



REPORT

2022 Annual Groundwater Monitoring and Corrective Action Report

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

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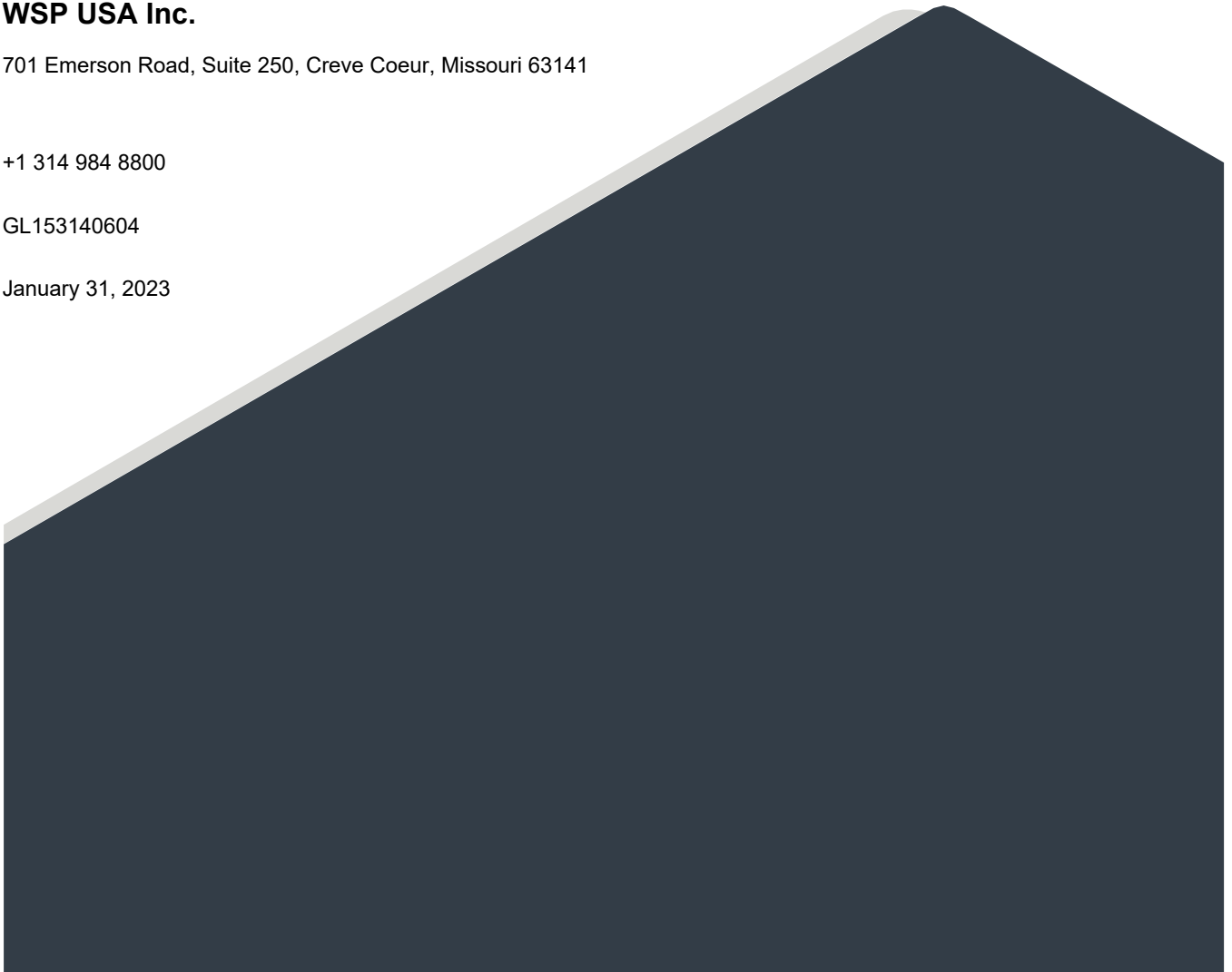
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EXECUTIVE SUMMARY AND STATUS OF THE LCPA GROUNDWATER MONITORING PROGRAM

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, 2022 through December 31, 2022 including verification results related to late 2021 sampling.

Throughout 2022, 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 it was initiated on October 17, 2017 as required by the CCR Rule. As a part of Detection Monitoring, statistical evaluations are completed after each sampling event to determine if there are any values at a Statistically Significant Increase (SSI) over background 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 2022 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
November 2021 Sampling Event	Detection & Assessment Monitoring, November 1-5, 2021 (See Note 7)	December 27, 2021	Appendix III, Detected Appendix IV (See Note 1), & 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-7D Chloride: UMW-2D, UMW-3D(r), UMW-5D, UMW-6D, UMW-9D Fluoride: UMW-2D, UMW-4D Sulfate: UMW-2D, UMW-3D(r), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D TDS: UMW-1D, UMW-2D, UMW-3D(r), UMW-4D, UMW-6D, UMW-8D	Molybdenum: UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D	March 25, 2022
	Verification Sampling, February 9-10, 2022	March 2, 2022	Detected Appendix III parameters (See Note 2)	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-7D Chloride: UMW-2D, UMW-3D(r), UMW-4D, UMW-5D, UMW-6D, UMW-9D Fluoride: UMW-4D Sulfate: UMW-2D, UMW-3D(r), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D TDS: UMW-1D, UMW-2D, UMW-4D, UMW-5D, UMW-6D, UMW-7D	Molybdenum: UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D	
April 2022 Sampling Event	Detection & Assessment Monitoring, April 6-11, 2022	June 4, 2022	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 Calcium: UMW-7D Chloride: UMW-2D, UMW-3D(r), UMW-4D, UMW-5D, UMW-6D, UMW-9D Fluoride: UMW-4D Sulfate: UMW-2D, UMW-3D(r), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D TDS: UMW-1D, UMW-2D, UMW-4D, UMW-5D, UMW-6D, UMW-7D	Molybdenum: UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D	September 2, 2022
	Verification Sampling, June 22, 2022	July 8, 2022	Detected Appendix III parameters (See Note 2)			

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSLs	SSI & SSL Determination Date
October 2022 Sampling Event	Detection & Assessment Monitoring, October 25-28, 2022	November 22, 2022	Appendix III, Detected Appendix IV (See Note 3), & Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2023.		

Notes:

- 1) Testing was completed for Appendix IV analytes that were detected above the PQL during the February/April 2021 sampling event.
- 2) Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.
- 3) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2022 sampling event.
- 4) SSI – Statistically Significant Increase.
- 5) SSL – Statistically Significant Limit.
- 6) TDS – Total Dissolved Solids.
- 7) Confirmatory testing was completed for monitoring well and Appendix IV analyte combinations that were determined to be outliers from the November 2021 Assessment Monitoring Sampling.
- 8) MNA – Monitored Natural Attenuation.

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

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).

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 2022 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 2021 Sampling Event	Phase 2 – Corrective Action Sampling November 1-5, 2021 (See Note 4)	December 21, 2021	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions	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) Radium 226 + 228: TP-1D	March 21, 2022	June 16, 2022 (See Note 2)
April 2022 Sampling Event	Phase 2 – Corrective Action Sampling April 6-11, 2022	June 4, 2022	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters	Arsenic: LMW-2S 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] Radium 226 + 228: TP-1D	September 2, 2022	November 18, 2022 (See Note 2)
October 2022 Sampling Event	Phase 2 – Corrective Action Sampling October 24-28, 2022	November 22, 2022	Appendix III, Detected Appendix IV (See Note 3), & Major Cations and Anions	Statistical analyses to evaluate statistical exceedances of the GWPS were not completed in 2022. Results of the statistical evaluation will be included in the 2023 Annual Report.		

- 1) Testing was completed for Appendix IV analytes that were detected above the PQL during the February/April 2021 sampling event.
- 2) Radium 226 + 228 has not historically been identified as an SSL in Assessment Monitoring and Alternative Source Demonstrations (ASDs) were prepared for radium 226 + 228 at monitoring well TP-1D.
- 3) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2022 sampling event.
- 4) Confirmatory testing was completed for monitoring wells and Appendix IV analyte combinations (only S-1 for corrective action) that were determined to be outliers from the November 2021 Corrective Action Sampling.

While there are exceedances of the GWPS using corrective action statistical analysis methods for arsenic, lithium, molybdenum, and radium 226 + 228, variability in the initial groundwater sampling results after closure of the LCPA are expected, especially at wells in close proximity to the LCPA CCR Unit (e.g. LMW-2S). These preliminary results are expected to show decreases in concentration over time after stabilization occurs from closure and corrective measure remedial activities.

Supplemental Corrective Measures

In addition to MNA as a Corrective Action Remedy at Labadie, Ameren is currently preparing for installation of a groundwater treatment system similar to the system at the Rush Island Energy Center (RIEC). Ameren received an Underground Injection Control State Operating Permit (UI – 0000045, available at <https://dnrservices.mo.gov/env/wpp/permits/issued/issued-permits-062922.htm>). Due to the success of the treatment system at the Rush Island Energy Center, Ameren is currently expanding use of this technology to the downgradient side (northern side) of the LCPA, to supplement MNA at the site. Drilling of the injection and extraction wells associated with the treatment system is planned to be completed in 2023, and the system is expected to be fully operational in 2024.

Overall, Corrective Action 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, average boron concentrations have decreased approximately 8% and average molybdenum concentrations have decreased approximately 7% since 2018. 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 site 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 (2) different networks used for monitoring the LCPA and these include the monitoring well network established under §257.91 for Detection and Assessment Monitoring and the network established under §257.98 for Corrective Action Monitoring, as displayed in **Figure 1**. No new wells were installed or decommissioned in 2022. 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.

2.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the LCPA CCR Unit in 2022. **Tables 4 and 5** provide a summary of the groundwater samples collected in 2022 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.

2.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 1-5, 2021. Verification sampling and the statistical analysis to evaluate for SSIs for the November 2021 event were not completed until 2022 and are therefore included in this report. New detections of Appendix III analytes triggered a Verification sampling event, which was completed on February 9-10, 2022 and verified SSIs. **Table 6** summarizes the results and the statistical analysis of the November 2021 Detection Monitoring event.

Detection Monitoring samples were collected April 6-11, 2022 and testing was completed for all Appendix III analytes, as well as major cations and anions. New detections of Appendix III analytes triggered a Verification sampling event, which was completed June 22, 2022. **Table 7** summarizes the results and the statistical analysis of the April 2022 Detection Monitoring event.

A Detection Monitoring sampling event was completed October 25-28, 2022 and testing was performed for all Appendix III analytes, as well as major cations and anions. Statistical analyses to evaluate for SSIs in the October 2022 data were not completed in 2022 and will be included in the 2023 Annual Report. **Table 8** summarizes the results of the October 2022 Detection Monitoring event.

2.2 Assessment Monitoring Program

An Assessment Monitoring sampling event was completed November 1-5, 2021 and testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the previous sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. During review of the November 2021 data, it was discovered that there were outliers for lithium and molybdenum at some monitoring wells due to laboratory errors. Therefore, select samples were re-analyzed. For those samples that did not have sufficient sample volume to have the original sample re-analyzed, confirmatory samples were collected on February 9-10, 2022. These results are discussed more in Section 2.6. **Table 9** summarizes the results of the November 2021 Assessment Monitoring event. The results from this analysis and a table that displays the site-specific GWPS are provided in **Appendix B**. The SSLs for the LCPA continue to be:

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

An Assessment Monitoring sampling event was completed on April 6-11, 2022. Testing was completed for all Appendix IV analytes, major cations and anions, and other selected MNA parameters. The statistical evaluation for this event was completed in 2022 and is included in this report. **Table 10** summarizes the results of the April 2022 Assessment Monitoring event. The results from this analysis and a table that displays the site specific GWPS are provided in **Appendix C** and determined that there were no new SSLs.

An Assessment Monitoring sampling event was completed October 25-28, 2022 and testing was completed for Appendix IV analytes that were detected above the PQL during the April 2022 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks as well as major cations and anions. **Table 11** summarizes the results of the October 2022 Assessment Monitoring event; however, statistical analyses to evaluate SSLs were not completed in 2022. Results of the statistical evaluation will be included in the 2023 Annual Report.

2.3 Corrective Action Monitoring Program

A Corrective Action sampling event was completed on November 1-5, 2021. Testing was completed for all Appendix III analytes, Appendix IV analytes that were detected above the PQL during the previous sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, and major cations and anions. During review of the November 2021 data, it was discovered that there were outliers for lithium and molybdenum at some monitoring wells due to laboratory errors. Therefore, select samples were re-analyzed. For those samples that did not have sufficient sample volume to have the original sample re-analyzed, a confirmatory sample was collected on February 10, 2022. These results are discussed more in Section 2.6.

The statistical evaluation for this event was completed in 2022 and is included in this report. A summary of the November 2021 Corrective Action sampling event results is provided in **Table 12**. The results from this statistical evaluation are provided in **Appendix D**. Based on this analysis, lithium at LMW-4S, which was identified as statistical exceedances in the previous sampling events, is no longer an exceedance of the GWPS. The other exceedances remained the same as those previously reported. A summary of constituents displaying statistical exceedances of the GWPS using Corrective Action statistical methods¹ for the November 2021 sampling event is as follows:

- Arsenic at LMW-2S.
- 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).
- Radium 226 + 228 at TP-1D.

A Corrective Action sampling event was completed on April 6-11, 2022. Testing was completed for all Appendix III and IV analytes, major cations and anions, and other selected MNA parameters. A summary of the April 2022

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].

Corrective Action sampling event results is provided in **Table 13**. The results from the statistical evaluation are provided in **Appendix E**. Based on this analysis, lithium is no longer an exceedance of the GWPS at any well in the Corrective Action well network, and molybdenum at monitoring well LMW-7S is no longer at a level statistically above the GWPS. The other exceedances remained the same for this event as those reported for the November 2021 event.

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. Radium 226 + 228 has not historically been identified as an SSL in Assessment Monitoring and a review of the data determined that the statistical exceedance at monitoring well TP-1D is not caused by the LCPA CCR Unit. Therefore, Alternative Source Demonstrations (ASDs) were completed following the November 2021 and April 2022 sampling events and are provided in **Appendices F and G**. These ASDs conclude the statistical exceedance for radium at TP-1D is not a result of impacts from the LCPA but appears to result from natural geochemical variability within the alluvial aquifer.

Additionally, during Assessment Monitoring, arsenic and lithium have not been identified as SSLs at the LCPA. Further evaluation of these results indicates that, if Assessment Monitoring statistical methods were applied, these analyte-well pairs would not be present at an SSL. However, because the statistical methods used during Corrective Action Monitoring rely on the value of the upper confidence limit (instead of the value of lower confidence limit) relative to the GWPS, some well and analyte pairs with low-level detections that were not SSLs in Assessment Monitoring are now considered exceedances in Corrective Action Monitoring.

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 25-28, 2022 and testing was completed for Appendix III analytes, Appendix IV analytes that were detected above the PQL during the April 2022 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cation and anions. **Table 14** summarizes the results of the October 2022 Corrective Action event; however, analyses to evaluate statistical exceedances of the GWPS were not completed in 2022. Results of this statistical evaluation will be included in the 2023 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 plans to implement 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. The groundwater treatment system is expected to be fully operational in 2024.

Ameren commenced phase 1 of the corrective action remedial plan in September 2019 by initiating closure at the LCPA and closure of the LCPA was completed on December 30, 2020. The October 2022 groundwater sampling event represents the fourth groundwater sampling event since closure of the LCPA was completed.

In order to document the effectiveness of the Corrective Action Remedies (Corrective Measures), a site-wide evaluation of the key site CCR Indicators was completed. In-text **Figures 2** and **3**, below, display the site average concentrations for boron and molybdenum in the downgradient monitoring wells onsite at the LEC. While there is variability in individual well results, the average annual concentrations at the site are decreasing for boron and molybdenum concentrations as follows:

- **Boron** - Average concentrations in the monitoring wells downgradient of the LCPA have decreased approximately 8% since 2018.
- **Molybdenum** - Average concentrations in the monitoring wells downgradient of the LCPA have decreased approximately 7% since 2018.

The decreasing average concentrations are encouraging. As displayed by these figures, Corrective Actions 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.

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 H**. 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. During these times of high river stage and temporary flow direction changes, horizontal groundwater gradients generally decrease, and little net movement of groundwater occurs.

Groundwater flow direction and hydraulic gradient were estimated for the alluvial aquifer wells at the LEC using commercially available software to evaluate data since 2016. 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 0.0008 feet/foot with an estimated net annual groundwater movement of approximately 18 feet per year in the prevailing downgradient direction.

Figure 2 – Average Boron Concentrations

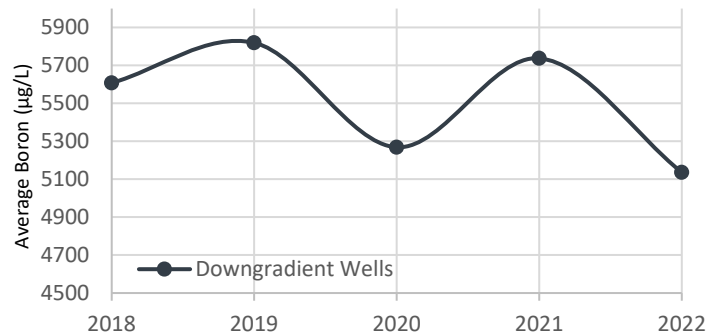
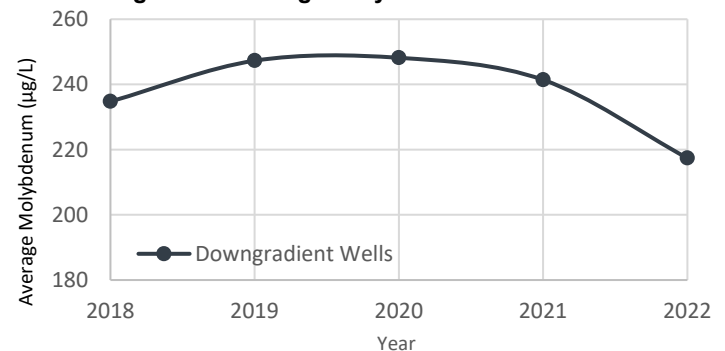


Figure 3 – Average Molybdenum Concentrations



2.6 Sampling Issues

During the statistical evaluation of the November 2021 Assessment and Corrective Action Monitoring Events (**Appendix B** and **Appendix D**), outliers were identified at multiple monitoring wells for lithium and molybdenum. The outliers were primarily caused by higher than usual dilution factors (laboratory error). This resulted in erroneously high molybdenum results at UMW-5D and UMW-8D that required confirmation sampling and testing. Additionally, the diluted high PQLs resulted in non-detect results for lithium with PQLs above the site GWPS of 47.4 micrograms per liter ($\mu\text{g/L}$) in multiple wells. Therefore, for samples with sufficient sample volume remaining, the laboratory re-analyzed them with lower dilution factors to determine if results were below the GWPS. In samples where the laboratory did not have sufficient sample volume remaining to re-analyze the outliers, (S-1, UMW-3D, UMW-5D, UMW-7D, UMW-8D, UMW-9D), confirmatory samples were collected on February 9-10, 2022. Results from this testing displayed that the erroneous results were outliers since the re-test results were within historical ranges at each well. The results of these tests are included in **Table 15** and the laboratory data packets with revised results are provided in **Appendix A**.

On June 21, 2022, no water level was collected at monitoring well AM-1D due to issues with the dedicated bladder pump. The issues with the pump were repaired, however, the 24-hour timeframe to collect a water level had passed, therefore, no groundwater elevation measurement was recorded in connection with the potentiometric surface mapping.

3.0 ACTIVITIES PLANNED FOR 2023

Detection and Assessment Monitoring are scheduled to continue on a semi-annual basis in the second and fourth quarters of 2023. Statistical analysis of the October 2022 Detection and Assessment Monitoring data will be completed in 2023 and will be included in the 2023 Annual Report.

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 2023. Statistical analysis of the October 2022 Corrective Action Monitoring data will be completed in 2023 and will be included in the 2023 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 2023 and be included in the 2023 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: BTT
Checked by: KAB
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 2022 Confirmatory Sampling	February 2022 Verification Sampling	April 2022 Sampling Event	June 2022 Verification Sampling	October 2022 Sampling Event	Total Number of Samples
CCR Rule Compliance Monitoring Well Network						
BMW-1D	-	-	4/6/2022	-	10/27/2022	2
BMW-2D	-	-	4/6/2022	-	10/27/2022	2
UMW-1D	-	2/10/2022	4/11/2022	-	10/26/2022	3
UMW-2D	-	-	4/6/2022	-	10/26/2022	2
UMW-3D(R)	2/9/2022	-	4/6/2022	-	10/27/2022	3
UMW-4D	-	2/9/2022	4/6/2022	-	10/27/2022	3
UMW-5D	2/9/2022	-	4/6/2022	6/22/2022	10/25/2022	4
UMW-6D	-	-	4/6/2022	-	10/25/2022	2
UMW-7D	2/10/2022	2/10/2022	4/8/2022	6/22/2022	10/27/2022	5
UMW-8D	2/10/2022	-	4/6/2022	-	10/28/2022	3
UMW-9D	2/10/2022	-	4/6/2022	6/22/2022	10/27/2022	4
Detection or Assessment Monitoring	Assessment	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 and Table 15.
- 4.) "-" No sample collected.
- 5.) NA - Not Applicable.
- 6.) Confirmatory sampling completed in February 2022 at monitoring wells with outliers for Appendix IV parameters during the November 2021 sampling event. Results are provided in Table 15.

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			
	February 2022 Confirmatory Sampling	April 2022 Sampling Event	October 2022 Sampling Event	Total Number of Samples
Corrective Action Monitoring Well Network				
BMW-1S	-	4/6/2022	10/27/2022	2
BMW-2S	-	4/6/2022	10/27/2022	2
LMW-1S	-	4/8/2022	10/27/2022	2
LMW-2S	-	4/6/2022	10/25/2022	2
LMW-4S	-	4/8/2022	10/25/2022	2
LMW-7S	-	4/8/2022	10/28/2022	2
LMW-8S	-	4/8/2022	10/27/2022	2
MW-24	-	4/7/2022	10/24/2022	2
MW-26	-	4/7/2022	10/24/2022	2
S-1	2/10/2022	4/11/2022	10/26/2022	3
TP-1D	-	4/11/2022	10/26/2022	2
TP-2M	-	4/11/2022	10/26/2022	2
TP-2D	-	4/11/2022	10/26/2022	2
TP-3M	-	4/7/2022	10/28/2022	2
TP-3D	-	4/7/2022	10/28/2022	2
TP-4D	-	4/7/2022	10/24/2022	2
MW-33(D)	-	4/7/2022	10/28/2022	2
MW-34(D)	-	4/7/2022	10/28/2022	2
MW-35(D)	-	4/7/2022	10/24/2022	2
AMW-8	-	4/8/2022	10/26/2022	2
AM-1D (UMW-10D)	-	4/11/2022	10/26/2022	2
AM-1S (UMW-10S)	-	4/11/2022	10/26/2022	2
Event Type	Corrective Action	Corrective Action	Corrective Action	NA

Notes:

- 1.) Confirmatory sampling completed in February 2022 at S-1 for lithium for an outlier observed during the November 2021 sampling event.
- 2.) Corrective Action sampling results provided in Tables 12-15.
- 3.) "-" No sample collected.

Table 6
November 2021 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	PREDICTION LIMITS	BACKGROUND		GROUNDWATER MONITORING WELLS								
			BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
November 2021 Sampling Event													
DATE	NA	NA	11/1/2021	11/1/2021	11/2/2021	11/2/2021	11/3/2021	11/3/2021	11/2/2021	11/2/2021	11/4/2021	11/5/2021	11/5/2021
pH	SU	6.815-7.507	7.09	7.25	8.89	7.37	7.92	8.10	9.32	8.16	7.15	7.04	7.03
BORON, TOTAL	µg/L	DQR	72.6 J	63.0 J	611	1,040	10,300	3,460	7,940	13,200	2,220	6,170	95.7 J
CALCIUM, TOTAL	µg/L	150,175	133,000	149,000	156,000	124,000	140,000	65,500	78,400	126,000	165,000	143,000	117,000
CHLORIDE, TOTAL	mg/L	17.29	7.4	3.0 J	11.1	26.6	19.1	5.0	18.8	19.9	5.7	8.4	24.8
FLUORIDE, TOTAL	mg/L	0.3163	0.20 J	0.21	0.21	0.35	0.28	0.42	0.19 J	ND	0.33	0.23	0.24
SULFATE, TOTAL	mg/L	54.83	23.5	39.2	39.2	115	396	377	271	514	58.3	336	ND
TOTAL DISSOLVED SOLIDS	mg/L	577	502 J	524 J	617	616	743	631	544	901	555	829	439
February 2022 Verification Sampling Event													
DATE	NA	NA			2/10/2022			2/9/2022			2/10/2022		
pH	SU	6.815-7.507			6.87								
BORON, TOTAL	µg/L	DQR											
CALCIUM, TOTAL	µg/L	150,175			150,000								
CHLORIDE, TOTAL	mg/L	17.29											
FLUORIDE, TOTAL	mg/L	0.3163									0.18 J		
SULFATE, TOTAL	mg/L	54.83											
TOTAL DISSOLVED SOLIDS	mg/L	577						580					

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: EMS
Checked By: BTT
Reviewed By: MNH

Table 7
April 2022 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	PREDICTION LIMITS	BACKGROUND		GROUNDWATER MONITORING WELLS								
			BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
April 2022 Detection Monitoring Event													
DATE	NA	NA	4/6/2022	4/6/2022	4/11/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/8/2022	4/6/2022	4/6/2022
pH	SU	6.815-7.507	7.20	7.31	7.08	7.28	8.02	8.07	9.18	7.89	7.05	7.13	7.05
BORON, TOTAL	µg/L	DQR	85.8 J	79.0 J	504	1,030	10,700	3,150	13,400	12,400	1,920	2,780	106
CALCIUM, TOTAL	µg/L	150,175	134,000	123,000	141,000	125,000	70,000	58,500	94,500	135,000	154,000	105,000	112,000
CHLORIDE, TOTAL	mg/L	17.29	8.4	2.6	9.6	31.5	19.6	20.0	19.2 J	18.7	8.2	8.3	24.1
FLUORIDE, TOTAL	mg/L	0.3163	ND	0.19 J	0.27	ND	0.20	0.37	ND	ND	0.29	ND	0.19 J
SULFATE, TOTAL	mg/L	54.83	26.1	27.1	20.3	138	249	301	283	537	74	82	ND
TOTAL DISSOLVED SOLIDS	mg/L	577	504	451	788	636	509	580	636	950	610	577	458
June 2022 Verification Sampling Event													
DATE	NA	NA							6/22/2022		6/22/2022		6/22/2022
pH	SU	6.815-7.507											
BORON, TOTAL	µg/L	DQR											79.6 J
CALCIUM, TOTAL	µg/L	150,175											
CHLORIDE, TOTAL	mg/L	17.29											
FLUORIDE, TOTAL	mg/L	0.3163											
SULFATE, TOTAL	mg/L	54.83											
TOTAL DISSOLVED SOLIDS	mg/L	577							601		591		

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: BTT
Checked By: GTM
Reviewed By: MNH

Table 8
October 2022 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS								
		BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
October 2022 Detection Monitoring Event												
DATE	NA	10/27/2022	10/27/2022	10/26/2022	10/26/2022	10/27/2022	10/27/2022	10/25/2022	10/25/2022	10/27/2022	10/28/2022	10/27/2022
pH	SU	7.09	7.23	7.01	7.38	7.58	8.16	9.21	8.50	6.97	7.20	6.94
BORON, TOTAL	µg/L	79.1 J	67.9 J	556	941	10,000	4,960	6,680 J	10,500 J	1,320	654	86.4 J
CALCIUM, TOTAL	µg/L	132,000	138,000	141,000	121,000	152,000	58,600	74,800 J	123,000 J	140,000	26,400	114,000
CHLORIDE, TOTAL	mg/L	7.3	2.4	10.6	28.0	17.9	21.2	22.1	21.8	6.9	3.4 J	25.5
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	0.22
SULFATE, TOTAL	mg/L	22.5	45.5	20.0	128	413	289	272 J	511 J	58.9	17.2	ND
TOTAL DISSOLVED SOLIDS	mg/L	504	495	609	643	762	545	558 J	1,080 J	545	181	453

NOTES:

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

Prepared By: EMS
Checked By: JAB
Reviewed By: MNH

Table 9
November 2021 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS								
		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	11/1/2021	11/1/2021	11/2/2021	11/2/2021	11/3/2021	11/3/2021	11/2/2021	11/2/2021	11/4/2021	11/5/2021	11/5/2021
DISSOLVED OXYGEN	mg/L	0.27	0.18	8.13	0.51	0.16	0.39	0.32	0.59	0.11	4.22	0.94
pH	SU	7.09	7.25	8.89	7.37	7.92	8.10	9.32	8.16	7.15	7.04	7.03
REDOX POTENTIAL	mV	-108.4	-109.7	-93.3	-138.3	-165.0	-128.1	-79.6	-144.6	-108.8	-164.5	-151.2
SPECIFIC CONDUCTIVITY	mS/cm	0.840	0.817	1.061	0.983	0.968	0.874	0.727	1.105	0.921	1.277	0.877
TURBIDITY	NTU	1.21	3.96	1.12	4.25	2.16	2.61	2.13	0.83	1.38	1.25	1.90
APPENDIX IV PARAMETERS												
ARSENIC, TOTAL	µg/L	2.1	31.8	46.6	1.2	1.8	0.11 J	19.1	14.6	25.1	27.0	29.4
BARIUM, TOTAL	µg/L	1,090	343	539	138	110	84.0	76.9	112	81.5	111	491
CHROMIUM, TOTAL	µg/L	0.35 J	0.37 J	0.28 J	0.33 J	0.25 J	ND	0.29 J	ND	0.30 J	ND	0.29 J
FLUORIDE, TOTAL	mg/L	0.20 J	0.21	0.21	0.35	0.28	0.42	0.19 J	ND	0.33	0.23	0.24
LITHIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	30.0	19.6	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	ND	2.7 J	3.5 J	36.5	166	124	584	518	131	77.6	ND
RADIUM [226 + 228]	pCi/L	2.050	2.077	1.983	3.417 J	ND	1.893	4.861	ND	2.098 J	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	0.18 J	0.18 J	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.
6. Statistical Analysis for the November 2021 Assessment Monitoring data is provided in Appendix B.

Table 10
April 2022 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS									
		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	4/6/2022	4/6/2022	4/11/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/6/2022	4/8/2022	4/6/2022	4/6/2022
DISSOLVED OXYGEN	mg/L	0.07	0.04	0.10	0.59	0.57	0.31	0.24	0.31	0.17	0.05	0.06	
pH	SU	7.20	7.31	7.08	7.28	8.02	8.07	9.18	7.89	7.05	7.13	7.05	
REDOX POTENTIAL	mV	-104.8	-109.0	-40.4	-139.8	-157.2	-131.2	-134.6	-193.8	-147.1	-139.1	-110.2	
SPECIFIC CONDUCTIVITY	mS/cm	0.852	0.727	0.945	0.941	0.693	0.803	0.802	1.227	0.974	0.931	0.843	
TURBIDITY	NTU	1.70	4.46	1.20	4.27	2.06	1.36	1.84	0.81	2.58	6.20	1.81	
APPENDIX IV PARAMETERS													
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ARSENIC, TOTAL	µg/L	1.3	28.1	42.3	1.2	7.0	ND	20.7	9.2	25.5	32.2	28.5	
BARIUM, TOTAL	µg/L	1,070	309	509	140	51.6	72.0	94.6	108	94.8	145	495	
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	0.079 J	ND	0.21 J	0.15 J	ND	ND	ND	
CHROMIUM, TOTAL	µg/L	ND	ND	0.32 J	ND	ND	ND	ND	ND	0.56 J	ND	ND	
COBALT, TOTAL	µg/L	ND	ND	2.7 J	ND	ND	ND	ND	ND	ND	ND	ND	
FLUORIDE, TOTAL	mg/L	ND	0.19 J	0.27	ND	0.20	0.37	ND	ND	0.29	ND	0.19 J	
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
LITHIUM, TOTAL	µg/L	32.0	45.3	28.0	32.2	17.9	28.5	18.9	9.3 J	25.0	31.2	18.1	
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MOLYBDENUM, TOTAL	µg/L	ND	1.7 J	ND	34.3	276	129	735	537	107	15.1 J	ND	
RADIUM [226 + 228]	pCi/L	2.118	ND	ND	1.905	ND	1.282 J	ND	0.768 J	ND	ND	ND	
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	0.30 J	ND	0.19 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.
6. Statistical Analysis for the April 2022 Assessment Monitoring Data is provided in Appendix C.

Prepared By: GTM
Checked By: EMS
Reviewed By: MNH

Table 11
October 2022 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BACKGROUND		GROUNDWATER MONITORING WELLS								
		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	10/27/2022	10/27/2022	10/26/2022	10/26/2022	10/27/2022	10/27/2022	10/25/2022	10/25/2022	10/27/2022	10/28/2022	10/27/2022
DISSOLVED OXYGEN	mg/L	0.22	0.45	0.16	0.44	1.00	0.35	0.37	0.29	0.15	0.10	0.15
pH	SU	7.09	7.23	7.01	7.38	7.58	8.16	9.21	8.50	6.97	7.20	6.94
REDOX POTENTIAL	mV	56.3	60.8	-214.3	-194.8	-168.3	-153.2	-92.9	-9.2	-134.9	-175.6	-155.7
SPECIFIC CONDUCTIVITY	mS/cm	0.917	0.862	1.040	0.998	1.160	0.830	0.759	1.247	0.942	0.305	0.865
TURBIDITY	NTU	3.45	4.58	4.16	4.99	1.74	1.85	1.32	0.95	1.12	10.3	1.48
APPENDIX IV PARAMETERS												
ARSENIC, TOTAL	µg/L	2.3	33.9	41.9	1.1	0.95 J	ND	20.4	25.9 J	25.6	23.2	27.9
BARIUM, TOTAL	µg/L	1,070	320	488	132	110	70.7	64.5 J	104 J	96.3	75.8	493
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	0.42	0.22
LITHIUM, TOTAL	µg/L	30.8	45.5	28.1	27.0	26.7	28.6	20.0 J	11.4 J	26.6	13.1	18.5
MOLYBDENUM, TOTAL	µg/L	1.9 J	1.4 J	2.9 J	30.5	173	263	451 J	575	89.9	18.5 J	1.8 J
RADIUM [226 + 228]	pCi/L	1.927	ND	2.013	1.522	1.248	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.19 J	0.21 J	0.29 J	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.

**Table 12
November 2021 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	11/1/2021	11/1/2021	11/4/2021	11/2/2021	11/3/2021	11/5/2021	11/5/2021	11/4/2021	11/4/2021	11/2/2021	11/2/2021	11/4/2021	11/4/2021	11/4/2021	11/3/2021	11/3/2021	11/3/2021	11/3/2021	11/3/2021	11/4/2021	11/3/2021	11/2/2021
DISSOLVED OXYGEN	mg/L	0.57	4.69	0.33	0.49	0.60	0.17	0.59	0.77	0.87	0.56	0.13	3.57	0.19	7.39	0.65	0.37	0.51	0.61	0.47	0.55	1.06	0.13
REDOX POTENTIAL	mV	-63.5	21.4	-44.4	-66.1	-107.0	-43.3	-96.8	114.7	34.9	10.6	-104.3	-117.5	-128.9	-117.5	-136.0	-158.1	-142.2	-147.9	-141.2	-135.1	-154.5	-156.6
SPECIFIC CONDUCTIVITY	mS/cm	1.480	0.739	0.834	0.664	1.079	1.209	1.246	0.777	0.788	0.817	1.536	0.865	0.807	0.793	0.877	1.171	0.888	0.931	0.904	1.084	0.748	1.159
TURBIDITY	NTU	1.18	0.36	4.40	1.17	9.20	5.22	4.60	2.98	3.46	1.67	6.20	1.25	0.73	2.40	0.56	0.57	0.41	2.07	0.77	0.89	4.13	4.78
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	77.0 J	40.7 J	3,970	3,180	8,060	7,540	4,990	96.8 J	68.7 J	74.0 J	262	79.6 J	2,580	1,930	6,550	10,400	6,680	9,640	10,100	8,700	6,150	7,500
CALCIUM, TOTAL	µg/L	260,000	140,000	147,000	68,700	131,000	181,000	169,000	141,000	146,000	146,000	201,000	143,000	94,300	94,000	93,100	108,000	128,000	84,100	87,500	130,000	64,700	120,000
CHLORIDE, TOTAL	mg/L	13.7	1.7 J	2.5 J	17.8	22.8	18.6	12.0	5.0 J	6.2 J	1.1 J	164	4.5 J	22.4	22.9	18.9	25.2	14.3	25.3	23.5	18.2	ND	44.8
pH	SU	6.68	6.97	6.93	9.48	6.97	6.73	7.12	6.74	6.81	6.75	6.78	6.94	7.48	7.64	7.01	7.33	7.09	7.28	7.21	7.10	7.64	7.38
SULFATE, TOTAL	mg/L	146	46.2	114	255	208	215	383	29.8	29.3	21.7	24.9	12.9	158	152	246	469 J	166	328	270	410	271	377
TOTAL DISSOLVED SOLIDS	mg/L	953 J	475 J	547	473	722	799	850	513	490	505	851	521	525	520	561	860	637	ND	661	855	536	790
APPENDIX IV PARAMETERS																							
ARSENIC, TOTAL	µg/L	38.4	0.52 J	6.1	45.5	23.8	6.8	7.9	0.58 J	0.50 J	0.71 J	7.8	1.4	0.61 J	11.1	0.34 J	7.7	7.7	2.5	3.6	0.16 J	0.56 J	2.9
BARIUM, TOTAL	µg/L	412	245	118	44.3	151	271	126	199	216	352	655	1,430	123	117	219	72.7	431	105	88.4	43.6	192	75.6
CHROMIUM, TOTAL	µg/L	0.33 J	0.25 J	0.29 J	0.25 J	0.45 J	0.40 J	0.24 J	0.34 J	0.33 J	0.34 J	0.24 J	0.32 J	0.27 J	0.25 J	0.33 J	0.33 J	ND	ND	0.31 J	ND	0.40 J	0.34 J
FLUORIDE, TOTAL	mg/L	ND	0.14 J	0.18 J	0.15 J	0.25 J	0.19 J	0.43	0.14 J	0.24	0.15 J	ND	0.17 J	0.42	0.39	0.36	ND	0.19 J	0.31	0.27	0.25	0.33	0.32
LITHIUM, TOTAL	µg/L	ND	ND	ND	11.5	ND	ND	ND	ND	ND	ND	ND	ND	32.8	42.0	30.9	ND	ND	32.6	34.0	ND	16.2	ND
MOLYBDENUM, TOTAL	µg/L	2.3 J	2.6 J	4.3 J	164	142	76.1	190	2.9 J	ND	ND	6.5 J	5.1 J	92.3	129	424	531	4.0 J	917	960	584	291	311
RADIUM [226 + 228]	pCi/L	2.496	ND	ND	ND	ND	2.789	ND	ND	ND	ND	ND	4.310	ND	ND	ND	ND	2.082	1.890	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	2.9	ND	0.21 J	ND	ND	ND	3.6	2.9 J	0.27 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																							
ALKALINITY	mg/L	696	357	332	30.9	344	416	249	415	390	427	537	472	222	232	188	110	291	110	159	159	64.6	152
IRON, TOTAL	µg/L	29,800	ND	2,270	ND	8,510	2,820	4,230	81.9	43.7 J	132	12,800	7,890	2,830	3,440	6,750	4,790	5,580	4,300	4,840	5,300	8,930	5,620
MAGNESIUM, TOTAL	µg/L	57,800	20,400	24,900	87.0	25,500	37,100	29,000	28,000	26,300	20,100	37,700	35,100	14,400	17,100	20,500	23,700	33,100	18,200	21,200	27,600	10,100	15,500
MANGANESE, TOTAL	µg/L	2,940	4.3 J	979	1.0 J	1,690	1,570	2,030	60.2	464	664	2,500	220	398	309	1,020	180	336	219	219	383	313	305
POTASSIUM, TOTAL	µg/L	5,850	5,460	4,220	9,350	6,880	7,320	6,360	5,800	4,310	25,400	7,290	4,170	6,520	5,620	5,040	6,910	4,800	6,660	6,460	5,540	5,880	8,650
SODIUM, TOTAL	µg/L	24,900	3,990	9,430	66,300	91,300	48,700	63,700	8,420	6,070	3,330	81,600	13,200	65,500	59,800	73,700	126,000	28,500	91,800	78,200	97,500	79,000	121,000

NOTES

- 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.
- J - Result is an estimated value.
- 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.
- 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.
- NA - Not Applicable.
- Statistical Analysis for the November 2021 Corrective Action Data is provided in Appendix D.

