____

Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), this LCPA Corrective Action – Alternative Source Demonstration has been prepared to document an Alternative Source Demonstration (ASD) for a statistical exceedance of the Groundwater Protection Standard (GWPS) calculated for Ameren Missouri's (Ameren) Labadie Energy Center (LEC) Bottom Ash Surface Impoundment (referred to as the LCPA) Corrective Action Monitoring Well Network. This document satisfies the requirements of §257.98(a)(1)(i) and §257.95(g)(3)(ii), which state that at a minimum, the Corrective Action program must meet that of the Assessment Monitoring Program under §257.95, The Assessment Monitoring Program allows the owner or operator to demonstrate that a source other than the CCR Unit has caused a constituent to be at a statistical level exceeding the GWPS, and that the statistical exceedance was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

2.0 SITE DESCRIPTION AND BACKGROUND

The LEC is located approximately 35 miles west of downtown St. Louis in Franklin County, Missouri, just south of the Missouri River. **Figure 1** depicts the site location and layout, including the location of LCPA, LCPB and the LCL1 CCR Units. The LEC encompasses approximately 2,400 acres and is located within the Missouri River Valley. The facility is bounded to the north by the Missouri River, to the west by Labadie Creek, to the northeast and east by agricultural land, and to the south by a railroad line and bedrock bluffs.

2.1 Geological and Hydrogeological Setting

The site lies in an agricultural area called the Labadie Bottoms that is between the Missouri River (to the north) and bedrock bluffs (to the south). Flow and deposition from the Missouri River have resulted in thick alluvial deposits that lie on top of bedrock. These alluvial deposits, which can range from approximately 90 to 120 feet thick, comprise the uppermost aquifer. Overall, this alluvial aquifer is described as a fining-upwards sequence of stratified sands and gravels with varying amounts of silts and clays. Based on drilling records, the alluvial aquifer is divided into 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 consists of Ordovician-aged rock. Formations include primarily limestone, dolomite, sandstone, and shale and are comprised of the Plattin Group, Joachim Dolomite, St. Peter Sandstone, Powell Dolomite, and the Cotter/Jefferson City Dolomites.

2.2 Coal Combustion Residuals (CCR) LCPA Surface Impoundment

The LCPA is in the floodplain of the Missouri River to the south of the LEC generating plant and is constructed with perimeter berms at an elevation of approximately 494 feet above mean sea level (feet MSL), which is above the 100-year flood elevation of 484 feet MSL. Both fly ash and bottom ash have been historically managed and stored in this surface impoundment. Construction drawings indicate that in the deepest portions of the CCR Unit the base depth of CCR extends down approximately 90 feet to an elevation of approximately 400 feet MSL. Directly to the east of the LCPA are two additional CCR Units, the fly ash surface impoundment (LCPB) and the Utility Waste Landfill (UWL) Cell 1 (LCL1), both of which have berm elevations higher than 488 feet MSL. To the south of the LCPA are lower elevation agricultural fields ranging from approximately 465 to 475 feet MSL which extend to the south to the railroad. South of the railroad, bedrock bluffs rise to an elevation of over 600 feet MSL. The western side of the surface impoundment is bounded by a forested area and Labadie Creek, which flows north to the Missouri River.

2.3 Corrective Action Background

On January 9, 2019, Ameren initiated its Corrective Measures Assessment (CMA) and posted the CMA report on May 20, 2019. A public meeting was held on May 29, 2019, and responses to public comments are posted on Ameren's CCR website. On August 30, 2019, Ameren published its "Remedy Selection Report – 40 CFR § 257.97 Rush Island, Labadie, Sioux and Meramec CCR Basins" (Remedy Selection Report) that identified source control through installation of a low permeability cover system and use of Monitored Natural Attenuation (MNA) as its

chosen corrective action remedial plan. The Remedy Selection Report's remedial plan consists of two phases as follows:

1) Source control, stabilization, and containment of CCR by installation of a low permeability geomembrane cap (a minimum 1 x 10^{-7} centimeters per second (cm/sec) versus 1 x 10^{-5} cm/sec required by the CCR Rule).

2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. Natural attenuation occurs due to naturally occurring processes within the aquifer.

As required by the CCR Rule, the following were completed within 90 days of selecting the remedy (i.e., November 27, 2019): (1) a groundwater monitoring well system was selected and certified by a Professional Engineer, (2) a Statistical Method Certification was prepared and certified by a Professional Engineer, and (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. The Corrective Action Monitoring Well Network consists of 22 monitoring wells, installed within the shallow, intermediate, and deep zones of the alluvial aquifer as shown on **Figure 1**.

On September 28, 2019, Ameren commenced Phase 1 by initiating closure at the LCPA. Closure of the LCPA has been completed and the first Corrective Action sampling event associated with Phase 2 of the Corrective Measures Remedial Plan was completed in April 2021. For the most recent statistical evaluation, completed on April 24, 2024, Corrective Action statistical methods were used to determine that the following constituents were present at concentrations exceeding the site specific GWPS as follows:

- Arsenic – LMW-2S
- Lithium – LMW-7S
- Molybdenum – LMW-2S, LMW-4S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33[D], MW-34[D], MW-35[D]

Cobalt at AM-1S was previously identified as an exceedance in the May 2023 Corrective Action statistical evaluation. It is no longer an exceedance as of the November 2023 sampling event since the upper confidence limit is below the GWPS.

3.0 EVIDENCE THAT ISOLATED EXCEEDANCES OVER THE GWPS ORIGINATE FROM DIFFERENT SOURCE

An isolated exceedance of the site GWPS using corrective action statistical methods[1] exists for lithium at monitoring well LMW-7S. The location of this monitoring well is provided in **Figure 1**. There are several different lines of evidence that indicate that this statistical exceedance over the GWPS is not the result of a release from the LCPA, but rather is from an alternative source. The following lists the different lines of evidence that support this ASD:

- A lack of correlation between key CCR indicators (boron and molybdenum) and lithium concentrations.
- The presence of lithium at similar concentrations in groundwater samples collected upgradient of the LCPA.
- The presence of naturally occurring lithium in sediments in background locations at the LCPA.

[1] The statistical testing method used to evaluate the Corrective Action monitoring data is the confidence interval method, which is the same method used during Assessment Monitoring, except the null hypothesis for the confidence intervals is reversed. For Corrective Action, the Unified Guidance states that the appropriate null hypothesis is that the groundwater population (mean) exceeds the GWPS for those constituents that exceed the GWPS under Assessment Monitoring program. Therefore, in Corrective Action the Upper Confidence Limit (UCL) is compared to the Groundwater Protection Standard (GWPS) instead of the Lower Confidence Limit (LCL) [as was used during Assessment Monitoring].

- Lithium is a naturally occurring element in soils and alluvial aquifer sediments that is derived from igneous and metamorphic rocks within the Missouri and Mississippi River watersheds.

3.1 CCR Indicators

Several types of CCR by-products are generated by coal-fired power plants. The different types of CCR typically display distinct geochemical signatures and indicator parameters. **Table 1** describes the different types of CCRs and their typical indicator parameters (USEPA 2018, EPRI 2011, EPRI 2012, and EPRI 2017).

Table 1: Types of CCR and Typical Indicator Parameters

Type of CCR	Description of CCR (USEPA 2018)	Key Indicators (EPRI 2011, 2012, 2017)
Fly Ash	Fine grained, powdery material composed mostly of silica made from the burning of finely ground coal in the boiler.	■ Boron ■ Molybdenum ■ Lithium ■ Sulfate ■ Bromide ■ Potassium ■ Sodium ■ Fluoride
Boiler Slag / Bottom Ash	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.	
Flue Gas Desulfurization Material (FGD)	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.	■ Sulfate ■ Fluoride ■ Calcium ■ Boron ■ Bromide ■ Chloride

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.

3.2 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 porewater) 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's 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 fly ash and boiler slag/bottom ash, boron, molybdenum, lithium, sulfate, and fluoride are regularly sampled as part of the CCR Rule. Potassium and sodium are sampled periodically for major ion analysis and testing under the CCR Rule and testing for bromide has not been completed at the site.

Table 2 provides a snapshot of the concentrations present onsite in the background wells, Missouri River, and LCPA porewater for each of the constituents sampled on the key indicator list.

Table 2 – Summary of Potential CCR Impact Indicator Parameters at the Labadie Energy Center

Constituent (Units)		Back-ground	Missouri River	LCPA Porewater	Advantages and Caveats as Key Indicator (from EPRI 2012)
Boron (µg/L)	Minimum	ND (<50)	78.7	3,360	Typically present in leachate, non-reactive and mobile in common hydrogeologic environments, and not a common anthropogenic contaminant.
	Average	76.72	100.1	10,317	
	Maximum	151	123	21,700	
Sulfate (mg/L)	Minimum	12.2	172	254	Commonly analyzed and very mobile in all hydrogeologic environments. Concentration in impoundment leachate may in some cases be too low relative to background to be useful. Less useful in strongly reducing environments where sulfate can be reduced to hydrogen-sulfide gas.
	Average	43.79	192.3	275.2	
	Maximum	246	224	306	
Molybdenum (µg/L)	Minimum	ND (<0.52)	2.0	83.7	Most useful for dry-managed coal ash. May be less mobile than boron in some hydrogeologic environments. Concentrations may be too low in impoundment leachate to be useful if background groundwater has detectable concentrations.
	Average	1.617	3.165	405.3	
	Maximum	7.0	6.2	1,430	
Lithium (µg/L)	Minimum	11.5	34.2	5.5	Useful for coal ash management sites where the power plant burned bituminous coal. Leachate concentrations are typically low in coal ash derived from subbituminous and lignite coal
	Average	28.54	38.36	40.28	
	Maximum	47.4	42.8	61.4	
Potassium (µg/L)	Minimum	3,480	Not Sampled	3,540	Commonly analyzed, although may be less mobile than boron and sulfate. Assure that leachate concentration is higher than background and that there are no anthropogenic sources such as agricultural fields where potassium may be applied in fertilizers.
	Average	5,003		18,040	
	Maximum	7,530		42,100	
Sodium (µg/L)	Minimum	3,570	Not Sampled	50,500	Useful for coal ash management sites where the power plant injects trona or sodium bicarbonate or burned subbituminous coal. Absent dry sorbent injection, leachate concentrations are considerably lower in coal ash derived from bituminous coal, particularly at impoundments. Assure that leachate concentration is higher than background and that there are no anthropogenic sources such as agricultural fields, or major highways in northern climates where sodium may be applied in road salts.
	Average	9,805		66,967	
	Maximum	24,900		84,000	
Fluoride (mg/L)	Minimum	ND (<0.085)	0.125	0.088	Mobile and non-reactive in common hydrogeologic environments. Assure that leachate concentration is higher than background.
	Average	0.1694	0.4118	0.153	
	Maximum	0.38	0.57	0.20	

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.

Based on the results shown in **Table 2**, boron and molybdenum appear to be the best indicator parameters for impacts from the LCPA because they have much higher concentrations in CCR porewater than background groundwater and are non-reactive and highly mobile at the site. Sulfate, which is typically a good CCR indicator parameter, may not be as useful at the LEC, since sulfate values within the Missouri River are close in concentration to those within the CCR Unit. Therefore, samples collected closer to the Missouri River may have higher sulfate values, caused by recharge to the aquifer from the Missouri River instead of impacts from the CCR. Fluoride can also be a good indicator. However, porewater concentrations are not significantly higher than background. Therefore, it would be difficult to detect impacts using fluoride concentrations. Average lithium concentrations in porewater are also not significantly elevated when compared to background groundwater or the

Missouri River, therefore, determining the source of impacts is difficult. Potassium and sodium are also not ideal indicators, as many of the wells onsite are either near roadways or located within the agricultural fields around the plant, which may display elevated concentrations caused by anthropogenic sources (road salt, fertilizers, etc.).

Boron and molybdenum concentrations are above background concentrations at 8 of the 9 monitoring wells used for Detection and Assessment monitoring wells adjacent to the LCPA (Rocksmith, 2024). Therefore, boron and molybdenum appear to be the best indicator parameters for CCR impacts at the LEC. However, though molybdenum appears to be a good indicator, it is not consistently present at the farthest extents of impact. Therefore, boron appears to be the best indicator parameter for CCR impacts at the LEC.

4.0 EVALUATION OF STATISTICAL EXCEEDANCE FOR LITHIUM AT LMW-7S

As indicated in **Tables 1** and **2**, lithium can be a key indicator for fly ash and boiler slag/bottom ash impacts if it is present at elevated levels in the CCR porewater compared to background and is mobile at the site. However, as discussed in Section 3.2, boron and molybdenum are better indicator parameters than lithium for the LEC, as most porewater samples are not significantly higher than background or Missouri River concentrations. Four of the six CCR porewater samples collected in 2018 as a part of the LCPB ASD (available in the 2018 Annual Report for the LCPB, Golder 2019b) have lithium concentrations below the site-specific GWPS for lithium (47.4 µg/L). Additionally, lithium concentrations in the monitoring wells adjacent to the LCPA used for Assessment Monitoring (UMW-1D through UMW-9D) range from Non-Detect (ND) <10 to 39.3 µg/L, while background values range from 11.5 to 47.4 µg/L and Missouri River samples range from 34.2 to 42.8 µg/L. This further establishes that lithium is not a useful CCR impact indicator parameter for the LCPA and the LEC area.

Table 3 displays results from the November 2023 sampling event for lithium, boron, and molybdenum at LMW-7S.

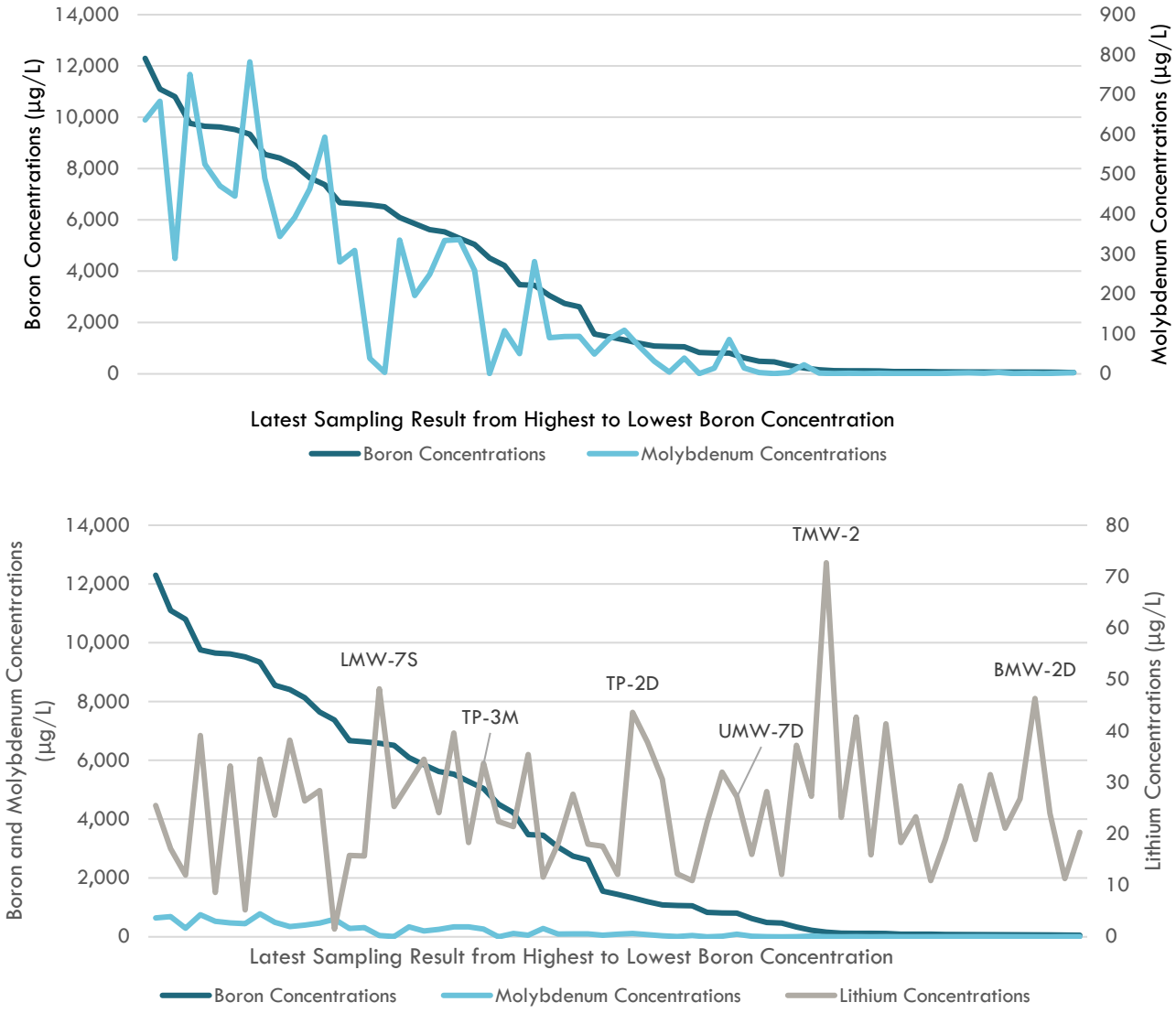
Table 3 – November 2023 Analytical Results for Key Constituents at LMW-7S

Well ID	Lithium (µg/L)	Boron (µg/L)	Molybdenum (µg/L)
LMW-7S	48.2	6,580	38.6

Notes:
1) µg/L – micrograms per liter.