Table 13
April 2022 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	4/6/2022	4/6/2022	4/8/2022	4/6/2022	4/8/2022	4/8/2022	4/8/2022	4/7/2022	4/7/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/11/2022	4/7/2022	4/7/2022	4/7/2022	4/7/2022	4/7/2022	4/7/2022	4/8/2022	4/11/2022
DISSOLVED OXYGEN	mg/L	0.05	0.16	0.11	0.09	0.05	0.09	0.13	6.06	0.41	0.10	0.14	0.13	0.12	0.13	0.07	0.05	0.11	0.15	0.26	0.25	0.99	0.27
REDOX POTENTIAL	mV	-78.8	-25.3	-87.1	53.5	-93.9	-72.7	-102.9	168.6	61.4	18.9	12.3	-117.6	-52.2	-63.7	-69.5	-93.5	-32.9	-81.2	-147.1	-141.7	-149.3	-46.6
SPECIFIC CONDUCTIVITY	mS/cm	1.363	0.753	0.748	0.679	1.188	1.129	1.510	0.748	0.791	0.779	1.334	0.832	0.794	0.755	0.887	1.169	0.900	0.927	0.895	1.075	0.778	1.065
TURBIDITY	NTU	3.76	0.47	9.50	0.37	8.50	6.55	8.09	1.26	2.92	1.88	4.88	1.95	0.36	0.50	0.85	1.10	0.42	0.91	1.34	0.40	7.38	1.09
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	109	55.2 J	1,130	3,330	8,240	10,700	7,890	78.7 J	96.8 J	114	306	79.6 J	1,820	1,820	5,400	10,400	6,900	9,760	10,200	8,640	5,960	8,050
CALCIUM, TOTAL	µg/L	221,000	138,000	116,000	69,700	127,000	136,000	194,000	127,000	140,000	138,000	194,000	135,000	97,400	92,800	102,000	101,000	125,000	82,500	97,100	128,000	63,400	109,000
CHLORIDE, TOTAL	mg/L	2.5 J	2.5 J	3.5 J	17.4 J	23.3	20.8	17.6	3.7	5.9 J	4.9 J	138	3.8 J	24.4	24.2	18.5	23.7	14.6	21.3	19.3	16.9	20.1	36.4 J
pH	SU	7.10	7.06	6.95	9.28	7.09	6.80	7.00	6.76	6.94	6.95	6.72	6.88	7.47	7.40	6.88	7.27	6.88	7.24	7.29	7.18	7.77	7.20
SULFATE, TOTAL	mg/L	38.6	45.7	65.5	263	220	274	537	28.1	29.0	14.1	22.3	18.4	164	152	190	434	177	322	257	353	248	371 J
TOTAL DISSOLVED SOLIDS	mg/L	828 J	513 J	492	474 J	765	795	1,080	482	498	671	913	662	602	647	1,840	855	630	657	644	797	546	878
APPENDIX IV PARAMETERS																							
ANTIMONY, TOTAL	µg/L	ND	0.29 J	ND	ND	ND	ND	ND	0.14 J	0.13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	31.7	0.45 J	8.0	45.4	35.7	15.5	11.4	0.54 J	0.44 J	0.60 J	3.0	1.2	0.49 J	11.4	0.45 J	7.9	7.3	1.4	3.5	0.14 J	0.45 J	2.6
BARIUM, TOTAL	µg/L	358	264	108	44.9	175	234	137	168	195	363	592	1,380	127	117	244	72.6	436	103	96.3	46.4	132	76.4
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	0.055 J	0.058 J	ND	0.061 J	0.059 J	0.089 J	ND	ND	0.088 J	0.14 J	ND	ND	ND	0.091 J	0.13 J	ND	0.23 J	0.24 J	0.14 J	0.084 J	0.090 J
CHROMIUM, TOTAL	µg/L	0.47 J	0.36 J	0.33 J	ND	0.37 J	0.73 J	ND	0.46 J	ND	0.37 J	0.48 J	0.51 J	0.38 J	0.44 J	0.34 J	ND	ND	0.87 J	0.32 J	ND	ND	0.33 J
COBALT, TOTAL	µg/L	0.83 J	ND	ND	ND	1.8 J	3.8 J	3.1 J	ND	ND	3.9 J	5.8	6.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.20 J	0.19 J	0.22	0.16 J	0.29	0.26	0.30	0.18 J	ND	1.7	0.20 J	ND	0.47	0.45	ND	ND	ND	0.38	0.31	0.29	0.37	0.40
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	23.8	21.8	13.9	12.7	40.8	41.8	26.4	17.8	31.6	29.0	36.1	25.0	32.9	41.8	33.8	34.9	25.1	33.6	36.9	30.3	15.6	35.2
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	1.7 J	3.9 J	162	131	80.7	177	ND	ND	ND	2.9 J	ND	77.1	123	300	481	2.7 J	813	789	480	262	301
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.360	ND	ND	ND	1.878	2.778	ND	1.491	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	26.3	1.8	ND	0.43 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	ND	403	335	34.3	397	287	340	402	414	453	551	476	245	239	260	119	311	122	198	228	86.6	139
IRON, FERRIC, TOTAL	mg/L	24.4	0.006 J	3.5	0.006 J	11.3	4.8	6.9	0.010 J	ND	0.076	4.4	7.6	2.8	3.3	7.0	4.2	5.4	4.0	5.0	5.3	3.9	4.6
IRON, FERROUS, TOTAL	mg/L	0.40 J	ND	ND	ND	0.74 J	0.14 J	0.12 J	ND	ND	ND	ND	0.23 J	ND	0.064 J	0.34 J	0.23 J	0.18 J	0.20 J	0.18 J	0.17 J	0.18 J	0.54
IRON, TOTAL	µg/L	24,800	ND	3,560	ND	12,000	4,910	7,050	ND	ND	76.4	4,400	7,780	2,840	3,370	7,350	4,430	5,600	4,190	5,190	5,440	4,070	5,150
MAGNESIUM, TOTAL	µg/L	53,100	20,900	20,900	89.9	27,100	30,500	33,800	25,900	26,300	21,300	37,400	32,300	14,600	16,600	21,900	22,800	32,700	18,100	23,500	29,100	8,830	13,700
MANGANESE, TOTAL	µg/L	2,740	6.4	878	ND	1,880	1,410	2,550	11.2	115	651	1,390	221	411	305	1,260	178	335	239	252	416	290	282
POTASSIUM, TOTAL	µg/L	5,920	5,790	3,730	9,260	6,960	6,860	7,960	4,280	4,040	28,100	7,200	4,180	6,740	5,750	5,000	6,750	4,730	6,130	6,720	5,410	6,130	8,630
SODIUM, TOTAL	µg/L	20,700	4,340	7,600	64,000	92,400	59,000	90,900	6,660	5,960	3,700	59,500	11,600	64,900	60,400	56,700	120,000	26,900	85,500	69,300	80,700	78,600	115,000
SULFIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.035 J	ND	ND

NOTES

- 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.
- J - Result is an estimated value.
- 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.
- 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.
- NA - Not Applicable.
- Statistical Analysis for the April 2022 Corrective Action Data is provided in Appendix E.

Prepared By: GTM
Checked By: EMS
Reviewed By: MNH

Table 14
October 2022 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	10/27/2022	10/27/2022	10/27/2022	10/25/2022	10/25/2022	10/28/2022	10/27/2022	10/24/2022	10/24/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/26/2022	10/28/2022	10/28/2022	10/24/2022	10/28/2022	10/28/2022	10/24/2022	10/26/2022	10/26/2022
DISSOLVED OXYGEN	mg/L	0.21	1.39	0.17	0.32	0.19	0.19	0.14	1.78	1.52	0.24	0.43	0.15	0.25	0.16	0.17	0.11	0.16	0.27	0.23	0.54	0.38	0.11
REDOX POTENTIAL	mV	63.5	99.0	-48.9	-61.1	92.2	-22.2	-69.7	114.6	150.9	116.2	-125.4	86.6	-201.9	-215.2	101.5	96.4	62.5	93.9	-136.1	-123.3	67.7	-215.1
SPECIFIC CONDUCTIVITY	mS/cm	1.310	0.861	0.722	0.741	1.101	1.275	0.681	0.831	0.829	1.019	1.254	0.919	0.856	0.828	0.990	1.128	0.907	1.209	0.995	1.116	0.789	1.098
TURBIDITY	NTU	4.62	4.48	3.42	2.54	9.86	4.28	9.81	1.29	3.56	2.03	6.63	2.34	1.90	2.83	0.86	0.67	1.14	1.05	0.46	0.88	4.83	4.79
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	91.2 J	45.3 J	2,240	3,250	5,490	7,050	2,760	71.1 J	68.3 J	75.1 J	316	60.6 J	1,350	1,620	5,050	9,470	6,860	9,220	9,580	7,710	5,770	8,070
CALCIUM, TOTAL	µg/L	185,000	146,000	108,000	75,900	139,000	185,000	82,700	123,000	128,000	144,000	166,000	138,000	70,900	92,500	103,000	90,500	120,000	108,000	101,000	119,000	61,400	97,400
CHLORIDE, TOTAL	mg/L	5.9	1.4	4.9	15.8	39.5	17.5	3.2 J	5.7 J	10.3 J	1.8 J	35.9	3.5 J	25.0	25.0	19.2	23.8	15.2	21.1	19.5	16.7	22.2	36.9 J
pH	SU	6.68	6.95	6.97	9.52	6.80	6.57	7.10	6.77	6.80	6.75	6.82	7.04	7.33	7.39	7.00	7.50	7.07	7.36	7.08	7.17	7.61	7.38
SULFATE, TOTAL	mg/L	66.5	34.4	74.3	299	174	202	93.1	29.6	31.3	17.5	5.1	17.9	163	154	197	527	171	425	267	399 J	236	353
TOTAL DISSOLVED SOLIDS	mg/L	710	496	430	556	756	829	404	487	493	520	755	545	588	1,320	608	814	627	801	666	779	534	807
APPENDIX IV PARAMETERS																							
ARSENIC, TOTAL	µg/L	22.8	0.40 J	3.5	46.0	19.3	7.8	9.2	0.58 J	0.48 J	0.68 J	11.0	1.3	0.63 J	10.7	0.36 J	7.5	8.1	3.4	3.4	0.15 J	0.17 J	3.7
BARIUM, TOTAL	µg/L	315	271	88.2	48.4	142	280	90.1	169	184	362	577	1,410	89.5	113	236	62.3	384	130	94.1	42.6	107	61.2
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	4.0 J	ND	ND	ND	2.1 J	3.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	0.13 J	ND	0.54	ND	ND	ND	ND	ND	0.15 J	0.14 J	ND	ND	0.15 J	ND	ND	0.18 J	ND	ND
LITHIUM, TOTAL	µg/L	16.8	19.6	11.2	13.0	35.4	49.0	15.7	21.1	24.3	22.8	33.5	25.3	25.3	38.0	30.9	31.7	24.0	34.0	35.1	25.7	18.0	38.9
MOLYBDENUM, TOTAL	µg/L	ND	2.2 J	ND	218	87.7	59.7	99.2	ND	ND	ND	ND	ND	62.1	110	296	481	ND	792	762	442	269	321
RADIUM [226 + 228]	pCi/L	1.479	ND	ND	ND	ND	ND	ND	ND	ND	1.961	ND	3.065	2.391	1.701	ND	ND	2.183 J	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	5.1	5.7	0.24 J	0.46 J	ND	1.8	31.8	5.6	4.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																							
ALKALINITY	mg/L	625	404	311	35.1	398	493	266	417	410	464	672	6.6 J	254	254	262	117	309	109	200	274	102	147
IRON, TOTAL	µg/L	30,500	ND	1,270	17.4 J	6,370	2,430	2,310	14.1 J	7.5 J	62.9	14,200	8,450	2,120	3,430	8,200	4,220	5,270	5,240	5,670	5,360	2,390	4,830
MAGNESIUM, TOTAL	µg/L	37,200	21,300	18,300	103	24,000	38,800	14,000	24,400	23,200	20,400	33,700	34,300	10,300	16,100	21,900	19,800	30,700	22,000 J	23,700	26,800	10,200	11,900
MANGANESE, TOTAL	µg/L	2,320	ND	647	ND	1,380	1,840	389	ND	68.9	527	2,780	234	299	302	1,240	158	318	275	256	393	294	248
POTASSIUM, TOTAL	µg/L	4,940	5,400	3,600	9,690	6,150	7,900	4,450	5,090	4,180	28,200	6,180	4,240	5,040	5,520	5,020	6,690	4,570	7,390	6,880	5,170	5,350	8,950
SODIUM, TOTAL	µg/L	15,500	4,130	8,040	69,000	67,700	44,200	38,200	7,100	5,270	2,920	50,300	11,500	48,700	58,200	59,300	119,000	28,300	99,400	71,700	75,900	81,400	104,000

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.

Table 15
November 2021 Re-testing and February 2022 Confirmatory Sampling Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Monitoring Network	Well ID	Sample Date	Units	Lithium, Total		Molybdenum, Total	
				Result	PQL	Result	PQL
Assessment Monitoring	BMW-1D	11/1/2021	µg/L	29.7	20.0	-	-
	BMW-2D	11/1/2021	µg/L	45.7	20.0	-	-
	UMW-1D	11/2/2021	µg/L	27.8	20.0	-	-
	UMW-2D	11/2/2021	µg/L	28.7 J	20.0	-	-
	UMW-3D(R) ⁵	2/9/2022	µg/L	25.5 J	30.0	-	-
	UMW-5D ⁵	2/9/2022	µg/L	-	-	188	20.0
	UMW-6D	11/2/2021	µg/L	ND	20.0	-	-
	UMW-7D ⁵	2/10/2022	µg/L	ND	30.0	-	-
	UMW-8D ⁵	2/10/2022	µg/L	25.6	10.0	64.8	20.0
	UMW-9D ⁵	2/10/2022	µg/L	15.5 J	20.0	-	-
Corrective Action Monitoring	AM-1D	11/2/2021	µg/L	35.0	30.0	-	-
	AM-1S	11/2/2021	µg/L	37.5 J	30.0	-	-
	BMW-1S	11/1/2021	µg/L	ND	30.0	-	-
	BMW-2S	11/1/2021	µg/L	ND	30.0	-	-
	LMW-1S	11/4/2021	µg/L	ND	30.0	-	-
	LMW-4S	11/3/2021	µg/L	29.0 J	30.0	-	-
	LMW-7S	11/5/2021	µg/L	43.9	30.0	-	-
	LMW-8S	11/5/2021	µg/L	ND	30.0	-	-
	MW-24	11/4/2024	µg/L	26.2 J	30.0	-	-
	MW-26	11/4/2021	µg/L	28.5 J	30.0	-	-
	MW-35(D)	11/4/2021	µg/L	25.7 J	30.0	-	-
	S-1 ⁵	2/10/2022	µg/L	18.1 J	20.0	-	-
	TP-1D	11/4/2021	µg/L	24.4 J	30.0	-	-
	TP-3D	11/3/2021	µg/L	33.1 J	30.0	-	-
TP-4D	11/3/2021	µg/L	ND	30.0	-	-	

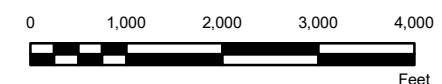
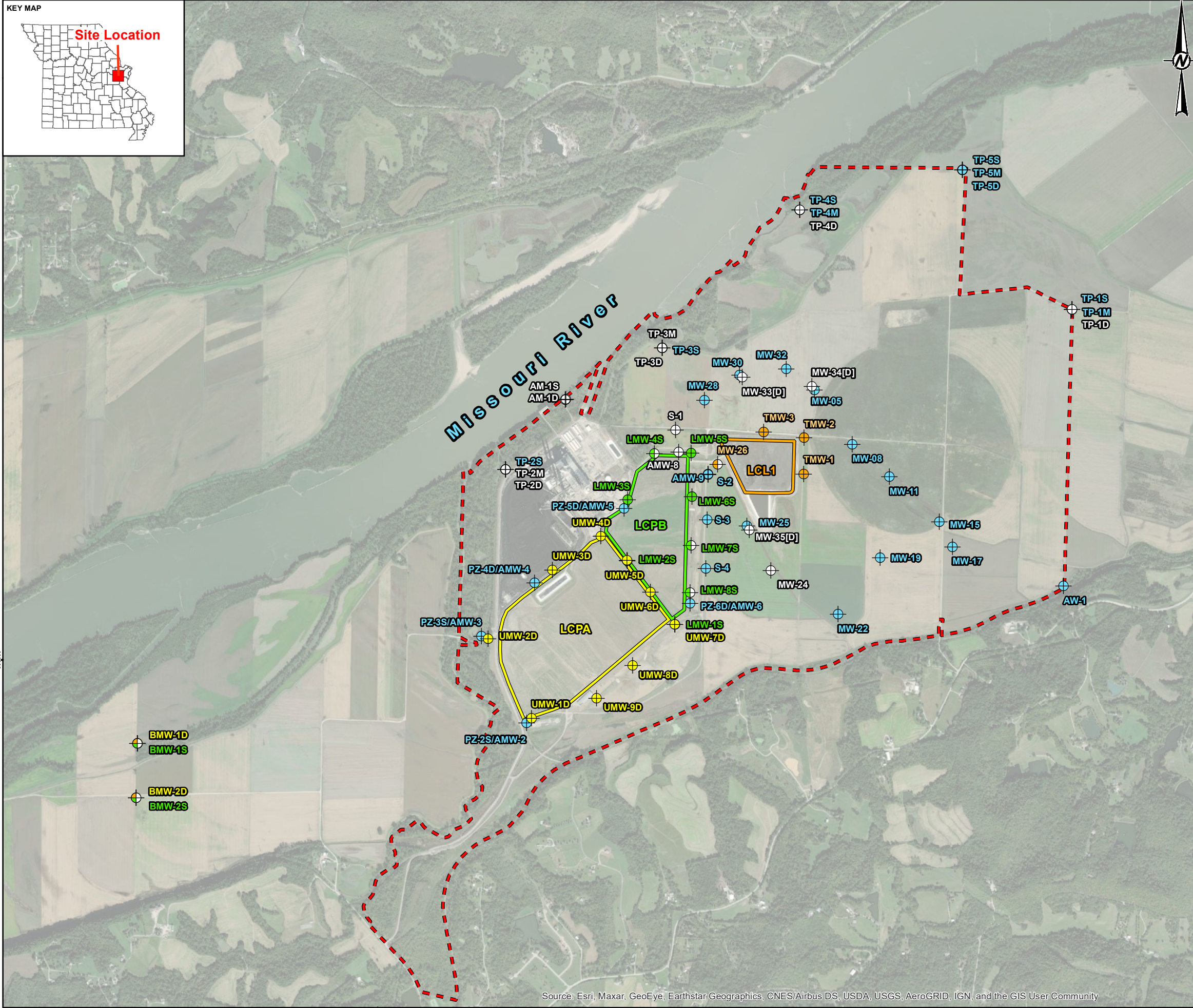
NOTES:

1. Unit Abbreviations: µg/L - micrograms per liter.
2. "-" No confirmatory sample collected or no sample re-analyzed.
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. J - Result is an estimated value.
5. Confirmatory sampling in February 2022 due to the laboratory not having sufficient remaining sample volume to re-analyze the samples collected in November 2021.

Figures



- 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



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

REFERENCE(S)
1.) ZAHNER AND ASSOCIATES, INC. 2016. LOT CONSOLIDATION PLAT OF "LABADIE ENERGY CENTER" - PREPARED FOR AMEREN MISSOURI. REVISED JUNE 15, 2016.
2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2,401 FEET.

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
GROUNDWATER MONITORING PROGRAM



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

CONSULTANT	YYYY-MM-DD	2022-01-20
DESIGNED	JSI	
PREPARED	ETF	
REVIEWED	BTT	
APPROVED	MNH	

PROJECT NO. 153140604 CONTROL 1240 FIGURE 1

P:\14 - C:\Users\jgolder\Documents\153140604 - Ameren CCR GW Monitoring Program 2020 - APFS Technical\153140604 - LECIS & Figures\Drawings\PRODUCTION\Other Maps\Figures 1 - 2023 LEC-A1 Well Map.mxd PRINTED ON: 2023-01-19 AT: 8:24:56 PM

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

APPENDIX A

Laboratory Analytical Data

March 01, 2022

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

RE: Project: AMEREN LCPA
Pace Project No.: 60385384

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between November 03, 2021 and November 06, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

REV-1, 3/1/21: Lithium reanalyzed at lower dilution to meet action limit.

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN LCPA

Pace Project No.: 60385384

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-19-12

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60385384001	L-UMW-1D	Water	11/02/21 10:02	11/03/21 03:48
60385384002	L-UMW-2D	Water	11/02/21 14:35	11/03/21 03:48
60385384003	L-UMW-5D	Water	11/02/21 14:00	11/03/21 03:48
60385384004	L-UMW-6D	Water	11/02/21 11:16	11/03/21 03:48
60385384005	L-UMW-FB-1	Water	11/02/21 11:30	11/03/21 03:48
60385384006	L-BMW-1D	Water	11/01/21 10:35	11/03/21 03:48
60385384007	L-BMW-2D	Water	11/01/21 14:40	11/03/21 03:48
60385384008	L-UMW-DUP-1	Water	11/01/21 00:00	11/03/21 03:48
60385384009	L-UMW-MS-1	Water	11/01/21 10:02	11/03/21 03:48
60385384010	L-UMW-MSD-1	Water	11/01/21 10:02	11/03/21 03:48
60385384011	L-UMW-3D	Water	11/03/21 16:05	11/06/21 05:30
60385384012	L-UMW-4D	Water	11/03/21 13:37	11/06/21 05:30
60385384013	L-UMW-7D	Water	11/04/21 09:27	11/06/21 05:30
60385384014	L-UMW-8D	Water	11/05/21 10:00	11/06/21 05:30
60385384015	L-UMW-9D	Water	11/05/21 11:03	11/06/21 05:30
60385384016	L-UMW-DUP-2	Water	11/04/21 00:00	11/06/21 05:30
60385384017	L-UMW-FB-2	Water	11/03/21 14:00	11/06/21 05:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385384001	L-UMW-1D	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385384002	L-UMW-2D	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	ALH	3	PASI-K
60385384003	L-UMW-5D	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	ALH	3	PASI-K
60385384004	L-UMW-6D	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385384005	L-UMW-FB-1	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385384006	L-BMW-1D	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385384007	L-BMW-2D	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385384008	L-UMW-DUP-1	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
60385384009	L-UMW-MS-1	EPA 904.0	JC2	1	PASI-PA
		EPA 903.1	SLC	1	PASI-PA
60385384010	L-UMW-MSD-1	EPA 904.0	JC2	1	PASI-PA
60385384011	L-UMW-3D	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
60385384012	L-UMW-4D	EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385384013	L-UMW-7D	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385384014	L-UMW-8D	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385384015	L-UMW-9D	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385384016	L-UMW-DUP-2	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385384017	L-UMW-FB-2	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K

PASI-I = Pace Analytical Services - Indianapolis

PASI-K = Pace Analytical Services - Kansas City

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
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PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-1D **Lab ID: 60385384001** Collected: 11/02/21 10:02 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	539	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:18	7440-39-3	
Boron	611	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:18	7440-42-8	
Calcium	156000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:32	7440-70-2	
Iron	18900	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:18	7439-89-6	
Lithium	27.8	ug/L	20.0	15.3	2	02/08/22 13:08	02/09/22 18:00	7439-93-2	
Magnesium	37700	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:18	7439-95-4	
Manganese	429	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:18	7439-96-5	
Molybdenum	3.5J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:18	7439-98-7	
Potassium	6640	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:18	7440-09-7	
Sodium	25900	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:18	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	46.6	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 11:58	7440-38-2	
Chromium	0.28J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 11:58	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 11:58	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	498	mg/L	2.0	2.0	1		11/10/21 12:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	617	mg/L	10.0	10.0	1		11/09/21 09:44		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	11.1	mg/L	1.0	0.39	1		11/19/21 12:33	16887-00-6	
Fluoride	0.21	mg/L	0.20	0.086	1		11/19/21 12:33	16984-48-8	
Sulfate	39.2	mg/L	5.0	2.1	5		11/19/21 13:13	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-2D **Lab ID: 60385384002** Collected: 11/02/21 14:35 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Barium	138	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:25	7440-39-3	
Boron	1040	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:25	7440-42-8	
Calcium	124000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:38	7440-70-2	
Iron	3580	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:25	7439-89-6	
Lithium	28.7	ug/L	20.0	15.3	2	02/08/22 13:08	02/09/22 18:08	7439-93-2	
Magnesium	25300	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:25	7439-95-4	
Manganese	396	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:25	7439-96-5	
Molybdenum	36.5	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:25	7439-98-7	
Potassium	7680	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:25	7440-09-7	
Sodium	67800	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:25	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	1.2	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:06	7440-38-2	
Chromium	0.33J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:06	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:06	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	385	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	616	mg/L	10.0	10.0	1		11/09/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	26.6	mg/L	5.0	1.9	5		11/17/21 12:30	16887-00-6	M1,R1
Fluoride	0.35	mg/L	0.20	0.086	1		11/17/21 03:44	16984-48-8	L2
Sulfate	115	mg/L	10.0	4.2	10		11/16/21 23:51	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-5D **Lab ID: 60385384003** Collected: 11/02/21 14:00 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	76.9	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:27	7440-39-3	
Boron	7940	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:27	7440-42-8	
Calcium	78400	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 16:27	7440-70-2	
Iron	32.0J	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:27	7439-89-6	
Lithium	19.6	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 16:27	7439-93-2	
Magnesium	79.9	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:27	7439-95-4	
Manganese	9.4	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:27	7439-96-5	
Molybdenum	584	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:27	7439-98-7	
Potassium	13500	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:27	7440-09-7	
Sodium	79800	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:27	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	19.1	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:08	7440-38-2	
Chromium	0.29J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:08	7440-47-3	
Selenium	0.18J	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:08	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	64.7	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	544	mg/L	10.0	10.0	1		11/09/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	18.8	mg/L	2.0	0.78	2		11/17/21 01:04	16887-00-6	
Fluoride	0.19J	mg/L	0.20	0.086	1		11/17/21 00:46	16984-48-8	L2
Sulfate	271	mg/L	20.0	8.4	20		11/17/21 01:23	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-6D **Lab ID: 60385384004** Collected: 11/02/21 11:16 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	112	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:29	7440-39-3	
Boron	13200	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:29	7440-42-8	
Calcium	126000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:40	7440-70-2	
Iron	568	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:29	7439-89-6	
Lithium	<15.3	ug/L	20.0	15.3	2	02/08/22 13:08	02/09/22 18:10	7439-93-2	D3
Magnesium	5500	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:29	7439-95-4	
Manganese	432	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:29	7439-96-5	
Molybdenum	518	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:29	7439-98-7	
Potassium	24100	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:29	7440-09-7	
Sodium	108000	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:29	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	14.6	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:10	7440-38-2	
Chromium	<0.23	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:10	7440-47-3	
Selenium	0.18J	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:10	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	49.1	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	901	mg/L	10.0	10.0	1		11/09/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.9	mg/L	1.0	0.39	1		11/19/21 13:53	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/19/21 13:53	16984-48-8	
Sulfate	514	mg/L	50.0	21.0	50		11/19/21 14:47	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-FB-1 **Lab ID: 60385384005** Collected: 11/02/21 11:30 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Barium	<1.8	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:31	7440-39-3	
Boron	9.9J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:31	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 16:31	7440-70-2	
Iron	<21.4	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:31	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 16:31	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:31	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:31	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:31	7439-98-7	
Potassium	<146	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:31	7440-09-7	
Sodium	<254	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:31	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	<0.11	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:11	7440-38-2	
Chromium	0.41J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:11	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:11	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	2.9	mg/L	2.0	2.0	1		11/10/21 10:58		
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		11/09/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	<0.39	mg/L	1.0	0.39	1		11/19/21 15:00	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/19/21 15:00	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/19/21 15:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-BMW-1D **Lab ID: 60385384006** Collected: 11/01/21 10:35 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	1090	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:33	7440-39-3	
Boron	72.6J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:33	7440-42-8	
Calcium	133000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:42	7440-70-2	
Iron	10700	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:33	7439-89-6	
Lithium	29.7	ug/L	20.0	15.3	2	02/08/22 13:08	02/09/22 18:18	7439-93-2	
Magnesium	29000	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:33	7439-95-4	
Manganese	650	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:33	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:33	7439-98-7	
Potassium	4320	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:33	7440-09-7	
Sodium	9720	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:33	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.1	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:13	7440-38-2	
Chromium	0.35J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:13	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:13	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	424	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	502	mg/L	10.0	10.0	1		11/09/21 09:38		H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	7.4	mg/L	1.0	0.39	1		11/19/21 15:13	16887-00-6	
Fluoride	0.20J	mg/L	0.20	0.086	1		11/19/21 15:13	16984-48-8	
Sulfate	23.5	mg/L	5.0	2.1	5		11/19/21 15:27	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-BMW-2D **Lab ID: 60385384007** Collected: 11/01/21 14:40 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	343	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:40	7440-39-3	
Boron	63.0J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:40	7440-42-8	
Calcium	149000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:44	7440-70-2	
Iron	7170	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:40	7439-89-6	
Lithium	45.7	ug/L	20.0	15.3	2	02/08/22 13:08	02/09/22 18:20	7439-93-2	
Magnesium	27300	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:40	7439-95-4	
Manganese	282	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:40	7439-96-5	
Molybdenum	2.7J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:40	7439-98-7	
Potassium	3740	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:40	7440-09-7	
Sodium	5660	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:40	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	31.8	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:15	7440-38-2	
Chromium	0.37J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:15	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:15	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	410	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	524	mg/L	10.0	10.0	1		11/09/21 09:38		H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	3.0	mg/L	1.0	0.39	1		11/19/21 15:40	16887-00-6	B
Fluoride	0.21	mg/L	0.20	0.086	1		11/19/21 15:40	16984-48-8	
Sulfate	39.2	mg/L	5.0	2.1	5		11/19/21 15:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-DUP-1 **Lab ID: 60385384008** Collected: 11/01/21 00:00 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	140	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:42	7440-39-3	
Boron	1050	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:42	7440-42-8	
Calcium	125000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:46	7440-70-2	
Iron	3630	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:42	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/22/21 16:33	12/01/21 13:46	7439-93-2	
Magnesium	25300	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:42	7439-95-4	
Manganese	401	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:42	7439-96-5	
Molybdenum	34.2	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:42	7439-98-7	
Potassium	7840	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:42	7440-09-7	
Sodium	68700	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:42	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.3	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:17	7440-38-2	
Chromium	0.31J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:17	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:17	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	378	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	610	mg/L	10.0	10.0	1		11/09/21 09:38		H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	28.7	mg/L	20.0	7.8	20		11/19/21 16:20	16887-00-6	B
Fluoride	0.29	mg/L	0.20	0.086	1		11/19/21 16:07	16984-48-8	
Sulfate	116	mg/L	20.0	8.4	20		11/19/21 16:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-3D **Lab ID: 60385384011** Collected: 11/03/21 16:05 Received: 11/06/21 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	110	ug/L	5.0	1.8	1	11/28/21 09:06	11/30/21 15:30	7440-39-3	
Boron	10300	ug/L	100	8.6	1	11/28/21 09:06	11/30/21 15:30	7440-42-8	
Calcium	140000	ug/L	2000	754	10	11/28/21 09:06	12/01/21 11:43	7440-70-2	
Iron	656	ug/L	50.0	21.4	1	11/28/21 09:06	11/30/21 15:30	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/28/21 09:06	12/01/21 11:43	7439-93-2	
Magnesium	12500	ug/L	50.0	31.4	1	11/28/21 09:06	11/30/21 15:30	7439-95-4	
Manganese	314	ug/L	5.0	0.74	1	11/28/21 09:06	11/30/21 15:30	7439-96-5	
Molybdenum	166	ug/L	20.0	2.2	1	11/28/21 09:06	11/30/21 15:30	7439-98-7	
Potassium	10500	ug/L	500	146	1	11/28/21 09:06	11/30/21 15:30	7440-09-7	
Sodium	60500	ug/L	500	254	1	11/28/21 09:06	11/30/21 15:30	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.8	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 13:57	7440-38-2	
Chromium	0.25J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 13:57	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 13:57	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	123	mg/L	2.0	2.0	1		11/12/21 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	743	mg/L	10.0	10.0	1		11/10/21 14:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.1	mg/L	1.0	0.39	1		11/20/21 19:51	16887-00-6	
Fluoride	0.28	mg/L	0.20	0.086	1		11/20/21 19:51	16984-48-8	
Sulfate	396	mg/L	50.0	21.0	50		11/20/21 20:03	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-4D **Lab ID: 60385384012** Collected: 11/03/21 13:37 Received: 11/06/21 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	84.0	ug/L	5.0	1.8	1	11/28/21 09:06	11/30/21 15:32	7440-39-3	
Boron	3460	ug/L	100	8.6	1	11/28/21 09:06	11/30/21 15:32	7440-42-8	
Calcium	65500	ug/L	200	75.4	1	11/28/21 09:06	11/30/21 15:32	7440-70-2	
Iron	215	ug/L	50.0	21.4	1	11/28/21 09:06	11/30/21 15:32	7439-89-6	B
Lithium	30.0	ug/L	10.0	7.7	1	11/28/21 09:06	11/30/21 15:32	7439-93-2	
Magnesium	7680	ug/L	50.0	31.4	1	11/28/21 09:06	11/30/21 15:32	7439-95-4	
Manganese	264	ug/L	5.0	0.74	1	11/28/21 09:06	11/30/21 15:32	7439-96-5	
Molybdenum	124	ug/L	20.0	2.2	1	11/28/21 09:06	11/30/21 15:32	7439-98-7	
Potassium	8930	ug/L	500	146	1	11/28/21 09:06	11/30/21 15:32	7440-09-7	
Sodium	107000	ug/L	500	254	1	11/28/21 09:06	11/30/21 15:32	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.11J	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 13:59	7440-38-2	
Chromium	0.30J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 13:59	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 13:59	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	52.2	mg/L	2.0	2.0	1		11/12/21 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	631	mg/L	10.0	10.0	1		11/10/21 14:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.7	mg/L	5.0	1.9	5		11/23/21 22:43	16887-00-6	B
Fluoride	0.42	mg/L	0.20	0.086	1		11/20/21 20:37	16984-48-8	
Sulfate	377	mg/L	50.0	21.0	50		11/20/21 20:48	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-7D **Lab ID: 60385384013** Collected: 11/04/21 09:27 Received: 11/06/21 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	81.5	ug/L	5.0	1.8	1	11/28/21 09:06	11/30/21 15:34	7440-39-3	
Boron	2220	ug/L	100	8.6	1	11/28/21 09:06	11/30/21 15:34	7440-42-8	
Calcium	165000	ug/L	2000	754	10	11/28/21 09:06	12/01/21 11:45	7440-70-2	
Iron	9750	ug/L	50.0	21.4	1	11/28/21 09:06	11/30/21 15:34	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/28/21 09:06	12/01/21 11:45	7439-93-2	
Magnesium	19800	ug/L	50.0	31.4	1	11/28/21 09:06	11/30/21 15:34	7439-95-4	
Manganese	1420	ug/L	5.0	0.74	1	11/28/21 09:06	11/30/21 15:34	7439-96-5	
Molybdenum	131	ug/L	20.0	2.2	1	11/28/21 09:06	11/30/21 15:34	7439-98-7	
Potassium	5090	ug/L	500	146	1	11/28/21 09:06	11/30/21 15:34	7440-09-7	
Sodium	25000	ug/L	500	254	1	11/28/21 09:06	11/30/21 15:34	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	25.1	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:00	7440-38-2	
Chromium	0.30J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:00	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:00	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	446	mg/L	2.0	2.0	1		11/12/21 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	555	mg/L	10.0	10.0	1		11/11/21 08:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	5.7	mg/L	1.0	0.39	1		11/20/21 20:59	16887-00-6	
Fluoride	0.33	mg/L	0.20	0.086	1		11/20/21 20:59	16984-48-8	
Sulfate	58.3	mg/L	10.0	4.2	10		11/23/21 23:23	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-8D **Lab ID: 60385384014** Collected: 11/05/21 10:00 Received: 11/06/21 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	111	ug/L	5.0	1.8	1	11/28/21 09:06	11/30/21 15:36	7440-39-3	
Boron	6170	ug/L	100	8.6	1	11/28/21 09:06	11/30/21 15:36	7440-42-8	
Calcium	143000	ug/L	2000	754	10	11/28/21 09:06	12/01/21 11:47	7440-70-2	
Iron	22500	ug/L	50.0	21.4	1	11/28/21 09:06	11/30/21 15:36	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/28/21 09:06	12/01/21 11:47	7439-93-2	
Magnesium	30700	ug/L	50.0	31.4	1	11/28/21 09:06	11/30/21 15:36	7439-95-4	
Manganese	872	ug/L	5.0	0.74	1	11/28/21 09:06	11/30/21 15:36	7439-96-5	
Molybdenum	77.6	ug/L	20.0	2.2	1	11/28/21 09:06	11/30/21 15:36	7439-98-7	
Potassium	5600	ug/L	500	146	1	11/28/21 09:06	11/30/21 15:36	7440-09-7	
Sodium	80100	ug/L	500	254	1	11/28/21 09:06	11/30/21 15:36	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	27.0	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:02	7440-38-2	
Chromium	<0.23	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:02	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:02	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	331	mg/L	2.0	2.0	1		11/12/21 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	829	mg/L	10.0	10.0	1		11/11/21 08:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.4	mg/L	1.0	0.39	1		11/20/21 21:22	16887-00-6	
Fluoride	0.23	mg/L	0.20	0.086	1		11/20/21 21:22	16984-48-8	
Sulfate	336	mg/L	50.0	21.0	50		11/23/21 23:37	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-9D **Lab ID: 60385384015** Collected: 11/05/21 11:03 Received: 11/06/21 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	491	ug/L	5.0	1.8	1	11/28/21 09:06	11/30/21 15:38	7440-39-3	
Boron	95.7J	ug/L	100	8.6	1	11/28/21 09:06	11/30/21 15:38	7440-42-8	
Calcium	117000	ug/L	2000	754	10	11/28/21 09:06	12/01/21 11:49	7440-70-2	
Iron	21800	ug/L	50.0	21.4	1	11/28/21 09:06	11/30/21 15:38	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/28/21 09:06	12/01/21 11:49	7439-93-2	
Magnesium	28000	ug/L	50.0	31.4	1	11/28/21 09:06	11/30/21 15:38	7439-95-4	
Manganese	365	ug/L	5.0	0.74	1	11/28/21 09:06	11/30/21 15:38	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/28/21 09:06	11/30/21 15:38	7439-98-7	
Potassium	3980	ug/L	500	146	1	11/28/21 09:06	11/30/21 15:38	7440-09-7	
Sodium	13500	ug/L	500	254	1	11/28/21 09:06	11/30/21 15:38	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	29.4	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:04	7440-38-2	
Chromium	0.29J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:04	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:04	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	400	mg/L	2.0	2.0	1		11/12/21 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	439	mg/L	10.0	10.0	1		11/11/21 08:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	24.8	mg/L	2.0	0.78	2		11/20/21 21:56	16887-00-6	
Fluoride	0.24	mg/L	0.20	0.086	1		11/20/21 21:45	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/20/21 21:45	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-DUP-2 **Lab ID: 60385384016** Collected: 11/04/21 00:00 Received: 11/06/21 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	81.4	ug/L	5.0	1.8	1	11/28/21 09:06	11/30/21 15:40	7440-39-3	
Boron	2200	ug/L	100	8.6	1	11/28/21 09:06	11/30/21 15:40	7440-42-8	
Calcium	163000	ug/L	2000	754	10	11/28/21 09:06	12/01/21 11:51	7440-70-2	
Iron	9520	ug/L	50.0	21.4	1	11/28/21 09:06	11/30/21 15:40	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/28/21 09:06	12/01/21 11:51	7439-93-2	
Magnesium	19500	ug/L	50.0	31.4	1	11/28/21 09:06	11/30/21 15:40	7439-95-4	
Manganese	1400	ug/L	5.0	0.74	1	11/28/21 09:06	11/30/21 15:40	7439-96-5	
Molybdenum	130	ug/L	20.0	2.2	1	11/28/21 09:06	11/30/21 15:40	7439-98-7	
Potassium	5080	ug/L	500	146	1	11/28/21 09:06	11/30/21 15:40	7440-09-7	
Sodium	24800	ug/L	500	254	1	11/28/21 09:06	11/30/21 15:40	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	24.6	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 14:05	7440-38-2	
Chromium	0.26J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 14:05	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 14:05	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	445	mg/L	2.0	2.0	1		11/12/21 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	575	mg/L	10.0	10.0	1		11/11/21 08:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	5.7	mg/L	1.0	0.39	1		11/20/21 22:07	16887-00-6	
Fluoride	0.33	mg/L	0.20	0.086	1		11/20/21 22:07	16984-48-8	
Sulfate	59.4	mg/L	20.0	8.4	20		11/20/21 22:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA

Pace Project No.: 60385384

Sample: L-UMW-FB-2 **Lab ID: 60385384017** Collected: 11/03/21 14:00 Received: 11/06/21 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	<1.8	ug/L	5.0	1.8	1	11/28/21 09:06	11/30/21 15:42	7440-39-3	
Boron	<8.6	ug/L	100	8.6	1	11/28/21 09:06	11/30/21 15:42	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	11/28/21 09:06	11/30/21 15:42	7440-70-2	
Iron	<21.4	ug/L	50.0	21.4	1	11/28/21 09:06	11/30/21 15:42	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	11/28/21 09:06	11/30/21 15:42	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	11/28/21 09:06	11/30/21 15:42	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	11/28/21 09:06	11/30/21 15:42	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/28/21 09:06	11/30/21 15:42	7439-98-7	
Potassium	<146	ug/L	500	146	1	11/28/21 09:06	11/30/21 15:42	7440-09-7	
Sodium	<254	ug/L	500	254	1	11/28/21 09:06	11/30/21 15:42	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.11	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 13:52	7440-38-2	
Chromium	0.33J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 13:52	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 13:52	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	2.0	mg/L	2.0	2.0	1		11/12/21 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	684	mg/L	10.0	10.0	1		11/10/21 14:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.84J	mg/L	1.0	0.39	1		11/20/21 23:16	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/20/21 23:16	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/20/21 23:16	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch:	757955	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008		

METHOD BLANK:	3033331	Matrix:	Water
Associated Lab Samples:	60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	11/30/21 16:14	
Boron	ug/L	<8.6	100	8.6	11/30/21 16:14	
Calcium	ug/L	<75.4	200	75.4	11/30/21 16:14	
Iron	ug/L	<21.4	50.0	21.4	11/30/21 16:14	
Lithium	ug/L	<7.7	10.0	7.7	11/30/21 16:14	
Magnesium	ug/L	<31.4	50.0	31.4	11/30/21 16:14	
Manganese	ug/L	<0.74	5.0	0.74	11/30/21 16:14	
Molybdenum	ug/L	<2.2	20.0	2.2	11/30/21 16:14	
Potassium	ug/L	<146	500	146	11/30/21 16:14	
Sodium	ug/L	<254	500	254	11/30/21 16:14	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Boron	ug/L	1000	963	96	85-115	
Calcium	ug/L	10000	9950	100	85-115	
Iron	ug/L	10000	9930	99	85-115	
Lithium	ug/L	1000	970	97	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	998	100	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	9820	98	85-115	
Sodium	ug/L	10000	10200	102	85-115	

Parameter	Units	3033333		3033334		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Barium	ug/L	539	1000	1540	1550	100	101	70-130	0	20	
Boron	ug/L	611	1000	1580	1590	97	98	70-130	1	20	
Calcium	ug/L	156000	10000	164000	167000	84	111	70-130	2	20	
Iron	ug/L	18900	10000	28400	28600	94	97	70-130	1	20	
Lithium	ug/L	27.8		864	879				2	20	
Magnesium	ug/L	37700	10000	45700	46500	81	89	70-130	2	20	
Manganese	ug/L	429	1000	1400	1410	97	98	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033333 3033334											
Parameter	Units	60385384001		MS	MSD	3033334		% Rec	% Rec	% Rec	Max
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Molybdenum	ug/L	3.5J	1000	1000	1020	1030	102	103	70-130	1	20
Potassium	ug/L	6640	10000	10000	16400	16600	98	100	70-130	1	20
Sodium	ug/L	25900	10000	10000	35400	35600	95	97	70-130	1	20

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 758442 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

METHOD BLANK: 3035306 Matrix: Water
 Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/01/21 11:39	
Boron	ug/L	<8.6	100	8.6	12/01/21 11:39	
Calcium	ug/L	<75.4	200	75.4	12/01/21 11:39	
Iron	ug/L	40.8J	50.0	21.4	12/01/21 11:39	
Lithium	ug/L	<7.7	10.0	7.7	12/01/21 11:39	
Magnesium	ug/L	<31.4	50.0	31.4	12/01/21 11:39	
Manganese	ug/L	<0.74	5.0	0.74	12/01/21 11:39	
Molybdenum	ug/L	<2.2	20.0	2.2	12/01/21 11:39	
Potassium	ug/L	<146	500	146	12/01/21 11:39	
Sodium	ug/L	<254	500	254	12/01/21 11:39	

LABORATORY CONTROL SAMPLE: 3035307

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	994	99	85-115	
Boron	ug/L	1000	965	97	85-115	
Calcium	ug/L	10000	9880	99	85-115	
Iron	ug/L	10000	9850	98	85-115	
Lithium	ug/L	1000	1020	102	85-115	
Magnesium	ug/L	10000	10700	107	85-115	
Manganese	ug/L	1000	997	100	85-115	
Molybdenum	ug/L	1000	1040	104	85-115	
Potassium	ug/L	10000	9720	97	85-115	
Sodium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3035308 3035309

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		60385866001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Barium	ug/L	264	1000	1000	1260	1280	100	101	70-130	1	20	
Boron	ug/L	93.1J	1000	1000	1050	1060	95	96	70-130	1	20	
Calcium	ug/L	96900	10000	10000	114000	115000	172	184	70-130	1	20	M1
Iron	ug/L	<21.4	10000	10000	9590	9590	96	96	70-130	0	20	
Lithium	ug/L	17.3	1000	1000	742	737	72	72	70-130	1	20	
Magnesium	ug/L	21200	10000	10000	29000	29200	78	80	70-130	1	20	
Manganese	ug/L	155	1000	1000	1100	1100	94	95	70-130	0	20	
Molybdenum	ug/L	2.8J	1000	1000	1030	1040	103	104	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameter	Units	3035308		3035309		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60385866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Potassium	ug/L	4490	10000	10000	14400	14600	99	101	70-130	2	20		
Sodium	ug/L	41400	10000	10000	50900	51800	95	104	70-130	2	20		

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch:	770150	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384001, 60385384002, 60385384004, 60385384006, 60385384007

METHOD BLANK: 3075338 Matrix: Water
Associated Lab Samples: 60385384001, 60385384002, 60385384004, 60385384006, 60385384007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lithium	ug/L	<7.7	10.0	7.7	02/09/22 17:40	