To evaluate the correlation between key CCR indicators and lithium concentrations onsite, a graph that displays boron, lithium and molybdenum concentrations from the most recent sampling result at each monitoring well is provided in **Figure 2** (data used for **Figure 2** provided in **Table 4**). As displayed on the graph, molybdenum concentrations correlate with boron concentrations, with elevated levels at similar monitoring wells. Lithium concentrations do not track with either boron or molybdenum concentrations, indicating that lithium concentrations are not linked to impacts from the LCPA.

Figure 2 – Comparison of Most Recent Boron, Molybdenum, and Lithium Concentrations



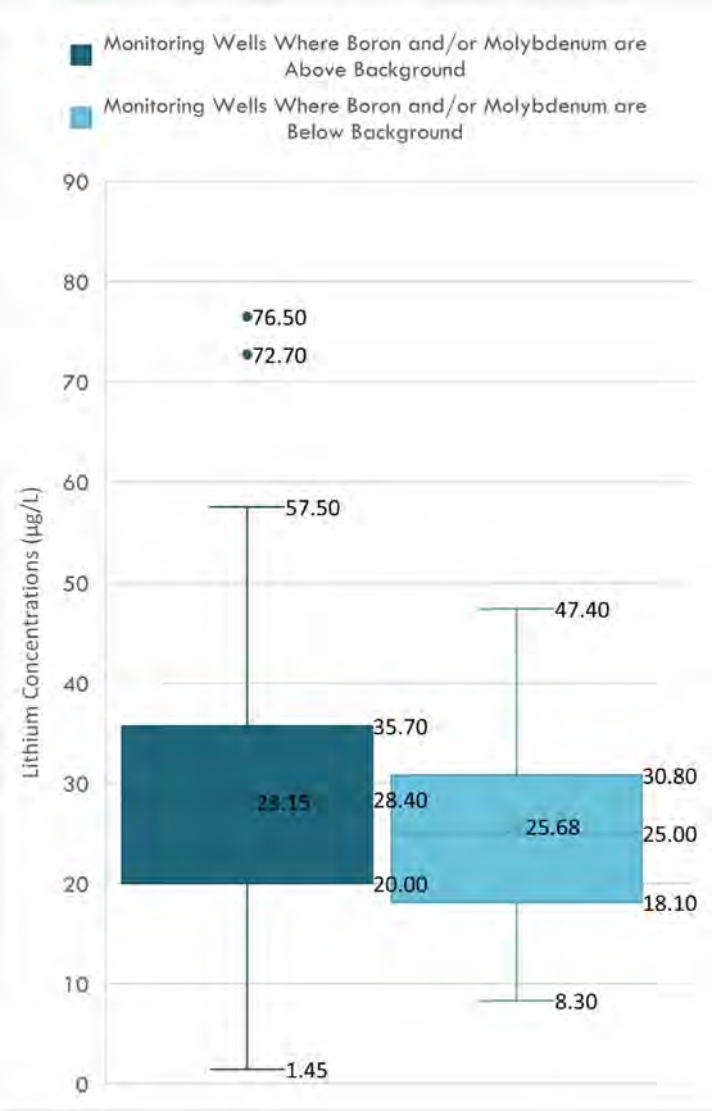
Notes:

1) µg/L – micrograms per liter.
2) Values displayed in order from highest to lowest boron concentrations. Data used to prepare **Figure 2** are provided in **Table 4**.
3) The upper graph displays boron and molybdenum concentrations, with molybdenum concentrations on the right axis.
4) The lower graph displays boron, molybdenum, and lithium concentrations, with lithium concentrations on the right axis.

As displayed in **Table 4**, there are 13 monitoring wells onsite where boron and/or molybdenum concentrations are below background and 50 monitoring wells onsite where boron and/or molybdenum are above background concentrations. **Figure 3** displays the distribution of lithium concentrations for the following datasets: 1) monitoring wells where there is a corresponding molybdenum and/or boron exceedance (50 monitoring wells, 531 total results) and 2) monitoring wells where there is not a corresponding boron or molybdenum exceedance (13 monitoring wells, 168 total results). For this figure, historical datasets for each monitoring well were used to generate the distributions. The results of this box and whisker plot display a largely similar distribution between the two datasets, including lower quartile, median, average, and upper quartile values all within 5 µg/L of one another. This further demonstrates that lithium concentrations do not correlate with key CCR indicator parameters, and therefore, elevated lithium concentrations onsite are not related to CCR impacts.

Using the data identified in **Figure 3**, for those wells without a boron or molybdenum exceedance above background, a non-parametric (highest value in the dataset) upper prediction limit of 47.4 µg/L was calculated, which is equivalent to the current Site GWPS of 47.4 µg/L.

Figure 3 – Distribution of Lithium Concentrations in Monitoring Wells With and Without Key CCR Indicators



4.1.1 Sequential Extraction Data Confirms Presence of Naturally Occurring Lithium in Alluvial Sediments

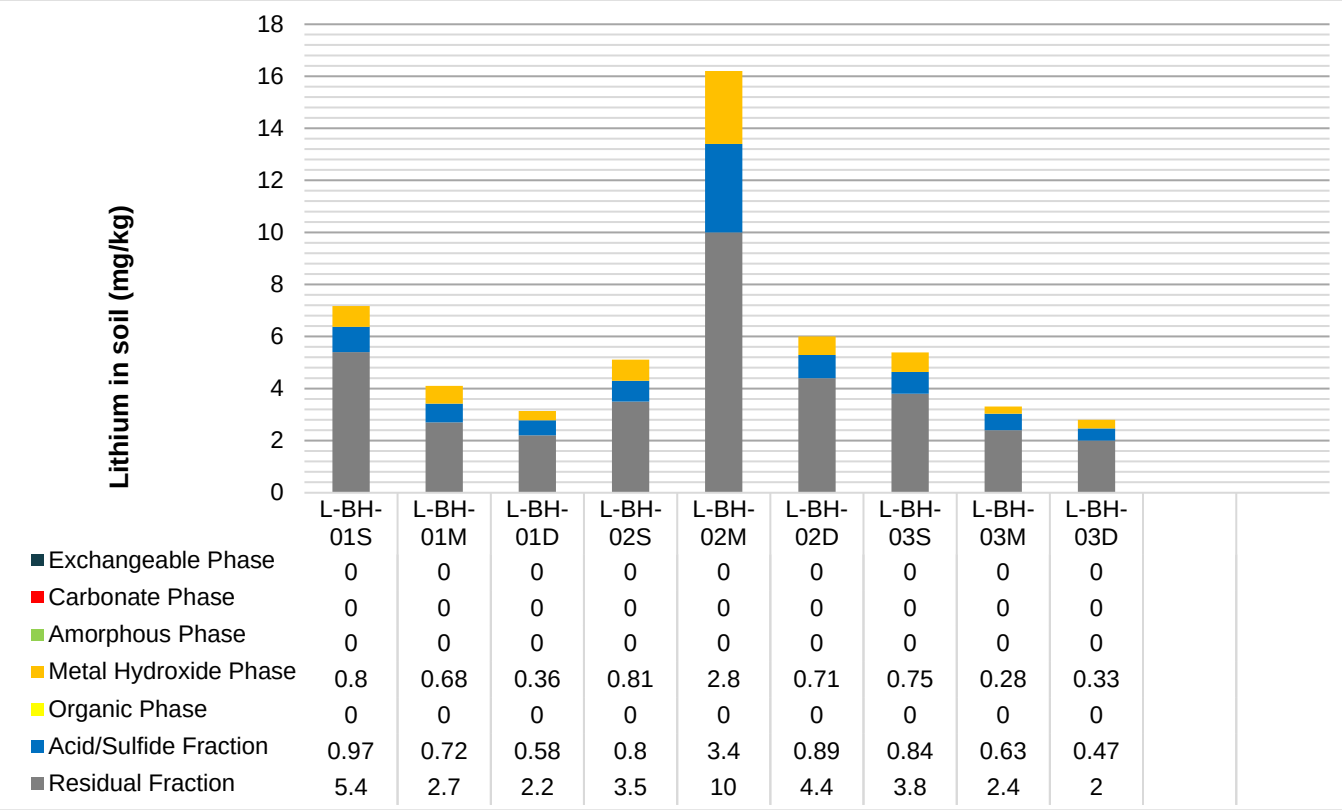
A seven-step sequential extraction method (SEP) based on Tessier et al. (1979) was used to identify the provenance of lithium in soils (i.e., the operationally defined fraction that contains the metal) and determine potential environmental mobility, as displayed in **Figure 4**. The total concentration of a metal measured from all seven steps can be compared to the concentration determined from the total metal analysis for compositional accountability. The seven-step SEP is defined by specific extraction steps as follows (based on a modified Tessier et al. 1979 method):

In 2021, samples were collected from three soil borings across the LEC for sequential extraction testing. The locations of the sequential extraction sample borings are provided in **Figure 1**. Results of the sequential extraction testing are displayed in **Figure 5** and indicate the presence of naturally occurring lithium in soils at the LEC in fractions 6 and 7 in each of the soil borings, regardless of if the locations were directly adjacent to the LCPA or at background locations. Lithium is reported in soils at concentrations ranging from 2.8 to 16.2 milligrams per kilogram (mg/kg, from the SEP) and is predominantly (83 to 92%) present in the residual and sulfide component of the soil, i.e., the non-environmentally available fractions. The absence of lithium in the environmentally available fractions (specifically exchangeable and carbonate fractions) indicates a general lack of lithium transport and attenuation (e.g., through sorption and/or co-precipitation).

Figure 4 – Sequential Extraction Procedure

SEQUENTIAL EXTRACTION PROCEDURE				
ENVIRONMENTALLY AVAILABLE (Increasing Availability)	Step 1	Increasing Extraction Strength	Exchangeable Fraction:	This extraction includes trace elements that are electrostatically adsorbed to overburden minerals
	Step 2		Carbonate Fraction:	This extraction targets trace elements that are adsorbed or otherwise bound to carbonate minerals
	Step 3		Non-Crystalline Materials Fraction:	This extraction targets trace elements that are complexed by amorphous minerals
	Step 4		Metal Hydroxide Fraction:	This extraction targets trace elements bound to hydroxides of iron, manganese, and/or aluminum
	Step 5		Organic Fraction:	This extraction targets trace elements strongly bound via chemisorption to organic material
NON-ENVIRONMENTALLY AVAILABLE	Step 6		Acid/Sulfide Fraction:	The extraction is used to identify trace elements precipitated as sulfide minerals
	Step 7		Residual Fraction:	Trace elements remaining in the overburden after the previous extractions will be distributed between silicates, phosphates, and refractory oxide

Figure 5 - Sequential Extraction of Lithium Results



	L-BH-01S	L-BH-01M	L-BH-01D	L-BH-02S	L-BH-02M	L-BH-02D	L-BH-03S	L-BH-03M	L-BH-03D
Exchangeable Phase	0	0	0	0	0	0	0	0	0
Carbonate Phase	0	0	0	0	0	0	0	0	0
Amorphous Phase	0	0	0	0	0	0	0	0	0
Metal Hydroxide Phase	0.8	0.68	0.36	0.81	2.8	0.71	0.75	0.28	0.33
Organic Phase	0	0	0	0	0	0	0	0	0
Acid/Sulfide Fraction	0.97	0.72	0.58	0.8	3.4	0.89	0.84	0.63	0.47
Residual Fraction	5.4	2.7	2.2	3.5	10	4.4	3.8	2.4	2

Notes:
1) Detection with JB flags for the organic phase were not used for this evaluation, as these results were detected in the blank, are estimated, and are therefore not considered accurate for this evaluation.
2) Mg/kg – milligrams per kilogram.
3) Sample locations provided in **Figure 1.** BH-01 is near the background wells, BH-02 is just south of the LCPA CCR Unit and BH-03 is located near AM-1S and the Missouri River.

4.1.2 Lithium at LMW-7S

LMW-7S is located approximately 1,300 feet to the northeast of the LCPA, near the eastern perimeter of the LCPB. LMW-7S was installed in 2016 to monitor the LCPB, and since that time lithium concentrations have ranged from 25.6 to 49.0 µg/L. During the statistical evaluation of the November 2023 sampling event (which only uses data collected since April 2020), a LCL of 41.4 µg/L and UCL of 47.71 µg/L were calculated for lithium. Therefore, the UCL is only 0.01 µg/L above the Site GWPS, a marginal exceedance. At the time of writing this ASD, data from the May 2024 sampling event is also available. The most recent lithium concentration at LMW-7S is 30.5 µg/L, collected on May 20, 2024. When a confidence interval is produced that incorporates this data point, the calculated UCL is only 43.61 µg/L, which is below the site GWPS. The lack of elevated lithium when compared with non-impacted wells, coupled with the clear indications that lithium concentrations are not correlated with CCR impacts, indicates that the elevated lithium at LMW-7S is not from the LCPA, but rather is naturally occurring in the alluvial aquifer at this location.