LABORATORY CONTROL SAMPLE: 3075339

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3075340 3075341

Parameter	Units	60385384001		3075341		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Lithium	ug/L	27.8	1000	1050	1030	102	100	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch:	758163	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008		

METHOD BLANK:	3034230	Matrix:	Water
Associated Lab Samples:	60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 11:53	
Chromium	ug/L	<0.23	1.0	0.23	11/30/21 11:53	
Selenium	ug/L	<0.18	1.0	0.18	11/30/21 11:53	

LABORATORY CONTROL SAMPLE: 3034231						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	40.5	101	85-115	
Chromium	ug/L	40	39.4	99	85-115	
Selenium	ug/L	40	41.0	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034232												3034233	
Parameter	Units	60385384001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Arsenic	ug/L	46.6	40	40	85.6	87.0	97	101	70-130	2	20		
Chromium	ug/L	0.28J	40	40	39.2	39.9	97	99	70-130	2	20		
Selenium	ug/L	<0.18	40	40	38.4	39.1	96	98	70-130	2	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034234												3034235	
Parameter	Units	60385386004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Arsenic	ug/L	2.9	40	40	44.6	43.8	104	102	70-130	2	20		
Chromium	ug/L	0.34J	40	40	39.8	39.1	99	97	70-130	2	20		
Selenium	ug/L	<0.18	40	40	39.2	37.5	98	94	70-130	4	20		

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch:	758166	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

METHOD BLANK: 3034249 Matrix: Water
Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 13:38	
Chromium	ug/L	<0.23	1.0	0.23	11/30/21 13:38	
Selenium	ug/L	<0.18	1.0	0.18	11/30/21 13:38	

LABORATORY CONTROL SAMPLE: 3034250

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	41.0	102	85-115	
Chromium	ug/L	40	40.1	100	85-115	
Selenium	ug/L	40	41.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034251 3034252

Parameter	Units	60385386028		MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result						
Arsenic	ug/L	<0.11	40	40	40	39.8	39.2	100	98	70-130	2	20	
Chromium	ug/L	0.44J	40	40	40	39.9	39.2	99	97	70-130	2	20	
Selenium	ug/L	<0.18	40	40	40	39.7	39.4	99	98	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 649356

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 60385384001

METHOD BLANK: 2992117

Matrix: Water

Associated Lab Samples: 60385384001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<2.0	2.0	2.0	11/10/21 12:29	

LABORATORY CONTROL SAMPLE: 2992118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	50	48.8	98	90-110	

SAMPLE DUPLICATE: 2992119

Parameter	Units	50302070016 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	375	420	11	20	

SAMPLE DUPLICATE: 2992120

Parameter	Units	60385384001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	498	465	7	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 649386 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Indianapolis
 Associated Lab Samples: 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008

METHOD BLANK: 2992253 Matrix: Water
 Associated Lab Samples: 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/10/21 10:58	

LABORATORY CONTROL SAMPLE: 2992254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.1	98	90-110	

SAMPLE DUPLICATE: 2992255

Parameter	Units	60385386004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	152	154	1	20	

SAMPLE DUPLICATE: 2992256

Parameter	Units	50301936001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	687	690	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch:	650017	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017		

METHOD BLANK:	2995888	Matrix:	Water
Associated Lab Samples:	60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/12/21 11:45	

LABORATORY CONTROL SAMPLE: 2995889						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.5	103	90-110	

SAMPLE DUPLICATE: 2995890						
Parameter	Units	60385390001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	378	385	2	20	

SAMPLE DUPLICATE: 2995891						
Parameter	Units	50302276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	283	290	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 754996

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384006, 60385384007, 60385384008

METHOD BLANK: 3021542

Matrix: Water

Associated Lab Samples: 60385384006, 60385384007, 60385384008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/09/21 09:38	

LABORATORY CONTROL SAMPLE: 3021543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	962	96	80-120	

SAMPLE DUPLICATE: 3021544

Parameter	Units	60384977004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	823	854	4	10	

SAMPLE DUPLICATE: 3021545

Parameter	Units	60385364001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	456	472	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 755000 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60385384001, 60385384002, 60385384003, 60385384004, 60385384005

METHOD BLANK: 3021558 Matrix: Water
 Associated Lab Samples: 60385384001, 60385384002, 60385384003, 60385384004, 60385384005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/09/21 09:43	

LABORATORY CONTROL SAMPLE: 3021559

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	960	96	80-120	

SAMPLE DUPLICATE: 3021560

Parameter	Units	60385384001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	617	609	1	10	

SAMPLE DUPLICATE: 3021561

Parameter	Units	60385386004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	790	838	6	10	

SAMPLE DUPLICATE: 3021562

Parameter	Units	60385390001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	423	431	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 755409

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384011, 60385384012, 60385384017

METHOD BLANK: 3023062

Matrix: Water

Associated Lab Samples: 60385384011, 60385384012, 60385384017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/10/21 14:30	

LABORATORY CONTROL SAMPLE: 3023063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	949	95	80-120	

SAMPLE DUPLICATE: 3023064

Parameter	Units	60385386023 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	561	612	9	10	

SAMPLE DUPLICATE: 3023065

Parameter	Units	60385384012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	631	655	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 755548

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384013, 60385384016

METHOD BLANK: 3023486

Matrix: Water

Associated Lab Samples: 60385384013, 60385384016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/21 08:03	

LABORATORY CONTROL SAMPLE: 3023487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	973	97	80-120	

SAMPLE DUPLICATE: 3023488

Parameter	Units	60385385001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4870	4660	4	10	

SAMPLE DUPLICATE: 3023489

Parameter	Units	60385386016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	490	497	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 755549

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384014, 60385384015

METHOD BLANK: 3023490

Matrix: Water

Associated Lab Samples: 60385384014, 60385384015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/21 08:06	

LABORATORY CONTROL SAMPLE: 3023491

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	978	98	80-120	

SAMPLE DUPLICATE: 3023492

Parameter	Units	60385386013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	799	812	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 756243

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384002, 60385384003

METHOD BLANK: 3026411

Matrix: Water

Associated Lab Samples: 60385384002, 60385384003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.44J	1.0	0.39	11/15/21 08:37	
Fluoride	mg/L	<0.086	0.20	0.086	11/15/21 08:37	
Sulfate	mg/L	<0.42	1.0	0.42	11/15/21 08:37	

METHOD BLANK: 3029175

Matrix: Water

Associated Lab Samples: 60385384002, 60385384003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.45J	1.0	0.39	11/16/21 08:04	
Fluoride	mg/L	<0.086	0.20	0.086	11/16/21 08:04	
Sulfate	mg/L	<0.42	1.0	0.42	11/16/21 08:04	

METHOD BLANK: 3029202

Matrix: Water

Associated Lab Samples: 60385384002, 60385384003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.43J	1.0	0.39	11/16/21 12:15	
Fluoride	mg/L	<0.086	0.20	0.086	11/16/21 12:15	
Sulfate	mg/L	<0.42	1.0	0.42	11/16/21 12:15	

METHOD BLANK: 3029249

Matrix: Water

Associated Lab Samples: 60385384002, 60385384003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.53J	1.0	0.39	11/16/21 08:24	
Fluoride	mg/L	<0.086	0.20	0.086	11/16/21 08:24	
Sulfate	mg/L	<0.42	1.0	0.42	11/16/21 08:24	

METHOD BLANK: 3029445

Matrix: Water

Associated Lab Samples: 60385384002, 60385384003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.46J	1.0	0.39	11/17/21 08:09	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

METHOD BLANK: 3029445

Matrix: Water

Associated Lab Samples: 60385384002, 60385384003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.086	0.20	0.086	11/17/21 08:09	
Sulfate	mg/L	<0.42	1.0	0.42	11/17/21 08:09	

LABORATORY CONTROL SAMPLE: 3026412

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	90	90-110	
Sulfate	mg/L	5	4.7	93	90-110	

LABORATORY CONTROL SAMPLE: 3029176

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	2.7	108	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

LABORATORY CONTROL SAMPLE: 3029203

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	
Sulfate	mg/L	5	5.1	101	90-110	

LABORATORY CONTROL SAMPLE: 3029250

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	104	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3029446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	101	90-110	
Fluoride	mg/L	2.5	2.8	110	90-110	
Sulfate	mg/L	5	5.4	108	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

MATRIX SPIKE SAMPLE:		3026415					
Parameter	Units	60385866005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.7	5	7.1	89	80-120	
Fluoride	mg/L	0.43	2.5	2.7	89	80-120	
Sulfate	mg/L	46.8	25	70.4	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		3026423			3026424							
Parameter	Units	60385384002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	26.6	25	25	68.5	51.4	168	99	80-120	29	15	M1,R1
Fluoride	mg/L	0.35	2.5	2.5	2.6	2.6	89	89	80-120	1	15	
Sulfate	mg/L	115	50	50	164	168	99	106	80-120	2	15	

SAMPLE DUPLICATE:		3026422					
Parameter	Units	60385758001 Result	Dup Result	RPD	Max RPD	Qualifiers	
Chloride	mg/L	2280	2000	13	15		
Fluoride	mg/L	3.7	3.9	5	15		
Sulfate	mg/L	2520	1240	68	15 D6		

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch:	757096	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

METHOD BLANK: 3029718 Matrix: Water
Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.52J	1.0	0.39	11/18/21 08:36	
Fluoride	mg/L	<0.086	0.20	0.086	11/18/21 08:36	
Sulfate	mg/L	<0.42	1.0	0.42	11/18/21 08:36	

METHOD BLANK: 3032292 Matrix: Water
Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/20/21 18:20	
Fluoride	mg/L	<0.086	0.20	0.086	11/20/21 18:20	
Sulfate	mg/L	<0.42	1.0	0.42	11/20/21 18:20	

METHOD BLANK: 3036563 Matrix: Water
Associated Lab Samples: 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/25/21 11:11	
Fluoride	mg/L	<0.086	0.20	0.086	11/25/21 11:11	
Sulfate	mg/L	<0.42	1.0	0.42	11/25/21 11:11	

LABORATORY CONTROL SAMPLE: 3029719

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	109	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

LABORATORY CONTROL SAMPLE: 3032293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	107	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

LABORATORY CONTROL SAMPLE: 3036564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029720 3029721

Parameter	Units	60385386027		MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits				
Chloride	mg/L	25.8	25	25	49.4	49.3	94	94	80-120	0	15		
Fluoride	mg/L	0.33	2.5	2.5	3.1	3.1	111	112	80-120	1	15		
Sulfate	mg/L	547	250	250	739	778	77	92	80-120	5	15	M1	

MATRIX SPIKE SAMPLE: 3029722

Parameter	Units	60385384016	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.7	5	11.3	112	80-120	
Fluoride	mg/L	0.33	2.5	3.2	113	80-120	
Sulfate	mg/L	59.4	100	171	112	80-120	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 757277 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60385384001, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008

METHOD BLANK: 3030419 Matrix: Water
 Associated Lab Samples: 60385384001, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/19/21 06:45	
Fluoride	mg/L	<0.086	0.20	0.086	11/19/21 06:45	
Sulfate	mg/L	<0.42	1.0	0.42	11/19/21 06:45	

METHOD BLANK: 3032423 Matrix: Water
 Associated Lab Samples: 60385384001, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/21/21 17:33	
Fluoride	mg/L	<0.086	0.20	0.086	11/21/21 17:33	
Sulfate	mg/L	<0.42	1.0	0.42	11/21/21 17:33	

METHOD BLANK: 3034763 Matrix: Water
 Associated Lab Samples: 60385384001, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.45J	1.0	0.39	11/22/21 21:29	
Fluoride	mg/L	<0.086	0.20	0.086	11/22/21 21:29	
Sulfate	mg/L	<0.42	1.0	0.42	11/22/21 21:29	

LABORATORY CONTROL SAMPLE: 3030420

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

LABORATORY CONTROL SAMPLE: 3032424

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	110	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LCPA

Pace Project No.: 60385384

LABORATORY CONTROL SAMPLE: 3034764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030421 3030422

Parameter	Units	60385384001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Chloride	mg/L	11.1	5	5	15.9	16.2	96	101	80-120	2	15		
Fluoride	mg/L	0.21	2.5	2.5	2.5	2.6	92	97	80-120	5	15		
Sulfate	mg/L	39.2	25	25	62.9	63.1	95	96	80-120	0	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030424 3030423

Parameter	Units	60385386004		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Chloride	mg/L	44.8	25	25	71.5	71.6	107	107	80-120	0	15		
Fluoride	mg/L	0.32	2.5	2.5	2.6	2.7	93	94	80-120	1	15		
Sulfate	mg/L	377	250	250	640	636	105	104	80-120	1	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030425 3030426

Parameter	Units	60386286007		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Chloride	mg/L	19.4	10	10	30.2	30.1	108	108	80-120	0	15		
Fluoride	mg/L	ND	2.5	2.5	2.8	2.8	110	111	80-120	1	15		
Sulfate	mg/L	53.9	5	5	59.8	59.9	118	119	80-120	0	15 E		

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-1D Lab ID: 60385384001 Collected: 11/02/21 10:02 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.353 ± 0.337 (0.514) C:NA T:96%	pCi/L	12/08/21 14:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.63 ± 0.681 (1.13) C:67% T:102%	pCi/L	12/08/21 14:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-2D Lab ID: 60385384002 Collected: 11/02/21 14:35 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.717 ± 0.588 (0.875) C:NA T:90%	pCi/L	12/08/21 14:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	2.70 ± 0.899 (1.25) C:62% T:93%	pCi/L	12/08/21 14:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-5D Lab ID: 60385384003 Collected: 11/02/21 14:00 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.481 ± 0.475 (0.722) C:NA T:85%	pCi/L	12/08/21 14:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	4.38 ± 1.24 (1.44) C:62% T:76%	pCi/L	12/08/21 14:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-6D Lab ID: 60385384004 Collected: 11/02/21 11:16 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.483 ± 0.353 (0.395) C:NA T:82%	pCi/L	12/08/21 14:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.489 ± 0.656 (1.40) C:65% T:81%	pCi/L	12/08/21 18:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-FB-1 Lab ID: 60385384005 Collected: 11/02/21 11:30 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0949 ± 0.395 (0.826) C:NA T:99%	pCi/L	12/08/21 14:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.404 ± 0.555 (1.19) C:70% T:92%	pCi/L	12/08/21 18:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-1D Lab ID: 60385384006 Collected: 11/01/21 10:35 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	1.02 ± 0.599 (0.758) C:NA T:103%	pCi/L	12/08/21 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.03 ± 0.664 (1.28) C:66% T:92%	pCi/L	12/08/21 18:11	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-2D Lab ID: 60385384007 Collected: 11/01/21 14:40 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.277 ± 0.385 (0.650) C:NA T:99%	pCi/L	12/08/21 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.80 ± 0.764 (1.24) C:66% T:87%	pCi/L	12/08/21 18:13	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-DUP-1 Lab ID: 60385384008 Collected: 11/01/21 00:00 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.687 ± 0.664 (1.04) C:NA T:86%	pCi/L	12/08/21 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.936 ± 0.859 (1.77) C:64% T:81%	pCi/L	12/08/21 18:13	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-MS-1 Lab ID: 60385384009 Collected: 11/01/21 10:02 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	111.85 %REC ± NA (NA) C:NA T:NA	pCi/L	12/08/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	92.40 %REC ± NA (NA) C:NA T:NA	pCi/L	12/08/21 18:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	102.15 %REC 9.07 RPD ± NA (NA) C:NA T:NA	pCi/L	12/08/21 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	129.18 %REC 33.20 RPD ± NA (NA) C:NA T:NA	pCi/L	12/08/21 18:17	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-3D Lab ID: 60385384011 Collected: 11/03/21 16:05 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.117 ± 0.457 (0.875) C:NA T:84%	pCi/L	12/08/21 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.23 ± 0.735 (1.37) C:66% T:83%	pCi/L	12/08/21 18:18	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-4D Lab ID: 60385384012 Collected: 11/03/21 13:37 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.383 ± 0.356 (0.470) C:NA T:87%	pCi/L	12/08/21 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.51 ± 0.749 (1.31) C:68% T:83%	pCi/L	12/08/21 18:18	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-7D Lab ID: 60385384013 Collected: 11/04/21 09:27 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0984 ± 0.452 (0.856) C:NA T:102%	pCi/L	12/08/21 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	2.00 ± 0.707 (0.937) C:68% T:91%	pCi/L	12/08/21 18:36	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-8D Lab ID: 60385384014 Collected: 11/05/21 10:00 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0494 ± 0.291 (0.594) C:NA T:96%	pCi/L	12/08/21 14:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.530 ± 0.983 (2.15) C:68% T:91%	pCi/L	12/08/21 19:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-9D Lab ID: 60385384015 Collected: 11/05/21 11:03 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.390 ± 0.408 (0.639) C:NA T:99%	pCi/L	12/08/21 14:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.885 ± 0.817 (1.69) C:67% T:89%	pCi/L	12/08/21 19:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-DUP-2 Lab ID: 60385384016 Collected: 11/04/21 00:00 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.360 ± 0.417 (0.674) C:NA T:91%	pCi/L	12/08/21 14:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.551 ± 0.792 (1.71) C:68% T:90%	pCi/L	12/08/21 19:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-FB-2 Lab ID: 60385384017 Collected: 11/03/21 14:00 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.146 ± 0.223 (0.585) C:NA T:102%	pCi/L	12/08/21 14:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.873 ± 0.932 (1.96) C:66% T:90%	pCi/L	12/08/21 19:04	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA

Pace Project No.: 60385384

QC Batch: 473483

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: 60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008, 60385384009, 60385384010, 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

METHOD BLANK: 2286789

Matrix: Water

Associated Lab Samples: 60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008, 60385384009, 60385384010, 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.281 ± 0.368 (0.785) C:68% T:87%	pCi/L	12/08/21 11:38	

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.: 60385384

QC Batch: 473482

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: 60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008, 60385384009, 60385384010, 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

METHOD BLANK: 2286788

Matrix: Water

Associated Lab Samples: 60385384001, 60385384002, 60385384003, 60385384004, 60385384005, 60385384006, 60385384007, 60385384008, 60385384009, 60385384010, 60385384011, 60385384012, 60385384013, 60385384014, 60385384015, 60385384016, 60385384017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0778 ± 0.241 (0.548) C:NA T:96%	pCi/L	12/08/21 14:11	

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.: 60385384

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.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

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

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385384001	L-UMW-1D	EPA 200.7	757955	EPA 200.7	758019
60385384001	L-UMW-1D	EPA 200.7	770150	EPA 200.7	770289
60385384002	L-UMW-2D	EPA 200.7	757955	EPA 200.7	758019
60385384002	L-UMW-2D	EPA 200.7	770150	EPA 200.7	770289
60385384003	L-UMW-5D	EPA 200.7	757955	EPA 200.7	758019
60385384004	L-UMW-6D	EPA 200.7	757955	EPA 200.7	758019
60385384004	L-UMW-6D	EPA 200.7	770150	EPA 200.7	770289
60385384005	L-UMW-FB-1	EPA 200.7	757955	EPA 200.7	758019
60385384006	L-BMW-1D	EPA 200.7	757955	EPA 200.7	758019
60385384006	L-BMW-1D	EPA 200.7	770150	EPA 200.7	770289
60385384007	L-BMW-2D	EPA 200.7	757955	EPA 200.7	758019
60385384007	L-BMW-2D	EPA 200.7	770150	EPA 200.7	770289
60385384008	L-UMW-DUP-1	EPA 200.7	757955	EPA 200.7	758019
60385384011	L-UMW-3D	EPA 200.7	758442	EPA 200.7	758579
60385384012	L-UMW-4D	EPA 200.7	758442	EPA 200.7	758579
60385384013	L-UMW-7D	EPA 200.7	758442	EPA 200.7	758579
60385384014	L-UMW-8D	EPA 200.7	758442	EPA 200.7	758579
60385384015	L-UMW-9D	EPA 200.7	758442	EPA 200.7	758579
60385384016	L-UMW-DUP-2	EPA 200.7	758442	EPA 200.7	758579
60385384017	L-UMW-FB-2	EPA 200.7	758442	EPA 200.7	758579
60385384001	L-UMW-1D	EPA 200.8	758163	EPA 200.8	758394
60385384002	L-UMW-2D	EPA 200.8	758163	EPA 200.8	758394
60385384003	L-UMW-5D	EPA 200.8	758163	EPA 200.8	758394
60385384004	L-UMW-6D	EPA 200.8	758163	EPA 200.8	758394
60385384005	L-UMW-FB-1	EPA 200.8	758163	EPA 200.8	758394
60385384006	L-BMW-1D	EPA 200.8	758163	EPA 200.8	758394
60385384007	L-BMW-2D	EPA 200.8	758163	EPA 200.8	758394
60385384008	L-UMW-DUP-1	EPA 200.8	758163	EPA 200.8	758394
60385384011	L-UMW-3D	EPA 200.8	758166	EPA 200.8	758547
60385384012	L-UMW-4D	EPA 200.8	758166	EPA 200.8	758547
60385384013	L-UMW-7D	EPA 200.8	758166	EPA 200.8	758547
60385384014	L-UMW-8D	EPA 200.8	758166	EPA 200.8	758547
60385384015	L-UMW-9D	EPA 200.8	758166	EPA 200.8	758547
60385384016	L-UMW-DUP-2	EPA 200.8	758166	EPA 200.8	758547
60385384017	L-UMW-FB-2	EPA 200.8	758166	EPA 200.8	758547
60385384001	L-UMW-1D	EPA 903.1	473482		
60385384002	L-UMW-2D	EPA 903.1	473482		
60385384003	L-UMW-5D	EPA 903.1	473482		
60385384004	L-UMW-6D	EPA 903.1	473482		
60385384005	L-UMW-FB-1	EPA 903.1	473482		
60385384006	L-BMW-1D	EPA 903.1	473482		
60385384007	L-BMW-2D	EPA 903.1	473482		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385384008	L-UMW-DUP-1	EPA 903.1	473482		
60385384009	L-UMW-MS-1	EPA 903.1	473482		
60385384010	L-UMW-MSD-1	EPA 903.1	473482		
60385384011	L-UMW-3D	EPA 903.1	473482		
60385384012	L-UMW-4D	EPA 903.1	473482		
60385384013	L-UMW-7D	EPA 903.1	473482		
60385384014	L-UMW-8D	EPA 903.1	473482		
60385384015	L-UMW-9D	EPA 903.1	473482		
60385384016	L-UMW-DUP-2	EPA 903.1	473482		
60385384017	L-UMW-FB-2	EPA 903.1	473482		
60385384001	L-UMW-1D	EPA 904.0	473483		
60385384002	L-UMW-2D	EPA 904.0	473483		
60385384003	L-UMW-5D	EPA 904.0	473483		
60385384004	L-UMW-6D	EPA 904.0	473483		
60385384005	L-UMW-FB-1	EPA 904.0	473483		
60385384006	L-BMW-1D	EPA 904.0	473483		
60385384007	L-BMW-2D	EPA 904.0	473483		
60385384008	L-UMW-DUP-1	EPA 904.0	473483		
60385384009	L-UMW-MS-1	EPA 904.0	473483		
60385384010	L-UMW-MSD-1	EPA 904.0	473483		
60385384011	L-UMW-3D	EPA 904.0	473483		
60385384012	L-UMW-4D	EPA 904.0	473483		
60385384013	L-UMW-7D	EPA 904.0	473483		
60385384014	L-UMW-8D	EPA 904.0	473483		
60385384015	L-UMW-9D	EPA 904.0	473483		
60385384016	L-UMW-DUP-2	EPA 904.0	473483		
60385384017	L-UMW-FB-2	EPA 904.0	473483		
60385384001	L-UMW-1D	SM 2320B	649356		
60385384002	L-UMW-2D	SM 2320B	649386		
60385384003	L-UMW-5D	SM 2320B	649386		
60385384004	L-UMW-6D	SM 2320B	649386		
60385384005	L-UMW-FB-1	SM 2320B	649386		
60385384006	L-BMW-1D	SM 2320B	649386		
60385384007	L-BMW-2D	SM 2320B	649386		
60385384008	L-UMW-DUP-1	SM 2320B	649386		
60385384011	L-UMW-3D	SM 2320B	650017		
60385384012	L-UMW-4D	SM 2320B	650017		
60385384013	L-UMW-7D	SM 2320B	650017		
60385384014	L-UMW-8D	SM 2320B	650017		
60385384015	L-UMW-9D	SM 2320B	650017		
60385384016	L-UMW-DUP-2	SM 2320B	650017		
60385384017	L-UMW-FB-2	SM 2320B	650017		
60385384001	L-UMW-1D	SM 2540C	755000		
60385384002	L-UMW-2D	SM 2540C	755000		
60385384003	L-UMW-5D	SM 2540C	755000		
60385384004	L-UMW-6D	SM 2540C	755000		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA

Pace Project No.: 60385384

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385384005	L-UMW-FB-1	SM 2540C	755000		
60385384006	L-BMW-1D	SM 2540C	754996		
60385384007	L-BMW-2D	SM 2540C	754996		
60385384008	L-UMW-DUP-1	SM 2540C	754996		
60385384011	L-UMW-3D	SM 2540C	755409		
60385384012	L-UMW-4D	SM 2540C	755409		
60385384013	L-UMW-7D	SM 2540C	755548		
60385384014	L-UMW-8D	SM 2540C	755549		
60385384015	L-UMW-9D	SM 2540C	755549		
60385384016	L-UMW-DUP-2	SM 2540C	755548		
60385384017	L-UMW-FB-2	SM 2540C	755409		
60385384001	L-UMW-1D	EPA 300.0	757277		
60385384002	L-UMW-2D	EPA 300.0	756243		
60385384003	L-UMW-5D	EPA 300.0	756243		
60385384004	L-UMW-6D	EPA 300.0	757277		
60385384005	L-UMW-FB-1	EPA 300.0	757277		
60385384006	L-BMW-1D	EPA 300.0	757277		
60385384007	L-BMW-2D	EPA 300.0	757277		
60385384008	L-UMW-DUP-1	EPA 300.0	757277		
60385384011	L-UMW-3D	EPA 300.0	757096		
60385384012	L-UMW-4D	EPA 300.0	757096		
60385384013	L-UMW-7D	EPA 300.0	757096		
60385384014	L-UMW-8D	EPA 300.0	757096		
60385384015	L-UMW-9D	EPA 300.0	757096		
60385384016	L-UMW-DUP-2	EPA 300.0	757096		
60385384017	L-UMW-FB-2	EPA 300.0	757096		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60385384



Client Name: Golden Associates

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

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

Cooler Temperature (°C): As-read 2.5/2.2/1.6 Corr. Factor -0.2 Corrected 23/2.0/1.4

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 11.9/13.1

11.2/12.9

pv 11/8/21

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED
By jchurch at 12:59 pm, 11/8/21

Project Manager Review: _____ Date: _____



Sample Condition Upon Receipt

WO#: 60385384



Client Name: GOLDER ASSOCIATES

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other SPLC

Thermometer Used: T299 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.1, 1.8, 15.7 Corr. Factor 0.2 Corrected 0.9, 1.6, 15.5, 0.4 Date and initials of person examining contents: SP 11/10/21

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>TOS 11/10</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>All coolers out of temp had only Rad. in</u>
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>003173</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: **REVIEWED**
By jchurch at 11:43 am, 11/10/21

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Section B
 Required Project Information:
 Report To: Jeffrey Ingram
 Copy To: Ryan Feldmann/Eric Schneider
 Purchase Order No.:
 Project Name: Ameren LCPA
 Project Number: 153-140803.0001A (COC #1)

Section C
 Invoice Information:
 Attention:
 Company Name:
 Address:
 Pace Quote Reference:
 Pace Project Manager: Jamie Church
 Pace Profile #: 9285

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

Page: 1 of 2

ITEM #	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER WW P PRODUCT SOLUSOLID OL WP AR OT TS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1	L-UMW-1D	Sierra Shields/Golder	11/5/21	1520	Angela M W	11/5/21	1530	11-6-21 0510	1.6			
2	L-UMW-2D											
3	L-UMW-3D		11-3-21	1105								
4	L-UMW-4D		11-3-21	1337								
5	L-UMW-5D		11-3-21	0927								
6	L-UMW-6D		11-3-21	1000								
7	L-UMW-7D											
8	L-UMW-8D											
9	L-UMW-9D											
10	L-BMW-1D											
11	L-BMW-2D											
12	L-UMW-DUP-1											

Requested Analysis Filtered (Y/N)	Chloride/Fluoride/Sulfate	App III and Cat/Van Metals	Alkalinity	TDS	Appendix IV Metals *	Radium 226	Radium 228	Residual Chlorine (Y/N)
Y	N	N	N	N	N	N	N	

ADDITIONAL COMMENTS
 Sierra Shields/Golder
 Angela M W
 11/5/21 1520
 11/5/21 1530
 11-6-21 0510
 1.6
 15.0
 14.2

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Sierra Shields
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): 11/5/21

15.0
2.9



MEMORANDUM

DATE January 10, 2023

Project No. 153140604

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

FROM Rahel Pommerenke

EMAIL rahel.pommerenke@wsp.com

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60385384REV1

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
 Project Name: Ameren - LEC - LCPA
 Reviewer: R. Pommerenke

Project Manager: J. Ingram
 Project Number: 153140604
 Validation Date: 1/10/2023

Laboratory: Pace Analytical SDG #: 60385384rev1

Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)

Matrix: Air Soil/Sed. Water Waste _____

Sample Names L-UMW-1D, L-UMW-2D, L-UMW-5D, L-UMW-6D, L-UMW-FB-1, L-BMW-1D, L-BMW-2D, L-UMW-DUP-1, L-UMW-MS-1, L-UMW-MSD-1, L-UMW-3D, L-UMW-4D, L-UMW-7D, L-UMW-8D, L-UMW-9D, L-UMW-DUP-2, L-UMW-FB-2

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>11/1/2021 - 11/5/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>ETF/EMS/SSS/BTT</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

The Sample Condition Upon Receipt forms indicate that coolers recieved outside of temperature range only contained radium samples. No qualification necessary.

TDS in samples L-BMW-1D, L-BMW-2D, L-UMW-DUP-1 were analyzed outside of hold time. Qualified as estimates.

Lithium reanalyzed on 02/08/2022 at lower dilution for several samples to meet action limits.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

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

Blanks:

3035306: Iron (40.8J). Associated with samples -011 through -017. Results >RL and 10x blank or ND not qualified. Results >RL but <10x blank qualified as estimates.

3026411/3029175/3029202/3029249/3029445: Chloride (0.44J/0.45J/0.43J/0.53J/0.46J). Associated with samples -002 and -003. Results >RL and 10x blank, no qualification necessary.

3029718: Chloride (0.52J). Associated with samples -011 through -017. Results >RL and 10x blank not qualified. Results <RL were reported at RL and qualified as ND.

3034763: Chloride (0.45J). Associated with samples -001, -004 through -008. Results >RL and 10x blank or ND not qualified. Results >RL but <10x blank qualified as estimates.

L-UMW-FB-1 @ L-UMW-6D: Boron (9.9J), chromium (0.41J), alkalinity (2.9). Sample results >RL and 10x blank or ND, no qualification necessary.

L-UMW-FB-2 @ L-UMW-4D: Chromium (0.33J), alkalinity (2.0), TDS (684), chloride (0.84J). Results >RL and 10x blank were not qualified. Results <RL were reported at the RL and qualified as ND.

Duplicates:

L-UMW-DUP-1 @ L-UMW-2D: Radium-228 detected in sample, ND in duplicate. Lithium detected in sample, ND in duplicate.

L-UMW-DUP-2 @ L-UMW-7D: Radium-228 detected in sample, ND in duplicate
Laboratory analyzed sample duplicates for alkalinity, TDS, anions.

3026422: RPD exceeds limit (15%) for sulfate (68%). Sample duplicate performed on unrelated sample, no qualification necessary.

MS/MSD:

3035308/3035309: MS/MSD % recovery high for calcium. MS/MSD performed on unrelated sample, no qualification necessary.

3026423/3026424: MS % recovery high and RPD exceeds limit for chloride. Associated with sample 60385384002. Only 1 QC indicator out, no qualification necessary.

3029720/3029721: MS % recovery low for sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

March 14, 2022

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

RE: Project: AMEREN LCPA-CA
Pace Project No.: 60385386

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between November 03, 2021 and November 06, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

REV-1, 3/3/21: Lithium reanalyzed at lower dilution to meet action limit.

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Indianapolis

7726 Moller Road, Indianapolis, IN 46268

Illinois Accreditation #: 200074

Indiana Drinking Water Laboratory #: C-49-06

Kansas/TNI Certification #: E-10177

Kentucky UST Agency Interest #: 80226

Kentucky WW Laboratory ID #: 98019

Michigan Drinking Water Laboratory #9050

Ohio VAP Certified Laboratory #: CL0065

Oklahoma Laboratory #: 9204

Texas Certification #: T104704355

Wisconsin Laboratory #: 999788130

USDA Soil Permit #: P330-19-00257

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-19-12

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60385386001	L-AM-1S	Water	11/02/21 10:51	11/03/21 03:48
60385386004	L-AM-1D	Water	11/02/21 12:07	11/03/21 03:48
60385386006	L-CA-DUP-1	Water	11/02/21 00:00	11/03/21 03:48
60385386007	L-S-1	Water	11/02/21 14:00	11/03/21 03:48
60385386008	L-CA-MS-1	Water	11/02/21 12:07	11/03/21 03:48
60385386009	L-CA-MSD-1	Water	11/02/21 12:07	11/03/21 03:48
60385386010	L-AMW-8	Water	11/03/21 10:06	11/06/21 05:30
60385386015	L-MW-24	Water	11/04/21 10:24	11/06/21 05:30
60385386017	L-MW-33(D)	Water	11/03/21 14:44	11/06/21 05:30
60385386018	L-MW-34(D)	Water	11/03/21 15:50	11/06/21 05:30
60385386019	L-MW-35(D)	Water	11/04/21 11:33	11/06/21 05:30
60385386020	L-TP-1D	Water	11/04/21 15:41	11/06/21 05:30
60385386021	L-TP-2M	Water	11/04/21 13:23	11/06/21 05:30
60385386022	L-TP-2D	Water	11/04/21 15:18	11/06/21 05:30
60385386023	L-TP-3M	Water	11/03/21 12:02	11/06/21 05:30
60385386024	L-TP-3D	Water	11/03/21 13:27	11/06/21 05:30
60385386025	L-TP-4D	Water	11/03/21 10:31	11/06/21 05:30
60385386026	L-CA-DUP-2	Water	11/03/21 00:00	11/06/21 05:30
60385386027	L-CA-DUP-3	Water	11/03/21 00:00	11/06/21 05:30
60385386028	L-CA-FB-1	Water	11/03/21 10:30	11/06/21 05:30
60385386029	L-CA-FB-2	Water	11/04/21 12:00	11/06/21 05:30
60385386030	L-CA-FB-3	Water	11/03/21 15:10	11/06/21 05:30
60385386031	L-MS-2	Water	11/03/21 12:02	11/06/21 05:30
60385386032	L-MSD-2	Water	11/03/21 12:02	11/06/21 05:30
60385386002	L-BMW-1S	Water	11/01/21 12:10	11/03/21 03:48
60385386003	L-BMW-2S	Water	11/01/21 13:40	11/03/21 03:48
60385386005	L-LMW-2S	Water	11/02/21 12:20	11/03/21 03:48
60385386011	L-LMW-1S	Water	11/04/21 10:55	11/06/21 05:30
60385386012	L-LMW-4S	Water	11/03/21 12:00	11/06/21 05:30
60385386013	L-LMW-7S	Water	11/05/21 11:47	11/06/21 05:30
60385386014	L-LMW-8S	Water	11/05/21 12:48	11/06/21 05:30
60385386016	L-MW-26	Water	11/04/21 12:55	11/06/21 05:30

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385386001	L-AM-1S	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386004	L-AM-1D	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386006	L-CA-DUP-1	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60385386007	L-S-1	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60385386008	L-CA-MS-1	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
60385386009	L-CA-MSD-1	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
60385386010	L-AMW-8	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60385386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385386015	L-MW-24	SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
		EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385386017	L-MW-33(D)	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385386018	L-MW-34(D)	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385386019	L-MW-35(D)	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385386020	L-TP-1D	SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
		EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60385386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385386021	L-TP-2M	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386022	L-TP-2D	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386023	L-TP-3M	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	ALH, LDB	3	PASI-K
60385386024	L-TP-3D	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
60385386025	L-TP-4D	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386026	L-CA-DUP-2	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60385386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385386027	L-CA-DUP-3	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385386028	L-CA-FB-1	SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
60385386029	L-CA-FB-2	EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60385386030	L-CA-FB-3	SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
		EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385386031	L-MS-2	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60385386032	L-MSD-2	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385386002	L-BMW-1S	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386003	L-BMW-2S	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386005	L-LMW-2S	EPA 200.7	MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	MAW	3	PASI-K
60385386011	L-LMW-1S	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385386012	L-LMW-4S	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60385386013	L-LMW-7S	EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60385386014	L-LMW-8S	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
		EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
60385386016	L-MW-26	SM 2540C	BLA	1	PASI-K
		EPA 300.0	LDB, MAW	3	PASI-K
		EPA 200.7	JLH, MA1	10	PASI-K
		EPA 200.8	MRV	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		SM 2320B	SWJ	1	PASI-I
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	ALH	3	PASI-K