4.1.3 Naturally Occurring Lithium Values at the SEC are Consistent with Upstream Sampling Results within the Missouri and Mississippi River Alluvial Aquifers

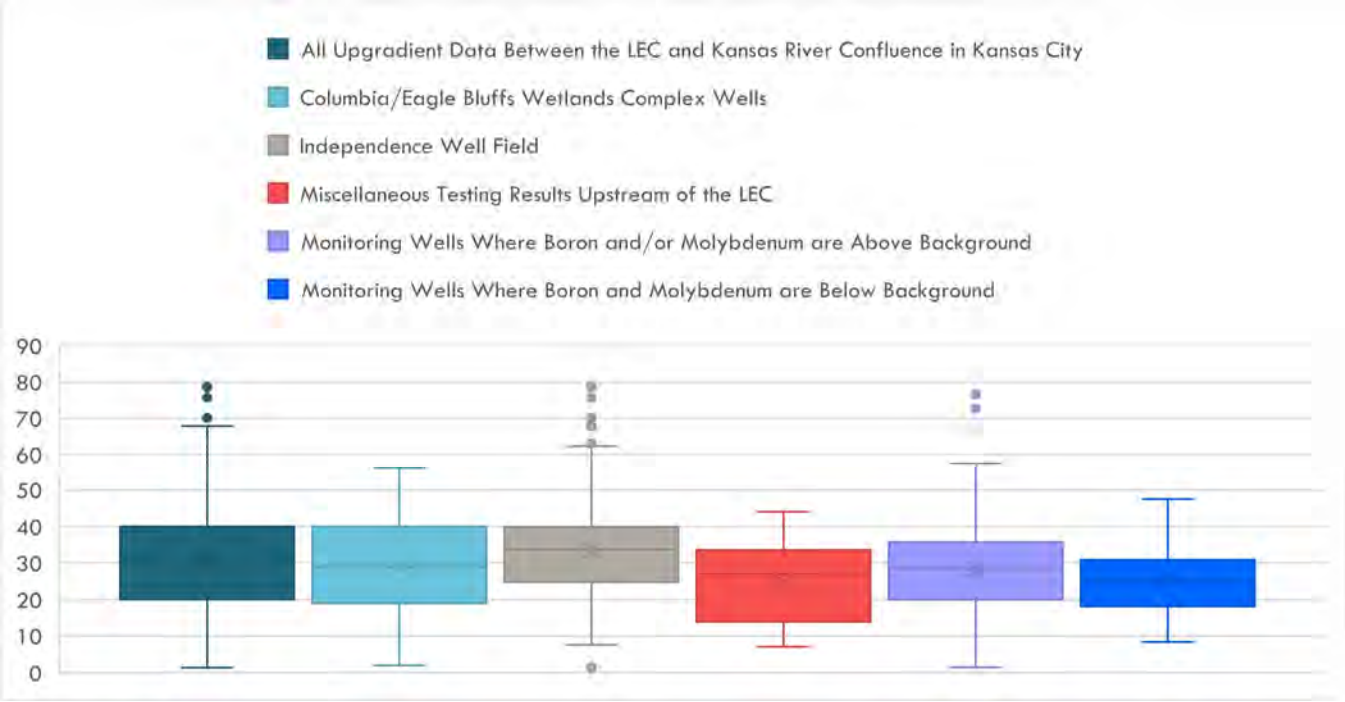
Naturally occurring lithium is present in groundwater across the United States (US), can be found in nearly all rock and soil types, and is most commonly found to be associated with silicate minerals (Tomazscak 2015). The weathering of silicate minerals is known to cause the release of naturally occurring lithium into groundwater (Tomazscak 2015). Site-specific test results (i.e., SEP results) confirm this finding for the LEC.

The National Water Quality Monitoring Council's (NWQMC) Water Quality Portal (available at https://www.waterqualitydata.us/) summarizes data from the USGS, the USEPA, and the NWQMC databases. A review of lithium results from within the Missouri Alluvial Aquifer from the NWQMC database includes lithium results from a total of 1,325 groundwater sample results for wells located upgradient of the LEC within the Missouri River alluvial aquifer in the state of Missouri. To evaluate naturally occurring Missouri River Alluvial Aquifer concentrations of lithium, the database results were divided different groups as follows:

- Independence Well Field near Independence, Missouri (Kelly 2010) – Total of 433 results.
- Columbia/Eagle Bluffs Wetland Complex Wells (Richards 1995, Richards 1999, Richards, 2002) – Total of 851 results.
- Miscellaneous testing results upstream of the LEC – Total of 41 results

Figure 6 displays a box and whisker plot that compares publicly available groundwater lithium concentration data in the upgradient alluvial aquifers to lithium concentrations at LEC as displayed in **Figure 3**.

Figure 6 – Comparison of Missouri River Alluvial Aquifer Groundwater Lithium Concentrations – Public Data and LEC Results



Notes:
1) µg/L – micrograms per liter

Overall, the results display a very similar distribution of lithium results across the state within the Missouri River Alluvium. In fact, lithium concentrations appear to be lower, on average, than those in Independence, Columbia/Eagle Bluffs, as well as other miscellaneous upstream locations. This consistency with upgradient alluvial aquifer samples demonstrates that the lithium concentrations onsite are not from the LCPA, but rather are naturally occurring within the alluvial aquifer.

5.0 SUMMARY

Based on the information presented in in this ASD, the statistical exceedance of lithium at monitoring well LMW-7S using Corrective Action statistical methods is not the result of impacts from the LCPA, but instead is the result

of natural geochemical variability of groundwater within the alluvial aquifer at the site. The natural geochemical source for the lithium exceedance is supported by several factors including: (1) a lack of correlation between key CCR indicators (boron and molybdenum) and lithium concentrations at wells across the LEC, (2) the presence of lithium at similar levels in alluvial aquifer samples upgradient of the site, and (3) lithium is a naturally occurring element in soils and alluvial aquifer sediments that are derived from igneous rocks within the Missouri River watershed.

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Tables

Table 4
Summary of Latest CCR Rule Groundwater Sampling Results for Selected Constituents
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Background Limit	Boron Concentrations		Molybdenum Concentrations		Lithium Concentrations	
	DQR (100 µg/L)		DQR (20 µg/L)		47.4 µg/L	
Groundwater Monitoring Wells	Date	µg/L	Date	µg/L	Date	µg/L
L-ASD-5M	2/15/2018	12,300	2/15/2018	636	2/15/2018	25.5
L-UMW-5D	11/20/2023	11,100	11/20/2023	683	11/20/2023	17.1
L-UMW-3D	11/20/2023	10,800	11/20/2023	289	11/20/2023	12.0
L-MW-34[D]	11/16/2023	9,760	11/16/2023	750	11/16/2023	39.1
L-UMW-6D	11/20/2023	9,650	11/20/2023	525	11/20/2023	8.6 J
L-TP-3D	11/15/2023	9,620	11/15/2023	471	11/15/2023	33.2
L-ASD-2S	2/20/2018	9,520	2/20/2018	445	2/20/2018	5.2 J
L-MW-33[D]	11/16/2023	9,340	11/16/2023	782	11/16/2023	34.5
L-ASD-2M	2/20/2018	8,550	2/20/2018	490	2/20/2018	23.6
L-AM-1D	11/20/2023	8,410	11/20/2023	344	11/20/2023	38.2
L-ASD-2D	2/20/2018	8,130	2/20/2018	392	2/20/2018	26.4
L-MW-35[D]	11/17/2023	7,640	11/17/2023	463	11/17/2023	28.4
L-ASD-1S	2/22/2018	7,370	2/22/2018	593	2/22/2018	ND
L-AMW-8	11/16/2023	6,670	11/16/2023	280	11/16/2023	15.8
L-ASD-4M	2/16/2018	6,630	2/16/2018	309	2/16/2018	15.7
L-LMW-7S	11/15/2023	6,580	11/15/2023	38.6	11/15/2023	48.2
L-TP-4D	11/15/2023	6,510	11/15/2023	3.5 J	11/15/2023	25.3
L-UMW-4D	11/17/2023	6,090	11/17/2023	335	11/17/2023	29.9
L-ASD-3D	2/17/2018	5,850	2/17/2018	196	2/17/2018	34.5
L-ASD-4D	2/16/2018	5,620	2/16/2018	249	2/16/2018	24.1
L-ASD-1M	2/22/2018	5,530	2/22/2018	334	2/22/2018	39.6
L-ASD-1D	2/22/2018	5,280	2/22/2018	336	2/22/2018	18.3
L-TP-3M	11/15/2023	5,040	11/15/2023	259	11/15/2023	33.7
L-TP-5D	5/9/2019	4,510	5/9/2019	ND	5/9/2019	22.4
L-LMW-3S	11/20/2023	4,220	11/20/2023	108	11/20/2023	21.4
L-LMW-4S	11/17/2023	3,470	11/17/2023	50.3	11/17/2023	35.4
L-LMW-2S	11/20/2023	3,450	11/20/2023	281	11/20/2023	11.6
L-ASD-3M	2/18/2018	3,050	2/18/2018	90.3	2/18/2018	18.1
L-ASD-5D	2/15/2018	2,740	2/15/2018	93.1	2/15/2018	27.7
L-ASD-3S	2/18/2018	2,610	2/18/2018	93.7	2/18/2018	18.0
L-LMW-8S	11/16/2023	1,550	11/16/2023	49.1	11/16/2023	17.6
L-ASD-5S	2/15/2018	1,440	2/15/2018	87.4	2/15/2018	12.1
L-TP-2D	11/17/2023	1,320	11/17/2023	109	11/17/2023	43.6
L-TP-2M	11/17/2023	1,190	11/17/2023	68.2	11/17/2023	37.8
L-UMW-2D	11/16/2023	1,080	11/16/2023	31.2	11/16/2023	30.6
L-LMW-1S	11/16/2023	1,060	11/16/2023	4.0 J	11/16/2023	12.2
L-ASD-4S	2/16/2018	1,050	2/16/2018	39.3	2/16/2018	10.9
L-TP-5M	5/9/2019	828	5/9/2019	ND	5/9/2019	22.3
L-LMW-6S	11/15/2023	806	11/15/2023	14.1 J	11/15/2023	32.0
L-UMW-7D	11/16/2023	803	11/16/2023	85.8	11/16/2023	27.2
L-UMW-8D	11/16/2023	619	11/16/2023	14.3 J	11/16/2023	16.0
L-UMW-1D	11/20/2023	485	11/20/2023	2.8 J	11/20/2023	28.2
L-TP-4M	8/20/2019	463	8/20/2019	ND	8/20/2019	12.1
L-AM-1S	11/20/2023	327	11/20/2023	2.8 J	11/20/2023	37.2
L-TP-2S	8/20/2019	221	8/20/2019	22.4	8/20/2019	27.3
L-TMW-2	11/16/2023	156	11/16/2023	1.4 J	11/16/2023	72.7
L-TP-5S	5/9/2019	119	5/9/2019	ND	5/9/2019	23.2
L-TMW-3	11/17/2023	114	11/17/2023	1.2 J	11/17/2023	42.7
L-BMW-1S	11/16/2023	113	11/16/2023	ND	11/16/2023	15.9
L-TMW-1	11/17/2023	108	11/17/2023	1.0 J	11/17/2023	41.4
L-UMW-9D	11/16/2023	86.5 J	11/16/2023	ND	11/16/2023	18.3
L-S-1	11/20/2023	83.6 J	11/20/2023	ND	11/20/2023	23.3
L-TP-4S	8/20/2019	83.5 J	8/20/2019	ND	8/20/2019	10.9
L-TP-1S	5/8/2019	77.4 J	5/8/2019	ND	5/8/2019	19.0
L-BMW-1D	11/16/2023	72.5 J	11/16/2023	1.4 J	11/16/2023	29.3
L-MW-24	11/17/2023	71.9 J	11/17/2023	2.1 J	11/17/2023	18.9
L-MW-26	11/17/2023	69.9 J	11/17/2023	1.3 J	11/17/2023	31.5
L-TP-3S	5/9/2019	67.2 J	5/9/2019	3.3 J	5/9/2019	21.1
L-TP-1D	11/15/2023	65.8 J	11/15/2023	ND	11/15/2023	26.8
L-BMW-2D	11/16/2023	63.6 J	11/16/2023	1.3 J	11/16/2023	46.3
L-TP-1M	5/8/2019	60.6 J	5/8/2019	ND	5/8/2019	24.0
L-LMW-5S	11/16/2023	55.0 J	11/16/2023	1.5 J	11/16/2023	11.3
L-BMW-2S	11/16/2023	50.8 J	11/16/2023	2.6 J	11/16/2023	20.3

Notes

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

4.) Date corresponds with most recent result for each analyte.

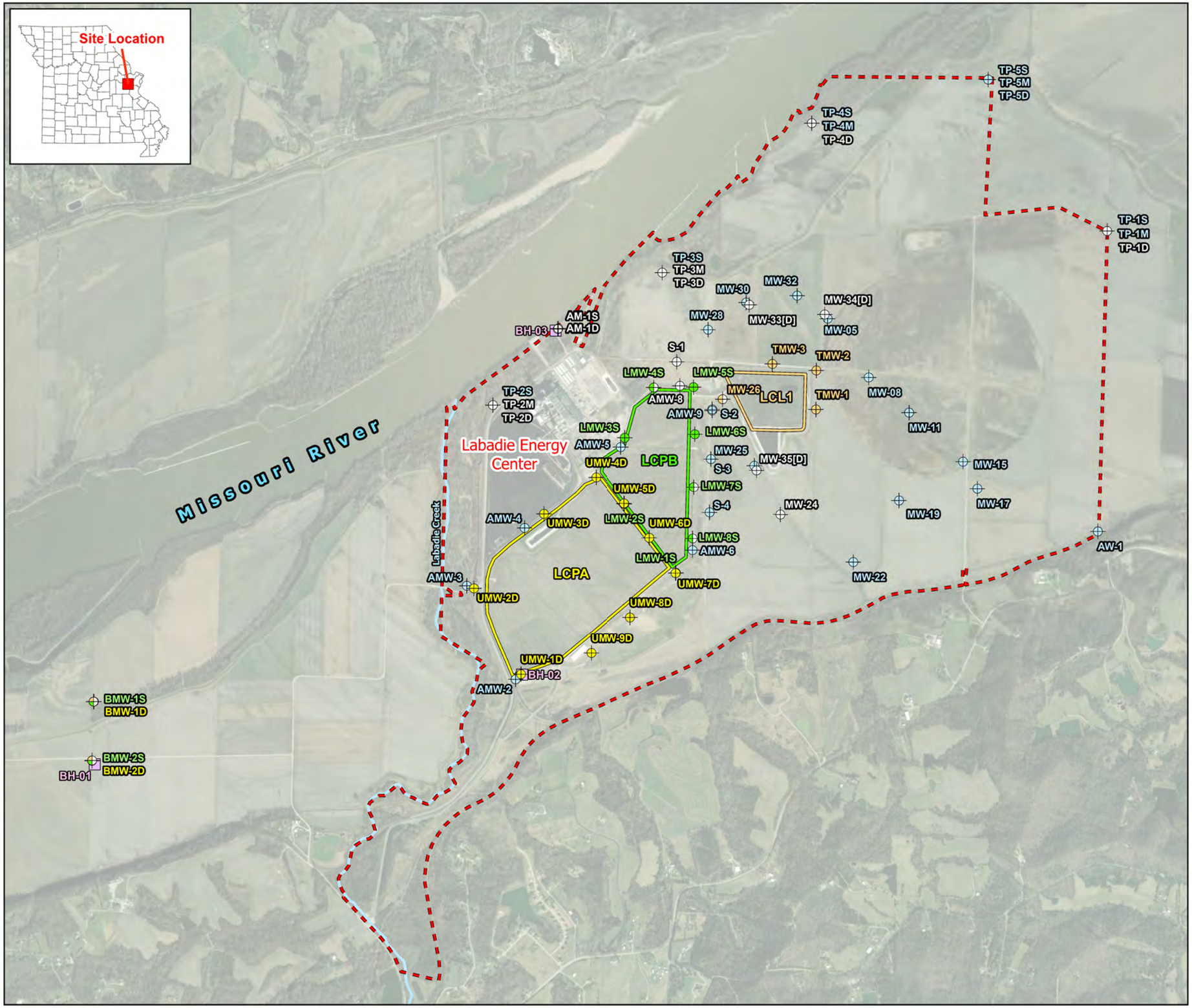
5.) Well ID's highlighted in light red have values above the background limit for boron and/or molybdenum. These values are used in the "concentrations with a boron and/or molybdenum value over background" for the box and whisker plots. Well ID's in blue do not have a molybdenum or boron value above background, and these well are used in the "concentrations without a boron or molybdenum value over background" column for the box and whisker plots.

6.) If all backgound values are less than the PQL, then the Double Quantification Rule (DQR) is used. In cases were DQR is the background value, the latest PQL is used for the background limit.

ROCKSMITH GEOENGINEERING

Prepared by: GTM
Checked by: JTA
Reviewed by: MNH

Figures



TITLE

LABADIE ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

Legend

- Approximate Property Boundary

Labadie Energy Center CCR Units

- LCPA - Bottom Ash Surface Impoundment
- LCPB - Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1

Monitoring Well Network

- Corrective Action Monitoring Well
- LCPA Monitoring Well
- LCPB Monitoring Well
- LCPB and Corrective Action Monitoring Well
- LCL1 Monitoring Well
- LCL1 and Corrective Action Monitoring Well
- Backgrcund Well Used for LCPA, Corrective Action, LCPB, and LCL1 Monitoring
- Monitoring Well Used for Water Level Elevation Measurements Only
- Soil Sample Borehole Location

NOTES

1. All locations and boundaries are approximate.

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2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 500 1,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-07-22
PREPARED	JSI	PROJECT No.	23007-24
REVIEW	MNH		FIGURE 1
APPROVED	MNH		

Path: C:\Users\GrantMoney\Rocksmith Geoengineering LLC\23007 - Ameren GW - Documents\400 - Drawings, Figures\4.1-LEC\4.1.2 - Production\ASD\rd230314_LCPACA_ASD - Copy.aprx

Appendix H

Alternative Source Demonstration – May 2024 Corrective Action Sampling Event

REPORT

LCPA Corrective Action – Alternative Source Demonstration for a Lithium Exceedance at LMW-7S

Labadie Energy Center, Franklin County, Missouri, USA

December 22, 2024

Project Number 23007-24

Submitted to:

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1901 Chouteau Ave
St. Louis, MO 63103

Submitted by:

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Figure 2 – Comparison of Most Recent Boron, Molybdenum, and Lithium Concentrations (in text)
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Figure 4 – Sequential Extraction Procedure (in text)
Figure 5 – Sequential Extraction of Lithium Results (in text)
Figure 6 – Comparison of Missouri River Alluvial Aquifer Groundwater Lithium Concentrations – Public Data and LEC Results (in text)

Certification Statement

This *LCPA Corrective Action – Alternative Source Demonstration for a Lithium Exceedance at LMW-7S, Labadie Energy Center, Franklin 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 *LCPA Corrective Action – Alternative Source Demonstration for a Lithium Exceedance at LMW-7S, Labadie Energy Center, Franklin County, Missouri, USA* located at 226 Labadie Power Plant Road, Labadie Missouri 63055 has been prepared to meet the requirements of 40 CFR §257.98(a)(1)(i) and 257.95(g)(3)(ii).

Rocksmith Geoengineering, LLC

_____

Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), this LCPA Corrective Action – Alternative Source Demonstration has been prepared to document an Alternative Source Demonstration (ASD) for a statistical exceedance of the Groundwater Protection Standard (GWPS) calculated for Ameren Missouri's (Ameren) Labadie Energy Center (LEC) Bottom Ash Surface Impoundment (referred to as the LCPA) Corrective Action Monitoring Well Network. This document satisfies the requirements of §257.98(a)(1)(i) and §257.95(g)(3)(ii), which state that at a minimum, the Corrective Action program must meet that of the Assessment Monitoring Program under §257.95, The Assessment Monitoring Program allows the owner or operator to demonstrate that a source other than the CCR Unit has caused a constituent to be at a statistical level exceeding the GWPS, and that the statistical exceedance was the result of an alternative source or resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

2.0 SITE DESCRIPTION AND BACKGROUND

The LEC is located approximately 35 miles west of downtown St. Louis in Franklin County, Missouri, just south of the Missouri River. **Figure 1** depicts the site location and layout, including the location of LCPA, LCPB, and the LCL1 CCR Units. The LEC encompasses approximately 2,400 acres and is located within the Missouri River Valley. The facility is bounded to the north by the Missouri River, to the west by Labadie Creek, to the northeast and east by agricultural land, and to the south by a railroad line and bedrock bluffs.

2.1 Geological and Hydrogeological Setting

The site lies in an agricultural area called the Labadie Bottoms that is between the Missouri River (to the north) and bedrock bluffs (to the south). Flow and deposition from the Missouri River have resulted in thick alluvial deposits that lie on top of bedrock. These alluvial deposits, which can range from approximately 90 to 120 feet thick, comprise the uppermost aquifer. Overall, this alluvial aquifer is described as a fining-upwards sequence of stratified sands and gravels with varying amounts of silts and clays. Based on drilling records, the alluvial aquifer is divided into 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 consists of Ordovician-aged rock. Formations include primarily limestone, dolomite, sandstone, and shale and are comprised of the Plattin Group, Joachim Dolomite, St. Peter Sandstone, Powell Dolomite, and the Cotter/Jefferson City Dolomites.

2.2 Coal Combustion Residuals (CCR) LCPA Surface Impoundment

The LCPA is in the floodplain of the Missouri River to the south of the LEC generating plant and is constructed with perimeter berms at an elevation of approximately 494 feet above mean sea level (feet MSL), which is above the 100-year flood elevation of 484 feet MSL. Both fly ash and bottom ash have been historically managed and stored in this surface impoundment. Construction drawings indicate that in the deepest portions of the CCR Unit the base depth of CCR extends down approximately 90 feet to an elevation of approximately 400 feet MSL. Directly to the east of the LCPA are two additional CCR Units, the fly ash surface impoundment (LCPB) and the Utility Waste Landfill (UWL) Cell 1 (LCL1), both of which have berm elevations higher than 488 feet MSL. To the south of the LCPA are lower elevation agricultural fields ranging from approximately 465 to 475 feet MSL which extend to the south to the railroad. South of the railroad, bedrock bluffs rise to an elevation of over 600 feet MSL. The western side of the surface impoundment is bounded by a forested area and Labadie Creek, which flows north to the Missouri River.

2.3 CCR Rule Groundwater Monitoring

The CCR Rule was published in the Federal Register on April 17, 2015. This rule required CCR surface impoundments and landfills to monitor groundwater around these CCR units. Prior to the first major deadline of October 17, 2017, Ameren completed the following tasks: (1) installation of a groundwater monitoring well system; (2) a Statistical Method Certification; (3) a Groundwater Monitoring Plan (GMP) that details design, installation, development, sampling procedures, as well as statistical methods; and (4) eight baseline groundwater sampling

events for all Appendix III and Appendix IV parameters of the CCR Rule. In November 2017, the first Detection Monitoring event was completed.

The groundwater monitoring system for the LCPA consists of ten monitoring wells screened within the uppermost aquifer (alluvial aquifer), as shown on **Figure 1**. These wells were installed by Golder Associates Inc. (Golder) in 2015 and 2016 for CCR Rule groundwater monitoring purposes. More information regarding the design and installation of the monitoring wells is provided in the LCPA GMP (Golder 2017) and the LCPA 2017 Annual Report (Golder 2018).

Between March 2016 and May 2017, eight baseline sampling events were completed for the LCPA. After baseline sampling, Detection Monitoring events have been completed twice a year generally in the second and fourth quarters. In January 2018, background results from the eight baseline sampling events were used to calculate statistical upper prediction limits (UPL). These UPLs were then compared to the Detection Monitoring results. The results of the analysis indicated that there were Statistically Significant Increases (SSIs), and Assessment Monitoring was initiated.

The Assessment monitoring program was established at the LCPA in April 2018. Since that time, groundwater sampling and statistical evaluations have been completed semi-annually to determine if there are any values at a Statistically Significant Level (SSL) over the site-specific Groundwater Protection Standard (GWPS). On October 11, 2018, it was determined that molybdenum was present at an SSL at several wells (UMW-3D, UMW-4D, UMW-5D, UMW-6D, UMW-7D). The most recent Assessment Monitoring statistical evaluation, completed September 25, 2024, indicates that molybdenum is still present at an SSL at these same wells.

2.4 Corrective Action Background

On January 9, 2019, Ameren initiated its Corrective Measures Assessment (CMA) for the LCPA and posted the CMA report on May 20, 2019 on Ameren's CCR website. A public meeting was held on May 29, 2019, and responses to public comments are available on Ameren's CCR website. On August 30, 2019, Ameren published its "Remedy Selection Report – 40 CFR § 257.97 Rush Island, Labadie, Sioux and Meramec CCR Basins" (Remedy Selection Report) that identified source control through installation of a low permeability cover system and use of Monitored Natural Attenuation (MNA) as its chosen corrective action remedial plan. The Remedy Selection Report's remedial plan consists of two phases as follows:

1) Source control, stabilization, and containment of CCR by installation of a low permeability geomembrane cap (a minimum 1 x 10^{-7} centimeters per second (cm/sec) versus 1 x 10^{-5} cm/sec required by the CCR Rule).

2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. Natural attenuation occurs due to naturally occurring processes within the aquifer.

As required by the CCR Rule, the following were completed within 90 days of selecting the remedy (i.e., November 27, 2019): (1) a groundwater monitoring well system was selected and certified by a Professional Engineer, (2) a Statistical Method Certification was prepared and certified by a Professional Engineer, and (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. The Corrective Action Monitoring Well Network consists of 22 monitoring wells, installed within the shallow, intermediate, and deep zones of the alluvial aquifer as shown on **Figure 1**.

On September 28, 2019, Ameren commenced Phase 1 by initiating closure at the LCPA. Closure of the LCPA has been completed, and the first Corrective Action sampling event associated with Phase 2 of the Corrective Measures Remedial Plan was completed in April 2021.

On August 31, 2021, the first Corrective Action statistical evaluation was completed for the LCPA. A revised Corrective Action statistical evaluation was completed on February 15, 2022, indicating the following statistical exceedances of the GWPS:

- Arsenic – LMW-2S
- Lithium – LMW-4S, LMW-7S

- Molybdenum – LMW-2S, LMW-4S, LMW-7S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33[D], MW-34[D], MW-35[D]
- Radium 226 + 228 – TP-1D

Monitoring wells LMW-2S, LMW-4S, LMW-6S, and LMW-8S were installed in November 2015 as part of the CCR Rule monitoring program for the LCPB fly ash surface impoundment. These wells are currently used for CCR Rule monitoring for the LCPB, as well as Corrective Action monitoring wells for the SCPA. Monitoring wells TP-1D, TP-2D, TP-3D, and TP-3M were installed in July 2018 as part of the nature and extent evaluation completed under Assessment Monitoring and are currently used as Corrective Action monitoring wells. Monitoring wells MW-33[D], MW-34[D], and MW-35[D] were installed in March 2014 for Utility Waste Landfill (UWL) permitting and are currently used as Corrective Action monitoring wells. Well AMW-8 was installed in June 2018 as a part of the National Pollutant Discharge Elimination System (NPDES) permitting process and is used as a Corrective Action monitoring well.

A Supplemental Remedy Selection Report was prepared for the LCPA in August 2024 (Haley & Aldrich, 2024), which documents the results of the above corrective measures since their inception as well as supplemental measures that may be applied in the future. The report notes that source control, in addition to ongoing natural attenuation, appears to contribute to a general reduction in groundwater constituent concentrations near the LCPA. As of this report, potential supplemental corrective measures are being planned for the LEC, including a groundwater treatment system similar to those in use at other Ameren facilities. Such a treatment system is expected to supplement the current source control and MNA remedy and enhance reductions in constituent concentrations.

2.5 May 2024 Sampling Event

Following the May 2024 Corrective Action sampling event, corrective action statistical methods were used to determine the following statistical exceedances of the GWPS:

- Arsenic – LMW-2S
- Lithium – LMW-7S
- Molybdenum – LMW-2S, LMW-4S, LMW-7S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33[D], MW-34[D], MW-35[D]

This report further discusses the lithium exceedance at LMW-7S, and documents why this exceedance is naturally occurring and not caused by impacts originating from the LCPA.

3.0 EVIDENCE THAT ISOLATED EXCEEDANCES OF THE GWPS ORIGINATE FROM DIFFERENT SOURCE

An isolated exceedance of the site GWPS for lithium using corrective action statistical methods[1] exists at monitoring well LMW-7S. The location of this monitoring well is provided in **Figure 1**. There are several different lines of evidence (LOEs) that indicate that this statistical exceedance over the GWPS is not the result of a release from the LCPA, but rather is from an alternative source. The following lists the LOEs that support this ASD:

- A lack of correlation between key CCR indicators (boron and molybdenum) and lithium concentrations.
- The presence of lithium at similar concentrations in groundwater samples collected upgradient of the LCPA.
- The presence of naturally occurring lithium in sediments in background locations at the LCPA.

[1] The statistical testing method used to evaluate the Corrective Action monitoring data is the confidence interval method, which is the same method used during Assessment Monitoring, except the null hypothesis for the confidence intervals is reversed. For Corrective Action, the Unified Guidance states that the appropriate null hypothesis is that the groundwater population (mean) exceeds the GWPS for those constituents that exceed the GWPS under Assessment Monitoring program. Therefore, in Corrective Action the Upper Confidence Limit (UCL) is compared to the Groundwater Protection Standard (GWPS) instead of the Lower Confidence Limit (LCL) [as was used during Assessment Monitoring].

- Lithium is a naturally occurring element in soils and alluvial aquifer sediments that is derived from igneous and metamorphic rocks within the Missouri and Mississippi River watersheds.

3.1 CCR Indicators

Several types of CCR by-products are generated by coal-fired power plants. The different types of CCR typically display distinct geochemical signatures and indicator parameters. **Table 1** describes the different types of CCRs and their typical indicator parameters (USEPA 2018, EPRI 2011, EPRI 2012, and EPRI 2017).

Table 1: Types of CCR and Typical Indicator Parameters

Type of CCR	Description of CCR (USEPA 2018)	Key Indicators (EPRI 2011, 2012, 2017)
Fly Ash	Fine grained, powdery material composed mostly of silica made from the burning of finely ground coal in the boiler.	■ Boron ■ Molybdenum ■ Lithium ■ Sulfate ■ Bromide ■ Potassium ■ Sodium ■ Fluoride
Boiler Slag / Bottom Ash	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.	
Flue Gas Desulfurization Material (FGD)	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.	■ Sulfate ■ Fluoride ■ Calcium ■ Boron ■ Bromide ■ Chloride

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.

3.2 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 porewater) 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 fly ash and boiler slag/bottom ash, boron, molybdenum, lithium, sulfate, and fluoride are regularly sampled as part of the CCR Rule. Potassium and sodium are sampled periodically for major ion analysis and testing under the CCR Rule and testing for bromide has not been completed at the site.

Table 2 provides a snapshot of the concentrations present onsite in the background wells, Missouri River, and LCPA porewater for each of the constituents sampled on the key indicator list.