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-AM-1S **Lab ID: 60385386001** Collected: 11/02/21 10:51 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	655	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:48	7440-39-3	
Boron	262	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:48	7440-42-8	
Calcium	201000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:49	7440-70-2	
Iron	12800	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:48	7439-89-6	
Lithium	37.5	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 18:55	7439-93-2	
Magnesium	37700	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:48	7439-95-4	
Manganese	2500	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:48	7439-96-5	
Molybdenum	6.5J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:48	7439-98-7	
Potassium	7290	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:48	7440-09-7	
Sodium	81600	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:48	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.8	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:18	7440-38-2	
Chromium	0.24J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:18	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:18	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	537	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	851	mg/L	13.3	13.3	1		11/09/21 09:45		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	164	mg/L	10.0	3.9	10		11/19/21 17:27	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/19/21 16:34	16984-48-8	
Sulfate	24.9	mg/L	5.0	2.1	5		11/19/21 16:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-AM-1D **Lab ID: 60385386004** Collected: 11/02/21 12:07 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	75.6	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:54	7440-39-3	
Boron	7500	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:54	7440-42-8	
Calcium	120000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:59	7440-70-2	
Iron	5620	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:54	7439-89-6	
Lithium	35.0	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 19:03	7439-93-2	
Magnesium	15500	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:54	7439-95-4	
Manganese	305	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:54	7439-96-5	
Molybdenum	311	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:54	7439-98-7	
Potassium	8650	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:54	7440-09-7	
Sodium	121000	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:54	7440-23-5	M1
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.9	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:27	7440-38-2	
Chromium	0.34J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:27	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:27	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	152	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	790	mg/L	10.0	10.0	1		11/09/21 09:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	44.8	mg/L	5.0	1.9	5		11/19/21 19:14	16887-00-6	
Fluoride	0.32	mg/L	0.20	0.086	1		11/19/21 18:34	16984-48-8	
Sulfate	377	mg/L	50.0	21.0	50		11/19/21 20:21	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-DUP-1 **Lab ID: 60385386006** Collected: 11/02/21 00:00 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	662	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:07	7440-39-3	
Boron	262	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:07	7440-42-8	
Calcium	200000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:05	7440-70-2	
Iron	12500	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:07	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/22/21 16:33	12/01/21 14:05	7439-93-2	
Magnesium	37600	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:07	7439-95-4	
Manganese	2470	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:07	7439-96-5	
Molybdenum	6.6J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:07	7439-98-7	
Potassium	7110	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:07	7440-09-7	
Sodium	80800	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:07	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.5	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:35	7440-38-2	
Chromium	<0.23	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:35	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:35	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	528	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	873	mg/L	13.3	13.3	1		11/09/21 09:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	158	mg/L	20.0	7.8	20		11/19/21 21:41	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/19/21 21:28	16984-48-8	
Sulfate	26.0	mg/L	2.0	0.84	2		11/21/21 17:57	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-S-1 **Lab ID: 60385386007** Collected: 11/02/21 14:00 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	352	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:09	7440-39-3	
Boron	74.0J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:09	7440-42-8	
Calcium	146000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:07	7440-70-2	
Iron	132	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:09	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/22/21 16:33	12/01/21 14:07	7439-93-2	
Magnesium	20100	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:09	7439-95-4	
Manganese	664	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:09	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:09	7439-98-7	
Potassium	25400	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:09	7440-09-7	
Sodium	3330	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:09	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.71J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:37	7440-38-2	
Chromium	0.34J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:37	7440-47-3	
Selenium	0.27J	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:37	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	427	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	505	mg/L	10.0	10.0	1		11/09/21 09:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	1.1	mg/L	1.0	0.39	1		11/19/21 21:55	16887-00-6	B
Fluoride	0.15J	mg/L	0.20	0.086	1		11/19/21 21:55	16984-48-8	
Sulfate	21.7	mg/L	2.0	0.84	2		11/21/21 18:08	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-AMW-8 **Lab ID: 60385386010** Collected: 11/03/21 10:06 Received: 11/06/21 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	192	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:12	7440-39-3	
Boron	6150	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:12	7440-42-8	
Calcium	64700	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 17:12	7440-70-2	
Iron	8930	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:12	7439-89-6	
Lithium	16.2	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 17:12	7439-93-2	
Magnesium	10100	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:12	7439-95-4	
Manganese	313	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:12	7439-96-5	
Molybdenum	291	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:12	7439-98-7	
Potassium	5880	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:12	7440-09-7	
Sodium	79000	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:12	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.56J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:47	7440-38-2	
Chromium	0.40J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:47	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:47	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	64.6	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	536	mg/L	10.0	10.0	1		11/10/21 14:30		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.7	mg/L	2.0	0.78	2		11/18/21 18:17	16887-00-6	
Fluoride	0.33	mg/L	0.20	0.086	1		11/18/21 17:36	16984-48-8	
Sulfate	271	mg/L	20.0	8.4	20		11/18/21 18:30	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MW-24 **Lab ID: 60385386015** Collected: 11/04/21 10:24 Received: 11/06/21 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	199	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:22	7440-39-3	
Boron	96.8J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:22	7440-42-8	
Calcium	141000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:22	7440-70-2	
Iron	81.9	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:22	7439-89-6	
Lithium	26.2J	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:17	7439-93-2	
Magnesium	28000	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:22	7439-95-4	
Manganese	60.2	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:22	7439-96-5	
Molybdenum	2.9J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:22	7439-98-7	
Potassium	5800	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:22	7440-09-7	
Sodium	8420	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:22	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	0.58J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:56	7440-38-2	
Chromium	0.34J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:56	7440-47-3	
Selenium	3.6	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:56	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	415	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	513	mg/L	10.0	10.0	1		11/11/21 08:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	5.0	mg/L	1.0	0.39	1		11/19/21 07:12	16887-00-6	B
Fluoride	0.14J	mg/L	0.20	0.086	1		11/19/21 07:12	16984-48-8	
Sulfate	29.8	mg/L	5.0	2.1	5		11/19/21 07:26	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MW-33(D) **Lab ID: 60385386017** Collected: 11/03/21 14:44 Received: 11/06/21 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	105	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:35	7440-39-3	
Boron	9640	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:35	7440-42-8	
Calcium	84100	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 17:35	7440-70-2	
Iron	4300	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:35	7439-89-6	
Lithium	32.6	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 17:35	7439-93-2	
Magnesium	18200	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:35	7439-95-4	
Manganese	219	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:35	7439-96-5	
Molybdenum	917	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:35	7439-98-7	
Potassium	6660	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:35	7440-09-7	
Sodium	91800	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:35	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.5	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:08	7440-38-2	
Chromium	0.42J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:08	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:08	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	110	mg/L	2.0	2.0	1		11/12/21 11:19		
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		11/10/21 14:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	25.3	mg/L	20.0	7.8	20		11/19/21 07:52	16887-00-6	B
Fluoride	0.31	mg/L	0.20	0.086	1		11/19/21 07:39	16984-48-8	
Sulfate	328	mg/L	20.0	8.4	20		11/19/21 07:52	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MW-34(D) **Lab ID: 60385386018** Collected: 11/03/21 15:50 Received: 11/06/21 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	88.4	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:37	7440-39-3	
Boron	10100	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:37	7440-42-8	
Calcium	87500	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 17:37	7440-70-2	
Iron	4840	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:37	7439-89-6	
Lithium	34.0	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 17:37	7439-93-2	
Magnesium	21200	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:37	7439-95-4	
Manganese	219	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:37	7439-96-5	
Molybdenum	960	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:37	7439-98-7	
Potassium	6460	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:37	7440-09-7	
Sodium	78200	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:37	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	3.6	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:09	7440-38-2	
Chromium	0.31J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:09	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:09	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	159	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	661	mg/L	10.0	10.0	1		11/10/21 14:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	23.5	mg/L	20.0	7.8	20		11/19/21 08:19	16887-00-6	B
Fluoride	0.27	mg/L	0.20	0.086	1		11/19/21 08:06	16984-48-8	
Sulfate	270	mg/L	20.0	8.4	20		11/19/21 08:19	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MW-35(D) **Lab ID: 60385386019** Collected: 11/04/21 11:33 Received: 11/06/21 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	43.6	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:39	7440-39-3	
Boron	8700	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:39	7440-42-8	
Calcium	130000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:30	7440-70-2	
Iron	5300	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:39	7439-89-6	
Lithium	25.7J	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:27	7439-93-2	
Magnesium	27600	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:39	7439-95-4	
Manganese	383	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:39	7439-96-5	
Molybdenum	584	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:39	7439-98-7	
Potassium	5540	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:39	7440-09-7	
Sodium	97500	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:39	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.16J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:11	7440-38-2	
Chromium	0.40J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:11	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:11	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	159	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	855	mg/L	10.0	10.0	1		11/11/21 08:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	18.2	mg/L	1.0	0.39	1		11/19/21 08:32	16887-00-6	
Fluoride	0.25	mg/L	0.20	0.086	1		11/19/21 08:32	16984-48-8	
Sulfate	410	mg/L	100	42.1	100		11/19/21 08:46	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-1D **Lab ID: 60385386020** Collected: 11/04/21 15:41 Received: 11/06/21 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	1430	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:41	7440-39-3	
Boron	79.6J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:41	7440-42-8	
Calcium	143000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:32	7440-70-2	
Iron	7890	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:41	7439-89-6	
Lithium	24.4J	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:30	7439-93-2	
Magnesium	35100	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:41	7439-95-4	
Manganese	220	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:41	7439-96-5	
Molybdenum	5.1J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:41	7439-98-7	
Potassium	4170	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:41	7440-09-7	
Sodium	13200	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:41	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	1.4	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:13	7440-38-2	
Chromium	0.32J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:13	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:13	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	472	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	521	mg/L	10.0	10.0	1		11/11/21 08:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	4.5	mg/L	1.0	0.39	1		11/19/21 12:06	16887-00-6	B
Fluoride	0.17J	mg/L	0.20	0.086	1		11/19/21 12:06	16984-48-8	
Sulfate	12.9	mg/L	1.0	0.42	1		11/19/21 12:06	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-2M **Lab ID: 60385386021** Collected: 11/04/21 13:23 Received: 11/06/21 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	123	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:48	7440-39-3	
Boron	2580	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:48	7440-42-8	
Calcium	94300	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 17:48	7440-70-2	
Iron	2830	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:48	7439-89-6	
Lithium	32.8	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 17:48	7439-93-2	
Magnesium	14400	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:48	7439-95-4	
Manganese	398	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:48	7439-96-5	
Molybdenum	92.3	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:48	7439-98-7	
Potassium	6520	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:48	7440-09-7	
Sodium	65500	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:48	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.61J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:14	7440-38-2	
Chromium	0.27J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:14	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:14	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	222	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	525	mg/L	10.0	10.0	1		11/11/21 08:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.4	mg/L	10.0	3.9	10		11/19/21 09:39	16887-00-6	B
Fluoride	0.42	mg/L	0.20	0.086	1		11/19/21 09:26	16984-48-8	
Sulfate	158	mg/L	10.0	4.2	10		11/19/21 09:39	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-2D **Lab ID: 60385386022** Collected: 11/04/21 15:18 Received: 11/06/21 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	117	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:50	7440-39-3	
Boron	1930	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:50	7440-42-8	
Calcium	94000	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 17:50	7440-70-2	
Iron	3440	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:50	7439-89-6	
Lithium	42.0	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 17:50	7439-93-2	
Magnesium	17100	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:50	7439-95-4	
Manganese	309	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:50	7439-96-5	
Molybdenum	129	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:50	7439-98-7	
Potassium	5620	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:50	7440-09-7	
Sodium	59800	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:50	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	11.1	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:16	7440-38-2	
Chromium	0.25J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:16	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:16	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	232	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	520	mg/L	10.0	10.0	1		11/11/21 08:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.9	mg/L	10.0	3.9	10		11/19/21 10:06	16887-00-6	B
Fluoride	0.39	mg/L	0.20	0.086	1		11/19/21 09:53	16984-48-8	
Sulfate	152	mg/L	10.0	4.2	10		11/19/21 10:06	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-3M **Lab ID: 60385386023** Collected: 11/03/21 12:02 Received: 11/06/21 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	219	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:56	7440-39-3	
Boron	6550	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:56	7440-42-8	
Calcium	93100	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 17:56	7440-70-2	M1
Iron	6750	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:56	7439-89-6	
Lithium	30.9	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 17:56	7439-93-2	
Magnesium	20500	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:56	7439-95-4	
Manganese	1020	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:56	7439-96-5	
Molybdenum	424	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:56	7439-98-7	
Potassium	5040	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:56	7440-09-7	
Sodium	73700	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:56	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	0.34J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:21	7440-38-2	
Chromium	0.33J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:21	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:21	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	188	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	561	mg/L	10.0	10.0	1		11/10/21 14:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	18.9	mg/L	2.0	0.78	2		11/20/21 14:12	16887-00-6	
Fluoride	0.36	mg/L	0.20	0.086	1		11/18/21 15:37	16984-48-8	
Sulfate	246	mg/L	20.0	8.4	20		11/18/21 16:11	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-3D **Lab ID: 60385386024** Collected: 11/03/21 13:27 Received: 11/06/21 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	72.7	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 18:03	7440-39-3	
Boron	10400	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 18:03	7440-42-8	
Calcium	108000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:39	7440-70-2	
Iron	4790	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 18:03	7439-89-6	
Lithium	33.1	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:32	7439-93-2	
Magnesium	23700	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 18:03	7439-95-4	
Manganese	180	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 18:03	7439-96-5	
Molybdenum	531	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 18:03	7439-98-7	
Potassium	6910	ug/L	500	146	1	11/22/21 16:33	11/30/21 18:03	7440-09-7	
Sodium	126000	ug/L	500	254	1	11/22/21 16:33	11/30/21 18:03	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.7	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:28	7440-38-2	
Chromium	0.33J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:28	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:28	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	110	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	860	mg/L	10.0	10.0	1		11/10/21 14:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	25.2	mg/L	5.0	1.9	5		11/23/21 11:58	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/23/21 11:23	16984-48-8	
Sulfate	469	mg/L	50.0	21.0	50		11/25/21 12:05	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-4D **Lab ID: 60385386025** Collected: 11/03/21 10:31 Received: 11/06/21 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	431	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 18:05	7440-39-3	
Boron	6680	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 18:05	7440-42-8	
Calcium	128000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:41	7440-70-2	
Iron	5580	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 18:05	7439-89-6	
Lithium	<23.0	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:35	7439-93-2	D3
Magnesium	33100	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 18:05	7439-95-4	
Manganese	336	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 18:05	7439-96-5	
Molybdenum	4.0J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 18:05	7439-98-7	
Potassium	4800	ug/L	500	146	1	11/22/21 16:33	11/30/21 18:05	7440-09-7	
Sodium	28500	ug/L	500	254	1	11/22/21 16:33	11/30/21 18:05	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.7	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:30	7440-38-2	
Chromium	<0.23	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:30	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:30	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	291	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	637	mg/L	10.0	10.0	1		11/10/21 14:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	14.3	mg/L	1.0	0.39	1		11/19/21 10:46	16887-00-6	
Fluoride	0.19J	mg/L	0.20	0.086	1		11/19/21 10:46	16984-48-8	
Sulfate	166	mg/L	20.0	8.4	20		11/19/21 11:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-DUP-2 **Lab ID: 60385386026** Collected: 11/03/21 00:00 Received: 11/06/21 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	151	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 18:07	7440-39-3	
Boron	8030	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 18:07	7440-42-8	
Calcium	132000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:47	7440-70-2	
Iron	8390	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 18:07	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/22/21 16:33	12/01/21 14:47	7439-93-2	
Magnesium	25200	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 18:07	7439-95-4	
Manganese	1680	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 18:07	7439-96-5	
Molybdenum	138	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 18:07	7439-98-7	
Potassium	6860	ug/L	500	146	1	11/22/21 16:33	11/30/21 18:07	7440-09-7	
Sodium	91100	ug/L	500	254	1	11/22/21 16:33	11/30/21 18:07	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	23.3	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:31	7440-38-2	
Chromium	0.27J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:31	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:31	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	346	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	791	mg/L	10.0	10.0	1		11/10/21 14:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	24.2	mg/L	5.0	1.9	5		11/23/21 13:45	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/23/21 13:33	16984-48-8	
Sulfate	221	mg/L	50.0	21.0	50		11/25/21 12:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-DUP-3 **Lab ID: 60385386027** Collected: 11/03/21 00:00 Received: 11/06/21 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	69.5	ug/L	5.0	1.8	1	11/27/21 16:56	11/30/21 18:13	7440-39-3	
Boron	10300	ug/L	100	8.6	1	11/27/21 16:56	11/30/21 18:13	7440-42-8	
Calcium	105000	ug/L	2000	754	10	11/27/21 16:56	12/01/21 14:49	7440-70-2	
Iron	4680	ug/L	50.0	21.4	1	11/27/21 16:56	11/30/21 18:13	7439-89-6	
Lithium	<76.7	ug/L	100	76.7	10	11/27/21 16:56	12/01/21 14:49	7439-93-2	
Magnesium	23200	ug/L	50.0	31.4	1	11/27/21 16:56	11/30/21 18:13	7439-95-4	
Manganese	175	ug/L	5.0	0.74	1	11/27/21 16:56	11/30/21 18:13	7439-96-5	
Molybdenum	522	ug/L	20.0	2.2	1	11/27/21 16:56	11/30/21 18:13	7439-98-7	
Potassium	6850	ug/L	500	146	1	11/27/21 16:56	11/30/21 18:13	7440-09-7	
Sodium	125000	ug/L	500	254	1	11/27/21 16:56	11/30/21 18:13	7440-23-5	M1
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.6	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:33	7440-38-2	
Chromium	0.26J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:33	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:33	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	109	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	900	mg/L	10.0	10.0	1		11/10/21 14:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	25.8	mg/L	5.0	1.9	5		11/23/21 21:23	16887-00-6	B
Fluoride	0.33	mg/L	0.20	0.086	1		11/20/21 18:43	16984-48-8	
Sulfate	547	mg/L	50.0	21.0	50		11/23/21 22:03	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-FB-1 **Lab ID: 60385386028** Collected: 11/03/21 10:30 Received: 11/06/21 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	2.5J	ug/L	5.0	1.8	1	11/27/21 16:56	11/30/21 18:24	7440-39-3	
Boron	19.6J	ug/L	100	8.6	1	11/27/21 16:56	11/30/21 18:24	7440-42-8	B
Calcium	<75.4	ug/L	200	75.4	1	11/27/21 16:56	11/30/21 18:24	7440-70-2	
Iron	<21.4	ug/L	50.0	21.4	1	11/27/21 16:56	11/30/21 18:24	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	11/27/21 16:56	11/30/21 18:24	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	11/27/21 16:56	11/30/21 18:24	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	11/27/21 16:56	11/30/21 18:24	7439-96-5	
Molybdenum	3.8J	ug/L	20.0	2.2	1	11/27/21 16:56	11/30/21 18:24	7439-98-7	
Potassium	<146	ug/L	500	146	1	11/27/21 16:56	11/30/21 18:24	7440-09-7	
Sodium	<254	ug/L	500	254	1	11/27/21 16:56	11/30/21 18:24	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.11	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 13:43	7440-38-2	
Chromium	0.44J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 13:43	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 13:43	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	2.2	mg/L	2.0	2.0	1		11/12/21 11:19		
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		11/10/21 14:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.55J	mg/L	1.0	0.39	1		11/18/21 12:10	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/18/21 12:10	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/18/21 12:10	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-FB-2 **Lab ID: 60385386029** Collected: 11/04/21 12:00 Received: 11/06/21 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	<1.8	ug/L	5.0	1.8	1	11/27/21 16:56	11/30/21 18:26	7440-39-3	
Boron	<8.6	ug/L	100	8.6	1	11/27/21 16:56	11/30/21 18:26	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	11/27/21 16:56	11/30/21 18:26	7440-70-2	
Iron	<21.4	ug/L	50.0	21.4	1	11/27/21 16:56	11/30/21 18:26	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	11/27/21 16:56	11/30/21 18:26	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	11/27/21 16:56	11/30/21 18:26	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	11/27/21 16:56	11/30/21 18:26	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/27/21 16:56	11/30/21 18:26	7439-98-7	
Potassium	<146	ug/L	500	146	1	11/27/21 16:56	11/30/21 18:26	7440-09-7	
Sodium	<254	ug/L	500	254	1	11/27/21 16:56	11/30/21 18:26	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.11	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 13:54	7440-38-2	
Chromium	0.32J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 13:54	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 13:54	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	2.4	mg/L	2.0	2.0	1		11/12/21 11:19		
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		11/11/21 08:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.53J	mg/L	1.0	0.39	1		11/18/21 12:29	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/18/21 12:29	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/18/21 12:29	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-FB-3 **Lab ID: 60385386030** Collected: 11/03/21 15:10 Received: 11/06/21 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	<1.8	ug/L	5.0	1.8	1	11/27/21 16:56	11/30/21 18:28	7440-39-3	
Boron	<8.6	ug/L	100	8.6	1	11/27/21 16:56	11/30/21 18:28	7440-42-8	
Calcium	<75.4	ug/L	200	75.4	1	11/27/21 16:56	11/30/21 18:28	7440-70-2	
Iron	<21.4	ug/L	50.0	21.4	1	11/27/21 16:56	11/30/21 18:28	7439-89-6	
Lithium	<7.7	ug/L	10.0	7.7	1	11/27/21 16:56	11/30/21 18:28	7439-93-2	
Magnesium	<31.4	ug/L	50.0	31.4	1	11/27/21 16:56	11/30/21 18:28	7439-95-4	
Manganese	<0.74	ug/L	5.0	0.74	1	11/27/21 16:56	11/30/21 18:28	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/27/21 16:56	11/30/21 18:28	7439-98-7	
Potassium	<146	ug/L	500	146	1	11/27/21 16:56	11/30/21 18:28	7440-09-7	
Sodium	<254	ug/L	500	254	1	11/27/21 16:56	11/30/21 18:28	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	<0.11	ug/L	1.0	0.11	1	11/27/21 16:56	11/30/21 13:55	7440-38-2	
Chromium	0.56J	ug/L	1.0	0.23	1	11/27/21 16:56	11/30/21 13:55	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/27/21 16:56	11/30/21 13:55	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	<2.0	mg/L	2.0	2.0	1		11/12/21 16:29		
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		11/10/21 14:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	0.53J	mg/L	1.0	0.39	1		11/18/21 13:24	16887-00-6	B
Fluoride	<0.086	mg/L	0.20	0.086	1		11/18/21 13:24	16984-48-8	
Sulfate	<0.42	mg/L	1.0	0.42	1		11/18/21 13:24	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-BMW-1S **Lab ID: 60385386002** Collected: 11/01/21 12:10 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Barium	412	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:50	7440-39-3	
Boron	77.0J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:50	7440-42-8	
Calcium	260000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:51	7440-70-2	
Iron	29800	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:50	7439-89-6	
Lithium	<23.0	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 18:58	7439-93-2	D3
Magnesium	57800	ug/L	500	314	10	11/22/21 16:33	12/01/21 13:51	7439-95-4	
Manganese	2940	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:50	7439-96-5	
Molybdenum	2.3J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:50	7439-98-7	
Potassium	5850	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:50	7440-09-7	
Sodium	24900	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:50	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	38.4	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:20	7440-38-2	
Chromium	0.33J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:20	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:20	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	696	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	953	mg/L	13.3	13.3	1		11/09/21 09:45		H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	13.7	mg/L	1.0	0.39	1		11/19/21 17:41	16887-00-6	
Fluoride	<0.086	mg/L	0.20	0.086	1		11/19/21 17:41	16984-48-8	
Sulfate	146	mg/L	20.0	8.4	20		11/22/21 21:56	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-BMW-2S **Lab ID: 60385386003** Collected: 11/01/21 13:40 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Barium	245	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 16:52	7440-39-3	
Boron	40.7J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 16:52	7440-42-8	
Calcium	140000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 13:57	7440-70-2	
Iron	<21.4	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 16:52	7439-89-6	
Lithium	<23.0	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 19:00	7439-93-2	D3
Magnesium	20400	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 16:52	7439-95-4	
Manganese	4.3J	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 16:52	7439-96-5	
Molybdenum	2.6J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 16:52	7439-98-7	
Potassium	5460	ug/L	500	146	1	11/22/21 16:33	11/30/21 16:52	7440-09-7	
Sodium	3990	ug/L	500	254	1	11/22/21 16:33	11/30/21 16:52	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	0.52J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:22	7440-38-2	
Chromium	0.25J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:22	7440-47-3	
Selenium	2.9	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:22	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	357	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	475	mg/L	10.0	10.0	1		11/09/21 09:46		H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	1.7	mg/L	1.0	0.39	1		11/19/21 18:07	16887-00-6	B
Fluoride	0.14J	mg/L	0.20	0.086	1		11/19/21 18:07	16984-48-8	
Sulfate	46.2	mg/L	5.0	2.1	5		11/19/21 18:21	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-LMW-2S **Lab ID: 60385386005** Collected: 11/02/21 12:20 Received: 11/03/21 03:48 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Barium	44.3	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:05	7440-39-3	
Boron	3180	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:05	7440-42-8	
Calcium	68700	ug/L	200	75.4	1	11/22/21 16:33	11/30/21 17:05	7440-70-2	
Iron	<21.4	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:05	7439-89-6	
Lithium	11.5	ug/L	10.0	7.7	1	11/22/21 16:33	11/30/21 17:05	7439-93-2	
Magnesium	87.0	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:05	7439-95-4	
Manganese	1.0J	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:05	7439-96-5	
Molybdenum	164	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:05	7439-98-7	
Potassium	9350	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:05	7440-09-7	
Sodium	66300	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:05	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	45.5	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:34	7440-38-2	
Chromium	0.25J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:34	7440-47-3	
Selenium	0.21J	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:34	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	30.9	mg/L	2.0	2.0	1		11/10/21 10:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	473	mg/L	10.0	10.0	1		11/09/21 09:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	17.8	mg/L	1.0	0.39	1		11/19/21 21:01	16887-00-6	
Fluoride	0.15J	mg/L	0.20	0.086	1		11/19/21 21:01	16984-48-8	
Sulfate	255	mg/L	20.0	8.4	20		11/19/21 21:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-LMW-1S **Lab ID: 60385386011** Collected: 11/04/21 10:55 Received: 11/06/21 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	118	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:14	7440-39-3	
Boron	3970	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:14	7440-42-8	
Calcium	147000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:09	7440-70-2	
Iron	2270	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:14	7439-89-6	
Lithium	<23.0	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:02	7439-93-2	D3
Magnesium	24900	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:14	7439-95-4	
Manganese	979	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:14	7439-96-5	
Molybdenum	4.3J	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:14	7439-98-7	
Potassium	4220	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:14	7440-09-7	
Sodium	9430	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:14	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	6.1	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:49	7440-38-2	
Chromium	0.29J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:49	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:49	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	332	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	547	mg/L	10.0	10.0	1		11/11/21 08:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	2.5	mg/L	1.0	0.39	1		11/18/21 18:43	16887-00-6	B
Fluoride	0.18J	mg/L	0.20	0.086	1		11/18/21 18:43	16984-48-8	
Sulfate	114	mg/L	20.0	8.4	20		11/18/21 18:57	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-LMW-4S **Lab ID: 60385386012** Collected: 11/03/21 12:00 Received: 11/06/21 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	151	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:16	7440-39-3	
Boron	8060	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:16	7440-42-8	
Calcium	131000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:11	7440-70-2	
Iron	8510	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:16	7439-89-6	
Lithium	29.0J	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:05	7439-93-2	
Magnesium	25500	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:16	7439-95-4	
Manganese	1690	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:16	7439-96-5	
Molybdenum	142	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:16	7439-98-7	
Potassium	6880	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:16	7440-09-7	
Sodium	91300	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:16	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	23.8	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:51	7440-38-2	
Chromium	0.45J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:51	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:51	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	344	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	722	mg/L	10.0	10.0	1		11/10/21 14:30		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.8	mg/L	5.0	1.9	5		11/18/21 19:23	16887-00-6	B
Fluoride	0.25	mg/L	0.20	0.086	1		11/18/21 19:10	16984-48-8	
Sulfate	208	mg/L	20.0	8.4	20		11/18/21 19:37	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-LMW-7S **Lab ID: 60385386013** Collected: 11/05/21 11:47 Received: 11/06/21 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	271	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:18	7440-39-3	
Boron	7540	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:18	7440-42-8	
Calcium	181000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:14	7440-70-2	
Iron	2820	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:18	7439-89-6	
Lithium	43.9	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:07	7439-93-2	
Magnesium	37100	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:18	7439-95-4	
Manganese	1570	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:18	7439-96-5	
Molybdenum	76.1	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:18	7439-98-7	
Potassium	7320	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:18	7440-09-7	
Sodium	48700	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:18	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	6.8	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:52	7440-38-2	
Chromium	0.40J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:52	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:52	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	416	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	799	mg/L	10.0	10.0	1		11/11/21 08:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	18.6	mg/L	1.0	0.39	1		11/18/21 19:50	16887-00-6	
Fluoride	0.19J	mg/L	0.20	0.086	1		11/18/21 19:50	16984-48-8	
Sulfate	215	mg/L	20.0	8.4	20		11/18/21 20:04	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-LMW-8S **Lab ID: 60385386014** Collected: 11/05/21 12:48 Received: 11/06/21 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	126	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:20	7440-39-3	
Boron	4990	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:20	7440-42-8	
Calcium	169000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:16	7440-70-2	
Iron	4230	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:20	7439-89-6	
Lithium	<23.0	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:10	7439-93-2	D3
Magnesium	29000	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:20	7439-95-4	
Manganese	2030	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:20	7439-96-5	
Molybdenum	190	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:20	7439-98-7	
Potassium	6360	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:20	7440-09-7	
Sodium	63700	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:20	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.9	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 12:54	7440-38-2	
Chromium	0.24J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 12:54	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 12:54	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	249	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	850	mg/L	10.0	10.0	1		11/11/21 08:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	12.0	mg/L	1.0	0.39	1		11/18/21 20:17	16887-00-6	
Fluoride	0.43	mg/L	0.20	0.086	1		11/18/21 20:17	16984-48-8	
Sulfate	383	mg/L	50.0	21.0	50		11/19/21 12:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MW-26 **Lab ID: 60385386016** Collected: 11/04/21 12:55 Received: 11/06/21 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	216	ug/L	5.0	1.8	1	11/22/21 16:33	11/30/21 17:24	7440-39-3	
Boron	68.7J	ug/L	100	8.6	1	11/22/21 16:33	11/30/21 17:24	7440-42-8	
Calcium	146000	ug/L	2000	754	10	11/22/21 16:33	12/01/21 14:24	7440-70-2	
Iron	43.7J	ug/L	50.0	21.4	1	11/22/21 16:33	11/30/21 17:24	7439-89-6	
Lithium	28.5J	ug/L	30.0	23.0	3	02/08/22 13:08	02/09/22 17:20	7439-93-2	
Magnesium	26300	ug/L	50.0	31.4	1	11/22/21 16:33	11/30/21 17:24	7439-95-4	
Manganese	464	ug/L	5.0	0.74	1	11/22/21 16:33	11/30/21 17:24	7439-96-5	
Molybdenum	<2.2	ug/L	20.0	2.2	1	11/22/21 16:33	11/30/21 17:24	7439-98-7	
Potassium	4310	ug/L	500	146	1	11/22/21 16:33	11/30/21 17:24	7440-09-7	
Sodium	6070	ug/L	500	254	1	11/22/21 16:33	11/30/21 17:24	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Arsenic	0.50J	ug/L	1.0	0.11	1	11/24/21 08:36	11/30/21 13:01	7440-38-2	M1
Chromium	0.33J	ug/L	1.0	0.23	1	11/24/21 08:36	11/30/21 13:01	7440-47-3	M1
Selenium	2.9	ug/L	1.0	0.18	1	11/24/21 08:36	11/30/21 13:01	7782-49-2	M1,R1
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Indianapolis									
Alkalinity, Total as CaCO3	390	mg/L	2.0	2.0	1		11/12/21 11:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	490	mg/L	10.0	10.0	1		11/11/21 08:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Chloride	6.2	mg/L	1.0	0.39	1		11/18/21 14:06	16887-00-6	B
Fluoride	0.24	mg/L	0.20	0.086	1		11/18/21 14:06	16984-48-8	
Sulfate	29.3	mg/L	5.0	2.1	5		11/18/21 15:02	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 757956 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007, 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020

METHOD BLANK: 3033339 Matrix: Water
 Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007, 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	11/30/21 16:44	
Boron	ug/L	<8.6	100	8.6	11/30/21 16:44	
Calcium	ug/L	<75.4	200	75.4	11/30/21 16:44	
Iron	ug/L	<21.4	50.0	21.4	11/30/21 16:44	
Lithium	ug/L	<7.7	10.0	7.7	11/30/21 16:44	
Magnesium	ug/L	<31.4	50.0	31.4	11/30/21 16:44	
Manganese	ug/L	<0.74	5.0	0.74	11/30/21 16:44	
Molybdenum	ug/L	<2.2	20.0	2.2	11/30/21 16:44	
Potassium	ug/L	<146	500	146	11/30/21 16:44	
Sodium	ug/L	<254	500	254	11/30/21 16:44	

LABORATORY CONTROL SAMPLE: 3033340

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	992	99	85-115	
Boron	ug/L	1000	957	96	85-115	
Calcium	ug/L	10000	9800	98	85-115	
Iron	ug/L	10000	9780	98	85-115	
Lithium	ug/L	1000	947	95	85-115	
Magnesium	ug/L	10000	10100	101	85-115	
Manganese	ug/L	1000	979	98	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9720	97	85-115	
Sodium	ug/L	10000	9980	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033341 3033342

Parameter	Units	3033341		3033342		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Barium	ug/L	75.6	1000	1090	1080	102	101	70-130	1	20	
Boron	ug/L	7500	1000	8410	8280	91	77	70-130	2	20	
Calcium	ug/L	120000	10000	128000	127000	87	74	70-130	1	20	
Iron	ug/L	5620	10000	15700	15400	100	98	70-130	2	20	
Lithium	ug/L	35.0		899	903				1	20	

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

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033341												3033342	
Parameter	Units	60385386004 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Magnesium	ug/L	15500	10000	10000	25200	24800	96	93	70-130	1	20		
Manganese	ug/L	305	1000	1000	1300	1290	99	98	70-130	1	20		
Molybdenum	ug/L	311	1000	1000	1360	1340	105	103	70-130	1	20		
Potassium	ug/L	8650	10000	10000	18800	18300	102	96	70-130	3	20		
Sodium	ug/L	121000	10000	10000	129000	127000	86	61	70-130	2	20	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033343												3033344	
Parameter	Units	60385386016 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Barium	ug/L	216	1000	1000	1240	1250	103	103	70-130	1	20		
Boron	ug/L	68.7J	1000	1000	1060	1060	99	99	70-130	0	20		
Calcium	ug/L	146000	10000	10000	158000	155000	123	95	70-130	2	20		
Iron	ug/L	43.7J	10000	10000	10200	10200	101	101	70-130	0	20		
Lithium	ug/L	28.5J			857	863				1	20		
Magnesium	ug/L	26300	10000	10000	36000	35900	97	96	70-130	0	20		
Manganese	ug/L	464	1000	1000	1490	1490	102	103	70-130	0	20		
Molybdenum	ug/L	<2.2	1000	1000	1050	1050	105	105	70-130	0	20		
Potassium	ug/L	4310	10000	10000	14500	14500	102	101	70-130	0	20		
Sodium	ug/L	6070	10000	10000	16400	16400	103	104	70-130	0	20		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 757957 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026

METHOD BLANK: 3033347 Matrix: Water
 Associated Lab Samples: 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	11/30/21 17:43	
Boron	ug/L	<8.6	100	8.6	11/30/21 17:43	
Calcium	ug/L	<75.4	200	75.4	11/30/21 17:43	
Iron	ug/L	<21.4	50.0	21.4	11/30/21 17:43	
Lithium	ug/L	<7.7	10.0	7.7	11/30/21 17:43	
Magnesium	ug/L	<31.4	50.0	31.4	11/30/21 17:43	
Manganese	ug/L	<0.74	5.0	0.74	11/30/21 17:43	
Molybdenum	ug/L	<2.2	20.0	2.2	11/30/21 17:43	
Potassium	ug/L	<146	500	146	11/30/21 17:43	
Sodium	ug/L	<254	500	254	11/30/21 17:43	

LABORATORY CONTROL SAMPLE: 3033348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	985	99	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lithium	ug/L	1000	969	97	85-115	
Magnesium	ug/L	10000	10400	104	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Molybdenum	ug/L	1000	1030	103	85-115	
Potassium	ug/L	10000	10100	101	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033349 3033350

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		60385386023 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Barium	ug/L	219	1000	1000	1250	1220	103	100	70-130	3	20	
Boron	ug/L	6550	1000	1000	7510	7380	96	83	70-130	2	20	
Calcium	ug/L	93100	10000	10000	107000	103000	136	97	70-130	4	20	M1
Iron	ug/L	6750	10000	10000	16900	16500	102	98	70-130	2	20	
Lithium	ug/L	30.9	1000	1000	885	868	85	84	70-130	2	20	
Magnesium	ug/L	20500	10000	10000	30300	29300	98	88	70-130	3	20	
Manganese	ug/L	1020	1000	1000	2040	1980	102	95	70-130	3	20	
Molybdenum	ug/L	424	1000	1000	1470	1440	105	102	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033349 3033350												
Parameter	Units	60385386023 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Potassium	ug/L	5040	10000	10000	15100	15100	100	100	70-130	0	20	
Sodium	ug/L	73700	10000	10000	83600	82400	99	86	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPC-CA

Pace Project No.: 60385386

QC Batch: 758172 Analysis Method: EPA 200.7
 QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
 Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386027, 60385386028, 60385386029, 60385386030

METHOD BLANK: 3034277 Matrix: Water

Associated Lab Samples: 60385386027, 60385386028, 60385386029, 60385386030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	11/30/21 18:09	
Boron	ug/L	15.5J	100	8.6	11/30/21 18:09	
Calcium	ug/L	95.6J	200	75.4	11/30/21 18:09	
Iron	ug/L	<21.4	50.0	21.4	11/30/21 18:09	
Lithium	ug/L	<7.7	10.0	7.7	11/30/21 18:09	
Magnesium	ug/L	<31.4	50.0	31.4	11/30/21 18:09	
Manganese	ug/L	<0.74	5.0	0.74	11/30/21 18:09	
Molybdenum	ug/L	<2.2	20.0	2.2	11/30/21 18:09	
Potassium	ug/L	<146	500	146	11/30/21 18:09	
Sodium	ug/L	<254	500	254	11/30/21 18:09	

LABORATORY CONTROL SAMPLE: 3034278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	981	98	85-115	
Boron	ug/L	1000	962	96	85-115	
Calcium	ug/L	10000	9750	97	85-115	
Iron	ug/L	10000	9750	97	85-115	
Lithium	ug/L	1000	943	94	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	973	97	85-115	
Molybdenum	ug/L	1000	992	99	85-115	
Potassium	ug/L	10000	9630	96	85-115	
Sodium	ug/L	10000	10000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034279 3034280

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60385386027 Result	Spike Conc.	Spike Conc.	MS Result						
Barium	ug/L	69.5	1000	1000	1060	1060	99	99	70-130	0	20
Boron	ug/L	10300	1000	1000	11100	11400	80	106	70-130	2	20
Calcium	ug/L	105000	10000	10000	113000	115000	73	96	70-130	2	20
Iron	ug/L	4680	10000	10000	14400	14500	97	98	70-130	1	20
Lithium	ug/L	<76.7	1000	1000	873	913	85	89	70-130	4	20
Magnesium	ug/L	23200	10000	10000	32000	32700	88	95	70-130	2	20
Manganese	ug/L	175	1000	1000	1140	1160	97	98	70-130	1	20
Molybdenum	ug/L	522	1000	1000	1530	1540	101	101	70-130	0	20

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameter	Units	3034279		3034280		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60385386027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Potassium	ug/L	6850	10000	10000	16400	16700	95	99	70-130	2	20		
Sodium	ug/L	125000	10000	10000	132000	134000	67	94	70-130	2	20	M1	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60385386

QC Batch:	770151	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386019, 60385386020, 60385386024, 60385386025

METHOD BLANK: 3075343 Matrix: Water
Associated Lab Samples: 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386019, 60385386020, 60385386024, 60385386025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lithium	ug/L	<7.7	10.0	7.7	02/09/22 16:57	

LABORATORY CONTROL SAMPLE: 3075344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3075345 3075346

Parameter	Units	60385386016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	28.5J	1000	1000	1040	1040	101	101	70-130	0	20	

MATRIX SPIKE SAMPLE: 3075347

Parameter	Units	60385386025 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	<23.0	1000	1030	100	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 770153	Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7	Analysis Description: 200.7 Metals, Total
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004

METHOD BLANK: 3075353 Matrix: Water
Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lithium	ug/L	<7.7	10.0	7.7	02/09/22 18:50	

LABORATORY CONTROL SAMPLE: 3075354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	946	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3075355 3075356

Parameter	Units	60385386004		3075356		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Lithium	ug/L	35.0	1000	1060	1030	103	99	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	758163	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

METHOD BLANK: 3034230 Matrix: Water
Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 11:53	
Chromium	ug/L	<0.23	1.0	0.23	11/30/21 11:53	
Selenium	ug/L	<0.18	1.0	0.18	11/30/21 11:53	

LABORATORY CONTROL SAMPLE: 3034231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	40.5	101	85-115	
Chromium	ug/L	40	39.4	99	85-115	
Selenium	ug/L	40	41.0	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034232 3034233

Parameter	Units	60385384001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Arsenic	ug/L	46.6	40	40	85.6	87.0	97	101	70-130	2	20		
Chromium	ug/L	0.28J	40	40	39.2	39.9	97	99	70-130	2	20		
Selenium	ug/L	<0.18	40	40	38.4	39.1	96	98	70-130	2	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034234 3034235

Parameter	Units	60385386004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Arsenic	ug/L	2.9	40	40	44.6	43.8	104	102	70-130	2	20		
Chromium	ug/L	0.34J	40	40	39.8	39.1	99	97	70-130	2	20		
Selenium	ug/L	<0.18	40	40	39.2	37.5	98	94	70-130	4	20		

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QUALITY CONTROL DATA

Project: AMEREN LCPC-CA

Pace Project No.: 60385386

QC Batch:	758165	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027		

METHOD BLANK:	3034243	Matrix:	Water
Associated Lab Samples:	60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 12:42	
Chromium	ug/L	<0.23	1.0	0.23	11/30/21 12:42	
Selenium	ug/L	<0.18	1.0	0.18	11/30/21 12:42	

LABORATORY CONTROL SAMPLE:	3034244					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	40.9	102	85-115	
Chromium	ug/L	40	39.8	100	85-115	
Selenium	ug/L	40	41.0	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3034245			3034246								
Parameter	Units	60385386016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.50J	40	40	0.51J	41.7	0	103	70-130		20	M1
Chromium	ug/L	0.33J	40	40	0.34J	40.6	0	101	70-130		20	M1
Selenium	ug/L	2.9	40	40	2.9	42.1	0	98	70-130	174	20	M1, R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3034247			3034248								
Parameter	Units	60385386023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.34J	40	40	40.6	41.2	101	102	70-130	1	20	
Chromium	ug/L	0.33J	40	40	39.2	39.6	97	98	70-130	1	20	
Selenium	ug/L	<0.18	40	40	38.5	38.7	96	97	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60385386

QC Batch:	758166	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386028, 60385386029, 60385386030

METHOD BLANK: 3034249 Matrix: Water
Associated Lab Samples: 60385386028, 60385386029, 60385386030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.11	1.0	0.11	11/30/21 13:38	
Chromium	ug/L	<0.23	1.0	0.23	11/30/21 13:38	
Selenium	ug/L	<0.18	1.0	0.18	11/30/21 13:38	

LABORATORY CONTROL SAMPLE: 3034250

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	41.0	102	85-115	
Chromium	ug/L	40	40.1	100	85-115	
Selenium	ug/L	40	41.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3034251 3034252

Parameter	Units	60385386028		3034251		3034252		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Arsenic	ug/L	<0.11	40	40	39.8	39.2	100	98	70-130	2	20		
Chromium	ug/L	0.44J	40	40	39.9	39.2	99	97	70-130	2	20		
Selenium	ug/L	<0.18	40	40	39.7	39.4	99	98	70-130	1	20		

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	649386	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007		

METHOD BLANK:	2992253	Matrix:	Water
Associated Lab Samples:	60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/10/21 10:58	

LABORATORY CONTROL SAMPLE: 2992254						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.1	98	90-110	

SAMPLE DUPLICATE: 2992255						
Parameter	Units	60385386004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	152	154	1	20	

SAMPLE DUPLICATE: 2992256						
Parameter	Units	50301936001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	687	690	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	650018	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Indianapolis
Associated Lab Samples:	60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386029		

METHOD BLANK:	2995900	Matrix:	Water
Associated Lab Samples:	60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386029		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/12/21 11:19	

LABORATORY CONTROL SAMPLE:	2995901					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.5	97	90-110	

SAMPLE DUPLICATE:	2995902					
Parameter	Units	60385386016 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	390	400	2	20	

SAMPLE DUPLICATE:	2995903					
Parameter	Units	60385386023 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	188	190	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 650093

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 60385386030

METHOD BLANK: 2996225

Matrix: Water

Associated Lab Samples: 60385386030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.0	2.0	2.0	11/12/21 16:29	

LABORATORY CONTROL SAMPLE: 2996226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.6	99	90-110	

SAMPLE DUPLICATE: 2996227

Parameter	Units	50302278003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	377	382	1	20	

SAMPLE DUPLICATE: 2996228

Parameter	Units	50302319001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	103	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	755000	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

METHOD BLANK: 3021558 Matrix: Water
Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/09/21 09:43	

LABORATORY CONTROL SAMPLE: 3021559

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	960	96	80-120	

SAMPLE DUPLICATE: 3021560

Parameter	Units	60385384001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	617	609	1	10	

SAMPLE DUPLICATE: 3021561

Parameter	Units	60385386004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	790	838	6	10	

SAMPLE DUPLICATE: 3021562

Parameter	Units	60385390001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	423	431	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 755409

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386010, 60385386012, 60385386017, 60385386018, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386030

METHOD BLANK: 3023062

Matrix: Water

Associated Lab Samples: 60385386010, 60385386012, 60385386017, 60385386018, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/10/21 14:30	

LABORATORY CONTROL SAMPLE: 3023063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	949	95	80-120	

SAMPLE DUPLICATE: 3023064

Parameter	Units	60385386023 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	561	612	9	10	

SAMPLE DUPLICATE: 3023065

Parameter	Units	60385384012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	631	655	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	755548	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386011, 60385386015, 60385386016, 60385386019, 60385386020, 60385386021, 60385386022, 60385386029

METHOD BLANK: 3023486 Matrix: Water

Associated Lab Samples: 60385386011, 60385386015, 60385386016, 60385386019, 60385386020, 60385386021, 60385386022, 60385386029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/21 08:03	

LABORATORY CONTROL SAMPLE: 3023487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	973	97	80-120	

SAMPLE DUPLICATE: 3023488

Parameter	Units	60385385001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4870	4660	4	10	

SAMPLE DUPLICATE: 3023489

Parameter	Units	60385386016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	490	497	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 755549

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386013, 60385386014

METHOD BLANK: 3023490

Matrix: Water

Associated Lab Samples: 60385386013, 60385386014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/11/21 08:06	

LABORATORY CONTROL SAMPLE: 3023491

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	978	98	80-120	

SAMPLE DUPLICATE: 3023492

Parameter	Units	60385386013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	799	812	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 757095 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386025

METHOD BLANK: 3029711 Matrix: Water
 Associated Lab Samples: 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/18/21 06:44	
Fluoride	mg/L	<0.086	0.20	0.086	11/18/21 06:44	
Sulfate	mg/L	<0.42	1.0	0.42	11/18/21 06:44	

METHOD BLANK: 3030649 Matrix: Water
 Associated Lab Samples: 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/18/21 09:37	
Fluoride	mg/L	<0.086	0.20	0.086	11/18/21 09:37	
Sulfate	mg/L	<0.42	1.0	0.42	11/18/21 09:37	

METHOD BLANK: 3032082 Matrix: Water
 Associated Lab Samples: 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/19/21 06:45	
Fluoride	mg/L	<0.086	0.20	0.086	11/19/21 06:45	
Sulfate	mg/L	<0.42	1.0	0.42	11/19/21 06:45	

METHOD BLANK: 3032286 Matrix: Water
 Associated Lab Samples: 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020, 60385386021, 60385386022, 60385386023, 60385386025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.79J	1.0	0.39	11/20/21 13:49	
Fluoride	mg/L	<0.086	0.20	0.086	11/20/21 13:49	
Sulfate	mg/L	<0.42	1.0	0.42	11/20/21 13:49	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

LABORATORY CONTROL SAMPLE: 3029712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.4	108	90-110	

LABORATORY CONTROL SAMPLE: 3030650

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

LABORATORY CONTROL SAMPLE: 3032083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

LABORATORY CONTROL SAMPLE: 3032287

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	107	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	5	5.4	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029713 3029714

Parameter	Units	60385386016		MS	MSD	MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Chloride	mg/L	6.2	5	5	11.1	11.2	96	99	99	80-120	1	15	
Fluoride	mg/L	0.24	2.5	2.5	2.8	2.9	103	106	106	80-120	3	15	
Sulfate	mg/L	29.3	25	25	53.9	53.8	98	98	98	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029715 3029716

Parameter	Units	60385386023		MS	MSD	MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Chloride	mg/L	18.9	10	10	29.5	30.0	105	110	110	80-120	2	15	
Fluoride	mg/L	0.36	5	5	5.5	5.8	103	108	108	80-120	4	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029715 3029716												
Parameter	Units	60385386023 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max	Qual
			Spike Conc.	Spike Conc.							RPD	
Sulfate	mg/L	246	100	100	354	344	107	98	80-120	3	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	757096	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386027, 60385386028, 60385386029, 60385386030

METHOD BLANK: 3029718 Matrix: Water
Associated Lab Samples: 60385386027, 60385386028, 60385386029, 60385386030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.52J	1.0	0.39	11/18/21 08:36	
Fluoride	mg/L	<0.086	0.20	0.086	11/18/21 08:36	
Sulfate	mg/L	<0.42	1.0	0.42	11/18/21 08:36	