Table 2 – Summary of Potential CCR Impact Indicator Parameters at the Labadie Energy Center

Constituent (Units)		Back-ground	Missouri River	LCPA Porewater	Advantages and Caveats as Key Indicator (from EPRI 2012)
Boron (µg/L)	Minimum	ND (<50)	78.7	3,360	Typically present in leachate, non-reactive and mobile in common hydrogeologic environments, and not a common anthropogenic contaminant.
	Average	76.54	100.1	10,317	
	Maximum	151	123	21,700	
Sulfate (mg/L)	Minimum	12.2	172	254	Commonly analyzed and very mobile in all hydrogeologic environments. Concentration in impoundment leachate may in some cases be too low relative to background to be useful. Less useful in strongly reducing environments where sulfate can be reduced to hydrogen-sulfide gas.
	Average	43.56	192.3	275.2	
	Maximum	246	224	306	
Molybdenum (µg/L)	Minimum	ND (<0.52)	2.0	83.7	Most useful for dry-managed coal ash. May be less mobile than boron in some hydrogeologic environments. Concentrations may be too low in impoundment leachate to be useful if background groundwater has detectable concentrations.
	Average	1.624	3.165	405.3	
	Maximum	7.0	6.2	1,430	
Lithium (µg/L)	Minimum	11.5	34.2	5.5	Useful for coal ash management sites where the power plant burned bituminous coal. Leachate concentrations are typically low in coal ash derived from subbituminous and lignite coal
	Average	28.63	38.36	40.28	
	Maximum	47.4	42.8	61.4	
Potassium (µg/L)	Minimum	3,480	Not Sampled	3,540	Commonly analyzed, although may be less mobile than boron and sulfate. Assure that leachate concentration is higher than background and that there are no anthropogenic sources such as agricultural fields where potassium may be applied in fertilizers.
	Average	5,004		18,040	
	Maximum	7,530		42,100	
Sodium (µg/L)	Minimum	3,570	Not Sampled	50,500	Useful for coal ash management sites where the power plant injects trona or sodium bicarbonate or burned subbituminous coal. Absent dry sorbent injection, leachate concentrations are considerably lower in coal ash derived from bituminous coal, particularly at impoundments. Assure that leachate concentration is higher than background and that there are no anthropogenic sources such as agricultural fields, or major highways in northern climates where sodium may be applied in road salts.
	Average	9,742		66,967	
	Maximum	24,900		84,000	
Fluoride (mg/L)	Minimum	ND (<0.085)	0.125	0.088	Mobile and non-reactive in common hydrogeologic environments. Assure that leachate concentration is higher than background.
	Average	0.1646	0.4118	0.153	
	Maximum	0.38	0.57	0.20	

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.

Based on the results shown in **Table 2**, boron and molybdenum appear to be the best indicator parameters for impacts from the LCPA because they have much higher concentrations in CCR porewater than background groundwater and are non-reactive and highly mobile at the site. Sulfate, which is typically a good CCR indicator parameter, may not be as useful at the LEC, since sulfate values within the Missouri River are close in concentration to those within the CCR Unit. Therefore, samples collected closer to the Missouri River may have higher sulfate values, caused by recharge to the aquifer from the Missouri River instead of impacts from the CCR. Fluoride can also be a good indicator. However, porewater concentrations are not significantly higher than background. Therefore, it would be difficult to detect impacts using fluoride concentrations. Average lithium concentrations in porewater are also not significantly elevated when compared to background groundwater or the

Missouri River, therefore, determining the source of impacts is difficult. Potassium and sodium are also not ideal indicators, as many of the wells onsite are either near roadways or located within the agricultural fields around the plant, which may display elevated concentrations caused by anthropogenic sources (road salt, fertilizers, etc.).

Boron and molybdenum concentrations are above background concentrations at 8 of the 9 monitoring wells used for Detection and Assessment monitoring wells adjacent to the LCPA (Rocksmith, 2024). Therefore, boron and molybdenum appear to be the best indicator parameters for CCR impacts at the LEC. However, though molybdenum appears to be a good indicator, it is not consistently present at the farthest extents of impact. Therefore, boron appears to be the best indicator parameter for CCR impacts at the LEC.

4.0 EVALUATION OF STATISTICAL EXCEEDANCE FOR LITHIUM AT LMW-7S

As indicated in **Tables 1** and **2**, lithium can be a key indicator for fly ash and boiler slag/bottom ash impacts if it is present at elevated levels in the CCR porewater compared to background and is mobile at the site. However, as discussed in Section 3.2, boron and molybdenum are better indicator parameters than lithium for the LEC, as lithium is not significantly higher in most porewater samples than background or Missouri River concentrations. Four of the six CCR porewater samples collected in 2018 as a part of the LCPB ASD (available in the 2018 Annual Report for the LCPB, Golder 2019b) have lithium concentrations below the site-specific GWPS for lithium (47.4 µg/L). Additionally, lithium concentrations in the monitoring wells adjacent to the LCPA used for Assessment Monitoring (UMW-1D through UMW-9D) range from Non-Detect (ND) <10 to 39.3 µg/L, while background values range from 11.5 to 47.4 µg/L and Missouri River samples range from 34.2 to 42.8 µg/L. This further establishes that lithium is not a useful CCR impact indicator parameter for the LCPA and the LEC area.

Table 3 displays results from the May 2024 sampling event for lithium, boron, and molybdenum at LMW-7S.

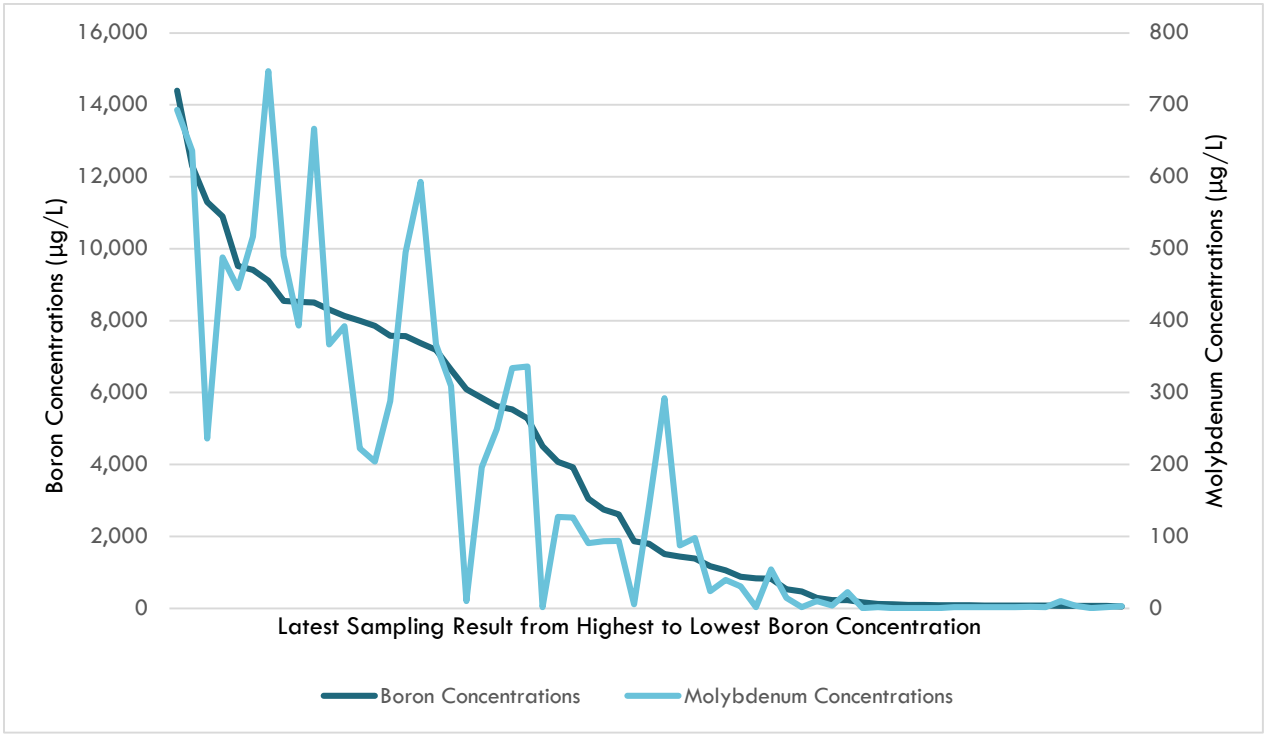
Table 3 – May 2024 Analytical Results for Key Constituents at LMW-7S

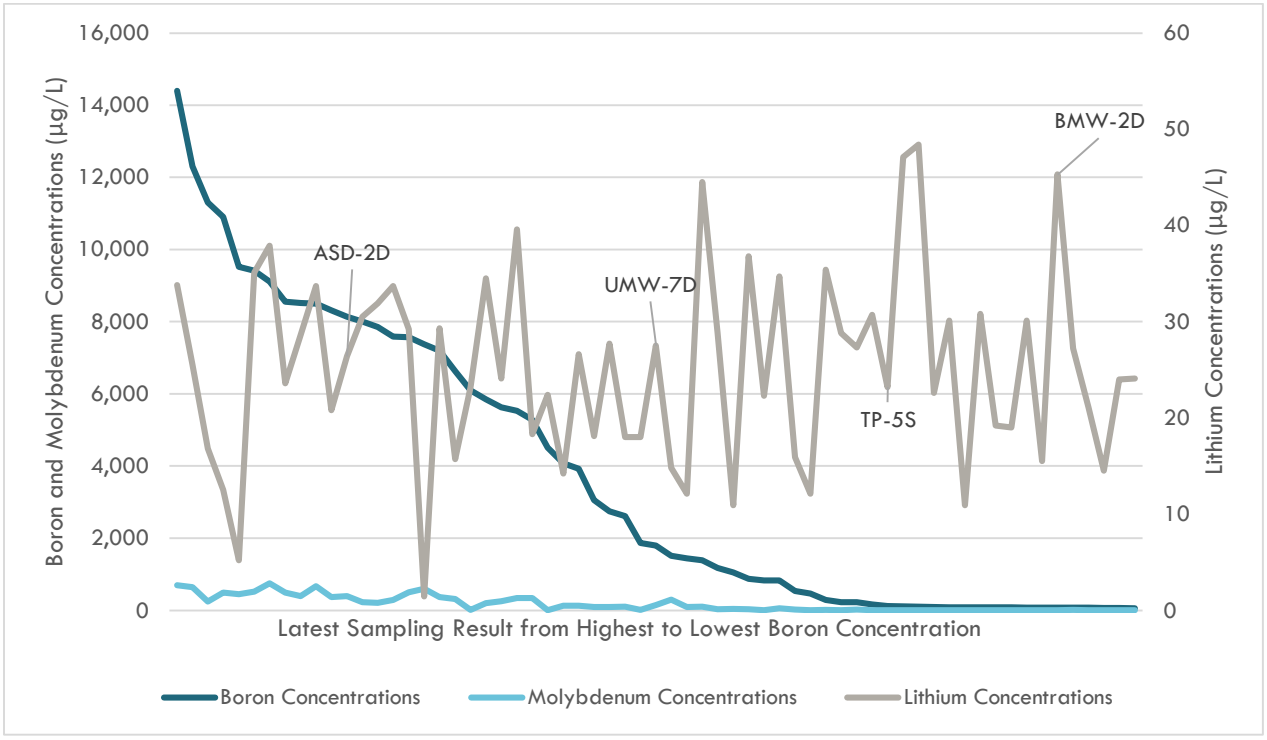
Well ID	Lithium (µg/L)	Boron (µg/L)	Molybdenum (µg/L)
LMW-7S	30.5	8,000	222

Notes:
1) µg/L – micrograms per liter.

To evaluate the correlation between key CCR indicators and lithium concentrations onsite, a graph that displays boron, lithium, and molybdenum concentrations from the most recent sampling result at each monitoring well is provided in **Figure 2** (data used for **Figure 2** provided in **Table 4**). As displayed on the graph, molybdenum concentrations correlate with boron concentrations, with elevated levels at similar monitoring wells. Lithium concentrations do not track with either boron or molybdenum concentrations, indicating that lithium concentrations are not linked to impacts from the LCPA.

Figure 2 – Comparison of Most Recent Boron, Molybdenum, and Lithium Concentrations





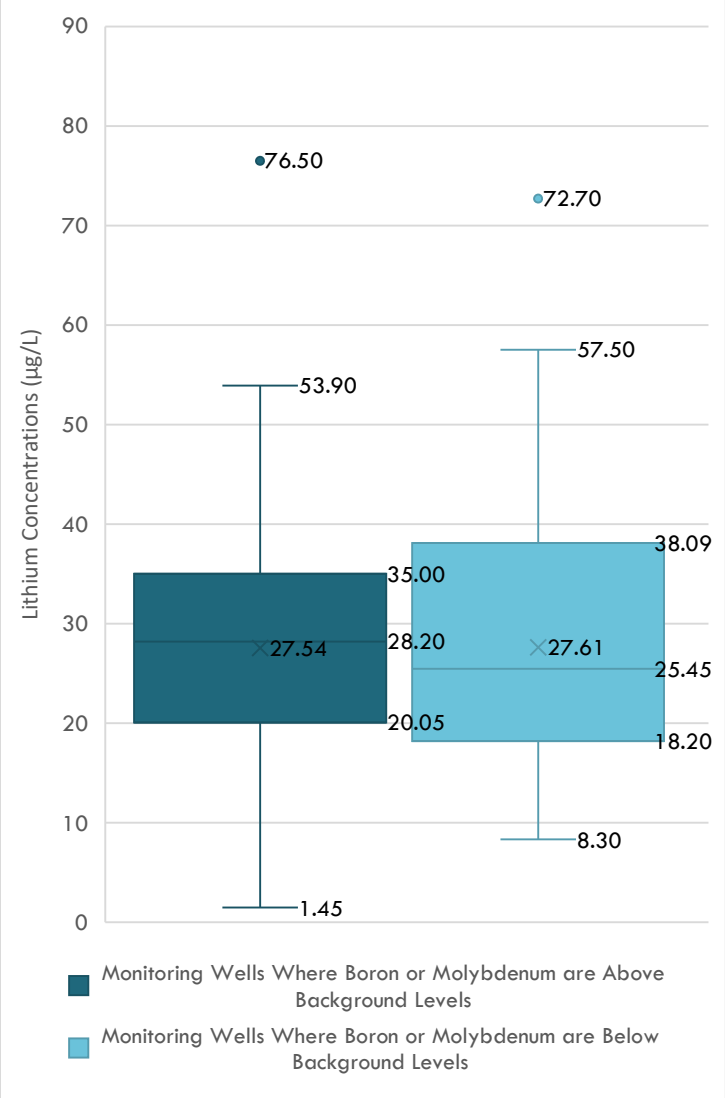
Notes:

1) µg/L – micrograms per liter.
2) Values displayed in order from highest to lowest boron concentrations. Data used to prepare **Figure 2** are provided in **Table 4**.
3) The upper graph displays boron and molybdenum concentrations, with molybdenum concentrations on the right axis.
4) The lower graph displays boron, molybdenum, and lithium concentrations, with lithium concentrations on the right axis.

As displayed in **Table 4**, there are 15 monitoring wells onsite where boron and/or molybdenum concentrations are below background and 48 monitoring wells onsite where boron and/or molybdenum are above background concentrations. **Figure 3** displays the distribution of lithium concentrations for the following datasets: 1) monitoring wells where there is a corresponding molybdenum and/or boron exceedance (48 monitoring wells, 508 total results) and 2) monitoring wells where there is not a corresponding boron or molybdenum exceedance (15 monitoring wells, 208 total results). For this figure, historical datasets for each monitoring well were used to generate the distributions. The results of this box and whisker plot display a largely similar distribution between the two datasets, including lower quartile, median, average, and upper quartile values all within 7 µg/L of one another. Average concentrations between the two datasets are nearly identical. This further demonstrates that lithium concentrations do not correlate with key CCR indicator parameters, therefore, elevated lithium concentrations onsite are not related to CCR impacts.

Using the data identified in **Figure 3**, for those wells without a boron or molybdenum exceedance above background, a non-parametric (highest value in the dataset) upper prediction limit of 72.7 µg/L was calculated, which exceeds the current site GWPS of 47.4 µg/L for lithium.

Figure 3 – Distribution of Lithium Concentrations in Monitoring Wells With and Without Key CCR Indicators



4.1.1 Sequential Extraction Data Confirms Presence of Naturally Occurring Lithium in Alluvial Sediments

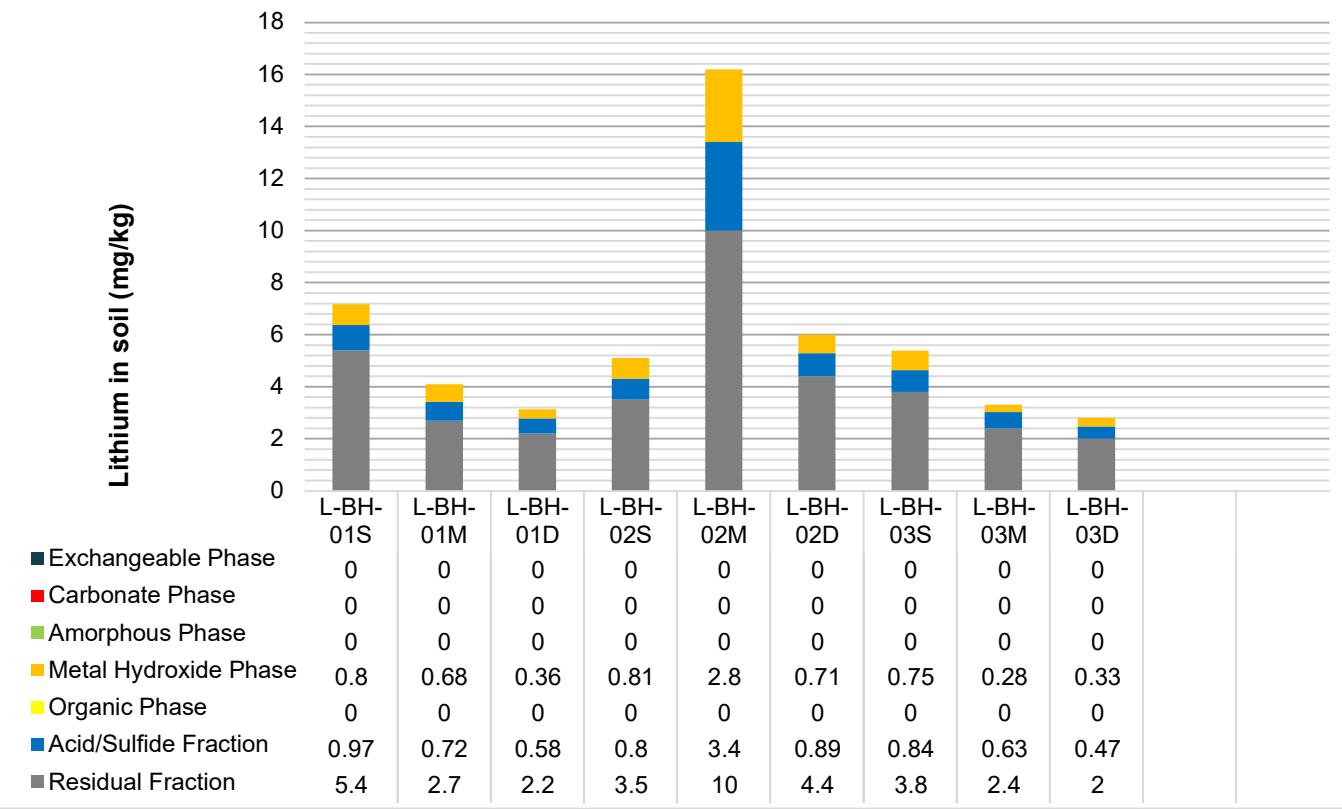
A seven-step sequential extraction method (SEP) based on Tessier et al. (1979) was used to identify the provenance of lithium in soils (i.e., the operationally defined fraction that contains the metal) and determine potential environmental mobility, as displayed in **Figure 4**. The total concentration of a metal measured from the seven steps can be compared to the concentration determined from the total metal analysis for compositional accountability. The seven-step SEP is defined by specific extraction steps as follows (based on a modified Tessier et al. 1979 method):

In 2021, samples were collected from three soil borings across the LEC for sequential extraction testing. The locations of the sequential extraction sample borings are provided in **Figure 1**. Results of the sequential extraction testing are displayed in **Figure 5** and indicate the presence of naturally occurring lithium in soils at the LEC in fractions 6 and 7 in each of the soil borings, regardless of if the locations were directly adjacent to the LCPA or at background locations. Lithium is reported in soils at concentrations ranging from 2.8 to 16.2 milligrams per kilogram (mg/kg, from the SEP) and is predominantly (83 to 92%) present in the residual and sulfide component of the soil, i.e., the non-environmentally available fractions. The absence of lithium in the environmentally available fractions (specifically exchangeable and carbonate fractions) indicates a general lack of lithium transport and attenuation (e.g., through sorption and/or co-precipitation).

Figure 4 – Sequential Extraction Procedure

SEQUENTIAL EXTRACTION PROCEDURE				
ENVIRONMENTALLY AVAILABLE (Increasing Availability)	Step 1	Increasing Extraction Strength	Exchangeable Fraction:	This extraction includes trace elements that are electrostatically adsorbed to overburden minerals
	Step 2		Carbonate Fraction:	This extraction targets trace elements that are adsorbed or otherwise bound to carbonate minerals
	Step 3		Non-Crystalline Materials Fraction:	This extraction targets trace elements that are complexed by amorphous minerals
	Step 4		Metal Hydroxide Fraction:	This extraction targets trace elements bound to hydroxides of iron, manganese, and/or aluminum
	Step 5		Organic Fraction:	This extraction targets trace elements strongly bound via chemisorption to organic material
NON-ENVIRONMENTALLY AVAILABLE	Step 6		Acid/Sulfide Fraction:	The extraction is used to identify trace elements precipitated as sulfide minerals
	Step 7		Residual Fraction:	Trace elements remaining in the overburden after the previous extractions will be distributed between silicates, phosphates, and refractory oxide

Figure 5 - Sequential Extraction of Lithium Results



Notes:
1) Detection with JB flags for the organic phase were not used for this evaluation, as these results were detected in the blank, are estimated, and are therefore not considered accurate for this evaluation.
2) mg/kg – milligrams per kilogram.
3) Sample locations provided in **Figure 1.** BH-01 is near the background wells, BH-02 is just south of the LCPA CCR Unit and BH-03 is located near AM-1S and the Missouri River.

4.1.2 Lithium at LMW-7S

LMW-7S is located approximately 1,300 feet to the northeast of the LCPA, near the eastern perimeter of the LCPB. LMW-7S was installed in 2016 to monitor the LCPB, and since that time lithium concentrations have ranged from 25.6 to 49.0 µg/L. During the statistical evaluation of the May 2024 sampling event (which only uses data collected since April 2020), a LCL of 38.32 µg/L and UCL of 47.98 µg/L were calculated for lithium. Therefore, the UCL is only 0.58 µg/L above the Site GWPS, a marginal exceedance. At the time of writing this ASD, data from the November 2024 sampling event is also available. The most recent lithium concentration at LMW-7S is 39.9 µg/L, collected on November 14, 2024. When a confidence interval is produced that incorporates this data point, the calculated UCL is 47.21 µg/L, which is below the site GWPS. The lack of elevated lithium when compared with non-impacted wells, coupled with the clear indications that lithium concentrations are not correlated with CCR impacts, indicates that the elevated lithium at LMW-7S is not from the LCPA, but rather is naturally occurring in the alluvial aquifer at this location.

4.1.3 Naturally Occurring Lithium Values at the SEC are Consistent with Upstream Sampling Results within the Missouri and Mississippi River Alluvial Aquifers

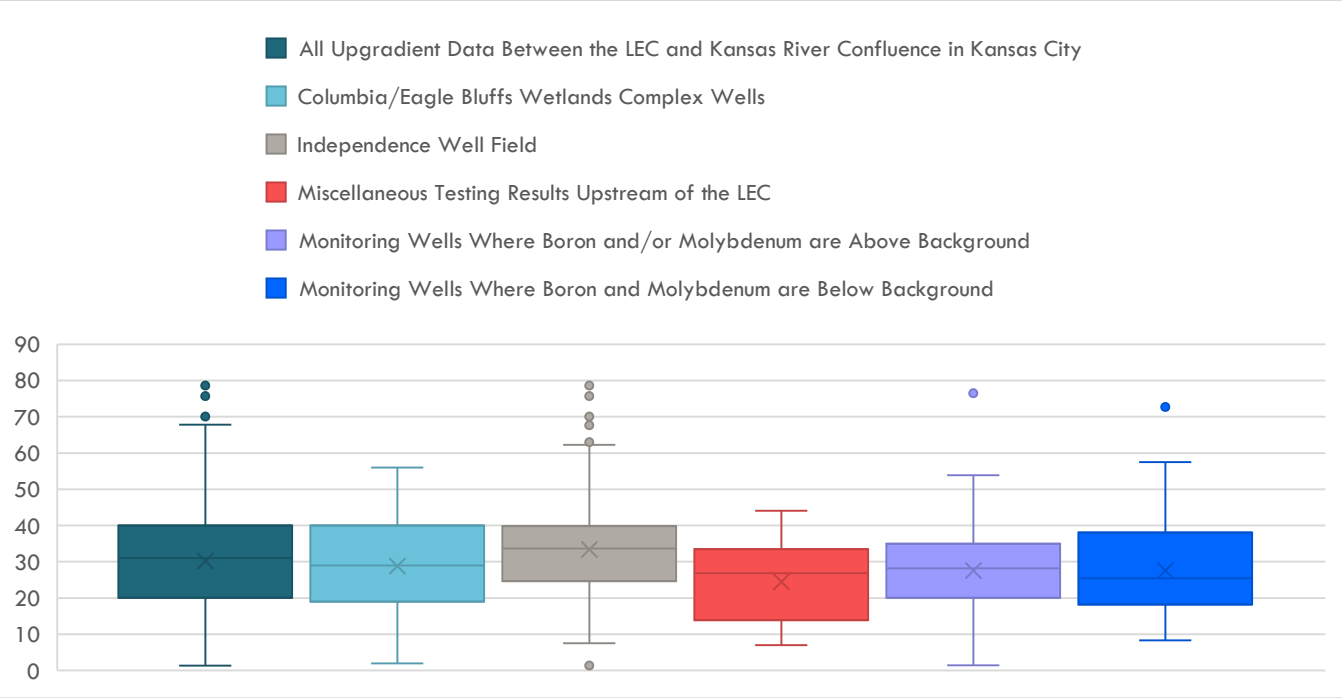
Naturally occurring lithium is present in groundwater across the United States (US), can be found in nearly all rock and soil types, and is most commonly found to be associated with silicate minerals (Tomazscak 2015). The weathering of silicate minerals is known to cause the release of naturally occurring lithium into groundwater (Tomazscak 2015). Site-specific test results (i.e., SEP results) confirm this finding for the LEC.

The National Water Quality Monitoring Council (NWQMC) Water Quality Portal (available at https://www.waterqualitydata.us/) summarizes data from USGS, USEPA, and NWQMC databases. A review of lithium results from within the Missouri Alluvial Aquifer from the NWQMC database includes lithium results from a total of 1,325 groundwater sample results for wells located upgradient of the LEC within the Missouri River alluvial aquifer in the state of Missouri. To evaluate naturally occurring Missouri River Alluvial Aquifer concentrations of lithium, the database results were divided different groups as follows:

- Independence Well Field near Independence, Missouri (Kelly 2010) – Total of 433 results.
- Columbia/Eagle Bluffs Wetland Complex Wells (Richards 1995, Richards 1999, Richards, 2002) – Total of 851 results.
- Miscellaneous testing results upstream of the LEC – Total of 41 results

Figure 6 displays a box and whisker plot that compares publicly available groundwater lithium concentration data in the upgradient alluvial aquifers to lithium concentrations at LEC as displayed in **Figure 3**.

Figure 6 – Comparison of Missouri River Alluvial Aquifer Groundwater Lithium Concentrations – Public Data and LEC Results



Notes:
1) µg/L – micrograms per liter

Overall, the results display a very similar distribution of lithium results across the state within the Missouri River Alluvium. In fact, lithium concentrations appear to be lower, on average, than those in Independence, Columbia/Eagle Bluffs, as well as other miscellaneous upstream locations. This consistency with upgradient alluvial aquifer samples demonstrates that the lithium concentrations onsite are not from the LCPA, but rather are naturally occurring within the alluvial aquifer.

5.0 SUMMARY

Based on the information presented in in this ASD, the statistical exceedance of lithium at monitoring well LMW-7S using Corrective Action statistical methods is not the result of impacts from the LCPA, but instead is the result of natural geochemical variability of groundwater within the alluvial aquifer at the site. The natural geochemical source for the lithium exceedance is supported by several factors including: (1) a lack of correlation between key CCR indicators (boron and molybdenum) and lithium concentrations at wells across the LEC, (2) the presence of lithium at similar levels in alluvial aquifer samples upgradient of the site, and (3) lithium is a naturally occurring element in soils and alluvial aquifer sediments that are derived from igneous rocks within the Missouri River watershed.