METHOD BLANK: 3032292 Matrix: Water
Associated Lab Samples: 60385386027, 60385386028, 60385386029, 60385386030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/20/21 18:20	
Fluoride	mg/L	<0.086	0.20	0.086	11/20/21 18:20	
Sulfate	mg/L	<0.42	1.0	0.42	11/20/21 18:20	

METHOD BLANK: 3036563 Matrix: Water
Associated Lab Samples: 60385386027, 60385386028, 60385386029, 60385386030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/25/21 11:11	
Fluoride	mg/L	<0.086	0.20	0.086	11/25/21 11:11	
Sulfate	mg/L	<0.42	1.0	0.42	11/25/21 11:11	

LABORATORY CONTROL SAMPLE: 3029719

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	109	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

LABORATORY CONTROL SAMPLE: 3032293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	107	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

LABORATORY CONTROL SAMPLE: 3036564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029720 3029721

Parameter	Units	60385386027		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec					
Chloride	mg/L	25.8	25	25	49.4	49.3	94	94	80-120	0	15		
Fluoride	mg/L	0.33	2.5	2.5	3.1	3.1	111	112	80-120	1	15		
Sulfate	mg/L	547	250	250	739	778	77	92	80-120	5	15	M1	

MATRIX SPIKE SAMPLE: 3029722

Parameter	Units	60385384016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.7	5	11.3	112	80-120	
Fluoride	mg/L	0.33	2.5	3.2	113	80-120	
Sulfate	mg/L	59.4	100	171	112	80-120	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 757277

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

METHOD BLANK: 3030419

Matrix: Water

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/19/21 06:45	
Fluoride	mg/L	<0.086	0.20	0.086	11/19/21 06:45	
Sulfate	mg/L	<0.42	1.0	0.42	11/19/21 06:45	

METHOD BLANK: 3032423

Matrix: Water

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/21/21 17:33	
Fluoride	mg/L	<0.086	0.20	0.086	11/21/21 17:33	
Sulfate	mg/L	<0.42	1.0	0.42	11/21/21 17:33	

METHOD BLANK: 3034763

Matrix: Water

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.45J	1.0	0.39	11/22/21 21:29	
Fluoride	mg/L	<0.086	0.20	0.086	11/22/21 21:29	
Sulfate	mg/L	<0.42	1.0	0.42	11/22/21 21:29	

LABORATORY CONTROL SAMPLE: 3030420

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

LABORATORY CONTROL SAMPLE: 3032424

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	110	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

LABORATORY CONTROL SAMPLE: 3034764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030421 3030422

Parameter	Units	60385384001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Chloride	mg/L	11.1	5	5	15.9	16.2	96	101	80-120	2	15		
Fluoride	mg/L	0.21	2.5	2.5	2.5	2.6	92	97	80-120	5	15		
Sulfate	mg/L	39.2	25	25	62.9	63.1	95	96	80-120	0	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030424 3030423

Parameter	Units	60385386004		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Chloride	mg/L	44.8	25	25	71.5	71.6	107	107	80-120	0	15		
Fluoride	mg/L	0.32	2.5	2.5	2.6	2.7	93	94	80-120	1	15		
Sulfate	mg/L	377	250	250	640	636	105	104	80-120	1	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3030425 3030426

Parameter	Units	60386286007		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Chloride	mg/L	19.4	10	10	30.2	30.1	108	108	80-120	0	15		
Fluoride	mg/L	ND	2.5	2.5	2.8	2.8	110	111	80-120	1	15		
Sulfate	mg/L	53.9	5	5	59.8	59.9	118	119	80-120	0	15 E		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 757936	Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60385386024, 60385386026

METHOD BLANK: 3033262 Matrix: Water

Associated Lab Samples: 60385386024, 60385386026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.55J	1.0	0.39	11/23/21 10:58	
Fluoride	mg/L	<0.086	0.20	0.086	11/23/21 10:58	
Sulfate	mg/L	<0.42	1.0	0.42	11/23/21 10:58	

METHOD BLANK: 3036552 Matrix: Water

Associated Lab Samples: 60385386024, 60385386026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/25/21 11:11	
Fluoride	mg/L	<0.086	0.20	0.086	11/25/21 11:11	
Sulfate	mg/L	<0.42	1.0	0.42	11/25/21 11:11	

METHOD BLANK: 3037296 Matrix: Water

Associated Lab Samples: 60385386024, 60385386026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.65J	1.0	0.39	11/29/21 17:45	
Fluoride	mg/L	<0.086	0.20	0.086	11/29/21 17:45	
Sulfate	mg/L	<0.42	1.0	0.42	11/29/21 17:45	

LABORATORY CONTROL SAMPLE: 3033263

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3036553

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

LABORATORY CONTROL SAMPLE: 3037297

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3033264 3033265

Parameter	Units	60385386024		60385386025		60385386026		60385386027		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec						
Chloride	mg/L	25.2	25	25	53.6	53.4	113	113	80-120	0	15		
Fluoride	mg/L	<0.086	2.5	2.5	3.0	2.9	117	117	80-120	1	15		
Sulfate	mg/L	469	250	250	845	846	150	151	80-120	0	15	M1	

MATRIX SPIKE SAMPLE: 3033266

Parameter	Units	60386713006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	185	100	288	103	80-120	
Fluoride	mg/L	ND	25	30.5	122	80-120	M1
Sulfate	mg/L	105	50	161	112	80-120	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-AM-1S **Lab ID: 60385386001** Collected: 11/02/21 10:51 Received: 11/03/21 03:48 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	0.0682 ± 0.312 (0.502) C:NA T:94%	pCi/L	12/18/21 11:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.374 ± 0.359 (0.731) C:56% T:96%	pCi/L	12/16/21 11:21	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-AM-1D **Lab ID: 60385386004** Collected: 11/02/21 12:07 Received: 11/03/21 03:48 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 ± 0.259 (0.581) C:NA T:96%	pCi/L	12/18/21 11:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.30 ± 0.564 (0.911) C:53% T:91%	pCi/L	12/16/21 11:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-DUP-1 Lab ID: 60385386006 Collected: 11/02/21 00:00 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.524 ± 0.449 (0.609) C:NA T:97%	pCi/L	12/18/21 11:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	-0.145 ± 0.341 (0.836) C:59% T:89%	pCi/L	12/16/21 11:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-S-1 Lab ID: 60385386007 Collected: 11/02/21 14:00 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.469 ± 0.575 (0.945) C:NA T:93%	pCi/L	12/18/21 11:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.25 ± 0.575 (0.989) C:59% T:89%	pCi/L	12/16/21 11:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-MS-1 Lab ID: 60385386008 Collected: 11/02/21 12:07 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	75.61 %REC ± NA (NA) C:NA T:NA%	pCi/L	12/18/21 11:38	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	98.81 %REC ± NA (NA) C:NA T:NA	pCi/L	12/16/21 11:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	105.13 %REC 32.67 RPD ± NA (NA) C:NA T:NA%	pCi/L	12/18/21 11:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	102.30 %REC 3.47 RPD ± NA (NA) C:NA T:NA	pCi/L	12/16/21 11:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-AMW-8 **Lab ID: 60385386010** Collected: 11/03/21 10:06 Received: 11/06/21 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	-0.261 ± 0.444 (1.04) C:NA T:96%	pCi/L	12/18/21 11:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.25 ± 0.556 (0.944) C:59% T:95%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MW-24 **Lab ID: 60385386015** Collected: 11/04/21 10:24 Received: 11/06/21 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	0.414 ± 0.471 (0.743) C:NA T:93%	pCi/L	12/18/21 11:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.0646 ± 0.382 (0.897) C:63% T:93%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-MW-33(D) Lab ID: 60385386017 Collected: 11/03/21 14:44 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.570 ± 0.562 (0.855) C:NA T:96%	pCi/L	12/18/21 11:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.32 ± 0.518 (0.802) C:65% T:88%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-MW-34(D) Lab ID: 60385386018 Collected: 11/03/21 15:50 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.266 ± 0.555 (1.000) C:NA T:97%	pCi/L	12/18/21 11:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.785 ± 0.490 (0.938) C:65% T:93%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-MW-35(D) Lab ID: 60385386019 Collected: 11/04/21 11:33 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.138 ± 0.468 (0.902) C:NA T:96%	pCi/L	12/18/21 11:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.619 ± 0.429 (0.832) C:65% T:92%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-1D **Lab ID: 60385386020** Collected: 11/04/21 15:41 Received: 11/06/21 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	1.63 ± 0.893 (1.09) C:NA T:88%	pCi/L	12/18/21 11:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	2.68 ± 0.712 (0.763) C:68% T:94%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-2M **Lab ID: 60385386021** Collected: 11/04/21 13:23 Received: 11/06/21 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	0.180 ± 0.312 (0.558) C:NA T:100%	pCi/L	12/19/21 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.942 ± 0.429 (0.722) C:71% T:95%	pCi/L	12/16/21 11:21	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-2D **Lab ID: 60385386022** Collected: 11/04/21 15:18 Received: 11/06/21 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	0.0610 ± 0.493 (0.968) C:NA T:91%	pCi/L	12/19/21 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.623 ± 0.389 (0.735) C:74% T:93%	pCi/L	12/16/21 11:21	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-3M **Lab ID: 60385386023** Collected: 11/03/21 12:02 Received: 11/06/21 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	0.270 ± 0.307 (0.485) C:NA T:99%	pCi/L	12/19/21 12:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.865 ± 0.417 (0.693) C:69% T:92%	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-3D **Lab ID: 60385386024** Collected: 11/03/21 13:27 Received: 11/06/21 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	0.332 ± 0.471 (0.798) C:NA T:93%	pCi/L	12/19/21 12:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.739 ± 0.427 (0.786) C:75% T:91%	pCi/L	12/16/21 14:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-TP-4D **Lab ID: 60385386025** Collected: 11/03/21 10:31 Received: 11/06/21 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	1.62 ± 0.755 (0.780) C:NA T:93%	pCi/L	12/19/21 12:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.462 ± 0.424 (0.864) C:71% T:88%	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-DUP-2 **Lab ID: 60385386026** Collected: 11/03/21 00:00 Received: 11/06/21 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	0.323 ± 0.381 (0.600) C:NA T:92%	pCi/L	12/19/21 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.890 ± 0.442 (0.753) C:67% T:92%	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-DUP-3 Lab ID: 60385386027 Collected: 11/03/21 00:00 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.457 (0.936) C:NA T:92%	pCi/L	12/19/21 12:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.15 ± 0.546 (0.942) C:68% T:88%	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-FB-1 **Lab ID: 60385386028** Collected: 11/03/21 10:30 Received: 11/06/21 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	0.0639 ± 0.292 (0.593) C:NA T:92%	pCi/L	12/19/21 12:44	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.503 ± 0.386 (0.756) C:71% T:90%	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-FB-2 Lab ID: 60385386029 Collected: 11/04/21 12:00 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0612 ± 0.279 (0.568) C:NA T:91%	pCi/L	12/19/21 12:44	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.468 ± 0.369 (0.724) C:74% T:86%	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-CA-FB-3 **Lab ID: 60385386030** Collected: 11/03/21 15:10 Received: 11/06/21 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 ± 0.294 (0.658) C:NA T:93%	pCi/L	12/19/21 12:44	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	-0.415 ± 0.363 (0.927) C:66% T:88%	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MS-2 **Lab ID: 60385386031** Collected: 11/03/21 12:02 Received: 11/06/21 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	91.77 %REC ± NA (NA) C:NA T:NA	pCi/L	12/19/21 12:44	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	86.82 %REC ± NA (NA) C:NA T:NA	pCi/L	12/16/21 14:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MSD-2 **Lab ID: 60385386032** Collected: 11/03/21 12:02 Received: 11/06/21 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	81.12 %REC 12.32 RPD ± NA (NA) C:NA T:NA	pCi/L	12/19/21 12:44	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	107.43 %REC 21.23 RPD ± NA (NA) C:NA T:NA	pCi/L	12/16/21 14:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-1S Lab ID: 60385386002 Collected: 11/01/21 12:10 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.406 ± 0.422 (0.628) C:NA T:97%	pCi/L	12/18/21 11:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	2.09 ± 0.638 (0.771) C:57% T:96%	pCi/L	12/16/21 11:21	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-2S Lab ID: 60385386003 Collected: 11/01/21 13:40 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.550 (1.14) C:NA T:87%	pCi/L	12/18/21 11:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.866 ± 0.517 (0.967) C:57% T:90%	pCi/L	12/16/21 11:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-2S Lab ID: 60385386005 Collected: 11/02/21 12:20 Received: 11/03/21 03:48 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.713 ± 0.565 (0.767) C:NA T:95%	pCi/L	12/18/21 11:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.421 ± 0.386 (0.777) C:57% T:86%	pCi/L	12/16/21 11:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-1S Lab ID: 60385386011 Collected: 11/04/21 10:55 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0637 ± 0.414 (0.899) C:NA T:96%	pCi/L	12/18/21 11:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.402 ± 0.446 (0.936) C:63% T:90%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-4S Lab ID: 60385386012 Collected: 11/03/21 12:00 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.131 ± 0.365 (0.862) C:NA T:95%	pCi/L	12/18/21 11:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.853 ± 0.487 (0.896) C:65% T:83%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-7S Lab ID: 60385386013 Collected: 11/05/21 11:47 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	2.11 ± 0.869 (0.698) C:NA T:92%	pCi/L	12/18/21 11:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.679 ± 0.431 (0.818) C:64% T:93%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-8S Lab ID: 60385386014 Collected: 11/05/21 12:48 Received: 11/06/21 05:30 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.313 (0.636) C:NA T:93%	pCi/L	12/18/21 11:27	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.699 ± 0.454 (0.865) C:60% T:94%	pCi/L	12/16/21 11:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Sample: L-MW-26 **Lab ID: 60385386016** Collected: 11/04/21 12:55 Received: 11/06/21 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	0.408 ± 0.501 (0.817) C:NA T:92%	pCi/L	12/18/21 11:49	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.460 ± 0.389 (0.782) C:67% T:90%	pCi/L	12/16/21 11:23	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	475156	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: 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386029, 60385386030, 60385386031, 60385386032

METHOD BLANK: 2295340 Matrix: Water

Associated Lab Samples: 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386029, 60385386030, 60385386031, 60385386032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.201 ± 0.243 (0.659) C:NA T:95%	pCi/L	12/19/21 12:27	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch:	475158	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: 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386029, 60385386030, 60385386031, 60385386032

METHOD BLANK:	2295345	Matrix:	Water
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Associated Lab Samples: 60385386021, 60385386022, 60385386023, 60385386024, 60385386025, 60385386026, 60385386027, 60385386028, 60385386029, 60385386030, 60385386031, 60385386032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.572 ± 0.352 (0.643) C:71% T:87%	pCi/L	12/16/21 11:21	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 475154

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: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007, 60385386008, 60385386009, 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020

METHOD BLANK: 2295338

Matrix: Water

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007, 60385386008, 60385386009, 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.217 ± 0.337 (0.584) C:NA T:96%	pCi/L	12/18/21 11:14	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

QC Batch: 475155

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: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007, 60385386008, 60385386009, 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020

METHOD BLANK: 2295339

Matrix: Water

Associated Lab Samples: 60385386001, 60385386002, 60385386003, 60385386004, 60385386005, 60385386006, 60385386007, 60385386008, 60385386009, 60385386010, 60385386011, 60385386012, 60385386013, 60385386014, 60385386015, 60385386016, 60385386017, 60385386018, 60385386019, 60385386020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.604 ± 0.371 (0.694) C:74% T:89%	pCi/L	12/16/21 11:14	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

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.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60385386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385386001	L-AM-1S	EPA 200.7	757956	EPA 200.7	758020
60385386001	L-AM-1S	EPA 200.7	770153	EPA 200.7	770291
60385386002	L-BMW-1S	EPA 200.7	757956	EPA 200.7	758020
60385386002	L-BMW-1S	EPA 200.7	770153	EPA 200.7	770291
60385386003	L-BMW-2S	EPA 200.7	757956	EPA 200.7	758020
60385386003	L-BMW-2S	EPA 200.7	770153	EPA 200.7	770291
60385386004	L-AM-1D	EPA 200.7	757956	EPA 200.7	758020
60385386004	L-AM-1D	EPA 200.7	770153	EPA 200.7	770291
60385386005	L-LMW-2S	EPA 200.7	757956	EPA 200.7	758020
60385386006	L-CA-DUP-1	EPA 200.7	757956	EPA 200.7	758020
60385386007	L-S-1	EPA 200.7	757956	EPA 200.7	758020
60385386010	L-AMW-8	EPA 200.7	757956	EPA 200.7	758020
60385386011	L-LMW-1S	EPA 200.7	757956	EPA 200.7	758020
60385386011	L-LMW-1S	EPA 200.7	770151	EPA 200.7	770288
60385386012	L-LMW-4S	EPA 200.7	757956	EPA 200.7	758020
60385386012	L-LMW-4S	EPA 200.7	770151	EPA 200.7	770288
60385386013	L-LMW-7S	EPA 200.7	757956	EPA 200.7	758020
60385386013	L-LMW-7S	EPA 200.7	770151	EPA 200.7	770288
60385386014	L-LMW-8S	EPA 200.7	757956	EPA 200.7	758020
60385386014	L-LMW-8S	EPA 200.7	770151	EPA 200.7	770288
60385386015	L-MW-24	EPA 200.7	757956	EPA 200.7	758020
60385386015	L-MW-24	EPA 200.7	770151	EPA 200.7	770288
60385386016	L-MW-26	EPA 200.7	757956	EPA 200.7	758020
60385386016	L-MW-26	EPA 200.7	770151	EPA 200.7	770288
60385386017	L-MW-33(D)	EPA 200.7	757956	EPA 200.7	758020
60385386018	L-MW-34(D)	EPA 200.7	757956	EPA 200.7	758020
60385386019	L-MW-35(D)	EPA 200.7	757956	EPA 200.7	758020
60385386019	L-MW-35(D)	EPA 200.7	770151	EPA 200.7	770288
60385386020	L-TP-1D	EPA 200.7	757956	EPA 200.7	758020
60385386020	L-TP-1D	EPA 200.7	770151	EPA 200.7	770288
60385386021	L-TP-2M	EPA 200.7	757957	EPA 200.7	758022
60385386022	L-TP-2D	EPA 200.7	757957	EPA 200.7	758022
60385386023	L-TP-3M	EPA 200.7	757957	EPA 200.7	758022
60385386024	L-TP-3D	EPA 200.7	757957	EPA 200.7	758022
60385386024	L-TP-3D	EPA 200.7	770151	EPA 200.7	770288
60385386025	L-TP-4D	EPA 200.7	757957	EPA 200.7	758022

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385386025	L-TP-4D	EPA 200.7	770151	EPA 200.7	770288
60385386026	L-CA-DUP-2	EPA 200.7	757957	EPA 200.7	758022
60385386027	L-CA-DUP-3	EPA 200.7	758172	EPA 200.7	758546
60385386028	L-CA-FB-1	EPA 200.7	758172	EPA 200.7	758546
60385386029	L-CA-FB-2	EPA 200.7	758172	EPA 200.7	758546
60385386030	L-CA-FB-3	EPA 200.7	758172	EPA 200.7	758546
60385386001	L-AM-1S	EPA 200.8	758163	EPA 200.8	758394
60385386002	L-BMW-1S	EPA 200.8	758163	EPA 200.8	758394
60385386003	L-BMW-2S	EPA 200.8	758163	EPA 200.8	758394
60385386004	L-AM-1D	EPA 200.8	758163	EPA 200.8	758394
60385386005	L-LMW-2S	EPA 200.8	758163	EPA 200.8	758394
60385386006	L-CA-DUP-1	EPA 200.8	758163	EPA 200.8	758394
60385386007	L-S-1	EPA 200.8	758163	EPA 200.8	758394
60385386010	L-AMW-8	EPA 200.8	758165	EPA 200.8	758393
60385386011	L-LMW-1S	EPA 200.8	758165	EPA 200.8	758393
60385386012	L-LMW-4S	EPA 200.8	758165	EPA 200.8	758393
60385386013	L-LMW-7S	EPA 200.8	758165	EPA 200.8	758393
60385386014	L-LMW-8S	EPA 200.8	758165	EPA 200.8	758393
60385386015	L-MW-24	EPA 200.8	758165	EPA 200.8	758393
60385386016	L-MW-26	EPA 200.8	758165	EPA 200.8	758393
60385386017	L-MW-33(D)	EPA 200.8	758165	EPA 200.8	758393
60385386018	L-MW-34(D)	EPA 200.8	758165	EPA 200.8	758393
60385386019	L-MW-35(D)	EPA 200.8	758165	EPA 200.8	758393
60385386020	L-TP-1D	EPA 200.8	758165	EPA 200.8	758393
60385386021	L-TP-2M	EPA 200.8	758165	EPA 200.8	758393
60385386022	L-TP-2D	EPA 200.8	758165	EPA 200.8	758393
60385386023	L-TP-3M	EPA 200.8	758165	EPA 200.8	758393
60385386024	L-TP-3D	EPA 200.8	758165	EPA 200.8	758393
60385386025	L-TP-4D	EPA 200.8	758165	EPA 200.8	758393
60385386026	L-CA-DUP-2	EPA 200.8	758165	EPA 200.8	758393
60385386027	L-CA-DUP-3	EPA 200.8	758165	EPA 200.8	758393
60385386028	L-CA-FB-1	EPA 200.8	758166	EPA 200.8	758547
60385386029	L-CA-FB-2	EPA 200.8	758166	EPA 200.8	758547
60385386030	L-CA-FB-3	EPA 200.8	758166	EPA 200.8	758547
60385386001	L-AM-1S	EPA 903.1	475154		
60385386002	L-BMW-1S	EPA 903.1	475154		
60385386003	L-BMW-2S	EPA 903.1	475154		
60385386004	L-AM-1D	EPA 903.1	475154		
60385386005	L-LMW-2S	EPA 903.1	475154		
60385386006	L-CA-DUP-1	EPA 903.1	475154		
60385386007	L-S-1	EPA 903.1	475154		
60385386008	L-CA-MS-1	EPA 903.1	475154		
60385386009	L-CA-MSD-1	EPA 903.1	475154		
60385386010	L-AMW-8	EPA 903.1	475154		
60385386011	L-LMW-1S	EPA 903.1	475154		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385386012	L-LMW-4S	EPA 903.1	475154		
60385386013	L-LMW-7S	EPA 903.1	475154		
60385386014	L-LMW-8S	EPA 903.1	475154		
60385386015	L-MW-24	EPA 903.1	475154		
60385386016	L-MW-26	EPA 903.1	475154		
60385386017	L-MW-33(D)	EPA 903.1	475154		
60385386018	L-MW-34(D)	EPA 903.1	475154		
60385386019	L-MW-35(D)	EPA 903.1	475154		
60385386020	L-TP-1D	EPA 903.1	475154		
60385386021	L-TP-2M	EPA 903.1	475156		
60385386022	L-TP-2D	EPA 903.1	475156		
60385386023	L-TP-3M	EPA 903.1	475156		
60385386024	L-TP-3D	EPA 903.1	475156		
60385386025	L-TP-4D	EPA 903.1	475156		
60385386026	L-CA-DUP-2	EPA 903.1	475156		
60385386027	L-CA-DUP-3	EPA 903.1	475156		
60385386028	L-CA-FB-1	EPA 903.1	475156		
60385386029	L-CA-FB-2	EPA 903.1	475156		
60385386030	L-CA-FB-3	EPA 903.1	475156		
60385386031	L-MS-2	EPA 903.1	475156		
60385386032	L-MSD-2	EPA 903.1	475156		
60385386001	L-AM-1S	EPA 904.0	475155		
60385386002	L-BMW-1S	EPA 904.0	475155		
60385386003	L-BMW-2S	EPA 904.0	475155		
60385386004	L-AM-1D	EPA 904.0	475155		
60385386005	L-LMW-2S	EPA 904.0	475155		
60385386006	L-CA-DUP-1	EPA 904.0	475155		
60385386007	L-S-1	EPA 904.0	475155		
60385386008	L-CA-MS-1	EPA 904.0	475155		
60385386009	L-CA-MSD-1	EPA 904.0	475155		
60385386010	L-AMW-8	EPA 904.0	475155		
60385386011	L-LMW-1S	EPA 904.0	475155		
60385386012	L-LMW-4S	EPA 904.0	475155		
60385386013	L-LMW-7S	EPA 904.0	475155		
60385386014	L-LMW-8S	EPA 904.0	475155		
60385386015	L-MW-24	EPA 904.0	475155		
60385386016	L-MW-26	EPA 904.0	475155		
60385386017	L-MW-33(D)	EPA 904.0	475155		
60385386018	L-MW-34(D)	EPA 904.0	475155		
60385386019	L-MW-35(D)	EPA 904.0	475155		
60385386020	L-TP-1D	EPA 904.0	475155		
60385386021	L-TP-2M	EPA 904.0	475158		
60385386022	L-TP-2D	EPA 904.0	475158		
60385386023	L-TP-3M	EPA 904.0	475158		
60385386024	L-TP-3D	EPA 904.0	475158		
60385386025	L-TP-4D	EPA 904.0	475158		
60385386026	L-CA-DUP-2	EPA 904.0	475158		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385386027	L-CA-DUP-3	EPA 904.0	475158		
60385386028	L-CA-FB-1	EPA 904.0	475158		
60385386029	L-CA-FB-2	EPA 904.0	475158		
60385386030	L-CA-FB-3	EPA 904.0	475158		
60385386031	L-MS-2	EPA 904.0	475158		
60385386032	L-MSD-2	EPA 904.0	475158		
60385386001	L-AM-1S	SM 2320B	649386		
60385386002	L-BMW-1S	SM 2320B	649386		
60385386003	L-BMW-2S	SM 2320B	649386		
60385386004	L-AM-1D	SM 2320B	649386		
60385386005	L-LMW-2S	SM 2320B	649386		
60385386006	L-CA-DUP-1	SM 2320B	649386		
60385386007	L-S-1	SM 2320B	649386		
60385386010	L-AMW-8	SM 2320B	650018		
60385386011	L-LMW-1S	SM 2320B	650018		
60385386012	L-LMW-4S	SM 2320B	650018		
60385386013	L-LMW-7S	SM 2320B	650018		
60385386014	L-LMW-8S	SM 2320B	650018		
60385386015	L-MW-24	SM 2320B	650018		
60385386016	L-MW-26	SM 2320B	650018		
60385386017	L-MW-33(D)	SM 2320B	650018		
60385386018	L-MW-34(D)	SM 2320B	650018		
60385386019	L-MW-35(D)	SM 2320B	650018		
60385386020	L-TP-1D	SM 2320B	650018		
60385386021	L-TP-2M	SM 2320B	650018		
60385386022	L-TP-2D	SM 2320B	650018		
60385386023	L-TP-3M	SM 2320B	650018		
60385386024	L-TP-3D	SM 2320B	650018		
60385386025	L-TP-4D	SM 2320B	650018		
60385386026	L-CA-DUP-2	SM 2320B	650018		
60385386027	L-CA-DUP-3	SM 2320B	650018		
60385386028	L-CA-FB-1	SM 2320B	650018		
60385386029	L-CA-FB-2	SM 2320B	650018		
60385386030	L-CA-FB-3	SM 2320B	650093		
60385386001	L-AM-1S	SM 2540C	755000		
60385386002	L-BMW-1S	SM 2540C	755000		
60385386003	L-BMW-2S	SM 2540C	755000		
60385386004	L-AM-1D	SM 2540C	755000		
60385386005	L-LMW-2S	SM 2540C	755000		
60385386006	L-CA-DUP-1	SM 2540C	755000		
60385386007	L-S-1	SM 2540C	755000		
60385386010	L-AMW-8	SM 2540C	755409		
60385386011	L-LMW-1S	SM 2540C	755548		
60385386012	L-LMW-4S	SM 2540C	755409		
60385386013	L-LMW-7S	SM 2540C	755549		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385386014	L-LMW-8S	SM 2540C	755549		
60385386015	L-MW-24	SM 2540C	755548		
60385386016	L-MW-26	SM 2540C	755548		
60385386017	L-MW-33(D)	SM 2540C	755409		
60385386018	L-MW-34(D)	SM 2540C	755409		
60385386019	L-MW-35(D)	SM 2540C	755548		
60385386020	L-TP-1D	SM 2540C	755548		
60385386021	L-TP-2M	SM 2540C	755548		
60385386022	L-TP-2D	SM 2540C	755548		
60385386023	L-TP-3M	SM 2540C	755409		
60385386024	L-TP-3D	SM 2540C	755409		
60385386025	L-TP-4D	SM 2540C	755409		
60385386026	L-CA-DUP-2	SM 2540C	755409		
60385386027	L-CA-DUP-3	SM 2540C	755409		
60385386028	L-CA-FB-1	SM 2540C	755409		
60385386029	L-CA-FB-2	SM 2540C	755548		
60385386030	L-CA-FB-3	SM 2540C	755409		
60385386001	L-AM-1S	EPA 300.0	757277		
60385386002	L-BMW-1S	EPA 300.0	757277		
60385386003	L-BMW-2S	EPA 300.0	757277		
60385386004	L-AM-1D	EPA 300.0	757277		
60385386005	L-LMW-2S	EPA 300.0	757277		
60385386006	L-CA-DUP-1	EPA 300.0	757277		
60385386007	L-S-1	EPA 300.0	757277		
60385386010	L-AMW-8	EPA 300.0	757095		
60385386011	L-LMW-1S	EPA 300.0	757095		
60385386012	L-LMW-4S	EPA 300.0	757095		
60385386013	L-LMW-7S	EPA 300.0	757095		
60385386014	L-LMW-8S	EPA 300.0	757095		
60385386015	L-MW-24	EPA 300.0	757095		
60385386016	L-MW-26	EPA 300.0	757095		
60385386017	L-MW-33(D)	EPA 300.0	757095		
60385386018	L-MW-34(D)	EPA 300.0	757095		
60385386019	L-MW-35(D)	EPA 300.0	757095		
60385386020	L-TP-1D	EPA 300.0	757095		
60385386021	L-TP-2M	EPA 300.0	757095		
60385386022	L-TP-2D	EPA 300.0	757095		
60385386023	L-TP-3M	EPA 300.0	757095		
60385386024	L-TP-3D	EPA 300.0	757936		
60385386025	L-TP-4D	EPA 300.0	757095		
60385386026	L-CA-DUP-2	EPA 300.0	757936		
60385386027	L-CA-DUP-3	EPA 300.0	757096		
60385386028	L-CA-FB-1	EPA 300.0	757096		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA

Pace Project No.: 60385386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60385386029	L-CA-FB-2	EPA 300.0	757096		
60385386030	L-CA-FB-3	EPA 300.0	757096		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60385386



Client Name: Golden Associates

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-299 Type of Ice: WT Blue None

Cooler Temperature (°C): As-read 2.5/2.3/1.6 Corr. Factor -0.2 Corrected 2.3/2.0/1.4
Temperature should be above freezing to 6°C 11.9/13.1 11.2/12.9

Date and initials of person examining contents:

pv 11/8/21

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED

By jchurch at 1:18 pm, 11/8/21

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information: Company: Golder Associates Address: 13515 Barrett Parkway Drive, Ste 260 Ballwin, MO 63021 Email To: jeffrey_ingram@golder.com Phone: 636-724-9191 Fax: 636-724-9323 Requested Due Date/TAT: Standard		Section B Required Project Information: Report To: Jeffrey Ingram Copy To: Ryan Feldmann/Eric Schneider Purchase Order No.: Project Name: Ameren LCPA-CA Project Number: 153-140803.0001A (COC #2)		Section C Invoice Information: Attention: Company Name: Address: Pace Quote Reference: Pace Project Manager: Pace Profile #: 9285	
REGULATORY AGENCY NPDES <input checked="" type="checkbox"/> GROUND WATER UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/> DRINKING WATER		Site Location STATE: MO		Page: <u>1</u> of <u>1</u>	

ITEM #	Valid Matrix Codes MATRIX CODE	Valid Matrix Codes SOURCE	COLLECTED		SAMPLE TYPE (G-GRAB C-COMP)	MATRIX CODE (see valid codes to left)	DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS									
			COMPOSITE START	COMPOSITE END/GRAB											RELINQUISHED BY / AFFILIATION	DATE	TIME						
1	ES	L-AMW-6	L-AM-15	WT G	WT G	11/21/21	1051	11/21/21	1715	8am	Angela McManus	11/3	8am	Y	Y	Y	Y	Temp (F)	Temp (F)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	
2	ES	L-BMW-1S	L-BMW-2S	WT G	WT G	11/11/21	1210	11/11/21	1346	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
3	ES	L-BMW-2S	L-AM-15	WT G	WT G	11/11/21	1346	11/11/21	1207	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
4	ES	L-BMW-2S	L-AM-15	WT G	WT G	11/11/21	1220	11/11/21	1207	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
5	ES	L-BMW-2S	L-AM-15	WT G	WT G	11/11/21	1220	11/11/21	1207	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
6	ES	L-BMW-2S	L-AM-15	WT G	WT G	11/11/21	1220	11/11/21	1207	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
7	ES	L-BMW-2S	L-AM-15	WT G	WT G	11/11/21	1207	11/11/21	1207	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
8	ES	L-BMW-2S	L-AM-15	WT G	WT G	11/11/21	1207	11/11/21	1207	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
9	ES	L-BMW-2S	L-AM-15	WT G	WT G	11/11/21	1400	11/11/21	1400	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
10	ES	L-MW-26	L-MW-26	WT G	WT G	11/21/21	1400	11/21/21	1400	8am	Angela McManus	11/3	0948	Y	Y	Y	Y	2-3	2-0	Y	Y	Y	
11		L-MW-33(D)	L-MW-33(D)	WT G	WT G	11/21/21		11/21/21															
12		L-MW-34 (D)	L-MW-34 (D)	WT G	WT G	11/21/21		11/21/21															

Requested Analysis Filtered (Y/N)

Residual Chlorine (Y/N)	Y
Radium 226	Y
Radium 228	Y
Appendix IV Metals *	Y
TDS	Y
Alkalinity	Y
App III and Cat/An Metals	Y
Chloride/Fluoride/Sulfate	Y
Analysis Test 1	Y

Preservatives

Unpreserved	3
H ₂ SO ₄	3
HNO ₃	3
HCl	3
NaOH	3
Na ₂ S ₂ O ₃	3
Methanol	
Other	

OF CONTAINERS

4	1	3
4	1	3
4	1	3
4	1	3
4	1	3
4	1	3
4	1	3
4	1	3
4	1	3
4	1	3

SAMPLE TEMP AT COLLECTION

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Eric Schneider**
 SIGNATURE of SAMPLER: *Eric Schneider*
 DATE Signed (MM/DD/YYYY): **11/02/21**



Sample Condition Upon Receipt

WO#: 60385386



Client Name: GOLDER ASSOCIATES

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other SPLC

Thermometer Used: 219 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1, 1.8, 15.9 Corr. Factor -0.2 Corrected 0.9, 1.6, 15.5, 0.4 Date and initials of person examining contents: SE illio

Temperature should be above freezing to 6°C 6, 14.2, 15.2, 13.1 14.2, 15.0, 7.9

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>TDS illio</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>All coolers out of temp</u>
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>had only Radium</u>
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# <u>003173</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED
By jchurch at 11:19 am, 11/10/21

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Section B Required Project Information:
Report To: Jeffrey Ingram
Copy To: Ryan Feldmann/Eric Schneider
Purchase Order No.:
Project Name: Ameren LCPA-CA
Project Number: 153-140603.0001A (COC #2)

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Jamie Church
Pace Profile #: 9285

REGULATORY AGENCY
 NPDES / GROUND WATER / DRINKING WATER
 UST RCRA OTHER

Site Location
STATE: MO

Page: 1 of 3

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WATER P PRODUCT SL SOLID VLP OIL AR TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES	Requested Analysis Filtered (Y/N)																				
		COMPOSITE START	COMPOSITE END/GRAB					DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME									
1	L-AMW-8			G	WT	4	H2SO4 HNO3 HCl NaOH Na2O2 Methanol Other	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Residual Chlorine (Y/N)					
2	L-BMW-1S			G	WT	4	Unpreserved																					
3	L-BMW-2S			G	WT	4																						
4	L-LMW-1S			G	WT	4																						
5	L-LMW-2S			G	WT	4																						
6	L-LMW-4S			G	WT	4																						
7	L-LMW-7S			G	WT	4																						
8	L-LMW-8S			G	WT	4																						
9	L-MW-24			G	WT	4																						
10	L-MW-26			G	WT	4																						
11	L-MW-33(D)			G	WT	4																						
12	L-MW-34 (D)			G	WT	4																						

60385386

Pace Project No./ Lab I.D.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Sierra Shields/Golder	11/5/21	1530	Wendy Mc	11/5	1530
Wendy Mc	11/5	1530	Wendy Mc	11/6	0550

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Sierra Shields
 SIGNATURE of SAMPLER: [Signature]

DATE Signed (MM/DD/YYYY): 11/5/21

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

14.2 15.0 12.9



CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 3

Section A
Required Client Information:

Company: Golder Associates

Address: 13515 Barrett Parkway Drive, Ste 260
Ballwin, MO 63021

Email To: jeffrey_ingram@golder.com

Phone: 636-724-9191 Fax: 636-724-9323

Requested Due Date/AT: Standard

Section B
Required Project Information:

Report To: Jeffrey Ingram

Copy To: Ryan Feldmann/Eric Schneider

Purchase Order No.:
Project Name: Ameren LCPA-CA

Project Number: 153-140603.0001A (COC #2)

Section C
Invoice Information:

Attention:

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

REGULATORY AGENCY

NPDES / GROUND WATER / DRINKING WATER

UST / RCRA / OTHER

Site Location: MO

STATE:

ITEM #	Valid Matrix Codes	Required Client Information	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives		Analysis Test ↓	Requested Analysis Filtered (Y/N)																	
			MATRIX CODE	DATE			DATE	TIME		TIME	Y	N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals *	Radium 226	Radium 228	Residual Chlorine (Y/N)							
1	L-MW-35 (D)	DRINKING WATER	WT	G	11/22/11	3:30	HCl	3																			
2	L-S-1	WASTE WATER	WT	G	11/22/11	15:41	H ₂ O ₂	3																			
3	L-TP-1D	WASTE WATER PRODUCT	WT	G		13:23																					
4	L-TP-2M	SL	WT	G		15:18																					
5	L-TP-2D	SOLIDS	WT	G		12:02																					
6	L-TP-3M	OIL	WT	G		13:27																					
7	L-TP-3D		WT	G		11/22/11																					
8	L-TP-4D		WT	G		11/22/11																					
9	L-AM-1S ↓		WT	G																							
10	L-AM-1D		WT	G																							
11	L-CA-DUP-1		WT	G																							
12	L-CA-DUP-2		WT	G																							

ADDITIONAL COMMENTS

*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B

**EPA 200.7: Ba, Li, Mo

**EPA 200.8: As, Cr, Se

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Sierra Shields / Golder A	11/5	15:30	Angela MW	11/5	15:30	Temp in °C
Angela MW	11/5	15:30	Wright JA	11/6/21	05:30	Received on Ice (Y/N)
						Sealed Cooler (Y/N)
						Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE: Sierra Shields

PRINT Name of SAMPLER: Sierra Shields

SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YYYY): 11/5/21



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: Golden Associates Address: 13515 Barrett Parkway Drive, Ste 260 Ballwin, MO 63021 Email To: jeffrey_ingram@golder.com Phone: 636-724-9191 Fax: 636-724-9323 Requested Due Date/TAT: Standard		Section B Required Project Information: Report To: Jeffrey Ingram Copy To: Ryan Feldmann/Eric Schneider Purchase Order No.: Project Name: Ameren LCPA-CA Project Number: 153-140603.0001A (COC #2)		Section C Invoice Information: Attention: Company Name: Address: Pace Quote Reference: Project Manager: Jamie Church Pace Profile #: 9285	
REGULATORY AGENCY NPDES / GROUND WATER DRINKING WATER UST RCRA OTHER		Site Location STATE: MO		NPDES / GROUND WATER DRINKING WATER UST RCRA OTHER	

Page: **3** of **3**

ITEM #	Valid Matrix Codes MATRIX CODE DW WASTE WATER WW WASTE WATER P PRODUCT SL SOLID OL OIL WP AR OT TS	SAMPLE TYPE (G-RAB G-COMP)	COLLECTED		# OF CONTAINERS	Preservatives	Analysis Test ↑	Requested Analysis Filtered (Y/N)												Temp in °C	Received on	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)						
			COMPOSITE START DATE	COMPOSITE END/GRAB DATE				DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME										
1	L-CA-DUP-3	WT G	11-3-21	12:00	4	Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
2	L-CA-FB-1	WT G	11-3-21	12:00	4	Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
3	L-CA-FB-2	WT G	11-4-21	12:00	1	Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
4	L-CA-FB-3	WT G	11-3-21	15:10	1	Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
5	L-MS-1	WT G				Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
6	L-MSD-1	WT G				Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
7	L-MS-2	WT G	11-3-21	12:02	4	Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
8	L-MSD-2	WT G	↓	↓	4	Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
9		WT G				Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
10		WT G				Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
11		WT G				Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							
12		WT G				Unpreserved	↑	Chloride/Fluoride/Sulfate	N	App III and Cat/An Metals	N	Alkalinity	N	TDS	N	Appendix IV Metals *	N	Radium 226	N	Radium 228	N	Residual Chlorine (Y/N)							

6038 5386
Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS *EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B **EPA 200.7: Ba, Li, Mo **EPA 200.8: As, Cr, Se		RELINQUISHED BY / AFFILIATION Sierra Shields/Golder Sierra Shields	DATE 11/5/21 11/5	TIME 1520 1330	ACCEPTED BY / AFFILIATION Sierra Shields Sierra Shields	DATE 11/5 11/5	TIME 1530 0530	SAMPLE CONDITIONS Temp in °C Received on Custody Sealed Cooler (Y/N) Samples Intact (Y/N)
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Sierra Shields SIGNATURE of SAMPLER: <i>[Signature]</i> DATE Signed (MM/DD/YYYY): 11/5/21								



MEMORANDUM

DATE January 12, 2023

Project No. 153140604

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

FROM Rahel Pommerenke

EMAIL rahel.pommerenke@wsp.com

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA-CA – CORRECTIVE ACTION SAMPLING NOVEMBER 2021 - DATA PACKAGE 60385386REV1

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
 Project Name: Ameren - LEC - LCPA-CA
 Reviewer: R. Pommerenke

Project Manager: J. Ingram
 Project Number: 153140604
 Validation Date: 1/12/2023

Laboratory: Pace Analytical

SDG #: 60385386rev1

Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)

Matrix: Air Soil/Sed. Water Waste

Sample Names L-AM-1S, L-BMW-1S, L-BMW-2S, L-AM-1D, L-LMW-2S, L-CA-DUP-1, L-S-1, L-CA-MS-1, L-CA-MSD-1, L-AMW-8, L-LMW-1S, L-LMW-4S, L-LMW-7S, L-LMW-8S, L-MW-24, L-MW-26, L-MW-33(D), L-MW-34(D), L-MW-35(D), L-TP-1D, L-TP-2M, L-TP-2D, L-TP-3M, L-TP-3D, L-TP-4D, L-CA-DUP-2, L-CA-DUP-3, L-CA-FB-1, 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>11/01/2021 - 11/05/2021</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>ETF/SSS/EMS/BTT</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Note Deficiencies: <u></u>				
<u></u>				
<u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
				See Notes
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
				See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
				Max RPD: 9% [<10%]

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

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

Comments/Notes:

Lithium was reanalyzed at a lower dilution to meet action limit.

The Sample Condition Upon Receipt forms from the laboratory indicate that the only coolers out of temperature range contained radiums, no qualification necessary.

TDS analyzed outside of hold time for samples L-BMW-1S and L-BMW-2S. Qualified as estimates.

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

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Blanks:

3034277: Boron (15.5J), Calcium (95.6J). Associated with samples -027 through -030. Sample results >RL, > 10x blank, or ND were not qualified. Results <RL were qualified as ND.