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Tables

Table 4
Summary of Latest CCR Rule Groundwater Sampling Results for Selected Constituents
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Background Limit	Boron Concentrations		Molybdenum Concentrations		Lithium Concentrations	
	DQR (100 µg/L)		DQR (20 µg/L)		47.4 µg/L	
Groundwater Monitoring Wells	Date	µg/L	Date	µg/L	Date	µg/L
L-UMW-5D	5/15/2024	14,400	5/15/2024	693	5/15/2024	33.8
L-ASD-5M	2/15/2018	12,300	2/15/2018	636	2/15/2018	25.5
L-UMW-3D	5/15/2024	11,300	5/15/2024	236	5/15/2024	16.8
L-UMW-6D	5/15/2024	10,900	5/15/2024	488	5/15/2024	12.5
L-ASD-2S	2/20/2018	9,520	2/20/2018	445	2/20/2018	5.2 J
L-TP-3D	5/21/2024	9,410	5/21/2024	517	5/21/2024	35.1
L-MW-34[D]	5/22/2024	9,110	5/22/2024	747	5/22/2024	37.9
L-ASD-2M	2/20/2018	8,550	2/20/2018	490	2/20/2018	23.6
L-UMW-4D	5/15/2024	8,520	5/15/2024	393	5/15/2024	28.6
L-MW-33[D]	5/21/2024	8,500	5/21/2024	667	5/21/2024	33.7
L-AMW-8	5/17/2024	8,310	5/17/2024	367	5/17/2024	20.8
L-ASD-2D	2/20/2018	8,130	2/20/2018	392	2/20/2018	26.4
L-LMW-7S	5/20/2024	8,000	5/20/2024	222	5/20/2024	30.5
L-LMW-4S	5/17/2024	7,850	5/17/2024	204	5/17/2024	31.9
L-AM-1D	5/22/2024	7,580	5/22/2024	288	5/22/2024	33.7
L-MW-35[D]	5/22/2024	7,570	5/22/2024	495	5/22/2024	29.2
L-ASD-1S	2/22/2018	7,370	2/22/2018	593	2/22/2018	ND
L-TP-3M	5/21/2024	7,190	5/21/2024	367	5/21/2024	29.3
L-ASD-4M	2/16/2018	6,630	2/16/2018	309	2/16/2018	15.7
L-TP-4D	5/21/2024	6,090	5/21/2024	ND	5/21/2024	23.2
L-ASD-3D	2/17/2018	5,850	2/17/2018	196	2/17/2018	34.5
L-ASD-4D	2/16/2018	5,620	2/16/2018	249	2/16/2018	24.1
L-ASD-1M	2/22/2018	5,530	2/22/2018	334	2/22/2018	39.6
L-ASD-1D	2/22/2018	5,280	2/22/2018	336	2/22/2018	18.3
L-TP-5D	5/9/2019	4,510	5/9/2019	ND	5/9/2019	22.4
L-LMW-2S	5/15/2024	4,070	5/15/2024	127	5/15/2024	14.2
L-LMW-3S	5/17/2024	3,920	5/17/2024	126	5/17/2024	26.6
L-ASD-3M	2/18/2018	3,050	2/18/2018	90.3	2/18/2018	18.1
L-ASD-5D	2/15/2018	2,740	2/15/2018	93.1	2/15/2018	27.7
L-ASD-3S	2/18/2018	2,610	2/18/2018	93.7	2/18/2018	18.0
L-LMW-1S	5/21/2024	1,860	5/21/2024	5.4 J	5/21/2024	18.0
L-UMW-7D	5/21/2024	1,790	5/21/2024	143	5/21/2024	27.5
L-LMW-8S	5/20/2024	1,510	5/20/2024	292	5/20/2024	14.8
L-ASD-5S	2/15/2018	1,440	2/15/2018	87.4	2/15/2018	12.1
L-TP-2D	5/15/2024	1,380	5/15/2024	97.6	5/15/2024	44.5
L-LMW-6S	5/20/2024	1,170	5/20/2024	23.8	5/20/2024	28.8
L-ASD-4S	2/16/2018	1,050	2/16/2018	39.3	2/16/2018	10.9
L-UMW-2D	5/22/2024	872	5/22/2024	30.4	5/22/2024	36.8
L-TP-5M	5/9/2019	828	5/9/2019	ND	5/9/2019	22.3
L-TP-2M	5/15/2024	826	5/15/2024	53.9	5/15/2024	34.7
L-UMW-8D	5/21/2024	531	5/21/2024	14.2 J	5/21/2024	15.9
L-TP-4M	8/20/2019	463	8/20/2019	ND	8/20/2019	12.1
L-AM-1S	5/22/2024	286	5/22/2024	ND	5/22/2024	35.4
L-UMW-1D	5/15/2024	225	5/15/2024	3.9 J	5/15/2024	28.8
L-TP-2S	8/20/2019	221	8/20/2019	22.4	8/20/2019	27.3
L-S-1	5/20/2024	163	5/20/2024	ND	5/20/2024	30.7
L-TP-5S	5/9/2019	119	5/9/2019	ND	5/9/2019	23.2
L-TMW-1	5/20/2024	110	5/20/2024	ND	5/20/2024	47.1
L-TMW-2	5/20/2024	93.9 J	5/20/2024	ND	5/20/2024	48.4
L-BMW-1S	5/23/2024	92.3 J	5/23/2024	1.3 J	5/23/2024	22.6
L-TMW-3	5/20/2024	83.6 J	5/20/2024	ND	5/20/2024	30.1
L-TP-4S	8/20/2019	83.5 J	8/20/2019	ND	8/20/2019	10.9
L-MW-26	5/22/2024	78.7 J	5/22/2024	1.4 J	5/22/2024	30.8
L-UMW-9D	5/21/2024	77.8 J	5/21/2024	1.5 J	5/21/2024	19.2
L-TP-1S	5/8/2019	77.4 J	5/8/2019	ND	5/8/2019	19.0
L-BMW-1D	5/23/2024	75.1 J	5/23/2024	1.3 J	5/23/2024	30.1
L-MW-24	5/22/2024	73.1 J	5/22/2024	2.1 J	5/22/2024	15.5
L-BMW-2D	5/23/2024	69.6 J	5/23/2024	1.4 J	5/23/2024	45.3
L-TP-1D	5/22/2024	67.6 J	5/22/2024	ND	5/22/2024	27.2
L-TP-3S	5/9/2019	67.2 J	5/9/2019	3.3 J	5/9/2019	21.1
L-LMW-5S	5/20/2024	61.6 J	5/20/2024	ND	5/20/2024	14.5
L-TP-1M	5/8/2019	60.6 J	5/8/2019	ND	5/8/2019	24.0
L-BMW-2S	5/23/2024	53.5 J	5/23/2024	3.0 J	5/23/2024	24.1

Notes

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

4.) Date corresponds with most recent result for each analyte.

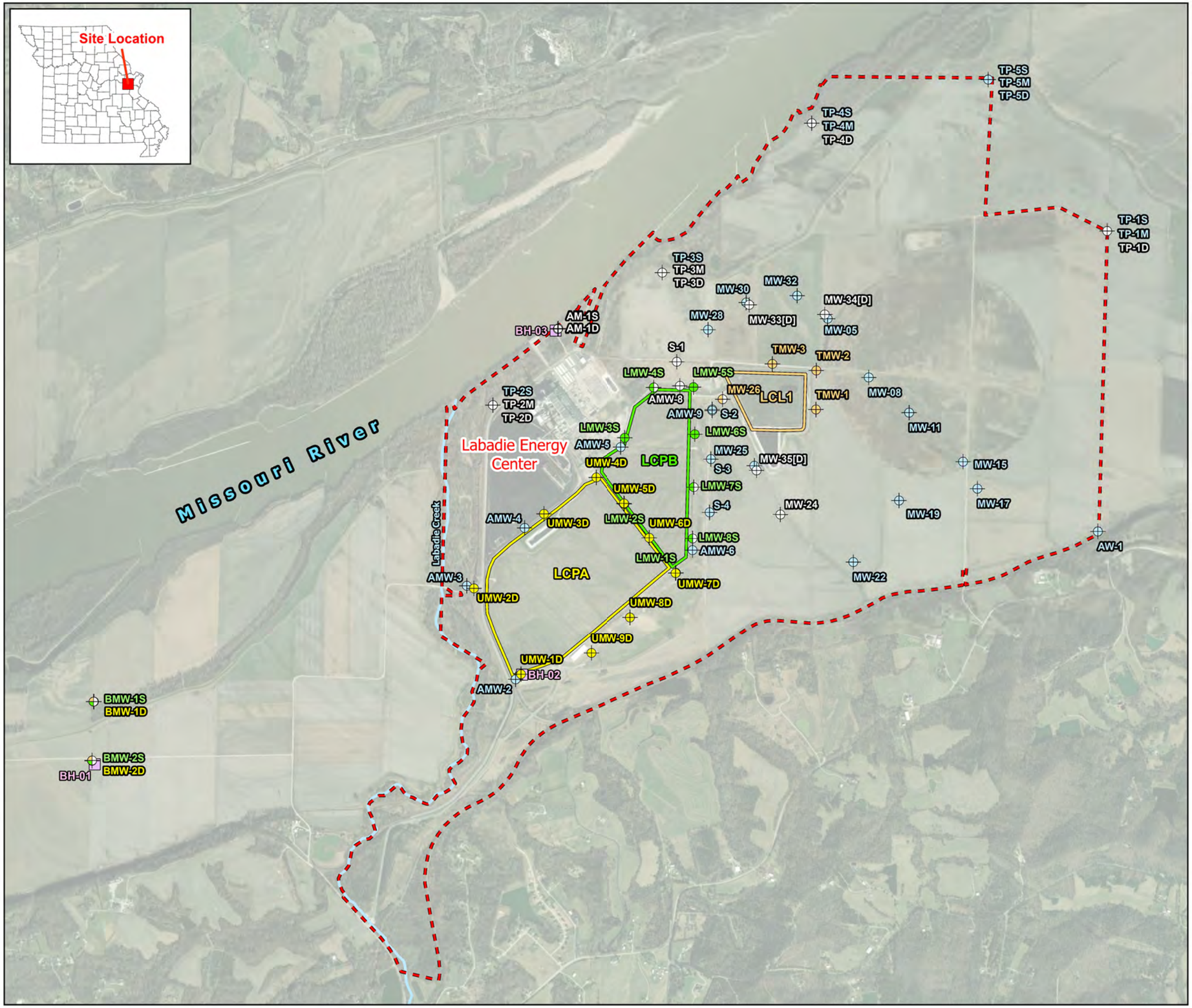
5.) Well ID's highlighted in light red have values above the background limit for boron and/or molybdenum. These values are used in the "concentrations with a boron and/or molybdenum value over background" for the box and whisker plots. Well ID's in blue do not have a molybdenum or boron value above background, and these well are used in the "concentrations without a boron or molybdenum value over background" column for the box and whisker plots.

6.) If all backgound values are less than the PQL, then the Double Quantification Rule (DQR) is used. In cases were DQR is the background value, the latest PQL is used for the background limit.

ROCKSMITH GEOENGINEERING

Prepared by: GTM
Checked by: JTR
Reviewed by: MNH

Figures



TITLE

LABADIE ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

Legend

- Approximate Property Boundary

Labadie Energy Center CCR Units

- LCPA - Bottom Ash Surface Impoundment
- LCPB - Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1

Monitoring Well Network

- Corrective Action Monitoring Well
- LCPA Monitoring Well
- LCPB Monitoring Well
- LCPB and Corrective Action Monitoring Well
- LCL1 Monitoring Well
- LCL1 and Corrective Action Monitoring Well
- Backgrcund Well Used for LCPA, Corrective Action, LCPB, and LCL1 Monitoring
- Monitoring Well Used for Water Level Elevation Measurements Only
- Soil Sample Borehole Location

NOTES

1. All locations and boundaries are approximate.

REFERENCES

1. Zahner and Associates, Inc. 2016. Lot Consolidation Plat of "Labadie Energy Center" - Prepared for Ameren Missouri. Revised June 15, 2016.
2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 500 1,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-07-22
PREPARED	JSI	PROJECT No.	23007-24
REVIEW	MNH		FIGURE 1
APPROVED	MNH		

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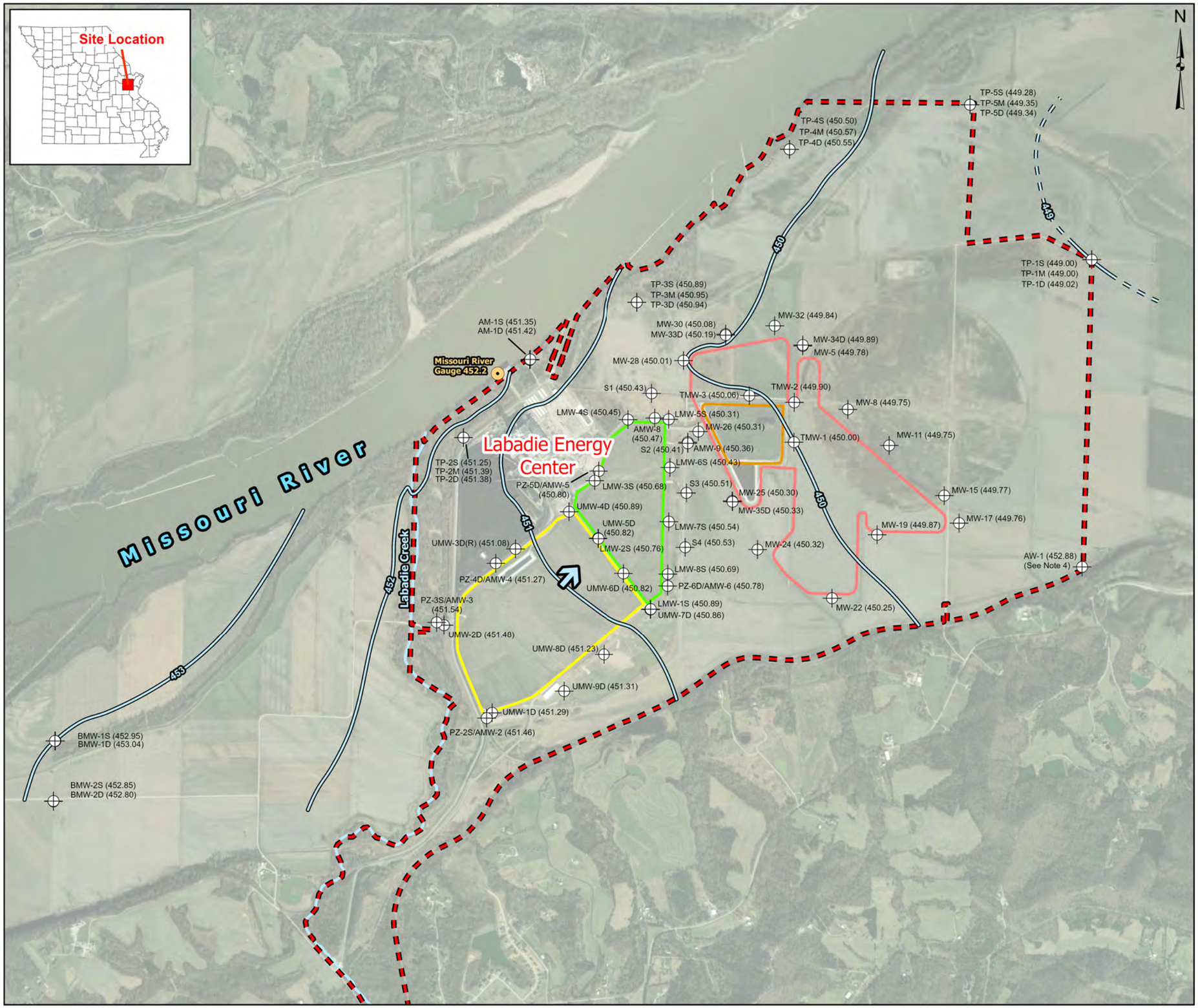
Appendix I

2024 Potentiometric Surface Maps



TITLE

FEBRUARY 9, 2024 POTENTIOMETRIC SURFACE MAP

Legend

- Labadie Energy Center Property Boundary

CCR Units

- LCPA - Closed Bottom Ash Surface Impoundment
- LCPB - Closed Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1
- Proposed Final UWL Fence Perimeter

Monitoring Well or Piezometer

- Monitoring Well or Piezometer

Surface Water Elevation Measurement Location

- Missouri River Gauge

Groundwater Elevation Contours

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

NOTES

1. All locations and boundaries are approximate.
2. Groundwater elevations displayed in FT MSL (Feet above Mean Sea Level).
3. Missouri River level obtained from USGS Labadie gauge 06935550.
4. AW-1 was not used in potentiometric surface contouring due to localized conditions causing an artificially high potentiometric elevation.

REFERENCES

1. Zahner and Associates, Inc. 2016. Lot Consolidation Plat of "Labadie Energy Center" - Prepared for Ameren Missouri. Revised June 15, 2016.
2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 500 1,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-09-09
PREPARED	ANT	PROJECT No	23007-24
REVIEW	GTM		
APPROVED	MNH		

FIGURE I1

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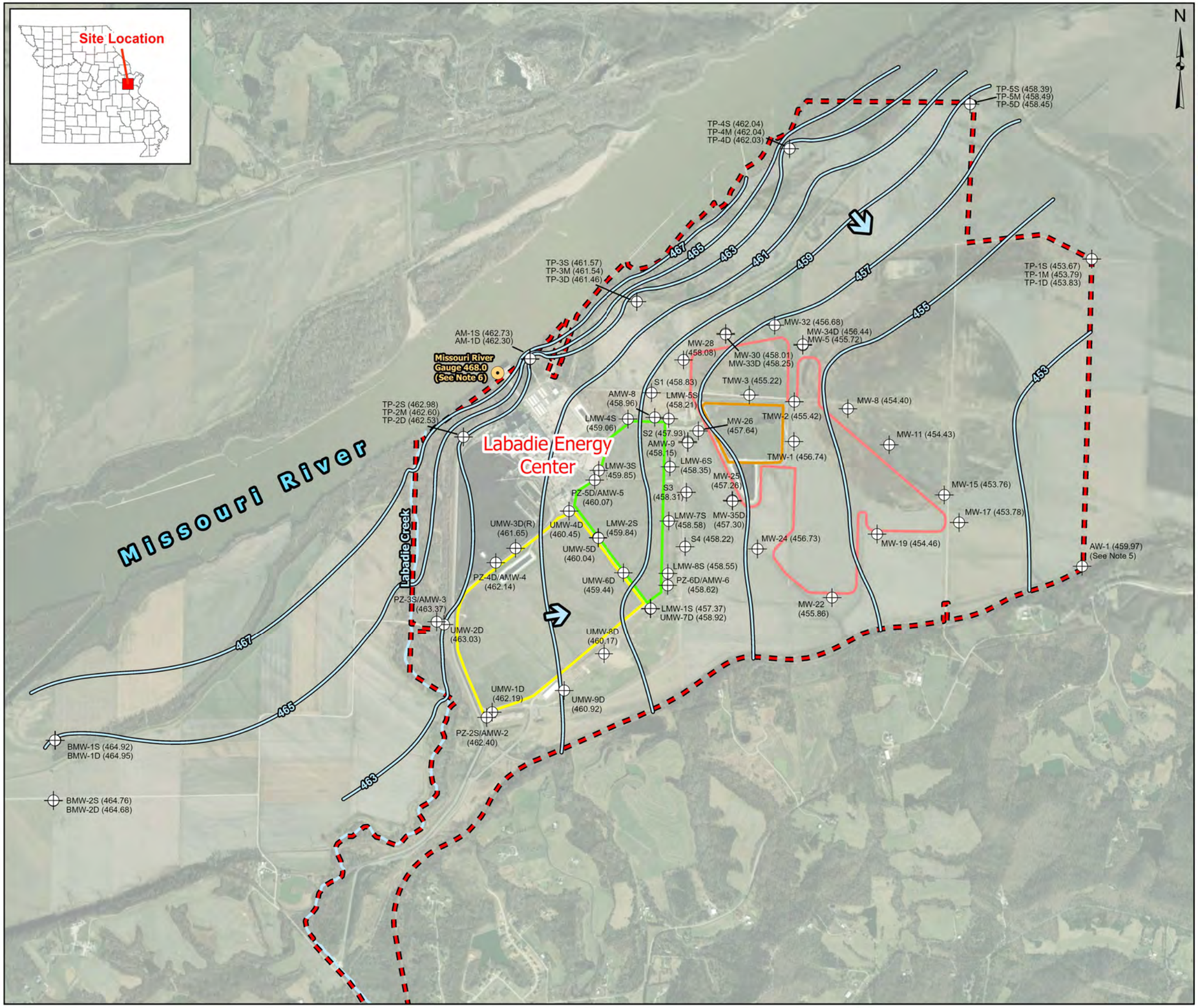
TITLE

MAY 10, 2024 POTENTIOMETRIC SURFACE MAP



Legend

- Labadie Energy Center Property Boundary

CCR Units

- LCPA - Closed Bottom Ash Surface Impoundment
- LCPB - Closed Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1
- Proposed Final UWL Fence Perimeter

Monitoring Well or Piezometer

- Monitoring Well or Piezometer

Surface Water Elevation Measurement Location

- Missouri River Gauge

Groundwater Elevation Contours

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

NOTES

1. All locations and boundaries are approximate.
2. Groundwater elevations displayed in FT MSL (Feet above Mean Sea Level).
3. Missouri River Level obtained from USGS Labadie gauge 06935550.
4. Due to the large range of groundwater elevations measured across the site, a 2-foot ccntour interval is displayed for clarity.
5. AW-1 was not used in potentiometric surface contouring due to localized conditions causing an artificially high potentiometric elevation.
6. The large contour change directly adjacent to the river is caused by a jump in the river level from 466 to 468 the day before the sampling event, along with a jump from 454 to 470 two weeks prior.

REFERENCES

1. Zahner and Associates, Inc. 2016. Lot Consolidation Plat of "Labadie Energy Center" - Prepared for Ameren Missouri. Revised June 15, 2016.
2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 500 1,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-07-05
PREPARED	JTA	PROJECT No.	23007-24
REVIEW	GTM		
APPROVED	MNH		

FIGURE I2

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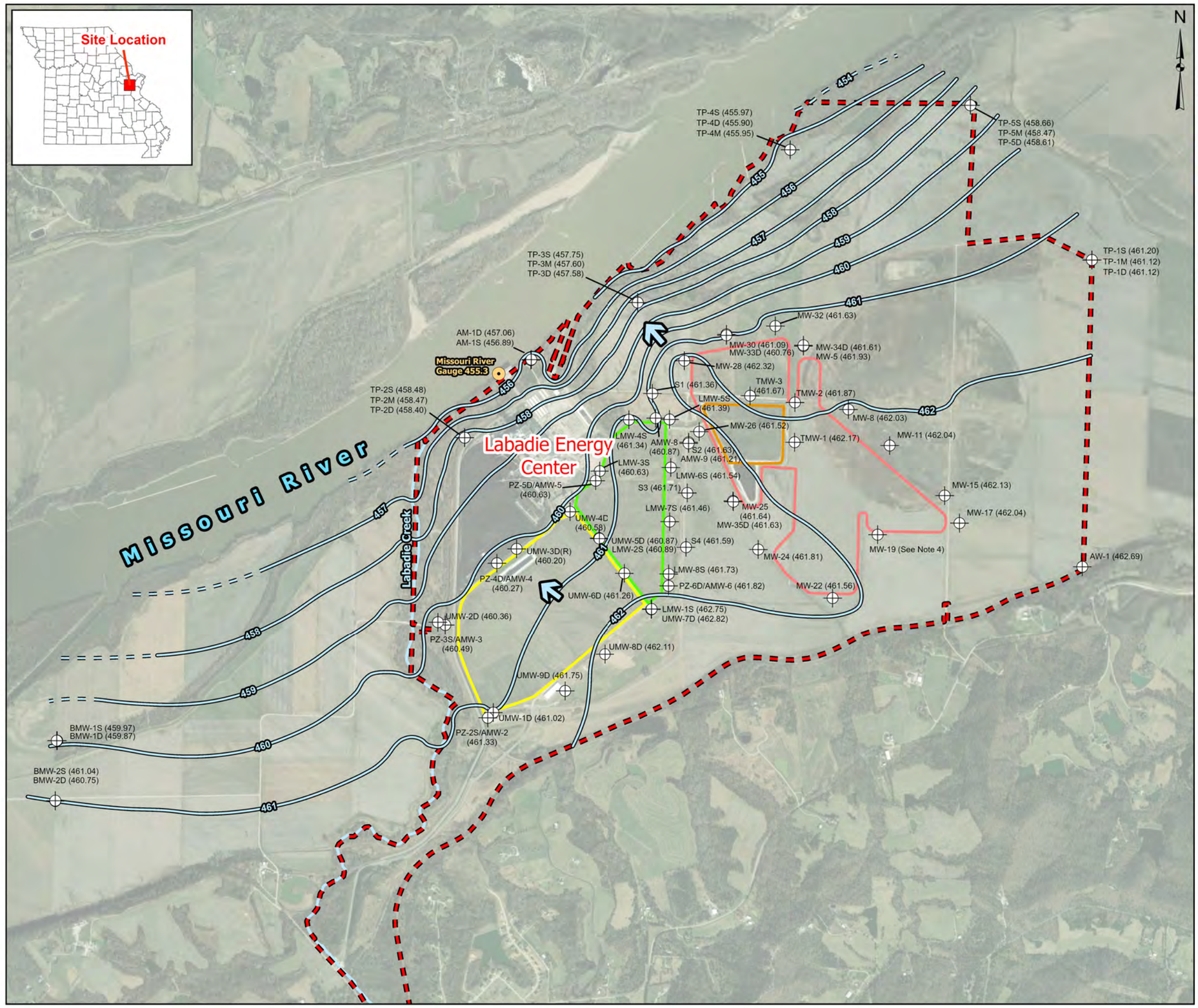

TITLE

JULY 24, 2024 POTENTIOMETRIC SURFACE MAP

Legend

- Labadie Energy Center Property Boundary

CCR Units

- LCPA - Closed Bottom Ash Surface Impoundment
- LCPB - Closed Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1
- Proposed Final UWL Fence Perimeter

Monitoring Well or Piezometer

- Monitoring Well or Piezometer

Surface Water Elevation Measurement Location

- Missouri River Gauge

Groundwater Elevation Contours

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

NOTES

1. All locations and boundaries are approximate.
2. Groundwater elevations displayed in FT MSL (Feet above Mean Sea Level).
3. Missouri River Level obtained from USGS Labadie gauge 06935550.
4. MW-19 was inaccessible due to standing water, therefore no water level measurement as collected.

REFERENCES

1. Zahner and Associates, Inc. 2016. Lot Consolidation Plat of "Labadie Energy Center" - Prepared for Ameren Missouri. Revised June 15, 2016.
2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 500 1,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-09-12
PREPARED	JTR	PROJECT No.	23007-24
REVIEW	GTM		
APPROVED	MNH		

FIGURE I3

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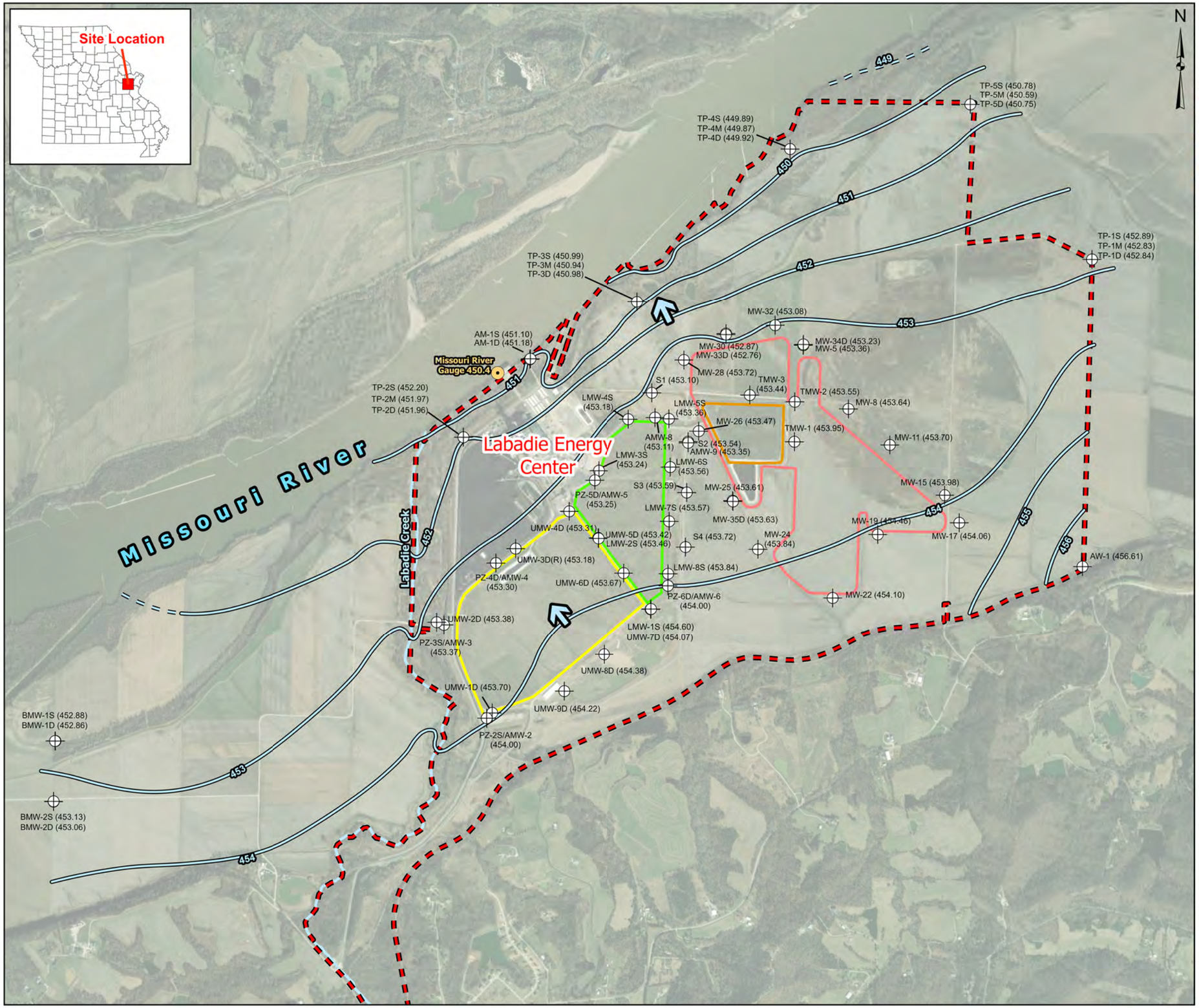

TITLE

OCTOBER 28, 2024 POTENTIOMETRIC SURFACE MAP

Legend

- Labadie Energy Center Property Boundary

CCR Units

- LCPA - Closed Bottom Ash Surface Impoundment
- LCPB - Closed Fly Ash Surface Impoundment
- LCL1 - Utility Waste Landfill Cell 1
- Proposed Final UWL Fence Perimeter

Monitoring Well or Piezometer

- Monitoring Well or Piezometer

Surface Water Elevation Measurement Location

- Missouri River Gauge

Groundwater Elevation Contours

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

NOTES

1. All locations and boundaries are approximate.
2. Groundwater elevations displayed in FT MSL (Feet above Mean Sea Level).
3. Missouri River Level obtained from USGS Labadie gauge 06935550.

REFERENCES

1. Zahner and Associates, Inc. 2016. Lot Consolidation Plat of "Labadie Energy Center" - Prepared for Ameren Missouri. Revised June 15, 2016.
2. USGS (United States Geological Survey), National Water Information System, USGS Gauge 06935550 Missouri River near Labadie, MO.

0 5001,000 2,000 3,000 4,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2024-10-28
PREPARED	JTR	PROJECT No.	23007-24
REVIEW	GTM		
APPROVED	MNH		

FIGURE I4

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