3032286: Chloride (0.79J). Associated with samples -010 through -023, -025. Sample results >RL, > 10x blank, or ND were not qualified. Results <10x blank were qualified as estimates.

3029718: Chloride (0.52J). Associated with samples -027 through -030. Sample results >RL, > 10x blank, or ND were not qualified. Results <RL were qualified as ND.

3034763: Chloride (0.45J). Associated with samples -001 through -007. Sample results >RL, > 10x blank, or ND were not qualified. Results <10x blank were qualified as estimates.

3033262: Chloride (0.55J). Associated with samples -024, -026. Sample results >RL and 10x blank, no qualification necessary.

3037296: Chloride (0.65J). Associated with samples -024, -026. Sample results >RL and 10x blank, no qualification necessary.

L-CA-FB-1 @ L-AMW-8: Barium (2.5J), boron (19.6J), molybdenum (3.8J), chromium (0.44J), alkalinity (2.2), chloride (0.55J)
Sample results >RL and 10x blank not qualified. Results <RL qualified as ND.

L-CA-FB-2 @ L-MW-35(D): Chromium (0.32J), alkalinity (2.4), chloride (0.53J). Results >RL and 10x blank not qualified.
Results <RL qualified as ND.

L-CA-FB-3 @ L-MW-33(D): Chromium (0.56J), Chloride (0.53J). Results >RL and 10x blank not qualified. Results <RL qualified as ND.

Duplicates:

L-CA-DUP-1 @ AM-1S: Chromium detected in sample, ND in duplicate. Lithium detected in sample, ND in duplicate.

L-CA-DUP-2 @ L-LMW-4S: RPD for chromium (50%) exceeds limit (20%); Fluoride detected in sample, ND in duplicate;
Radium-228 detected in duplicate, ND in sample. Lithium detected in sample, ND in duplicate.

L-CA-DUP-3 @ L-TP-3D: RPD for chromium (23.7%) exceeds limit (20%); Fluoride detected in sample, ND in duplicate;
Radium-228 detected in duplicate, ND in sample. Lithium detected in sample, ND in duplicate.

Laboratory analyzed sample duplicates for alkalinity, TDS

MS/MSD:

3033341/3033342: MSD % recovery low for sodium, associated with sample -004. Only 1 QC indicator out, no qualification necessary.

3033349/3033350: MS % recovery high for calcium, associated with sample -023. Only 1 QC indicator out, no qualification necessary.

3034279/3034280: MS % recovery low for sodium, associated with sample -027. Only 1 QC indicator out, no qualification necessary.

3029720/3029721: MS % recovery low for sulfate, associated with sample -027. Only 1 QC indicator out, no qualification necessary.

3033266: MS % recovery high for fluoride. MS performed on unrelated sample, no qualification necessary.

3034245/3034246: MS % recovery low (0%), RPD not calculated for arsenic and chromium; MS % recovery low (0%),
RPD exceeds limit for Selenium. Associated with sample -016.

3033264/3033265: MS/MSD % recovery high for sulfate. Associated with sample -024.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-BMW-1S	TDS	953	J	Analyzed outside of hold time
L-BMW-2S	"	475	J	"
L-LMW-1S	Chloride	2.5	J	Detected in MB 10x blank > result > RL
L-MW-24	"	5.0	J	"
L-MW-26	"	6.2	J	"
L-TP-1D	"	4.5	J	"
L-CA-FB-1	Chloride	1.0	U	Detected in MB, RL > result > MDL
"	Boron	100	U	"
L-CA-FB-2	Chloride	1.0	U	"
L-CA-FB-3	"	1.0	U	"
L-BMW-2S	"	1.7	J	Detected in MB 10x blank > result > RL
L-S-1	"	1.1	J	"
L-AMW-8	Chloride	1.0	U	Detected in FB, RL > result > MDL
L-MW-35(D)	Chromium	1.0	U	"
L-MW-33(D)	"	1.0	U	"
AM-1S	"	0.24	J	Detected in sample, ND in duplicate
L-CA-DUP-1	"	0.23	UJ	"
L-LMW-4S	Chromium	0.45	J	RPD exceeds limit
"	Fluoride	0.25	J	Detected in sample, ND in duplicate
"	Radium-228	0.853 ± 0.487	UJ	Detected in duplicate, ND in sample
L-CA-DUP-2	Chromium	0.27	J	RPD exceeds limit
"	Fluoride	0.086	UJ	Detected in sample, ND in duplicate
"	Radium-228	0.890 ± 0.442	J	Detected in duplicate, ND in sample
L-TP-3D	Chromium	0.33	J	RPD exceeds limit
"	Fluoride	0.086	UJ	Detected in sample, ND in duplicate
"	Radium-228	0.739 ± 0.427	UJ	Detected in duplicate, ND in sample
L-CA-DUP-3	Chromium	0.26	J	RPD exceeds limit
"	Fluoride	0.33	J	Detected in sample, ND in duplicate
"	Radium-228	1.15 ± 0.546	J	Detected in duplicate, ND in sample
L-MW-26	Arsenic	0.50	J	MS % recovery low, RPD not calculated
"	Chromium	0.33	J	"
"	Selenium	2.9	J	"
L-TP-3D	Sulfate	469	J+	MS/MSD % recovery high
L-CA-DUP-1	Lithium	76.7	UJ	Detected in parent sample, ND in duplicate.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-AM-1S	Lithium	37.5	J	Detected in parent sample, ND in duplicate.
L-CA-DUP-2	"	76.7	UJ	"
L-LMW-4S	"	29.0	J	"
L-CA-DUP-3	"	76.7	UJ	"
L-TP-3D	"	33.1	J	"

Signature:  -

Date: 1/12/2023

March 02, 2022

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

RE: Project: AMEREN VS LCPA
Pace Project No.: 60392705

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on February 12, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-19-12

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60392705001	L-UMW-3D	Water	02/09/22 09:41	02/12/22 04:50
60392705002	L-UMW-4D	Water	02/09/22 11:15	02/12/22 04:50
60392705003	L-UMW-5D	Water	02/09/22 15:52	02/12/22 04:50
60392705004	L-LCPA-DUP-1	Water	02/09/22 00:00	02/12/22 04:50
60392705005	L-UMW-1D	Water	02/10/22 13:41	02/12/22 04:50
60392705006	L-UMW-7D	Water	02/10/22 12:15	02/12/22 04:50
60392705007	L-UMW-9D	Water	02/10/22 10:17	02/12/22 04:50
60392705008	L-UMW-8D	Water	02/10/22 10:59	02/12/22 04:50
60392705009	L-LCPA-FB-1	Water	02/10/22 13:55	02/12/22 04:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60392705001	L-UMW-3D	EPA 200.7	JLH	1	PASI-K
60392705002	L-UMW-4D	EPA 200.7	JLH	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	SK	1	PASI-K
60392705003	L-UMW-5D	EPA 200.7	JLH	1	PASI-K
60392705004	L-LCPA-DUP-1	EPA 200.7	JLH	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	SK	1	PASI-K
60392705005	L-UMW-1D	EPA 200.7	JLH	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60392705006	L-UMW-7D	EPA 200.7	JLH	2	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	SK	1	PASI-K
60392705007	L-UMW-9D	EPA 200.7	JLH	1	PASI-K
60392705008	L-UMW-8D	EPA 200.7	JLH	2	PASI-K
60392705009	L-LCPA-FB-1	EPA 200.7	JLH	1	PASI-K
		SM 2540C	BLA	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-UMW-3D **Lab ID: 60392705001** Collected: 02/09/22 09:41 Received: 02/12/22 04:50 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									
Lithium	25.5J	ug/L	30.0	23.0	3	03/01/22 09:18	03/01/22 16:06	7439-93-2	

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-UMW-4D **Lab ID: 60392705002** Collected: 02/09/22 11:15 Received: 02/12/22 04:50 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									
Calcium	67100	ug/L	200	75.4	1	02/15/22 14:27	02/28/22 14:06	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	580	mg/L	10.0	10.0	1		02/16/22 15:27		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City									
Fluoride	0.31	mg/L	0.20	0.12	1		02/25/22 17:35	16984-48-8	

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-UMW-5D **Lab ID: 60392705003** Collected: 02/09/22 15:52 Received: 02/12/22 04:50 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									
Molybdenum	188	ug/L	20.0	2.2	1	02/18/22 11:19	02/28/22 14:41	7439-98-7	

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-LCPA-DUP-1 **Lab ID: 60392705004** Collected: 02/09/22 00:00 Received: 02/12/22 04:50 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								
Calcium	64300	ug/L	200	75.4	1	02/15/22 14:27	02/28/22 14:08	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	573	mg/L	10.0	10.0	1		02/16/22 15:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	0.30	mg/L	0.20	0.12	1		02/25/22 17:49	16984-48-8	

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-UMW-1D **Lab ID: 60392705005** Collected: 02/10/22 13:41 Received: 02/12/22 04:50 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								
Calcium	150000	ug/L	400	151	2	03/01/22 09:18	03/01/22 16:08	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	599	mg/L	10.0	10.0	1		02/17/22 09:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	0.21	mg/L	0.20	0.12	1		02/21/22 15:38	16984-48-8	

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-UMW-7D **Lab ID: 60392705006** Collected: 02/10/22 12:15 Received: 02/12/22 04:50 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							
Calcium	158000	ug/L	600	226	3	03/01/22 09:18	03/01/22 16:10	7440-70-2	
Lithium	<23.0	ug/L	30.0	23.0	3	03/01/22 09:18	03/01/22 16:10	7439-93-2	
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	564	mg/L	10.0	10.0	1		02/17/22 09:33		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	0.18J	mg/L	0.20	0.12	1		02/23/22 10:25	16984-48-8	M1

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-UMW-9D **Lab ID: 60392705007** Collected: 02/10/22 10:17 Received: 02/12/22 04:50 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									
Lithium	15.5J	ug/L	20.0	15.3	2	03/01/22 09:18	03/01/22 16:17	7439-93-2	

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-UMW-8D **Lab ID: 60392705008** Collected: 02/10/22 10:59 Received: 02/12/22 04:50 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									
Lithium	25.6	ug/L	10.0	7.7	1	03/01/22 09:18	03/01/22 14:49	7439-93-2	
Molybdenum	64.8	ug/L	20.0	2.2	1	03/01/22 09:18	03/01/22 14:49	7439-98-7	

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Sample: L-LCPA-FB-1 **Lab ID: 60392705009** Collected: 02/10/22 13:55 Received: 02/12/22 04:50 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								
Calcium	124J	ug/L	200	75.4	1	02/15/22 14:27	02/28/22 14:17	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	7.5	mg/L	5.0	5.0	1		02/17/22 09:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	<0.12	mg/L	0.20	0.12	1		02/21/22 15:52	16984-48-8	

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch:	771128	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705002, 60392705004, 60392705009

METHOD BLANK: 3079100 Matrix: Water

Associated Lab Samples: 60392705002, 60392705004, 60392705009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<75.4	200	75.4	02/28/22 13:38	

LABORATORY CONTROL SAMPLE: 3079101

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	10100	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3079102 3079103

Parameter	Units	3079102		3079103		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60392702001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	ug/L	278000	10000	10000	297000	304000	186	251	70-130	2	20

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch: 771789

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 Metals, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705003

METHOD BLANK: 3081539

Matrix: Water

Associated Lab Samples: 60392705003, 60392705006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Molybdenum	ug/L	<2.2	20.0	2.2	02/28/22 14:37	

LABORATORY CONTROL SAMPLE: 3081540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	1000	1030	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3081541 3081542

Parameter	Units	3081541		3081542		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Molybdenum	ug/L	106	1000	1100	1130	99	102	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch: 773220

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 Metals, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705001, 60392705005, 60392705006, 60392705007, 60392705008

METHOD BLANK: 3086442

Matrix: Water

Associated Lab Samples: 60392705001, 60392705005, 60392705006, 60392705007, 60392705008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<75.4	200	75.4	03/01/22 14:21	
Lithium	ug/L	<7.7	10.0	7.7	03/01/22 14:21	
Molybdenum	ug/L	<2.2	20.0	2.2	03/01/22 14:21	

LABORATORY CONTROL SAMPLE: 3086443

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	10100	101	85-115	
Lithium	ug/L	1000	873	87	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3086444 3086445

Parameter	Units	60392705006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	158000	10000	10000	169000	170000	113	118	70-130	0	20	
Lithium	ug/L	<23.0	1000	1000	935	950	91	93	70-130	2	20	
Molybdenum	ug/L	106	1000	1000	1130	1140	102	104	70-130	2	20	

MATRIX SPIKE SAMPLE: 3086446

Parameter	Units	60392705001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	197000	10000	289000	929	70-130	M1
Lithium	ug/L	25.5J	1000	996	97	70-130	
Molybdenum	ug/L	131	1000	1060	93	70-130	

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch: 771427

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705002, 60392705004

METHOD BLANK: 3080232

Matrix: Water

Associated Lab Samples: 60392705002, 60392705004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	02/16/22 15:24	

LABORATORY CONTROL SAMPLE: 3080233

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

SAMPLE DUPLICATE: 3080234

Parameter	Units	60392429003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	883	903	2	10	

SAMPLE DUPLICATE: 3080235

Parameter	Units	60392702001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1360	1300	5	10	

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch: 771592

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705005, 60392705006, 60392705009

METHOD BLANK: 3080734

Matrix: Water

Associated Lab Samples: 60392705005, 60392705006, 60392705009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	02/17/22 09:32	

LABORATORY CONTROL SAMPLE: 3080735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	991	99	80-120	

SAMPLE DUPLICATE: 3080736

Parameter	Units	60392705006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	564	551	2	10	

SAMPLE DUPLICATE: 3080737

Parameter	Units	60392712001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	674	671	0	10	

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch:	772030	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705005, 60392705009

METHOD BLANK: 3082522 Matrix: Water

Associated Lab Samples: 60392705005, 60392705009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/21/22 12:35	

METHOD BLANK: 3083024 Matrix: Water

Associated Lab Samples: 60392705005, 60392705009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/22/22 09:17	

LABORATORY CONTROL SAMPLE: 3082523

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

LABORATORY CONTROL SAMPLE: 3083025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3082524 3082525

Parameter	Units	60392710001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.17J	2.5	2.5	2.9	3.0	108	111	80-120	3	15	

SAMPLE DUPLICATE: 3082526

Parameter	Units	60392710001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.17J	0.17J		15	

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch: 772341

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705006

METHOD BLANK: 3083402

Matrix: Water

Associated Lab Samples: 60392705006

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

LABORATORY CONTROL SAMPLE: 3083403

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3083404 3083405

Parameter	Units	60392705006		3083405		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Fluoride	mg/L	0.18J	2.5	2.5	3.3	3.7	126	140	80-120	10	15 M1

SAMPLE DUPLICATE: 3083406

Parameter	Units	60392705006 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.18J	0.19J		15	

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

QC Batch: 772728

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60392705002, 60392705004

METHOD BLANK: 3085023

Matrix: Water

Associated Lab Samples: 60392705002, 60392705004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/25/22 15:22	

METHOD BLANK: 3086228

Matrix: Water

Associated Lab Samples: 60392705002, 60392705004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/28/22 10:29	

METHOD BLANK: 3086244

Matrix: Water

Associated Lab Samples: 60392705002, 60392705004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	02/28/22 12:27	

LABORATORY CONTROL SAMPLE: 3085024

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

LABORATORY CONTROL SAMPLE: 3086245

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3085025 3085026

Parameter	Units	3085025		3085026		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Fluoride	mg/L	<0.12	2.5	2.5	2.6	2.6	103	102	80-120	1 15

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA

Pace Project No.: 60392705

MATRIX SPIKE SAMPLE:		3085027					
Parameter	Units	60392967005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	ND	2.5	3.1	116	80-120	

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QUALIFIERS

Project: AMEREN VS LCPA

Pace Project No.: 60392705

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN VS LCPA

Pace Project No.: 60392705

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60392705001	L-UMW-3D	EPA 200.7	773220	EPA 200.7	773337
60392705002	L-UMW-4D	EPA 200.7	771128	EPA 200.7	771338
60392705003	L-UMW-5D	EPA 200.7	771789	EPA 200.7	771960
60392705004	L-LCPA-DUP-1	EPA 200.7	771128	EPA 200.7	771338
60392705005	L-UMW-1D	EPA 200.7	773220	EPA 200.7	773337
60392705006	L-UMW-7D	EPA 200.7	773220	EPA 200.7	773337
60392705007	L-UMW-9D	EPA 200.7	773220	EPA 200.7	773337
60392705008	L-UMW-8D	EPA 200.7	773220	EPA 200.7	773337
60392705009	L-LCPA-FB-1	EPA 200.7	771128	EPA 200.7	771338
60392705002	L-UMW-4D	SM 2540C	771427		
60392705004	L-LCPA-DUP-1	SM 2540C	771427		
60392705005	L-UMW-1D	SM 2540C	771592		
60392705006	L-UMW-7D	SM 2540C	771592		
60392705009	L-LCPA-FB-1	SM 2540C	771592		
60392705002	L-UMW-4D	EPA 300.0	772728		
60392705004	L-LCPA-DUP-1	EPA 300.0	772728		
60392705005	L-UMW-1D	EPA 300.0	772030		
60392705006	L-UMW-7D	EPA 300.0	772341		
60392705009	L-LCPA-FB-1	EPA 300.0	772030		

REPORT OF LABORATORY ANALYSIS

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WO#: 60392705



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

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Golden

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T299 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.4 Corr. Factor 0.2 Corrected 1.2

Date and initials of person examining contents: 02-12-2022 u2

Temperature should be above freezing to 6°C 0.7 0.5

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

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

Section C Invoice Information:

Attention:
Company Name: Golder Associates Inc
Address:
Pace Quote Reference:
Pace Project Manager: Jamie Church
Pace Profile #: 9285, line 1
REGULATORY AGENCY: NPDES, UST, RCRA, OTHER
Site Location: MO
STATE: MO

Page: 1 of 1

Table with 12 columns: ITEM #, Valid Matrix Codes, Matrix Code, Matrix Type, Sample Code, Relinquished By/Affiliation, Date, Date, Time, Time, Accepted By/Affiliation, Date, Date, Time, Time, Sample Conditions. Includes handwritten entries for sample IDs and collection dates.

Table with 4 columns: ADDITIONAL COMMENTS, RELINQUISHED BY / AFFILIATION, DATE, TIME. Includes handwritten signatures and dates.

Table with 4 columns: SAMPLER NAME AND SIGNATURE, PRINT Name of SAMPLER, SIGNATURE of SAMPLER, DATE Signed (MM/DD/YYYY). Includes signature of Brendan Talbert dated 02/11/22.

MEMORANDUM

DATE March 4, 2022

Project No. 153140604

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth

EMAIL AMuehlfarth@golder.com

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – VERIFICATION SAMPLING - DATA PACKAGE 60392705

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

- When a compound was detected in a sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).
- When duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc / WSP
 Project Name: Ameren- Labadie - LCPA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: 153140604
 Validation Date: 3/4/2022

Laboratory: Pace Analytical Services - Kansas City SDG #: 60392705
 Analytical Method (type and no.): EPA 200.7 (Total Metals), SM 2540C (TDS), EPA 300.0 (Anions)
 Matrix: Air Soil/Sed. Water Waste
 Sample Names L-UMW-3D, L-UMW-4D, L-UMW-5D, L-LCPA-DUP-1, L-UMW-1D, L-UMW-7D, L-UMW-9D, L-UMW-8D, L-LCPA-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2/9/2022 - 2/10/2022</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>BTT/GTM/JSI</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Note Deficiencies: <u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L-LCPA-DUP-1 @ L-UMW-4D
b) Were field dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD: 4.3% [<20%]
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD: 5% [<10%]

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

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

Comments/Notes:

Dilutions:

Lithium and calcium analyzed at a dilution in multiple samples, no qualification necessary.

Blanks:

L-LCPA-FB-1 @ L-UMW-1D: Calcium (124J), TDS (7.5). Associated sample results >RL and >10x blank, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MS/MSD:

3079102/3079103: MS/MSD % recovery high for calcium. MS/MSD performed on unrelated sample, no qualification necessary.

3086446: MS % recovery high for Calcium. Associated with sample 60392705001. Sample result >4x spike concentration, no qualification necessary.

3083404/3083405: MS/MSD % recovery high for fluoride. Associated with sample 60392705006, result qualified at estimated high.

Blank lined area for additional comments, crossed out with a diagonal line.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-7D	Fluoride	0.18	J+	MS/MSD % recovery high

Signature: _____  _____

Date: 3/4/2022

March 01, 2022

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

RE: Project: AMEREN VS LCPA-CA
Pace Project No.: 60392700

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on February 12, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN VS LCPA-CA

Pace Project No.: 60392700

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-19-12

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN VS LCPA-CA

Pace Project No.: 60392700

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60392700001	L-S-1	Water	02/10/22 11:24	02/12/22 04:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN VS LCPA-CA

Pace Project No.: 60392700

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60392700001	L-S-1	EPA 200.7	JLH	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN VS LCPA-CA

Pace Project No.: 60392700

Sample: L-S-1 **Lab ID: 60392700001** Collected: 02/10/22 11:24 Received: 02/12/22 04:50 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									
Lithium	18.1J	ug/L	20.0	15.3	2	03/01/22 09:18	03/01/22 16:03	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN VS LCPA-CA

Pace Project No.: 60392700

QC Batch: 773220

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 Metals, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60392700001

METHOD BLANK: 3086442

Matrix: Water

Associated Lab Samples: 60392700001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lithium	ug/L	<7.7	10.0	7.7	03/01/22 14:21	

LABORATORY CONTROL SAMPLE: 3086443

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	1000	873	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3086444 3086445

Parameter	Units	60392705006		3086445		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Lithium	ug/L	<23.0	1000	1000	935	950	91	93	70-130	2	20

MATRIX SPIKE SAMPLE: 3086446

Parameter	Units	60392705001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	25.5J	1000	996	97	70-130	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN VS LCPA-CA

Pace Project No.: 60392700

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN VS LCPA-CA

Pace Project No.: 60392700

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60392700001	L-S-1	EPA 200.7	773220	EPA 200.7	773337

REPORT OF LABORATORY ANALYSIS

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

WO#: 60392700



DC#_Title: ENV-FRM-LENE-0009_Samp

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T299 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.4 Corr. Factor 0.2 Corrected 1.2

Date and initials of person examining contents: 02-12-2022 u2

Temperature should be above freezing to 6°C 0.7 0.5

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

MEMORANDUM

DATE March 2, 2022

Project No. 153140604

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth

EMAIL AMuehlfarth@golder.com

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA-CA – VERIFICATION SAMPLING - DATA PACKAGE 60392700

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

- When a compound was detected in a sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc / WSP
 Project Name: Ameren- Labadie - LCPA-CA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: 153140604
 Validation Date: 3/2/2022

Laboratory: Pace Analytical Services - Kansas City
 Analytical Method (type and no.): EPA 200.7 (Total Metals)
 Matrix: Air Soil/Sed. Water Waste
 Sample Names L-S-1

SDG #: 60392700

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2/10/2022</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>BTT</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Note Deficiencies: <u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

Lithium analyzed at a dilution, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Ann M. Mulhally

Date: 3/2/2022

June 04, 2022

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

RE: Project: AMEREN LEC LCPA
Pace Project No.: 60397346

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between April 08, 2022 and April 12, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

Lab Note: TDS required analyzed out of hold for DUP reporting, analyst missed that is was required. Both in hold and out of hold data reported.

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Florida: Cert E871149 SEKS WET

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-21-15

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60397346001	L-UMW-2D	Water	04/06/22 13:43	04/08/22 05:28
60397346002	L-UMW-3D	Water	04/06/22 15:20	04/08/22 05:28
60397346003	L-UMW-4D	Water	04/06/22 10:35	04/08/22 05:28
60397346004	L-UMW-5D	Water	04/06/22 08:59	04/08/22 05:28
60397346005	L-UMW-6D	Water	04/06/22 12:05	04/08/22 05:28
60397346006	L-UMW-8D	Water	04/06/22 15:23	04/08/22 05:28
60397346007	L-UMW-9D	Water	04/06/22 14:13	04/08/22 05:28
60397346008	L-BMW-1D	Water	04/06/22 11:55	04/08/22 05:28
60397346009	L-BMW-2D	Water	04/06/22 12:45	04/08/22 05:28
60397346010	L-UMW-DUP-1	Water	04/06/22 08:00	04/08/22 05:28
60397346011	L-UMW-DUP-2	Water	04/06/22 08:00	04/08/22 05:28
60397346012	L-UMW-FB-1	Water	04/06/22 13:58	04/08/22 05:28
60397346013	L-UMW-FB-2	Water	04/06/22 15:35	04/08/22 05:28
60397346014	L-UMW-MS-1	Water	04/06/22 08:59	04/08/22 05:28
60397346015	L-UMW-MSD-1	Water	04/06/22 08:59	04/08/22 05:28
60397346016	L-UMW-1D	Water	04/11/22 13:34	04/12/22 03:45
60397346017	L-UMW-7D	Water	04/08/22 09:18	04/09/22 04:16

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
60397346001	L-UMW-2D	EPA 200.7	JLH	13	PASI-K		
		EPA 200.8	MRV	6	PASI-K		
		EPA 7470	ALH	1	PASI-K		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	VAL	1	PASI-PA		
		SM 2320B	KB	1	PASI-K		
		SM 2540C	TNB	1	PASI-K		
		SM 3500-Fe B#4	LDB	1	PASI-K		
		SM 3500-Fe B#4	SK	1	PASI-K		
		SM 4500-S-2 D	SK	1	PASI-K		
		EPA 300.0	CRN2	3	PASI-K		
		60397346002	L-UMW-3D	EPA 200.7	JLH	13	PASI-K
				EPA 200.8	MRV	6	PASI-K
EPA 7470	ALH			1	PASI-K		
EPA 903.1	SLC			1	PASI-PA		
EPA 904.0	VAL			1	PASI-PA		
SM 2320B	KB			1	PASI-K		
SM 2540C	TNB			1	PASI-K		
SM 3500-Fe B#4	LDB			1	PASI-K		
SM 3500-Fe B#4	SK			1	PASI-K		
SM 4500-S-2 D	SK			1	PASI-K		
EPA 300.0	CRN2			3	PASI-K		
60397346003	L-UMW-4D			EPA 200.7	JLH	13	PASI-K
				EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K		
		EPA 903.1	SLC	1	PASI-PA		
		EPA 904.0	VAL	1	PASI-PA		
		SM 2320B	KB	1	PASI-K		
		SM 2540C	TNB	1	PASI-K		
		SM 3500-Fe B#4	LDB	1	PASI-K		
		SM 3500-Fe B#4	SK	1	PASI-K		
		SM 4500-S-2 D	SK	1	PASI-K		
		EPA 300.0	CRN2	3	PASI-K		
		60397346004	L-UMW-5D	EPA 200.7	JLH	13	PASI-K
				EPA 200.8	MRV	6	PASI-K
EPA 7470	ALH			1	PASI-K		
EPA 903.1	SLC			1	PASI-PA		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397346005	L-UMW-6D	EPA 904.0	VAL	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	SK, TNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		60397346006	L-UMW-8D	SM 3500-Fe B#4	LDB
SM 3500-Fe B#4	SK			1	PASI-K
SM 4500-S-2 D	SK			1	PASI-K
EPA 300.0	CRN2			3	PASI-K
EPA 200.7	JLH			13	PASI-K
EPA 200.8	MRV			6	PASI-K
EPA 7470	ALH			1	PASI-K
EPA 903.1	SLC			1	PASI-PA
EPA 904.0	VAL			1	PASI-PA
SM 2320B	KB			1	PASI-K
SM 2540C	TNB			1	PASI-K
SM 3500-Fe B#4	LDB			1	PASI-K
SM 3500-Fe B#4	SK			1	PASI-K
SM 4500-S-2 D	SK			1	PASI-K
60397346007	L-UMW-9D			EPA 300.0	CRN2
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397346008	L-BMW-1D	SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		60397346009	L-BMW-2D	SM 4500-S-2 D	SK
EPA 300.0	CRN2			3	PASI-K
EPA 200.7	JLH			13	PASI-K
EPA 200.8	MRV			6	PASI-K
EPA 7470	ALH			1	PASI-K
EPA 903.1	SLC			1	PASI-PA
EPA 904.0	VAL			1	PASI-PA
SM 2320B	KB			1	PASI-K
SM 2540C	TNB			1	PASI-K
SM 3500-Fe B#4	BLA			1	PASI-K
SM 3500-Fe B#4	SK			1	PASI-K
SM 4500-S-2 D	SK			1	PASI-K
60397346010	L-UMW-DUP-1			EPA 300.0	CRN2
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		60397346011	L-UMW-DUP-2	EPA 200.7	JLH

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397346012	L-UMW-FB-1	EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		60397346013	L-UMW-FB-2	SM 2320B	KB
SM 2540C	BLA, TNB			1	PASI-K
SM 3500-Fe B#4	BLA			1	PASI-K
SM 3500-Fe B#4	SK			1	PASI-K
SM 4500-S-2 D	SK			1	PASI-K
EPA 300.0	CRN2			3	PASI-K
EPA 200.7	JLH			13	PASI-K
EPA 200.8	MRV			6	PASI-K
EPA 7470	ALH			1	PASI-K
EPA 903.1	SLC			1	PASI-PA
EPA 904.0	VAL			1	PASI-PA
SM 2320B	KB			1	PASI-K
SM 2540C	BLA, TNB			1	PASI-K
SM 3500-Fe B#4	BLA			1	PASI-K
SM 3500-Fe B#4	SK			1	PASI-K
60397346014	L-UMW-MS-1			SM 4500-S-2 D	SK
		EPA 300.0	CRN2	3	PASI-K
		EPA 903.1	SLC	1	PASI-PA
60397346015	L-UMW-MSD-1	EPA 904.0	VAL	1	PASI-PA
		EPA 903.1	SLC	1	PASI-PA
60397346016	L-UMW-1D	EPA 904.0	VAL	1	PASI-PA
		EPA 200.7	JLH	13	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397346017	L-UMW-7D	EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
EPA 300.0	CRN2	3	PASI-K		

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

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-2D Lab ID: 60397346001 Collected: 04/06/22 13:43 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	140	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 17:28	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 17:28	7440-41-7	
Boron	1030	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 17:28	7440-42-8	
Calcium	125000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 17:28	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 17:28	7440-48-4	
Iron	3640	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 17:28	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 17:28	7439-92-1	
Lithium	32.2	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 17:28	7439-93-2	
Magnesium	26300	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 17:28	7439-95-4	
Manganese	443	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 17:28	7439-96-5	
Molybdenum	34.3	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 17:28	7439-98-7	
Potassium	8030	ug/L	500	167	1	04/19/22 13:10	04/21/22 17:28	7440-09-7	
Sodium	62700	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 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	04/19/22 13:10	04/22/22 11:57	7440-36-0	
Arsenic	1.2	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 11:57	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 11:57	7440-43-9	
Chromium	0.42J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 11:57	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 11:57	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 11:57	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 09:39	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	362	mg/L	20.0	4.6	1		04/14/22 19:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	636	mg/L	10.0	10.0	1		04/13/22 14:27		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	3.6	mg/L	0.050		1		04/25/22 16:39	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 10:57	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-2D **Lab ID: 60397346001** Collected: 04/06/22 13:43 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:00	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	31.5	mg/L	20.0	10.5	20		04/21/22 19:36	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/21/22 19:22	16984-48-8	
Sulfate	138	mg/L	20.0	11.0	20		04/21/22 19:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-3D Lab ID: 60397346002 Collected: 04/06/22 15:20 Received: 04/08/22 05:28 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	51.6	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 17:31	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 17:31	7440-41-7	
Boron	10700	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 17:31	7440-42-8	
Calcium	70000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 17:31	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 17:31	7440-48-4	
Iron	299	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 17:31	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 17:31	7439-92-1	
Lithium	17.9	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 17:31	7439-93-2	
Magnesium	6520	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 17:31	7439-95-4	
Manganese	150	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 17:31	7439-96-5	
Molybdenum	276	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 17:31	7439-98-7	
Potassium	7670	ug/L	500	167	1	04/19/22 13:10	04/21/22 17:31	7440-09-7	
Sodium	62000	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 17:31	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	04/19/22 13:10	04/22/22 12:00	7440-36-0	
Arsenic	7.0	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:00	7440-38-2	
Cadmium	0.079J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:00	7440-43-9	
Chromium	0.31J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:00	7440-47-3	B
Selenium	0.30J	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:00	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:00	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 09:41	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	43.2	mg/L	20.0	4.6	1		04/14/22 19:59		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	509	mg/L	10.0	10.0	1		04/13/22 14:27		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.24	mg/L	0.050		1		04/25/22 16:39	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.060J	mg/L	0.20	0.060	1		04/15/22 10:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-3D **Lab ID: 60397346002** Collected: 04/06/22 15:20 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:01	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.6	mg/L	2.0	1.1	2		04/25/22 11:37	16887-00-6	
Fluoride	0.20	mg/L	0.20	0.12	1		04/21/22 14:35	16984-48-8	
Sulfate	249	mg/L	50.0	27.5	50		04/21/22 14:49	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-4D Lab ID: 60397346003 Collected: 04/06/22 10:35 Received: 04/08/22 05:28 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	72.0	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 17:34	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 17:34	7440-41-7	
Boron	3150	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 17:34	7440-42-8	
Calcium	58500	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 17:34	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 17:34	7440-48-4	
Iron	229	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 17:34	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 17:34	7439-92-1	
Lithium	28.5	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 17:34	7439-93-2	
Magnesium	6750	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 17:34	7439-95-4	
Manganese	266	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 17:34	7439-96-5	
Molybdenum	129	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 17:34	7439-98-7	
Potassium	7920	ug/L	500	167	1	04/19/22 13:10	04/21/22 17:34	7440-09-7	
Sodium	95300	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 17:34	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	04/19/22 13:10	04/22/22 12:02	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:02	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:02	7440-43-9	
Chromium	0.49J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:02	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:02	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:02	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 09:43	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	60.3	mg/L	20.0	4.6	1		04/14/22 20:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	580	mg/L	10.0	10.0	1		04/13/22 14:27		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.23	mg/L	0.050		1		04/25/22 16:39	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 10:54	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-4D **Lab ID: 60397346003** Collected: 04/06/22 10:35 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:01	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	20.0	mg/L	2.0	1.1	2		04/25/22 11:51	16887-00-6	
Fluoride	0.37	mg/L	0.20	0.12	1		04/21/22 15:31	16984-48-8	
Sulfate	301	mg/L	50.0	27.5	50		04/21/22 15:45	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-5D Lab ID: 60397346004 Collected: 04/06/22 08:59 Received: 04/08/22 05:28 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	94.6	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 17:37	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 17:37	7440-41-7	
Boron	13400	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 17:37	7440-42-8	
Calcium	94500	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 17:37	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 17:37	7440-48-4	
Iron	26.1J	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 17:37	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 17:37	7439-92-1	
Lithium	18.9	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 17:37	7439-93-2	
Magnesium	<43.0	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 17:37	7439-95-4	
Manganese	8.0	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 17:37	7439-96-5	
Molybdenum	735	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 17:37	7439-98-7	
Potassium	15100	ug/L	500	167	1	04/19/22 13:10	04/21/22 17:37	7440-09-7	
Sodium	75500	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 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	<0.12	ug/L	1.0	0.12	1	04/19/22 13:10	04/22/22 12:07	7440-36-0	
Arsenic	20.7	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:07	7440-38-2	
Cadmium	0.21J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:07	7440-43-9	
Chromium	0.33J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:07	7440-47-3	B
Selenium	0.19J	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:07	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:07	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 09:45	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	85.9	mg/L	20.0	4.6	1		04/14/22 20:08		D6
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	636	mg/L	10.0	10.0	1		04/13/22 14:27		
Total Dissolved Solids	607	mg/L	10.0	10.0	1		05/20/22 11:35		H5
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.026J	mg/L	0.050		1		04/25/22 16:39	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 10:53	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-5D **Lab ID: 60397346004** Collected: 04/06/22 08:59 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:32	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	19.2	mg/L	2.0	1.1	2		04/25/22 12:05	16887-00-6	M1
Fluoride	<0.12	mg/L	0.20	0.12	1		04/21/22 15:59	16984-48-8	
Sulfate	283	mg/L	20.0	11.0	20		04/21/22 16:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-6D **Lab ID: 60397346005** Collected: 04/06/22 12:05 Received: 04/08/22 05:28 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	108	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 17:54	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 17:54	7440-41-7	
Boron	12400	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 17:54	7440-42-8	
Calcium	135000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 17:54	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 17:54	7440-48-4	
Iron	852	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 17:54	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 17:54	7439-92-1	
Lithium	9.3J	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 17:54	7439-93-2	
Magnesium	7030	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 17:54	7439-95-4	
Manganese	670	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 17:54	7439-96-5	
Molybdenum	537	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 17:54	7439-98-7	
Potassium	20300	ug/L	500	167	1	04/19/22 13:10	04/21/22 17:54	7440-09-7	
Sodium	108000	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 17:54	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	04/19/22 13:10	04/22/22 12:15	7440-36-0	
Arsenic	9.2	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:15	7440-38-2	
Cadmium	0.15J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:15	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:15	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:15	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:15	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 09:52	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	50.8	mg/L	20.0	4.6	1		04/14/22 20:28		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	950	mg/L	10.0	10.0	1		04/13/22 14:28		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.80	mg/L	0.050		1		04/25/22 16:39	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 10:55	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-6D **Lab ID: 60397346005** Collected: 04/06/22 12:05 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:01	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	18.7	mg/L	1.0	0.53	1		04/21/22 18:17	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/21/22 18:17	16984-48-8	
Sulfate	537	mg/L	50.0	27.5	50		04/21/22 18:31	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-8D **Lab ID: 60397346006** Collected: 04/06/22 15:23 Received: 04/08/22 05:28 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	145	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 17:57	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 17:57	7440-41-7	
Boron	2780	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 17:57	7440-42-8	
Calcium	105000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 17:57	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 17:57	7440-48-4	
Iron	16600	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 17:57	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 17:57	7439-92-1	
Lithium	31.2	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 17:57	7439-93-2	
Magnesium	26500	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 17:57	7439-95-4	
Manganese	586	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 17:57	7439-96-5	
Molybdenum	15.1J	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 17:57	7439-98-7	
Potassium	5230	ug/L	500	167	1	04/19/22 13:10	04/21/22 17:57	7440-09-7	
Sodium	57000	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 17:57	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	04/19/22 13:10	04/22/22 12:17	7440-36-0	
Arsenic	32.2	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:17	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:17	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:17	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:17	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:17	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 09:54	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	408	mg/L	20.0	4.6	1		04/15/22 16:17		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	577	mg/L	10.0	10.0	1		04/13/22 14:28		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	15.8	mg/L	0.050		1		04/25/22 16:39	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.73	mg/L	0.20	0.060	1		04/15/22 10:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-8D **Lab ID: 60397346006** Collected: 04/06/22 15:23 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:02	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.3	mg/L	1.0	0.53	1		04/21/22 18:44	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/21/22 18:44	16984-48-8	
Sulfate	82.4	mg/L	10.0	5.5	10		04/21/22 18:58	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-9D **Lab ID: 60397346007** Collected: 04/06/22 14:13 Received: 04/08/22 05:28 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	495	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:00	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:00	7440-41-7	
Boron	106	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:00	7440-42-8	
Calcium	112000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:00	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:00	7440-48-4	
Iron	22400	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:00	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:00	7439-92-1	
Lithium	18.1	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:00	7439-93-2	
Magnesium	30300	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:00	7439-95-4	
Manganese	376	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:00	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:00	7439-98-7	
Potassium	3970	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:00	7440-09-7	
Sodium	12900	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:00	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	04/19/22 13:10	04/22/22 12:22	7440-36-0	
Arsenic	28.5	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:22	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:22	7440-43-9	
Chromium	0.45J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:22	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:22	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:22	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 10:01	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	409	mg/L	20.0	4.6	1		04/15/22 16:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	458	mg/L	10.0	10.0	1		04/13/22 14:28		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	21.7	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.73	mg/L	0.20	0.060	1		04/15/22 10:58	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-9D **Lab ID: 60397346007** Collected: 04/06/22 14:13 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:02	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	24.1	mg/L	2.0	1.1	2		04/25/22 13:00	16887-00-6	
Fluoride	0.19J	mg/L	0.20	0.12	1		04/21/22 19:12	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		04/21/22 19:12	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-BMW-1D Lab ID: 60397346008 Collected: 04/06/22 11:55 Received: 04/08/22 05:28 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	1070	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:03	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:03	7440-41-7	
Boron	85.8J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:03	7440-42-8	
Calcium	134000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:03	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:03	7440-48-4	
Iron	10800	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:03	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:03	7439-92-1	
Lithium	32.0	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:03	7439-93-2	
Magnesium	29700	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:03	7439-95-4	
Manganese	706	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:03	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:03	7439-98-7	
Potassium	4520	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:03	7440-09-7	
Sodium	9910	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:03	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	04/19/22 13:10	04/22/22 12:25	7440-36-0	
Arsenic	1.3	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:25	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:25	7440-43-9	
Chromium	0.41J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:25	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:25	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:25	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 10:04	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	443	mg/L	20.0	4.6	1		04/15/22 16:35		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	504	mg/L	10.0	10.0	1		04/13/22 14:28		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	10.5	mg/L	0.050		1		04/28/22 15:01	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	0.060	1		04/15/22 10:55	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-BMW-1D **Lab ID: 60397346008** Collected: 04/06/22 11:55 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:02	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.4	mg/L	1.0	0.53	1		04/21/22 19:26	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/21/22 19:26	16984-48-8	
Sulfate	26.1	mg/L	5.0	2.8	5		04/21/22 19:40	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-BMW-2D Lab ID: 60397346009 Collected: 04/06/22 12:45 Received: 04/08/22 05:28 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	309	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:05	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:05	7440-41-7	
Boron	79.0J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:05	7440-42-8	
Calcium	123000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:05	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:05	7440-48-4	
Iron	5770	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:05	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:05	7439-92-1	
Lithium	45.3	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:05	7439-93-2	
Magnesium	24300	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:05	7439-95-4	
Manganese	234	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:05	7439-96-5	
Molybdenum	1.7J	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:05	7439-98-7	
Potassium	3820	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:05	7440-09-7	
Sodium	5010	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:05	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	04/19/22 13:10	04/22/22 12:27	7440-36-0	
Arsenic	28.1	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:27	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:27	7440-43-9	
Chromium	0.55J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:27	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:27	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:27	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 10:06	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	381	mg/L	20.0	4.6	1		04/15/22 16:42		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	451	mg/L	10.0	10.0	1		04/13/22 14:28		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.6	mg/L	0.050		1		04/28/22 15:01	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	0.060	1		04/15/22 10:56	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-BMW-2D **Lab ID: 60397346009** Collected: 04/06/22 12:45 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:37	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	2.6	mg/L	1.0	0.53	1		04/21/22 19:54	16887-00-6	
Fluoride	0.19J	mg/L	0.20	0.12	1		04/21/22 19:54	16984-48-8	
Sulfate	27.1	mg/L	5.0	2.8	5		04/21/22 20:08	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-DUP-1 Lab ID: 60397346010 Collected: 04/06/22 08:00 Received: 04/08/22 05:28 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	73.3	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:08	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:08	7440-41-7	
Boron	3200	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:08	7440-42-8	
Calcium	59500	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:08	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:08	7440-48-4	
Iron	206	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:08	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:08	7439-92-1	
Lithium	29.0	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:08	7439-93-2	
Magnesium	6820	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:08	7439-95-4	
Manganese	257	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:08	7439-96-5	
Molybdenum	131	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:08	7439-98-7	
Potassium	7910	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:08	7440-09-7	
Sodium	96400	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:08	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	04/19/22 13:10	04/22/22 12:30	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:30	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:30	7440-43-9	
Chromium	0.49J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:30	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:30	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:30	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 10:08	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	61.2	mg/L	20.0	4.6	1		04/15/22 16:48		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	568	mg/L	10.0	10.0	1		04/13/22 14:28		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.21	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 10:52	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-DUP-1 **Lab ID: 60397346010** Collected: 04/06/22 08:00 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:37	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	20.0	mg/L	2.0	1.1	2		04/25/22 13:42	16887-00-6	
Fluoride	0.40	mg/L	0.20	0.12	1		04/21/22 20:21	16984-48-8	
Sulfate	290	mg/L	20.0	11.0	20		04/21/22 21:17	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-DUP-2 Lab ID: 60397346011 Collected: 04/06/22 08:00 Received: 04/08/22 05:28 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	1.7	1	04/19/22 13:10	04/21/22 18:23	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:23	7440-41-7	
Boron	12300	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:23	7440-42-8	
Calcium	134000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:23	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:23	7440-48-4	
Iron	774	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:23	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:23	7439-92-1	
Lithium	9.4J	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:23	7439-93-2	
Magnesium	6650	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:23	7439-95-4	
Manganese	627	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:23	7439-96-5	
Molybdenum	538	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:23	7439-98-7	
Potassium	20400	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:23	7440-09-7	
Sodium	107000	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:23	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	04/19/22 13:10	04/22/22 12:32	7440-36-0	
Arsenic	10.5	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:32	7440-38-2	
Cadmium	0.14J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:32	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:32	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:32	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:32	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City							
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 10:11	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	51.9	mg/L	20.0	4.6	1		04/15/22 16:54		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	967	mg/L	13.3	13.3	1		04/13/22 14:28		
Iron, Ferric (Calculation)		Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferric	0.71	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous		Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	0.062J	mg/L	0.20	0.060	1		04/15/22 10:53	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-DUP-2 **Lab ID: 60397346011** Collected: 04/06/22 08:00 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:38	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.4	mg/L	1.0	0.53	1		04/26/22 17:47	16887-00-6	
Fluoride	0.17J	mg/L	0.20	0.12	1		04/26/22 17:47	16984-48-8	
Sulfate	567	mg/L	50.0	27.5	50		04/26/22 18:29	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-FB-1 **Lab ID:** 60397346012 Collected: 04/06/22 13:58 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	<1.7	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:26	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:26	7440-41-7	
Boron	24.5J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:26	7440-42-8	
Calcium	<38.2	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:26	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:26	7440-48-4	
Iron	<23.9	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:26	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:26	7439-92-1	
Lithium	<1.1	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:26	7439-93-2	
Magnesium	<43.0	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:26	7439-95-4	
Manganese	<3.8	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:26	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:26	7439-98-7	
Potassium	<167	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:26	7440-09-7	
Sodium	136J	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:26	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	04/19/22 13:10	04/22/22 12:40	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:40	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:40	7440-43-9	
Chromium	0.37J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:40	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:40	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:40	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 10:13	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		04/15/22 16:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	12.5	mg/L	5.0	5.0	1		04/13/22 14:28		B,D6
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		04/27/22 17:25		H5
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0044J	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 10:57	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-FB-1 **Lab ID: 60397346012** Collected: 04/06/22 13:58 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:38	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.61J	mg/L	1.0	0.53	1		04/26/22 18:42	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		04/26/22 18:42	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		04/26/22 18:42	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-FB-2 Lab ID: 60397346013 Collected: 04/06/22 15:35 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	<1.7	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:29	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:29	7440-41-7	
Boron	15.0J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:29	7440-42-8	
Calcium	<38.2	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:29	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:29	7440-48-4	
Iron	<23.9	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:29	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:29	7439-92-1	
Lithium	<1.1	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:29	7439-93-2	
Magnesium	<43.0	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:29	7439-95-4	
Manganese	<3.8	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:29	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:29	7439-98-7	
Potassium	<167	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:29	7440-09-7	
Sodium	99.4J	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:29	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	04/19/22 13:10	04/22/22 12:42	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:42	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:42	7440-43-9	
Chromium	0.39J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:42	7440-47-3	B
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:42	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:42	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/21/22 13:20	04/22/22 10:15	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		04/15/22 17:13		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	9.5	mg/L	5.0	5.0	1		04/13/22 14:28		B
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		04/27/22 17:25		H5
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.000000 0010J	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 10:59	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-FB-2 **Lab ID: 60397346013** Collected: 04/06/22 15:35 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/12/22 14:39	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.60J	mg/L	1.0	0.53	1		04/26/22 18:56	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		04/26/22 18:56	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		04/26/22 18:56	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-1D Lab ID: 60397346016 Collected: 04/11/22 13:34 Received: 04/12/22 03:45 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	509	ug/L	5.0	1.2	1	04/21/22 15:13	04/22/22 19:17	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 15:13	04/22/22 19:17	7440-41-7	
Boron	504	ug/L	100	7.1	1	04/21/22 15:13	04/22/22 19:17	7440-42-8	
Calcium	141000	ug/L	200	38.2	1	04/21/22 15:13	04/25/22 17:48	7440-70-2	
Cobalt	2.7J	ug/L	5.0	1.4	1	04/21/22 15:13	04/22/22 19:17	7440-48-4	
Iron	15900	ug/L	50.0	21.1	1	04/21/22 15:13	04/22/22 19:17	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 15:13	04/22/22 19:17	7439-92-1	
Lithium	28.0	ug/L	10.0	1.1	1	04/21/22 15:13	04/25/22 17:48	7439-93-2	
Magnesium	34200	ug/L	50.0	11.7	1	04/21/22 15:13	04/22/22 19:17	7439-95-4	
Manganese	394	ug/L	5.0	1.1	1	04/21/22 15:13	04/22/22 19:17	7439-96-5	
Molybdenum	<1.8	ug/L	20.0	1.8	1	04/21/22 15:13	04/22/22 19:17	7439-98-7	
Potassium	6400	ug/L	500	224	1	04/21/22 15:13	04/22/22 19:17	7440-09-7	
Sodium	22200	ug/L	500	166	1	04/21/22 15:13	04/22/22 19:17	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.12	ug/L	1.0	0.12	1	04/21/22 15:13	04/22/22 14:45	7440-36-0	
Arsenic	42.3	ug/L	1.0	0.14	1	04/21/22 15:13	04/22/22 14:45	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/21/22 15:13	04/22/22 14:45	7440-43-9	
Chromium	0.32J	ug/L	1.0	0.31	1	04/21/22 15:13	04/22/22 14:45	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 15:13	04/22/22 14:45	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 15:13	04/22/22 14:45	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 14:44	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	518	mg/L	20.0	4.6	1		04/20/22 12:14		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	788	mg/L	10.0	10.0	1		04/15/22 16:11		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	15.1	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.77	mg/L	0.20	0.060	1		04/19/22 16:44	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-1D **Lab ID: 60397346016** Collected: 04/11/22 13:34 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/14/22 16:32	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	9.6	mg/L	1.0	0.53	1		04/28/22 02:05	16887-00-6	
Fluoride	0.27	mg/L	0.20	0.12	1		04/28/22 02:05	16984-48-8	
Sulfate	20.3	mg/L	5.0	2.8	5		04/28/22 02:47	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-7D **Lab ID: 60397346017** Collected: 04/08/22 09:18 Received: 04/09/22 04:16 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	94.8	ug/L	5.0	1.2	1	04/21/22 15:13	04/22/22 19:15	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 15:13	04/22/22 19:15	7440-41-7	
Boron	1920	ug/L	100	7.1	1	04/21/22 15:13	04/22/22 19:15	7440-42-8	
Calcium	154000	ug/L	200	38.2	1	04/21/22 15:13	04/25/22 17:45	7440-70-2	
Cobalt	<1.4	ug/L	5.0	1.4	1	04/21/22 15:13	04/22/22 19:15	7440-48-4	
Iron	11300	ug/L	50.0	21.1	1	04/21/22 15:13	04/22/22 19:15	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 15:13	04/22/22 19:15	7439-92-1	
Lithium	25.0	ug/L	10.0	1.1	1	04/21/22 15:13	04/25/22 17:45	7439-93-2	
Magnesium	21000	ug/L	50.0	11.7	1	04/21/22 15:13	04/22/22 19:15	7439-95-4	
Manganese	1590	ug/L	5.0	1.1	1	04/21/22 15:13	04/22/22 19:15	7439-96-5	
Molybdenum	107	ug/L	20.0	1.8	1	04/21/22 15:13	04/22/22 19:15	7439-98-7	
Potassium	4980	ug/L	500	224	1	04/21/22 15:13	04/22/22 19:15	7440-09-7	
Sodium	20500	ug/L	500	166	1	04/21/22 15:13	04/22/22 19:15	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City									
Antimony	<0.12	ug/L	1.0	0.12	1	04/21/22 15:13	04/22/22 14:43	7440-36-0	
Arsenic	25.5	ug/L	1.0	0.14	1	04/21/22 15:13	04/22/22 14:43	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/21/22 15:13	04/22/22 14:43	7440-43-9	
Chromium	0.56J	ug/L	1.0	0.31	1	04/21/22 15:13	04/22/22 14:43	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 15:13	04/22/22 14:43	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 15:13	04/22/22 14:43	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 14:41	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	463	mg/L	20.0	4.6	1		04/18/22 12:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	610	mg/L	10.0	10.0	1		04/15/22 16:10		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferric	10.9	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferrous	0.36	mg/L	0.20	0.060	1		04/15/22 11:01	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-7D **Lab ID: 60397346017** Collected: 04/08/22 09:18 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/14/22 16:31	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	8.2	mg/L	1.0	0.53	1		04/27/22 04:51	16887-00-6	
Fluoride	0.29	mg/L	0.20	0.12	1		04/27/22 04:51	16984-48-8	
Sulfate	74.3	mg/L	5.0	2.8	5		04/27/22 05:05	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782544

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

METHOD BLANK: 3120771

Matrix: Water

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.12	0.20	0.12	04/22/22 09:34	

LABORATORY CONTROL SAMPLE: 3120772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120773 3120774

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397346004 Result	Spike Conc.	Spike Conc.	Result						
Mercury	ug/L	<0.12	5	5	4.8	97	99	75-125	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782785

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016, 60397346017

METHOD BLANK: 3121531

Matrix: Water

Associated Lab Samples: 60397346016, 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.12	0.20	0.12	04/22/22 14:35	

LABORATORY CONTROL SAMPLE: 3121532

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121533 3121534

Parameter	Units	3121533		3121534		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397347017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury	ug/L	<0.12	5	5	4.9	4.9	98	98	75-125	1	20

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch:	782068	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013		

METHOD BLANK:	3119096	Matrix:	Water
Associated Lab Samples:	60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.7	5.0	1.7	04/21/22 17:22	
Beryllium	ug/L	<0.31	1.0	0.31	04/21/22 17:22	
Boron	ug/L	<13.5	100	13.5	04/21/22 17:22	
Calcium	ug/L	<38.2	200	38.2	04/22/22 11:36	
Cobalt	ug/L	<0.78	5.0	0.78	04/21/22 17:22	
Iron	ug/L	<23.9	50.0	23.9	04/21/22 17:22	
Lead	ug/L	<4.3	10.0	4.3	04/21/22 17:22	
Lithium	ug/L	<1.1	10.0	1.1	04/21/22 17:22	
Magnesium	ug/L	<43.0	50.0	43.0	04/21/22 17:22	
Manganese	ug/L	<3.8	5.0	3.8	04/21/22 17:22	
Molybdenum	ug/L	<1.4	20.0	1.4	04/21/22 17:22	
Potassium	ug/L	<167	500	167	04/22/22 11:36	
Sodium	ug/L	<64.8	500	64.8	04/22/22 11:36	

LABORATORY CONTROL SAMPLE: 3119097

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	984	98	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Cobalt	ug/L	1000	976	98	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1020	102	85-115	
Lithium	ug/L	1000	979	98	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	1040	104	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10400	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119098 3119099

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397346004	Spike Conc.	Spike Conc.	MS Result						
Barium	ug/L	94.6	1000	1000	1100	1080	100	98	70-130	2	20

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119098 3119099												
Parameter	Units	60397346004		MS	MSD	MS	MSD	MS	MSD	% Rec	Max	
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	RPD
Beryllium	ug/L	<0.31	1000	1000	1000	1060	1050	106	105	70-130	1	20
Boron	ug/L	13400	1000	1000	1000	14400	14200	105	79	70-130	2	20
Calcium	ug/L	94500	10000	10000	10000	105000	103000	102	82	70-130	2	20
Cobalt	ug/L	<0.78	1000	1000	1000	947	940	95	94	70-130	1	20
Iron	ug/L	26.1J	10000	10000	10000	9860	9750	98	97	70-130	1	20
Lead	ug/L	<4.3	1000	1000	1000	967	960	97	96	70-130	1	20
Lithium	ug/L	18.9	1000	1000	1000	1050	1030	103	101	70-130	2	20
Magnesium	ug/L	<43.0	10000	10000	10000	9970	9860	99	98	70-130	1	20
Manganese	ug/L	8.0	1000	1000	1000	1030	1010	102	100	70-130	1	20
Molybdenum	ug/L	735	1000	1000	1000	1730	1710	99	97	70-130	1	20
Potassium	ug/L	15100	10000	10000	10000	25000	24400	98	93	70-130	2	20
Sodium	ug/L	75500	10000	10000	10000	85000	83100	95	77	70-130	2	20

MATRIX SPIKE SAMPLE: 3119100								
Parameter	Units	60397346011		Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.		Result	% Rec		
Barium	ug/L		110	1000	1130	102	70-130	
Beryllium	ug/L		<0.31	1000	1070	107	70-130	
Boron	ug/L		12300	1000	13500	120	70-130	
Calcium	ug/L		134000	10000	146000	118	70-130	
Cobalt	ug/L		<0.78	1000	963	96	70-130	
Iron	ug/L		774	10000	10600	98	70-130	
Lead	ug/L		<4.3	1000	980	98	70-130	
Lithium	ug/L		9.4J	1000	1060	105	70-130	
Magnesium	ug/L		6650	10000	16700	101	70-130	
Manganese	ug/L		627	1000	1650	103	70-130	
Molybdenum	ug/L		538	1000	1560	102	70-130	
Potassium	ug/L		20400	10000	30700	102	70-130	
Sodium	ug/L		107000	10000	119000	114	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA
Pace Project No.: 60397346

QC Batch: 782608 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016, 60397346017

METHOD BLANK: 3120974 Matrix: Water

Associated Lab Samples: 60397346016, 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.2	5.0	1.2	04/22/22 19:04	
Beryllium	ug/L	<0.24	1.0	0.24	04/22/22 19:04	
Boron	ug/L	<7.1	100	7.1	04/22/22 19:04	
Calcium	ug/L	<38.2	200	38.2	04/22/22 19:04	
Cobalt	ug/L	<1.4	5.0	1.4	04/22/22 19:04	
Iron	ug/L	<21.1	50.0	21.1	04/22/22 19:04	
Lead	ug/L	<6.1	10.0	6.1	04/22/22 19:04	
Lithium	ug/L	<1.1	10.0	1.1	04/22/22 19:04	
Magnesium	ug/L	<11.7	50.0	11.7	04/22/22 19:04	
Manganese	ug/L	<1.1	5.0	1.1	04/22/22 19:04	
Molybdenum	ug/L	<1.8	20.0	1.8	04/22/22 19:04	
Potassium	ug/L	<224	500	224	04/22/22 19:04	
Sodium	ug/L	<166	500	166	04/22/22 19:04	

LABORATORY CONTROL SAMPLE: 3120975

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	957	96	85-115	
Calcium	ug/L	10000	9760	98	85-115	
Cobalt	ug/L	1000	988	99	85-115	
Iron	ug/L	10000	9800	98	85-115	
Lead	ug/L	1000	1020	102	85-115	
Lithium	ug/L	1000	863	86	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	993	99	85-115	
Molybdenum	ug/L	1000	978	98	85-115	
Potassium	ug/L	10000	9880	99	85-115	
Sodium	ug/L	10000	9920	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120976 3120977

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397546001	Result	Conc.	Conc.								
Barium	ug/L	50.9	1000	1000	1030	1010	98	96	70-130	2	20		
Beryllium	ug/L	<0.24	1000	1000	1030	1010	103	101	70-130	2	20		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameter	Units	3120976		3120977		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397546001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Boron	ug/L	2110	1000	1000	3080	3030	98	92	70-130	2	20		
Calcium	ug/L	63900	10000	10000	74500	72600	106	87	70-130	3	20		
Cobalt	ug/L	<1.4	1000	1000	961	946	96	95	70-130	2	20		
Iron	ug/L	73.5	10000	10000	9820	9570	97	95	70-130	3	20		
Lead	ug/L	<6.1	1000	1000	981	958	98	96	70-130	2	20		
Lithium	ug/L	3.3J	1000	1000	1120	1100	112	109	70-130	2	20		
Magnesium	ug/L	10300	10000	10000	19800	19500	96	92	70-130	2	20		
Manganese	ug/L	62.5	1000	1000	1050	1030	99	96	70-130	2	20		
Molybdenum	ug/L	54.4	1000	1000	1030	1010	98	96	70-130	2	20		
Potassium	ug/L	7700	10000	10000	17900	17600	102	99	70-130	2	20		
Sodium	ug/L	121000	10000	10000	132000	129000	111	78	70-130	3	20		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch:	782067	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013		

METHOD BLANK:	3119091	Matrix:	Water
Associated Lab Samples:	60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/22/22 11:53	
Arsenic	ug/L	<0.14	1.0	0.14	04/22/22 11:53	
Cadmium	ug/L	<0.053	0.50	0.053	04/22/22 11:53	
Chromium	ug/L	0.48J	1.0	0.31	04/22/22 11:53	
Selenium	ug/L	<0.18	1.0	0.18	04/22/22 11:53	
Thallium	ug/L	<0.15	1.0	0.15	04/22/22 11:53	

LABORATORY CONTROL SAMPLE: 3119092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.6	96	85-115	
Arsenic	ug/L	40	39.9	100	85-115	
Cadmium	ug/L	40	40.9	102	85-115	
Chromium	ug/L	40	40.1	100	85-115	
Selenium	ug/L	40	39.9	100	85-115	
Thallium	ug/L	40	38.0	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119093 3119094

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397346004 Result	Spike Conc.	Spike Conc.	MS Result						
Antimony	ug/L	<0.12	40	40	39.7	38.9	99	97	70-130	2	20
Arsenic	ug/L	20.7	40	40	62.7	61.1	105	101	70-130	3	20
Cadmium	ug/L	0.21J	40	40	38.0	36.9	94	92	70-130	3	20
Chromium	ug/L	0.33J	40	40	40.8	45.4	101	113	70-130	11	20
Selenium	ug/L	0.19J	40	40	40.6	39.6	101	99	70-130	2	20
Thallium	ug/L	<0.15	40	40	39.8	38.7	100	97	70-130	3	20

MATRIX SPIKE SAMPLE: 3119095

Parameter	Units	60397346011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	37.7	94	70-130	
Arsenic	ug/L	10.5	40	49.7	98	70-130	
Cadmium	ug/L	0.14J	40	36.1	90	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

MATRIX SPIKE SAMPLE:		3119095					
Parameter	Units	60397346011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	<0.31	40	38.2	95	70-130	
Selenium	ug/L	<0.18	40	39.9	99	70-130	
Thallium	ug/L	<0.15	40	38.3	96	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782609

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016, 60397346017

METHOD BLANK: 3120978

Matrix: Water

Associated Lab Samples: 60397346016, 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/22/22 14:39	
Arsenic	ug/L	<0.14	1.0	0.14	04/22/22 14:39	
Cadmium	ug/L	<0.053	0.50	0.053	04/22/22 14:39	
Chromium	ug/L	<0.31	1.0	0.31	04/22/22 14:39	
Selenium	ug/L	<0.18	1.0	0.18	04/22/22 14:39	
Thallium	ug/L	<0.15	1.0	0.15	04/22/22 14:39	

LABORATORY CONTROL SAMPLE: 3120979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.6	102	85-115	
Arsenic	ug/L	40	40.2	100	85-115	
Cadmium	ug/L	40	43.4	108	85-115	
Chromium	ug/L	40	40.7	102	85-115	
Selenium	ug/L	40	41.1	103	85-115	
Thallium	ug/L	40	38.5	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120980 3120981

Parameter	Units	3120980		3120981		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Antimony	ug/L	<0.12	40	40	34.1	34.1	85	85	70-130	0	20
Arsenic	ug/L	121	40	40	160	161	98	99	70-130	0	20
Cadmium	ug/L	<0.053	40	40	39.1	39.3	98	98	70-130	0	20
Chromium	ug/L	<0.31	40	40	39.5	39.3	98	97	70-130	0	20
Selenium	ug/L	<0.18	40	40	39.7	39.3	99	98	70-130	1	20
Thallium	ug/L	<0.15	40	40	39.2	38.9	98	97	70-130	1	20

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 781344

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005

METHOD BLANK: 3116210

Matrix: Water

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/14/22 17:38	

LABORATORY CONTROL SAMPLE: 3116211

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

SAMPLE DUPLICATE: 3116212

Parameter	Units	60397207007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	192	186	3	10	

SAMPLE DUPLICATE: 3116214

Parameter	Units	60397346004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	85.9	50.9	51	10	D6

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 781580

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

METHOD BLANK: 3117114

Matrix: Water

Associated Lab Samples: 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/15/22 16:07	

LABORATORY CONTROL SAMPLE: 3117115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	496	99	90-110	

SAMPLE DUPLICATE: 3117116

Parameter	Units	60397346006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	408	406	0	10	

SAMPLE DUPLICATE: 3117118

Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	34.3	35.0	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 781581

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346017

METHOD BLANK: 3117119

Matrix: Water

Associated Lab Samples: 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/16/22 08:47	

LABORATORY CONTROL SAMPLE: 3117120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	487	97	90-110	

SAMPLE DUPLICATE: 3117121

Parameter	Units	60397347007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	122	120	2	10	

SAMPLE DUPLICATE: 3117123

Parameter	Units	60397479003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	372	375	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782260

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016

METHOD BLANK: 3119662

Matrix: Water

Associated Lab Samples: 60397346016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<4.6	20.0	4.6	04/20/22 10:52	

LABORATORY CONTROL SAMPLE: 3119663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	475	95	90-110	

SAMPLE DUPLICATE: 3119664

Parameter	Units	60397403002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	620	622	0	10	

SAMPLE DUPLICATE: 3119665

Parameter	Units	60397347017 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	139	137	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 781236

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

METHOD BLANK: 3115850

Matrix: Water

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	13.5	5.0	5.0	04/13/22 14:27	

LABORATORY CONTROL SAMPLE: 3115851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	898	90	80-120	

SAMPLE DUPLICATE: 3115852

Parameter	Units	60397346012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	12.5	24.5	65	10	D6

SAMPLE DUPLICATE: 3115853

Parameter	Units	60397346013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	9.5	10.0	5	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 781721

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016, 60397346017

METHOD BLANK: 3117705

Matrix: Water

Associated Lab Samples: 60397346016, 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/15/22 16:10	

LABORATORY CONTROL SAMPLE: 3117706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	873	87	80-120	

SAMPLE DUPLICATE: 3117707

Parameter	Units	60397403002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	975	939	4	10	

SAMPLE DUPLICATE: 3117708

Parameter	Units	60397683001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	374	363	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 783713

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346012, 60397346013

METHOD BLANK: 3125252

Matrix: Water

Associated Lab Samples: 60397346012, 60397346013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/27/22 17:25	

LABORATORY CONTROL SAMPLE: 3125253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	995	100	80-120	

SAMPLE DUPLICATE: 3125254

Parameter	Units	60398654004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	546	565	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 787925

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346004

METHOD BLANK: 3140595

Matrix: Water

Associated Lab Samples: 60397346004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/20/22 11:34	

LABORATORY CONTROL SAMPLE: 3140596

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

SAMPLE DUPLICATE: 3140597

Parameter	Units	60397346004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	636	662	9	10	

SAMPLE DUPLICATE: 3140598

Parameter	Units	60400441003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	598	657	9	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 781338

Analysis Method: SM 3500-Fe B#4

QC Batch Method: SM 3500-Fe B#4

Analysis Description: Iron, Ferrous

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013, 60397346017

METHOD BLANK: 3116192

Matrix: Water

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013, 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/15/22 10:51	H6

LABORATORY CONTROL SAMPLE: 3116193

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

SAMPLE DUPLICATE: 3116194

Parameter	Units	60397346004 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.060	<0.060		20	H6

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782077

Analysis Method: SM 3500-Fe B#4

QC Batch Method: SM 3500-Fe B#4

Analysis Description: Iron, Ferrous

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016

METHOD BLANK: 3119130

Matrix: Water

Associated Lab Samples: 60397346016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/19/22 16:40	H6

LABORATORY CONTROL SAMPLE: 3119131

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

SAMPLE DUPLICATE: 3119132

Parameter	Units	60397418002 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	ND	0.13J		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch:	780867	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346005, 60397346006, 60397346007, 60397346008

METHOD BLANK: 3114376 Matrix: Water
Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346005, 60397346006, 60397346007, 60397346008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/12/22 13:34	

LABORATORY CONTROL SAMPLE: 3114377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.52	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114378 3114379

Parameter	Units	60397309001 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	<0.026	0.5	0.5	0.49	0.49	98	98	75-125	0	20	

SAMPLE DUPLICATE: 3114380

Parameter	Units	60396950003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.026		20	

SAMPLE DUPLICATE: 3114381

Parameter	Units	60396954004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch:	780871	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346004, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

METHOD BLANK: 3114392 Matrix: Water
Associated Lab Samples: 60397346004, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/12/22 14:03	

LABORATORY CONTROL SAMPLE: 3114393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.52	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3114395 3114396

Parameter	Units	60397346004 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	<0.026	0.5	0.5	0.49	0.49	98	98	75-125	0	20	

SAMPLE DUPLICATE: 3114394

Parameter	Units	60397346004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

SAMPLE DUPLICATE: 3114397

Parameter	Units	60397209005 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 781332	Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D	Analysis Description: 4500S2D Sulfide, Total
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016, 60397346017

METHOD BLANK: 3116170 Matrix: Water

Associated Lab Samples: 60397346016, 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/14/22 16:28	

LABORATORY CONTROL SAMPLE: 3116171

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3116172 3116173

Parameter	Units	60397616001		3116172		3116173		% Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result						
Sulfide, Total	mg/L	0.18	0.5	0.5	0.5	0.66	0.66	95	96	75-125	0	20	

SAMPLE DUPLICATE: 3116174

Parameter	Units	60397346017 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

SAMPLE DUPLICATE: 3116175

Parameter	Units	60397546004 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782365

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346001

METHOD BLANK: 3120126

Matrix: Water

Associated Lab Samples: 60397346001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/21/22 08:58	
Fluoride	mg/L	<0.12	0.20	0.12	04/21/22 08:58	
Sulfate	mg/L	<0.55	1.0	0.55	04/21/22 08:58	

LABORATORY CONTROL SAMPLE: 3120127

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	2.5	99	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120128 3120129

Parameter	Units	60395490001		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result							
Chloride	mg/L	91.0	25	25	117	117	105	103	80-120	0	15	E,H1		
Fluoride	mg/L	ND	12.5	12.5	12.7	12.7	102	102	80-120	0	15	H1		
Sulfate	mg/L	10.3	25	25	33.7	33.9	94	94	80-120	1	15	H1		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA
Pace Project No.: 60397346

QC Batch: 782371 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010

METHOD BLANK: 3120161 Matrix: Water
Associated Lab Samples: 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/21/22 09:52	
Fluoride	mg/L	<0.12	0.20	0.12	04/21/22 09:52	
Sulfate	mg/L	<0.55	1.0	0.55	04/21/22 09:52	

METHOD BLANK: 3123732 Matrix: Water
Associated Lab Samples: 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/25/22 10:55	
Fluoride	mg/L	<0.12	0.20	0.12	04/25/22 10:55	
Sulfate	mg/L	<0.55	1.0	0.55	04/25/22 10:55	

LABORATORY CONTROL SAMPLE: 3120162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	91	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.7	95	90-110	

LABORATORY CONTROL SAMPLE: 3123733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	91	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	5	4.6	93	90-110	

MATRIX SPIKE SAMPLE: 3120165

Parameter	Units	60397346002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	19.6	10	28.8	92	80-120	
Fluoride	mg/L	0.20	2.5	2.8	106	80-120	
Sulfate	mg/L	249	100	394	146	80-120 M1	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120166												3120167	
Parameter	Units	60397346004 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Chloride	mg/L	19.2	10	10	32.1	34.8	130	157	80-120	8	15	M1	
Fluoride	mg/L	<0.12	2.5	2.5	2.6	2.6	99	100	80-120	1	15		
Sulfate	mg/L	283	100	100	388	388	105	105	80-120	0	15		

SAMPLE DUPLICATE: 3120168

Parameter	Units	60397346004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	19.2	20.4	6	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	283	284	0	15	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782513 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60397346011, 60397346012, 60397346013

METHOD BLANK: 3120630 Matrix: Water
 Associated Lab Samples: 60397346011, 60397346012, 60397346013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.63J	1.0	0.53	04/26/22 12:57	
Fluoride	mg/L	<0.12	0.20	0.12	04/26/22 12:57	
Sulfate	mg/L	<0.55	1.0	0.55	04/26/22 12:57	

METHOD BLANK: 3124994 Matrix: Water
 Associated Lab Samples: 60397346011, 60397346012, 60397346013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.61J	1.0	0.53	04/27/22 09:06	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 09:06	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 09:06	

LABORATORY CONTROL SAMPLE: 3120631

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	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 3124995

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120632 3120633

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397347001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	17.4	5	5	25.3	22.7	157	105	80-120	11	15	E,M1	
Fluoride	mg/L	0.16J	2.5	2.5	4.0	2.6	153	98	80-120	42	15	M1,R1	
Sulfate	mg/L	263	250	250	505	506	97	97	80-120	0	15		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

SAMPLE DUPLICATE: 3120634

Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	17.4	17.5	0	15	
Fluoride	mg/L	0.16J	<0.12		15	
Sulfate	mg/L	263	266	1	15	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 782517

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346017

METHOD BLANK: 3120651

Matrix: Water

Associated Lab Samples: 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	04/27/22 01:51	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 01:51	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 01:51	

METHOD BLANK: 3125964

Matrix: Water

Associated Lab Samples: 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/27/22 12:39	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 12:39	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 12:39	

METHOD BLANK: 3125967

Matrix: Water

Associated Lab Samples: 60397346017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/26/22 11:12	
Fluoride	mg/L	<0.12	0.20	0.12	04/26/22 11:12	
Sulfate	mg/L	<0.55	1.0	0.55	04/26/22 11:12	

LABORATORY CONTROL SAMPLE: 3120652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3125965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	104	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

LABORATORY CONTROL SAMPLE: 3125968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	103	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120653 3120654

Parameter	Units	60397479003		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec						
Chloride	mg/L	2.8	5	5	7.5	7.4	94	92	80-120	1	15				
Fluoride	mg/L	<0.12	2.5	2.5	2.3	2.3	91	91	80-120	0	15				
Sulfate	mg/L	30.5	25	25	55.4	55.4	100	99	80-120	0	15				

SAMPLE DUPLICATE: 3120655

Parameter	Units	60397479003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	2.8	2.8	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	30.5	30.7	1	15	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 783373

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397346016

METHOD BLANK: 3123953

Matrix: Water

Associated Lab Samples: 60397346016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.61J	1.0	0.53	04/27/22 14:36	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 14:36	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 14:36	

METHOD BLANK: 3127055

Matrix: Water

Associated Lab Samples: 60397346016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	04/28/22 09:00	
Fluoride	mg/L	<0.12	0.20	0.12	04/28/22 09:00	
Sulfate	mg/L	<0.55	1.0	0.55	04/28/22 09:00	

LABORATORY CONTROL SAMPLE: 3123954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

LABORATORY CONTROL SAMPLE: 3127056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123955

3123956

Parameter	Units	3123955		3123956		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	11.9	5	5	17.0	16.8	103	98	80-120	1	15
Fluoride	mg/L	<0.12	2.5	2.5	2.4	2.3	95	90	80-120	6	15
Sulfate	mg/L	197	100	100	294	293	97	96	80-120	0	15

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA
Pace Project No.: 60397346

SAMPLE DUPLICATE: 3123957

Parameter	Units	60397403002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	11.9	11.9	0	15	
Fluoride	mg/L	<0.12	0.28		15	
Sulfate	mg/L	197	193	2	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-2D Lab ID: 60397346001 Collected: 04/06/22 13:43 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.385 ± 0.289 (0.149) C:NA T:83%	pCi/L	05/03/22 14:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.52 ± 0.520 (0.706) C:77% T:83%	pCi/L	04/25/22 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-3D Lab ID: 60397346002 Collected: 04/06/22 15:20 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.325 ± 0.276 (0.342) C:NA T:84%	pCi/L	05/03/22 14:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.431 ± 0.378 (0.766) C:79% T:84%	pCi/L	04/25/22 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-4D **Lab ID: 60397346003** Collected: 04/06/22 10:35 Received: 04/08/22 05:28 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	0.317 ± 0.295 (0.389) C:NA T:84%	pCi/L	05/03/22 14:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.965 ± 0.419 (0.662) C:76% T:84%	pCi/L	04/25/22 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-5D **Lab ID: 60397346004** Collected: 04/06/22 08:59 Received: 04/08/22 05:28 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	0.238 ± 0.249 (0.351) C:NA T:83%	pCi/L	05/03/22 14:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.672 ± 0.363 (0.628) C:77% T:83%	pCi/L	04/25/22 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-6D Lab ID: 60397346005 Collected: 04/06/22 12:05 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.466 ± 0.294 (0.126) C:NA T:88%	pCi/L	05/03/22 14:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.302 ± 0.300 (0.614) C:78% T:88%	pCi/L	04/25/22 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-8D **Lab ID: 60397346006** Collected: 04/06/22 15:23 Received: 04/08/22 05:28 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	-0.114 ± 0.316 (0.748) C:NA T:84%	pCi/L	05/03/22 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.844 ± 0.412 (0.706) C:81% T:84%	pCi/L	04/25/22 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-9D Lab ID: 60397346007 Collected: 04/06/22 14:13 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.485 ± 0.429 (0.636) C:NA T:87%	pCi/L	05/03/22 14:05	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.799 ± 0.402 (0.691) C:74% T:87%	pCi/L	04/25/22 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	1.18 ± 0.453 (0.111) C:NA T:91%	pCi/L	05/03/22 14:21	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.938 ± 0.528 (0.934) C:71% T:91%	pCi/L	04/25/22 19:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-BMW-2D **Lab ID: 60397346009** Collected: 04/06/22 12:45 Received: 04/08/22 05:28 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	0.0892 ± 0.277 (0.536) C:NA T:90%	pCi/L	05/03/22 14:21	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.294 ± 0.456 (0.985) C:72% T:90%	pCi/L	04/25/22 19:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.184 ± 0.338 (0.767) C:NA T:84%	pCi/L	05/03/22 14:21	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.652 ± 0.537 (1.06) C:75% T:84%	pCi/L	04/25/22 19:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-DUP-2 **Lab ID: 60397346011** Collected: 04/06/22 08:00 Received: 04/08/22 05:28 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	-0.168 ± 0.395 (0.886) C:NA T:81%	pCi/L	05/03/22 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.404 ± 0.468 (0.977) C:75% T:81%	pCi/L	04/25/22 19:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-FB-1 Lab ID: 60397346012 Collected: 04/06/22 13:58 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.0470 ± 0.332 (0.705) C:NA T:87%	pCi/L	05/03/22 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.408 ± 0.450 (0.933) C:76% T:87%	pCi/L	04/25/22 19:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-FB-2 **Lab ID: 60397346013** Collected: 04/06/22 15:35 Received: 04/08/22 05:28 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 ± 0.279 (0.580) C:NA T:95%	pCi/L	05/03/22 14:21	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.597 ± 0.457 (0.890) C:77% T:95%	pCi/L	04/25/22 19:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-MS-1 **Lab ID: 60397346014** Collected: 04/06/22 08:59 Received: 04/08/22 05:28 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	71.24 %REC ± NA (NA) C:NA T:NA%	pCi/L	05/03/22 14:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	71.41 %REC ± NA (NA) C:NA T:NA	pCi/L	04/25/22 15:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	98.53 %REC 32.15 RPD ± NA (NA) C:NA T:NA%	pCi/L	05/03/22 14:21	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	87.85 %REC 20.64 RPD ± NA (NA) C:NA T:NA	pCi/L	04/25/22 15:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-1D **Lab ID: 60397346016** Collected: 04/11/22 13:34 Received: 04/12/22 03:45 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	0.364 ± 0.559 (0.962) C:NA T:97%	pCi/L	05/03/22 11:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.26 ± 0.471 (0.692) C:76% T:86%	pCi/L	05/02/22 12:15	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Sample: L-UMW-7D **Lab ID: 60397346017** Collected: 04/08/22 09:18 Received: 04/09/22 04:16 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	0.247 ± 0.594 (1.08) C:NA T:91%	pCi/L	05/03/22 11:40	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.875 ± 0.434 (0.754) C:80% T:80%	pCi/L	05/02/22 12:15	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 498723

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: 60397346016, 60397346017

METHOD BLANK: 2413743

Matrix: Water

Associated Lab Samples: 60397346016, 60397346017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.232 ± 0.242 (0.655) C:NA T:96%	pCi/L	05/03/22 11:40	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 497788

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: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013, 60397346014, 60397346015

METHOD BLANK: 2409279

Matrix: Water

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013, 60397346014, 60397346015

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.101 ± 0.281 (0.546) C:NA T:82%	pCi/L	05/03/22 14:05	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 498724

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: 60397346016, 60397346017

METHOD BLANK: 2413744

Matrix: Water

Associated Lab Samples: 60397346016, 60397346017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.105 ± 0.277 (0.621) C:77% T:92%	pCi/L	05/02/22 12:14	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

QC Batch: 497789

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: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013, 60397346014, 60397346015

METHOD BLANK: 2409281

Matrix: Water

Associated Lab Samples: 60397346001, 60397346002, 60397346003, 60397346004, 60397346005, 60397346006, 60397346007, 60397346008, 60397346009, 60397346010, 60397346011, 60397346012, 60397346013, 60397346014, 60397346015

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.270 ± 0.329 (0.691) C:74% T:82%	pCi/L	04/25/22 15:50	

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 LEC LCPA

Pace Project No.: 60397346

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.

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.

H5 Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397346001	L-UMW-2D	EPA 200.7	782068	EPA 200.7	782140
60397346002	L-UMW-3D	EPA 200.7	782068	EPA 200.7	782140
60397346003	L-UMW-4D	EPA 200.7	782068	EPA 200.7	782140
60397346004	L-UMW-5D	EPA 200.7	782068	EPA 200.7	782140
60397346005	L-UMW-6D	EPA 200.7	782068	EPA 200.7	782140
60397346006	L-UMW-8D	EPA 200.7	782068	EPA 200.7	782140
60397346007	L-UMW-9D	EPA 200.7	782068	EPA 200.7	782140
60397346008	L-BMW-1D	EPA 200.7	782068	EPA 200.7	782140
60397346009	L-BMW-2D	EPA 200.7	782068	EPA 200.7	782140
60397346010	L-UMW-DUP-1	EPA 200.7	782068	EPA 200.7	782140
60397346011	L-UMW-DUP-2	EPA 200.7	782068	EPA 200.7	782140
60397346012	L-UMW-FB-1	EPA 200.7	782068	EPA 200.7	782140
60397346013	L-UMW-FB-2	EPA 200.7	782068	EPA 200.7	782140
60397346016	L-UMW-1D	EPA 200.7	782608	EPA 200.7	782680
60397346017	L-UMW-7D	EPA 200.7	782608	EPA 200.7	782680
60397346001	L-UMW-2D	EPA 200.8	782067	EPA 200.8	782139
60397346002	L-UMW-3D	EPA 200.8	782067	EPA 200.8	782139
60397346003	L-UMW-4D	EPA 200.8	782067	EPA 200.8	782139
60397346004	L-UMW-5D	EPA 200.8	782067	EPA 200.8	782139
60397346005	L-UMW-6D	EPA 200.8	782067	EPA 200.8	782139
60397346006	L-UMW-8D	EPA 200.8	782067	EPA 200.8	782139
60397346007	L-UMW-9D	EPA 200.8	782067	EPA 200.8	782139
60397346008	L-BMW-1D	EPA 200.8	782067	EPA 200.8	782139
60397346009	L-BMW-2D	EPA 200.8	782067	EPA 200.8	782139
60397346010	L-UMW-DUP-1	EPA 200.8	782067	EPA 200.8	782139
60397346011	L-UMW-DUP-2	EPA 200.8	782067	EPA 200.8	782139
60397346012	L-UMW-FB-1	EPA 200.8	782067	EPA 200.8	782139
60397346013	L-UMW-FB-2	EPA 200.8	782067	EPA 200.8	782139
60397346016	L-UMW-1D	EPA 200.8	782609	EPA 200.8	782681
60397346017	L-UMW-7D	EPA 200.8	782609	EPA 200.8	782681
60397346001	L-UMW-2D	EPA 7470	782544	EPA 7470	782683
60397346002	L-UMW-3D	EPA 7470	782544	EPA 7470	782683
60397346003	L-UMW-4D	EPA 7470	782544	EPA 7470	782683
60397346004	L-UMW-5D	EPA 7470	782544	EPA 7470	782683
60397346005	L-UMW-6D	EPA 7470	782544	EPA 7470	782683
60397346006	L-UMW-8D	EPA 7470	782544	EPA 7470	782683
60397346007	L-UMW-9D	EPA 7470	782544	EPA 7470	782683
60397346008	L-BMW-1D	EPA 7470	782544	EPA 7470	782683
60397346009	L-BMW-2D	EPA 7470	782544	EPA 7470	782683
60397346010	L-UMW-DUP-1	EPA 7470	782544	EPA 7470	782683
60397346011	L-UMW-DUP-2	EPA 7470	782544	EPA 7470	782683
60397346012	L-UMW-FB-1	EPA 7470	782544	EPA 7470	782683
60397346013	L-UMW-FB-2	EPA 7470	782544	EPA 7470	782683
60397346016	L-UMW-1D	EPA 7470	782785	EPA 7470	782849
60397346017	L-UMW-7D	EPA 7470	782785	EPA 7470	782849
60397346001	L-UMW-2D	EPA 903.1	497788		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397346002	L-UMW-3D	EPA 903.1	497788		
60397346003	L-UMW-4D	EPA 903.1	497788		
60397346004	L-UMW-5D	EPA 903.1	497788		
60397346005	L-UMW-6D	EPA 903.1	497788		
60397346006	L-UMW-8D	EPA 903.1	497788		
60397346007	L-UMW-9D	EPA 903.1	497788		
60397346008	L-BMW-1D	EPA 903.1	497788		
60397346009	L-BMW-2D	EPA 903.1	497788		
60397346010	L-UMW-DUP-1	EPA 903.1	497788		
60397346011	L-UMW-DUP-2	EPA 903.1	497788		
60397346012	L-UMW-FB-1	EPA 903.1	497788		
60397346013	L-UMW-FB-2	EPA 903.1	497788		
60397346014	L-UMW-MS-1	EPA 903.1	497788		
60397346015	L-UMW-MSD-1	EPA 903.1	497788		
60397346016	L-UMW-1D	EPA 903.1	498723		
60397346017	L-UMW-7D	EPA 903.1	498723		
60397346001	L-UMW-2D	EPA 904.0	497789		
60397346002	L-UMW-3D	EPA 904.0	497789		
60397346003	L-UMW-4D	EPA 904.0	497789		
60397346004	L-UMW-5D	EPA 904.0	497789		
60397346005	L-UMW-6D	EPA 904.0	497789		
60397346006	L-UMW-8D	EPA 904.0	497789		
60397346007	L-UMW-9D	EPA 904.0	497789		
60397346008	L-BMW-1D	EPA 904.0	497789		
60397346009	L-BMW-2D	EPA 904.0	497789		
60397346010	L-UMW-DUP-1	EPA 904.0	497789		
60397346011	L-UMW-DUP-2	EPA 904.0	497789		
60397346012	L-UMW-FB-1	EPA 904.0	497789		
60397346013	L-UMW-FB-2	EPA 904.0	497789		
60397346014	L-UMW-MS-1	EPA 904.0	497789		
60397346015	L-UMW-MSD-1	EPA 904.0	497789		
60397346016	L-UMW-1D	EPA 904.0	498724		
60397346017	L-UMW-7D	EPA 904.0	498724		
60397346001	L-UMW-2D	SM 2320B	781344		
60397346002	L-UMW-3D	SM 2320B	781344		
60397346003	L-UMW-4D	SM 2320B	781344		
60397346004	L-UMW-5D	SM 2320B	781344		
60397346005	L-UMW-6D	SM 2320B	781344		
60397346006	L-UMW-8D	SM 2320B	781580		
60397346007	L-UMW-9D	SM 2320B	781580		
60397346008	L-BMW-1D	SM 2320B	781580		
60397346009	L-BMW-2D	SM 2320B	781580		
60397346010	L-UMW-DUP-1	SM 2320B	781580		
60397346011	L-UMW-DUP-2	SM 2320B	781580		
60397346012	L-UMW-FB-1	SM 2320B	781580		
60397346013	L-UMW-FB-2	SM 2320B	781580		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397346016	L-UMW-1D	SM 2320B	782260		
60397346017	L-UMW-7D	SM 2320B	781581		
60397346001	L-UMW-2D	SM 2540C	781236		
60397346002	L-UMW-3D	SM 2540C	781236		
60397346003	L-UMW-4D	SM 2540C	781236		
60397346004	L-UMW-5D	SM 2540C	781236		
60397346004	L-UMW-5D	SM 2540C	787925		
60397346005	L-UMW-6D	SM 2540C	781236		
60397346006	L-UMW-8D	SM 2540C	781236		
60397346007	L-UMW-9D	SM 2540C	781236		
60397346008	L-BMW-1D	SM 2540C	781236		
60397346009	L-BMW-2D	SM 2540C	781236		
60397346010	L-UMW-DUP-1	SM 2540C	781236		
60397346011	L-UMW-DUP-2	SM 2540C	781236		
60397346012	L-UMW-FB-1	SM 2540C	781236		
60397346012	L-UMW-FB-1	SM 2540C	783713		
60397346013	L-UMW-FB-2	SM 2540C	781236		
60397346013	L-UMW-FB-2	SM 2540C	783713		
60397346016	L-UMW-1D	SM 2540C	781721		
60397346017	L-UMW-7D	SM 2540C	781721		
60397346001	L-UMW-2D	SM 3500-Fe B#4	783215		
60397346002	L-UMW-3D	SM 3500-Fe B#4	783215		
60397346003	L-UMW-4D	SM 3500-Fe B#4	783215		
60397346004	L-UMW-5D	SM 3500-Fe B#4	783215		
60397346005	L-UMW-6D	SM 3500-Fe B#4	783215		
60397346006	L-UMW-8D	SM 3500-Fe B#4	783215		
60397346007	L-UMW-9D	SM 3500-Fe B#4	783946		
60397346008	L-BMW-1D	SM 3500-Fe B#4	783946		
60397346009	L-BMW-2D	SM 3500-Fe B#4	783946		
60397346010	L-UMW-DUP-1	SM 3500-Fe B#4	783946		
60397346011	L-UMW-DUP-2	SM 3500-Fe B#4	783946		
60397346012	L-UMW-FB-1	SM 3500-Fe B#4	783946		
60397346013	L-UMW-FB-2	SM 3500-Fe B#4	783948		
60397346016	L-UMW-1D	SM 3500-Fe B#4	783948		
60397346017	L-UMW-7D	SM 3500-Fe B#4	783946		
60397346001	L-UMW-2D	SM 3500-Fe B#4	781338		
60397346002	L-UMW-3D	SM 3500-Fe B#4	781338		
60397346003	L-UMW-4D	SM 3500-Fe B#4	781338		
60397346004	L-UMW-5D	SM 3500-Fe B#4	781338		
60397346005	L-UMW-6D	SM 3500-Fe B#4	781338		
60397346006	L-UMW-8D	SM 3500-Fe B#4	781338		
60397346007	L-UMW-9D	SM 3500-Fe B#4	781338		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA

Pace Project No.: 60397346

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397346008	L-BMW-1D	SM 3500-Fe B#4	781338		
60397346009	L-BMW-2D	SM 3500-Fe B#4	781338		
60397346010	L-UMW-DUP-1	SM 3500-Fe B#4	781338		
60397346011	L-UMW-DUP-2	SM 3500-Fe B#4	781338		
60397346012	L-UMW-FB-1	SM 3500-Fe B#4	781338		
60397346013	L-UMW-FB-2	SM 3500-Fe B#4	781338		
60397346016	L-UMW-1D	SM 3500-Fe B#4	782077		
60397346017	L-UMW-7D	SM 3500-Fe B#4	781338		
60397346001	L-UMW-2D	SM 4500-S-2 D	780867		
60397346002	L-UMW-3D	SM 4500-S-2 D	780867		
60397346003	L-UMW-4D	SM 4500-S-2 D	780867		
60397346004	L-UMW-5D	SM 4500-S-2 D	780871		
60397346005	L-UMW-6D	SM 4500-S-2 D	780867		
60397346006	L-UMW-8D	SM 4500-S-2 D	780867		
60397346007	L-UMW-9D	SM 4500-S-2 D	780867		
60397346008	L-BMW-1D	SM 4500-S-2 D	780867		
60397346009	L-BMW-2D	SM 4500-S-2 D	780871		
60397346010	L-UMW-DUP-1	SM 4500-S-2 D	780871		
60397346011	L-UMW-DUP-2	SM 4500-S-2 D	780871		
60397346012	L-UMW-FB-1	SM 4500-S-2 D	780871		
60397346013	L-UMW-FB-2	SM 4500-S-2 D	780871		
60397346016	L-UMW-1D	SM 4500-S-2 D	781332		
60397346017	L-UMW-7D	SM 4500-S-2 D	781332		
60397346001	L-UMW-2D	EPA 300.0	782365		
60397346002	L-UMW-3D	EPA 300.0	782371		
60397346003	L-UMW-4D	EPA 300.0	782371		
60397346004	L-UMW-5D	EPA 300.0	782371		
60397346005	L-UMW-6D	EPA 300.0	782371		
60397346006	L-UMW-8D	EPA 300.0	782371		
60397346007	L-UMW-9D	EPA 300.0	782371		
60397346008	L-BMW-1D	EPA 300.0	782371		
60397346009	L-BMW-2D	EPA 300.0	782371		
60397346010	L-UMW-DUP-1	EPA 300.0	782371		
60397346011	L-UMW-DUP-2	EPA 300.0	782513		
60397346012	L-UMW-FB-1	EPA 300.0	782513		
60397346013	L-UMW-FB-2	EPA 300.0	782513		
60397346016	L-UMW-1D	EPA 300.0	783373		
60397346017	L-UMW-7D	EPA 300.0	782517		

REPORT OF LABORATORY ANALYSIS

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60397346

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

Client Name: Goldner

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: 7299 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 5/0.4/2.1 Corr. Factor -0.2 Corrected 1.3/0.7/1.9
 Temperature should be above freezing to 6°C 9.5/12.3/14.6 9.3/12.1/14.4

Date and initials of person examining contents:
pu/p pu/n/12/22

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: <u>55192/55193</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

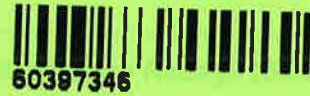
Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

WO#: 60397346



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

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: 7301 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 3.0/2.7/1.6 Corr. Factor -0.2 Corrected 2.0/1.7/1.6

Date and initials of person examining contents:

pv4/1/2/22

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Container ID:
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>L-UMW-1D</u>
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>log using container ID</u>
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		LOT#: <u>55192/55193</u>
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company: **Golder Associates** Report To: **Jeffrey Ingram** Attention: **Eric Schneider, Ryan Feldman, Brendan Talbert**

Address: **701 Emerson Road, Suite 250** Copy To: **Eric Schneider, Ryan Feldman, Brendan Talbert** Company Name: **Golder Associates USA, Inc.**

Creve Coeur, Missouri, 63141 Address: **_____**

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

Phone: **636-724-9191** Fax: **636-724-9323** Project Name: **Ameren-Sioux Energy Center** Manager: **Jamie Church**

Requested Due Date/TAT: **Standard** Project Number: **153140604.000#1** Pace Profile #: **9285**

Section B Required Project Information:

Report To: **Jeffrey Ingram**

Company Name: **Golder Associates USA, Inc.**

Address: **_____**

Pace Quote Reference: **_____**

Pace Project Manager: **Jamie Church**

Site Location: **MO** STATE: **_____**

Section C Invoice Information:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WASTE WATER PRODUCT P SOL/SOLID OL OIL	SAMPLE ID (A-Z, 0-9 /, -) Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TYPE (G=GRAB C-COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES		Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			DATE	TIME				DATE	TIME		
1	S-AM-1S		4/11/22	1534	G	WT	10	H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₃ Methanol Other	Y		
2	S-AM-1D				G	WT					
3	S-PZ-1S				G	WT					
4	S-PZ-9D				G	WT					
5	S-TP-2D				G	WT					
6	S-TP-3D				G	WT					
7	S-TP-4D				G	WT					
8	S-TP-5D				G	WT					
9	S-TP-6S				G	WT					
10	S-TP-6D				G	WT					
11	S-TP-8D				G	WT					
12	S-UG-3				G	WT					

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
<i>Angela Manno</i>	4/11/22	1640	<i>Angela Manno</i>	4/18	1640	
<i>Angela Manno</i>	4/18	1640	<i>Angela Manno</i>	4/12	0345	Temp In °C: 2.0
						Received on Ice (Y/N): 1.7
						Cooler (Y/N): 9.6
						Custody Sealed (Y/N): Y
						Samples Intact (Y/N): Y

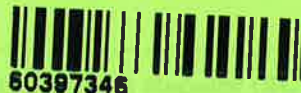
SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: *Eric Sch...*

SIGNATURE of SAMPLER: *Eric Sch...*

DATE Signed (MM/DD/YYYY): *04/11/22*

WO#: 60397346



DC#_ Title: ENV-FRM-LENE-0009_Sample Cor

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Golder Assoc

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other 2PIC

Thermometer Used: T301 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 2.3, 8.1, Corr. Factor -1.0 Corrected 1.3, 7.1, 2.2 Date and initials of person examining contents: WLB 9/12/22

Temperature should be above freezing to 6°C 3.2

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>Cooler out of temp Compliance only contained RAD samples</u>
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: <u>55192, 55193</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



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

Section B
 Required Project Information:
 Report To: **Jeffrey Ingram**
 Copy To: **Eric Schneider, Ryan Feldman, Brendan Talbert**
 Purchase Order No.: **60078 Labcode LCFA**
 Project Name: **Ameren Energy Center SCAPCA**
 Project Number: **153140604.0003**

Section C
 Invoice Information:
 Attention:
 Company Name: **Golden Associates USA, Inc.**
 Address:
 Pace Quote Reference:
 Pace Project Manager: **Jamie Church**
 Pace Profile #: **9285**

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

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WATER WT PRODUCT P SOIL/SOLID SL OIL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Temp in °C	Received on	Cooler (Y/N)	Custody Sealed	Samples Intact
				DATE	TIME								
1	S-LMW-7S	WT G	G	4-8-22	0918	62	Analysis Test ↑ H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₃ Methanol Other	Y	13	4/9/2016	Y	Y	Y
2	S-LMW-2S	WT G	G					N					
3	S-LMW-4S	WT G	G					N					
4	S-LMW-5S	WT G	G					N					
5	S-LMW-6S	WT G	G					N					
6	S-BMW-1S	WT G	G					N					
7	S-BMW-3S	WT G	G					N					
8	S-CA-DUP-1	WT G	G					N					
9	S-CA-DUP-2	WT G	G					N					
10	S-CA-FB-1	WT G	G					N					
11	S-CA-FB-2	WT G	G					N					
12	S-CA-MS-1	WT G	G					N					
ADDITIONAL COMMENTS Relinquished by / Affiliation: <i>Golder</i> Date: 4-8-22 Time: 1515 Accepted by / Affiliation: <i>Ventura</i> Date: 4/9/2016 Time: 13 Sample ID: S-LMW-7S (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE													
Requested Analysis Filtered (Y/N) Analysis Test ↑ Chloride/Fluoride/Sulfate Y App III and Cat/An Metals N Alkalinity N TDS N Appendix IV Metals ** N Mercury Y Radium 226 Y Radium 228 Y Ferrous/Ferric Iron Y SM4500-S2D Sulfide Y Residual Chlorine (Y/N) Y Pace Project No./ Lab I.D. 1003973416													

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: *Eric Schneider*
 SIGNATURE of SAMPLER: *[Signature]*
 DATE Signed (MM/DD/YYYY): **04/08/22**

MEMORANDUM**DATE** June 8, 2022**Project No.** 153140604.0001**TO** Project File
Golder Associates**CC** Amanda Derhake, Jeff Ingram**FROM** Annie Muehlfarth**EMAIL** ann.muehlfarth@wsp.com**DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – DETECTION AND ASSESSMENT MONITORING - DATA PACKAGE 60397346**

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc
 Project Name: Ameren - LEC - LCPA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: GL153140604.0001
 Validation Date: 6/8/2022

Laboratory: Pace Analytical

SDG #: 60397346

Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)

Matrix: Air Soil/Sed. Water Waste SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide)

Sample Names L-UMW-2D, L-UMW-3D, L-UMW-4D, L-UMW-5D, L-UMW-6D, L-UMW-8D, L-UMW-9D, L-BMW-1D, L-BMW-2D, L-UMW-DUP-1, L-UMW-DUP-2, L-UMW-FB-1, L-UMW-FB-2, L-UMW-MS-1, L-UMW-MSD-1, L-UMW-1D, L-UMW-7D

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>4/6/2022 - 4/11/2022</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>EMS/GTM</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

One cooler noted outside of recommended temperature range contained radium samples only, no qualification necessary.

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

TDS reanalyzed outside of hold time in sample L-UMW-5D, L-UMW-FB-1, and L-UMW-FB-2. Results qualified as estimates.

Chloride, sulfate, analyzed at a dilution in multiple samples. No qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Blanks:

MB 3119091: Chromium (0.48J). Associated with samples -001 through -013. Results <RL reported at RL and qualified as ND. NDs not qualified.

MB 3115850: TDS (13.5). Associated with samples -001 through -013. Results >RL and 10x blank not qualified. NDs not qualified. Results >RL but <10x blank qualified as estimates.

MB 3120630/3124994: Chloride (0.63J/0.61J). Associated with samples -011 through -013. Results >RL and 10x blank not qualified. Results <RL reported at RL and qualified as ND.

MB 3120651: Chloride (0.60J). Associated with sample -017. Result >10x blank, no qualification necessary.

MB 3123953/3127055: Chloride (0.61J/0.60J). Associated with sample -016. Result >10x blank, no qualification necessary.

L-UMW-FB-1 @ L-UMW-2D: Boron (24.5J), sodium (136J), chromium (0.37J), TDS (12.5), ferric iron (0.0044J), and chloride (0.61J). Results >RL and 10x blank not qualified. Results less than RL reported at RL and qualified as estimates.

L-UMW-FB-2 @ L-UMW-3D: Boron (15.0J), sodium (99.4J), chromium (0.39J), TDS (9.5), ferric iron (0.0000000010J), and chloride (0.60J). Results >RL and 10x blank not qualified. Results less than RL reported at RL and qualified as estimates.

Duplicates:

L-UMW-DUP-1 @ L-UMW-4D: Radium-228 detected in parent sample, ND in duplicate.

L-UMW-DUP-2 @ L-UMW-6D: Fluoride ND in parent sample and detected in dup; radium-226 detected in parent sample and ND in dup.

Lab Sample Duplicate 3116214: RPD exceeds limit (10%) for alkalinity (51%). Associated with sample -004.

Lab Sample Duplicate 3115852: RPD exceeds limit (10%) for TDS (65%). Associated with sample -012.

MS/MSD:

3120165: MS % recovery high for sulfate. Associated with sample -002. Only 1 QC indicator outside of control limits, no qualification necessary.

3120166/3120167: MS/MSD % recovery high for chloride. Associated with sample -004.

3120632/3120633: MS % recovery high for chloride; MS % recovery and RPD high for fluoride. MS/MSD performed on unrelated sample, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-2D	Ferrous Iron	0.060	UJ	Analyzed outside of hold time, non-detect
L-UMW-4D	"	0.060	UJ	"
L-UMW-5D	"	0.060	UJ	"
L-UMW-6D	"	0.060	UJ	"
L-UMW-DUP-1	"	0.060	UJ	"
L-UMW-FB-1	"	0.060	UJ	"
L-UMW-FB-2	"	0.060	UJ	"
L-UMW-3D	"	0.060	J	Analyzed outside of hold time
L-UMW-8D	"	0.73	J	"
L-UMW-9D	"	0.73	J	"
L-BMW-1D	"	0.24	J	"
L-BMW-2D	"	0.19	J	"
L-UMW-DUP-2	"	0.062	J	"
L-UMW-1D	"	0.77	J	"
L-UMW-7D	"	0.36	J	"
L-UMW-5D (re-analysis)	TDS	607	J	"
L-UMW-FB-1 (re-analysis)	"	5.0	UJ	Analyzed outside of hold time, non-detect
L-UMW-FB-2 (re-analysis)	"	5.0	UJ	"
L-UMW-2D	Chromium	1.0	UJ	Detected in MB/FB, RL>result
L-UMW-3D	"	1.0	UJ	"
L-UMW-4D	"	1.0	UJ	Detected in MB, RL>result
L-UMW-5D	"	1.0	UJ	"
L-UMW-9D	"	1.0	UJ	"
L-BMW-1D	"	1.0	UJ	"
L-BMW-2D	"	1.0	UJ	"
L-UMW-DUP-1	"	1.0	UJ	"
L-UMW-FB-1	"	1.0	UJ	"
L-UMW-FB-2	"	1.0	UJ	"
L-UMW-FB-1	TDS	12.5	J	Detected in MB, 10x blank > result > RL; Lab duplicate RPD exceeds limit
L-UMW-FB-2	"	9.5	J	Detected in MB, 10x blank > result > RL
L-UMW-FB-1	Chloride	1.0	UJ	Detected in MB, RL>result
L-UMW-FB-2	"	1.0	UJ	"
L-UMW-4D	Radium-228	0.965 ± 0.419	J	Detected in parent sample, ND in dup
L-UMW-DUP-1	"	0.652 ± 0.537	UJ	"

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-6D	Fluoride	0.12	UJ	ND in parent sample, detected in dup
"	Radium-226	0.466 ± 0.294	J	Detected in parent sample, ND in dup
L-UMW-DUP-2	Fluoride	0.17	J	ND in parent sample, detected in dup
"	Radium-226	0.168 ± 0.395	UJ	Detected in parent sample, ND in dup
L-UMW-5D	Alkalinity	85.9	J	Lab duplicate RPD exceeds limit
"	Chloride	19.2	J+	MS/MSD % recovery high

Signature: Ann Muhlhardt

Date: 6/8/2022

June 04, 2022

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

RE: Project: AMEREN LEC LCPA-CA
Pace Project No.: 60397347

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between April 08, 2022 and April 12, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

Lab Note: TDS required analyzed out of hold for DUP reporting, analyst missed that is was required. Both in hold and out of hold data reported.

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-21-15

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60397347001	L-LMW-2S	Water	04/06/22 09:11	04/08/22 05:28
60397347002	L-TP-3M	Water	04/07/22 14:00	04/08/22 05:28
60397347003	L-TP-3D	Water	04/07/22 13:10	04/08/22 05:28
60397347004	L-TP-4D	Water	04/07/22 10:17	04/08/22 05:28
60397347005	L-MW-24	Water	04/07/22 10:35	04/08/22 05:28
60397347006	L-MW-26	Water	04/07/22 13:41	04/08/22 05:28
60397347007	L-MW-33D	Water	04/07/22 14:59	04/08/22 05:28
60397347008	L-MW-34D	Water	04/07/22 15:18	04/08/22 05:28
60397347009	L-MW-35D	Water	04/07/22 11:48	04/08/22 05:28
60397347010	L-CA-FB-1	Water	04/07/22 13:56	04/08/22 05:28
60397347011	L-CA-FB-2	Water	04/07/22 13:30	04/08/22 05:28
60397347012	L-CA-DUP-1	Water	04/07/22 08:00	04/08/22 05:28
60397347013	L-BMW-1S	Water	04/06/22 11:18	04/08/22 05:28
60397347014	L-BMW-2S	Water	04/06/22 13:27	04/08/22 05:28
60397347015	L-CA-MS-1	Water	04/06/22 09:11	04/08/22 05:28
60397347016	L-CA-MSD-1	Water	04/06/22 09:11	04/08/22 05:28
60397347017	L-AM-1D	Water	04/11/22 09:10	04/12/22 03:45
60397347018	L-LCPA-CA-MS-2	Water	04/11/22 09:10	04/12/22 03:45
60397347019	L-LCPA-CA-MSD-2	Water	04/11/22 09:10	04/12/22 03:45
60397347020	L-TP-1D	Water	04/11/22 09:52	04/12/22 03:45
60397347021	L-TP-2M	Water	04/11/22 11:37	04/12/22 03:45
60397347022	L-TP-2D	Water	04/11/22 12:19	04/12/22 03:45
60397347023	L-AM-1S	Water	04/11/22 10:25	04/12/22 03:45
60397347024	L-S-1	Water	04/11/22 14:50	04/12/22 03:45
60397347025	L-AMW-8	Water	04/08/22 12:55	04/09/22 04:16
60397347026	L-LMW-4S	Water	04/08/22 14:35	04/09/22 04:16
60397347027	L-LMW-1S	Water	04/08/22 11:15	04/09/22 04:16
60397347028	L-CA-DUP-2	Water	04/08/22 08:00	04/09/22 04:16
60397347029	L-CA-FB-3	Water	04/08/22 12:35	04/09/22 04:16
60397347030	L-LMW-7S	Water	04/08/22 15:04	04/09/22 04:16
60397347031	L-LMW-8S	Water	04/08/22 12:51	04/09/22 04:16

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
60397347001	L-LMW-2S	EPA 200.7	JLH	13	PASI-K		
		EPA 200.8	MRV	6	PASI-K		
		EPA 7470	ALH	1	PASI-K		
		EPA 903.1	RPS	1	PASI-PA		
		EPA 904.0	JSM	1	PASI-PA		
		SM 2320B	KB	1	PASI-K		
		SM 2540C	SK	1	PASI-K		
		SM 3500-Fe B#4	BLA	1	PASI-K		
		SM 3500-Fe B#4	SK	1	PASI-K		
		SM 4500-S-2 D	SK	1	PASI-K		
		EPA 300.0	CRN2	3	PASI-K		
		60397347002	L-TP-3M	EPA 200.7	JLH	13	PASI-K
				EPA 200.8	MRV	6	PASI-K
EPA 7470	ALH			1	PASI-K		
EPA 903.1	RPS			1	PASI-PA		
EPA 904.0	JSM			1	PASI-PA		
SM 2320B	KB			1	PASI-K		
SM 2540C	TNB			1	PASI-K		
SM 3500-Fe B#4	BLA			1	PASI-K		
SM 3500-Fe B#4	SK			1	PASI-K		
SM 4500-S-2 D	SK			1	PASI-K		
EPA 300.0	KB			3	PASI-K		
60397347003	L-TP-3D			EPA 200.7	JLH	13	PASI-K
				EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K		
		EPA 903.1	RPS	1	PASI-PA		
		EPA 904.0	JSM	1	PASI-PA		
		SM 2320B	KB	1	PASI-K		
		SM 2540C	TNB	1	PASI-K		
		SM 3500-Fe B#4	BLA	1	PASI-K		
		SM 3500-Fe B#4	SK	1	PASI-K		
		SM 4500-S-2 D	SK	1	PASI-K		
		EPA 300.0	KB	3	PASI-K		
		60397347004	L-TP-4D	EPA 200.7	JLH	13	PASI-K
				EPA 200.8	MRV	6	PASI-K
EPA 7470	ALH			1	PASI-K		
EPA 903.1	RPS			1	PASI-PA		

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397347005	L-MW-24	EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	KB	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		60397347006	L-MW-26	SM 3500-Fe B#4	BLA
SM 3500-Fe B#4	SK			1	PASI-K
SM 4500-S-2 D	SK			1	PASI-K
EPA 300.0	KB			3	PASI-K
EPA 200.7	JLH			13	PASI-K
EPA 200.8	MRV			6	PASI-K
EPA 7470	ALH			1	PASI-K
EPA 903.1	RPS			1	PASI-PA
EPA 904.0	JSM			1	PASI-PA
SM 2320B	KB			1	PASI-K
SM 2540C	TNB			1	PASI-K
SM 3500-Fe B#4	BLA			1	PASI-K
SM 3500-Fe B#4	SK			1	PASI-K
SM 4500-S-2 D	SK			1	PASI-K
60397347007	L-MW-33D			EPA 300.0	KB
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397347008	L-MW-34D	SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		60397347009	L-MW-35D	SM 4500-S-2 D	SK
EPA 300.0	CRN2			3	PASI-K
EPA 200.7	JLH			13	PASI-K
EPA 200.8	MRV			6	PASI-K
EPA 7470	ALH			1	PASI-K
EPA 903.1	RPS			1	PASI-PA
EPA 904.0	JSM			1	PASI-PA
SM 2320B	KB			1	PASI-K
SM 2540C	TNB			1	PASI-K
SM 3500-Fe B#4	BLA			1	PASI-K
SM 3500-Fe B#4	SK			1	PASI-K
SM 4500-S-2 D	SK			1	PASI-K
60397347010	L-CA-FB-1			EPA 300.0	CRN2
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		60397347011	L-CA-FB-2	EPA 200.7	JLH

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397347012	L-CA-DUP-1	EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
SM 3500-Fe B#4	BLA	1	PASI-K		
SM 3500-Fe B#4	SK	1	PASI-K		
SM 4500-S-2 D	SK	1	PASI-K		
60397347013	L-BMW-1S	EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
60397347014	L-BMW-2S	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60397347015	L-CA-MS-1	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
60397347016	L-CA-MSD-1	EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
60397347017	L-AM-1D	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	SK, TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60397347018	L-LCPA-CA-MS-2	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60397347019	L-LCPA-CA-MSD-2	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60397347020	L-TP-1D	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60397347021	L-TP-2M	EPA 200.7	JLH	13	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397347022	L-TP-2D	EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	TNB	1	PASI-K
SM 3500-Fe B#4	BLA	1	PASI-K		
SM 3500-Fe B#4	SK	1	PASI-K		
SM 4500-S-2 D	SK	1	PASI-K		
60397347023	L-AM-1S	EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	SB2	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
60397347024	L-S-1	EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397347025	L-AMW-8	SM 2320B	SB2	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
SM 4500-S-2 D	SK	1	PASI-K		
60397347026	L-LMW-4S	EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
EPA 903.1	RPS	1	PASI-PA		
EPA 904.0	JSM	1	PASI-PA		
60397347027	L-LMW-1S	SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60397347028	L-CA-DUP-2	SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
60397347029	L-CA-FB-3	SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
60397347030	L-LMW-7S	SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
60397347031	L-LMW-8S	SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	13	PASI-K
		EPA 200.8	MRV	6	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	RPS	1	PASI-PA
		EPA 904.0	JSM	1	PASI-PA
		SM 2320B	KB	1	PASI-K
		SM 2540C	TNB	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	SK	1	PASI-K
		SM 4500-S-2 D	SK	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-2S Lab ID: 60397347001 Collected: 04/06/22 09:11 Received: 04/08/22 05:28 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	44.9	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:38	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:38	7440-41-7	
Boron	3330	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:38	7440-42-8	
Calcium	69700	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:38	7440-70-2	M1
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:38	7440-48-4	
Iron	<23.9	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:38	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:38	7439-92-1	
Lithium	12.7	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:38	7439-93-2	
Magnesium	89.9	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:38	7439-95-4	
Manganese	<3.8	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:38	7439-96-5	
Molybdenum	162	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:38	7439-98-7	
Potassium	9260	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:38	7440-09-7	
Sodium	64000	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:38	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	04/19/22 13:10	04/22/22 12:51	7440-36-0	
Arsenic	45.4	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 12:51	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 12:51	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 12:51	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 12:51	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 12:51	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:13	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	34.3	mg/L	20.0	4.6	1		04/15/22 17:15		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	474	mg/L	5.0	5.0	1		05/16/22 18:13		H1
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0064J	mg/L	0.050		1		05/10/22 17:16	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/28/22 13:42	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-2S **Lab ID: 60397347001** Collected: 04/06/22 09:11 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:53	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	17.4	mg/L	1.0	0.53	1		04/26/22 13:52	16887-00-6	M1
Fluoride	0.16J	mg/L	0.20	0.12	1		04/26/22 13:52	16984-48-8	M1,R1
Sulfate	263	mg/L	50.0	27.5	50		04/26/22 14:48	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-3M **Lab ID: 60397347002** Collected: 04/07/22 14:00 Received: 04/08/22 05:28 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	244	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:46	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:46	7440-41-7	
Boron	5400	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:46	7440-42-8	
Calcium	102000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:46	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:46	7440-48-4	
Iron	7350	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:46	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:46	7439-92-1	
Lithium	33.8	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:46	7439-93-2	
Magnesium	21900	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:46	7439-95-4	
Manganese	1260	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:46	7439-96-5	
Molybdenum	300	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:46	7439-98-7	
Potassium	5000	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:46	7440-09-7	
Sodium	56700	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:46	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	04/19/22 13:10	04/22/22 13:01	7440-36-0	
Arsenic	0.45J	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:01	7440-38-2	
Cadmium	0.091J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:01	7440-43-9	
Chromium	0.34J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:01	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:01	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:01	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:20	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	260	mg/L	20.0	4.6	1		04/16/22 08:07		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1840	mg/L	10.0	10.0	1		04/14/22 16:02		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	7.0	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.34	mg/L	0.20	0.060	1		04/15/22 11:01	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-3M **Lab ID: 60397347002** Collected: 04/07/22 14:00 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:54	18496-25-8	H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	18.5	mg/L	1.0	0.53	1		04/20/22 16:27	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/20/22 16:27	16984-48-8	
Sulfate	190	mg/L	20.0	11.0	20		04/20/22 16:41	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-3D **Lab ID: 60397347003** Collected: 04/07/22 13:10 Received: 04/08/22 05:28 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	72.6	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 18:58	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 18:58	7440-41-7	
Boron	10400	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 18:58	7440-42-8	
Calcium	101000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 18:58	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 18:58	7440-48-4	
Iron	4430	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 18:58	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 18:58	7439-92-1	
Lithium	34.9	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 18:58	7439-93-2	
Magnesium	22800	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 18:58	7439-95-4	
Manganese	178	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 18:58	7439-96-5	
Molybdenum	481	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 18:58	7439-98-7	
Potassium	6750	ug/L	500	167	1	04/19/22 13:10	04/21/22 18:58	7440-09-7	
Sodium	120000	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 18:58	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	04/19/22 13:10	04/22/22 13:03	7440-36-0	
Arsenic	7.9	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:03	7440-38-2	
Cadmium	0.13J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:03	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:03	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:03	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:03	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:23	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	119	mg/L	20.0	4.6	1		04/16/22 08:24		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	855	mg/L	10.0	10.0	1		04/14/22 16:02		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	4.2	mg/L	0.050		1		04/28/22 15:04	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	0.060	1		04/15/22 11:00	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-3D **Lab ID: 60397347003** Collected: 04/07/22 13:10 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:54	18496-25-8	H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	23.7	mg/L	5.0	2.6	5		04/20/22 17:09	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/20/22 16:55	16984-48-8	
Sulfate	434	mg/L	100	55.0	100		04/20/22 17:52	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-4D Lab ID: 60397347004 Collected: 04/07/22 10:17 Received: 04/08/22 05:28 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	436	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:01	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:01	7440-41-7	
Boron	6900	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:01	7440-42-8	
Calcium	125000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:01	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:01	7440-48-4	
Iron	5600	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:01	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:01	7439-92-1	
Lithium	25.1	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:01	7439-93-2	
Magnesium	32700	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:01	7439-95-4	
Manganese	335	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:01	7439-96-5	
Molybdenum	2.7J	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:01	7439-98-7	
Potassium	4730	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:01	7440-09-7	
Sodium	26900	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:01	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	04/19/22 13:10	04/22/22 13:06	7440-36-0	
Arsenic	7.3	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:06	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:06	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:06	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:06	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:06	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:29	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	311	mg/L	20.0	4.6	1		04/16/22 08:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	630	mg/L	10.0	10.0	1		04/14/22 16:02		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.4	mg/L	0.050		1		04/28/22 15:04	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	0.060	1		04/15/22 11:00	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-4D **Lab ID: 60397347004** Collected: 04/07/22 10:17 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:55	18496-25-8	H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	14.6	mg/L	1.0	0.53	1		04/20/22 18:06	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/20/22 18:06	16984-48-8	
Sulfate	177	mg/L	20.0	11.0	20		04/20/22 18:20	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-24 **Lab ID: 60397347005** Collected: 04/07/22 10:35 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	168	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:04	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:04	7440-41-7	
Boron	78.7J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:04	7440-42-8	
Calcium	127000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:04	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:04	7440-48-4	
Iron	<23.9	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:04	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:04	7439-92-1	
Lithium	17.8	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:04	7439-93-2	
Magnesium	25900	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:04	7439-95-4	
Manganese	11.2	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:04	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:04	7439-98-7	
Potassium	4280	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:04	7440-09-7	
Sodium	6660	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:04	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.14J	ug/L	1.0	0.12	1	04/19/22 13:10	04/22/22 13:08	7440-36-0	
Arsenic	0.54J	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:08	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:08	7440-43-9	
Chromium	0.46J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:08	7440-47-3	
Selenium	26.3	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:08	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:08	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:32	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	402	mg/L	20.0	4.6	1		04/16/22 08:35		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	482	mg/L	10.0	10.0	1		04/14/22 16:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.010J	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 11:00	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-24 **Lab ID: 60397347005** Collected: 04/07/22 10:35 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:56	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	3.7	mg/L	1.0	0.53	1		04/20/22 18:34	16887-00-6	
Fluoride	0.18J	mg/L	0.20	0.12	1		04/20/22 18:34	16984-48-8	
Sulfate	28.1	mg/L	5.0	2.8	5		04/20/22 18:48	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-26 **Lab ID: 60397347006** Collected: 04/07/22 13:41 Received: 04/08/22 05:28 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	195	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:06	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:06	7440-41-7	
Boron	96.8J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:06	7440-42-8	
Calcium	140000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:06	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:06	7440-48-4	
Iron	<23.9	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:06	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:06	7439-92-1	
Lithium	31.6	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:06	7439-93-2	
Magnesium	26300	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:06	7439-95-4	
Manganese	115	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:06	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:06	7439-98-7	
Potassium	4040	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:06	7440-09-7	
Sodium	5960	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:06	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.13J	ug/L	1.0	0.12	1	04/19/22 13:10	04/22/22 13:11	7440-36-0	
Arsenic	0.44J	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:11	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:11	7440-43-9	
Chromium	0.86J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:11	7440-47-3	
Selenium	1.8	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:11	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:11	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:34	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	414	mg/L	20.0	4.6	1		04/16/22 08:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	498	mg/L	10.0	10.0	1		04/14/22 16:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.012J	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/15/22 11:01	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-26 **Lab ID: 60397347006** Collected: 04/07/22 13:41 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:57	18496-25-8	H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	5.9	mg/L	1.0	0.53	1		04/20/22 19:02	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/20/22 19:02	16984-48-8	
Sulfate	29.0	mg/L	2.0	1.1	2		04/20/22 19:16	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-33D **Lab ID: 60397347007** Collected: 04/07/22 14:59 Received: 04/08/22 05:28 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	103	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:09	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:09	7440-41-7	
Boron	9760	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:09	7440-42-8	
Calcium	82500	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:09	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:09	7440-48-4	
Iron	4190	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:09	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:09	7439-92-1	
Lithium	33.6	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:09	7439-93-2	
Magnesium	18100	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:09	7439-95-4	
Manganese	239	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:09	7439-96-5	
Molybdenum	813	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:09	7439-98-7	
Potassium	6130	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:09	7440-09-7	
Sodium	85500	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:09	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	04/19/22 13:10	04/22/22 13:16	7440-36-0	
Arsenic	1.4	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:16	7440-38-2	
Cadmium	0.23J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:16	7440-43-9	
Chromium	0.87J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:16	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:16	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:16	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:36	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	122	mg/L	20.0	4.6	1		04/16/22 09:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	657	mg/L	10.0	10.0	1		04/14/22 16:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferric	4.0	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferrous	0.20J	mg/L	0.20	0.060	1		04/19/22 11:33	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-33D **Lab ID: 60397347007** Collected: 04/07/22 14:59 Received: 04/08/22 05:28 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	0.042J	mg/L	0.050	0.026	1		04/15/22 15:57	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	21.3	mg/L	2.0	1.1	2		04/26/22 19:24	16887-00-6	
Fluoride	0.38	mg/L	0.20	0.12	1		04/26/22 19:10	16984-48-8	
Sulfate	322	mg/L	20.0	11.0	20		04/26/22 19:38	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-34D **Lab ID: 60397347008** Collected: 04/07/22 15:18 Received: 04/08/22 05:28 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	96.3	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:12	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:12	7440-41-7	
Boron	10200	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:12	7440-42-8	
Calcium	97100	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:12	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:12	7440-48-4	
Iron	5190	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:12	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:12	7439-92-1	
Lithium	36.9	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:12	7439-93-2	
Magnesium	23500	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:12	7439-95-4	
Manganese	252	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:12	7439-96-5	
Molybdenum	789	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:12	7439-98-7	
Potassium	6720	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:12	7440-09-7	
Sodium	69300	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:12	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	04/19/22 13:10	04/22/22 13:19	7440-36-0	
Arsenic	3.5	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:19	7440-38-2	
Cadmium	0.24J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:19	7440-43-9	
Chromium	0.32J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:19	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:19	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:19	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:39	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	198	mg/L	20.0	4.6	1		04/16/22 09:55		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	644	mg/L	10.0	10.0	1		04/14/22 16:03		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.0	mg/L	0.050		1		04/28/22 15:04	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	0.060	1		04/19/22 11:34	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-34D **Lab ID: 60397347008** Collected: 04/07/22 15:18 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:58	18496-25-8	H1
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		04/26/22 19:51	16887-00-6	
Fluoride	0.31	mg/L	0.20	0.12	1		04/26/22 19:51	16984-48-8	
Sulfate	257	mg/L	20.0	11.0	20		04/26/22 20:05	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-35D **Lab ID: 60397347009** Collected: 04/07/22 11:48 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	46.4	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:15	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:15	7440-41-7	
Boron	8640	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:15	7440-42-8	
Calcium	128000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:15	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:15	7440-48-4	
Iron	5440	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:15	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:15	7439-92-1	
Lithium	30.3	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:15	7439-93-2	
Magnesium	29100	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:15	7439-95-4	
Manganese	416	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:15	7439-96-5	
Molybdenum	480	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:15	7439-98-7	
Potassium	5410	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:15	7440-09-7	
Sodium	80700	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:15	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.12	ug/L	1.0	0.12	1	04/19/22 13:10	04/22/22 13:21	7440-36-0	
Arsenic	0.14J	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:21	7440-38-2	
Cadmium	0.14J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:21	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:21	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:21	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:21	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:41	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	228	mg/L	20.0	4.6	1		04/16/22 10:01		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	797	mg/L	10.0	10.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.3	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.17J	mg/L	0.20	0.060	1		04/19/22 11:32	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-35D **Lab ID: 60397347009** Collected: 04/07/22 11:48 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	0.035J	mg/L	0.050	0.026	1		04/15/22 15:58	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	16.9	mg/L	1.0	0.53	1		04/26/22 20:19	16887-00-6	
Fluoride	0.29	mg/L	0.20	0.12	1		04/26/22 20:19	16984-48-8	
Sulfate	353	mg/L	20.0	11.0	20		04/26/22 20:32	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-1 **Lab ID: 60397347010** Collected: 04/07/22 13:56 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	<1.7	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:18	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:18	7440-41-7	
Boron	27.1J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:18	7440-42-8	
Calcium	<38.2	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:18	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:18	7440-48-4	
Iron	92.3	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:18	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:18	7439-92-1	
Lithium	<1.1	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:18	7439-93-2	
Magnesium	<43.0	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:18	7439-95-4	
Manganese	<3.8	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:18	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:18	7439-98-7	
Potassium	<167	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:18	7440-09-7	
Sodium	73.4J	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:18	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	04/19/22 13:10	04/22/22 13:24	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:24	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:24	7440-43-9	
Chromium	14.8	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:24	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:24	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:24	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:43	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		04/16/22 10:17		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	<5.0	mg/L	5.0	5.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.092	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 11:33	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-1 **Lab ID: 60397347010** Collected: 04/07/22 13:56 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:59	18496-25-8	H1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.60J	mg/L	1.0	0.53	1		04/26/22 21:14	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		04/26/22 21:14	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		04/26/22 21:14	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-2 Lab ID: 60397347011 Collected: 04/07/22 13:30 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	<1.7	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:33	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:33	7440-41-7	
Boron	<13.5	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:33	7440-42-8	
Calcium	<38.2	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:33	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:33	7440-48-4	
Iron	<23.9	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:33	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:33	7439-92-1	
Lithium	<1.1	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:33	7439-93-2	
Magnesium	<43.0	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:33	7439-95-4	
Manganese	<3.8	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:33	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:33	7439-98-7	
Potassium	<167	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:33	7440-09-7	
Sodium	<64.8	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:33	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	04/19/22 13:10	04/22/22 13:26	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:26	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:26	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:26	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:26	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:26	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:45	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		04/16/22 10:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	18.0	mg/L	5.0	5.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0000000 0010J	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 11:32	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-2 **Lab ID: 60397347011** Collected: 04/07/22 13:30 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:59	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	<0.53	mg/L	1.0	0.53	1		04/26/22 21:28	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		04/26/22 21:28	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		04/26/22 21:28	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-DUP-1 **Lab ID: 60397347012** Collected: 04/07/22 08:00 Received: 04/08/22 05:28 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	45.6	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:36	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:36	7440-41-7	
Boron	8440	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:36	7440-42-8	
Calcium	125000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:36	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:36	7440-48-4	
Iron	5270	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:36	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:36	7439-92-1	
Lithium	29.7	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:36	7439-93-2	
Magnesium	28500	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:36	7439-95-4	
Manganese	409	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:36	7439-96-5	
Molybdenum	457	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:36	7439-98-7	
Potassium	5240	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:36	7440-09-7	
Sodium	78200	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:36	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	<0.12	ug/L	1.0	0.12	1	04/19/22 13:10	04/22/22 13:34	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:34	7440-38-2	
Cadmium	0.14J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:34	7440-43-9	
Chromium	0.38J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:34	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:34	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:34	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:48	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	224	mg/L	20.0	4.6	1		04/16/22 10:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	777	mg/L	10.0	10.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	5.1	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.16J	mg/L	0.20	0.060	1		04/19/22 11:32	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-DUP-1 **Lab ID: 60397347012** Collected: 04/07/22 08:00 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:59	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	17.0	mg/L	1.0	0.53	1		04/26/22 21:42	16887-00-6	
Fluoride	0.29	mg/L	0.20	0.12	1		04/26/22 21:42	16984-48-8	
Sulfate	355	mg/L	20.0	11.0	20		04/26/22 21:56	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-BMW-1S **Lab ID: 60397347013** Collected: 04/06/22 11:18 Received: 04/08/22 05:28 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	358	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:39	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:39	7440-41-7	
Boron	109	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:39	7440-42-8	
Calcium	221000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:39	7440-70-2	
Cobalt	0.83J	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:39	7440-48-4	
Iron	24800	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:39	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:39	7439-92-1	
Lithium	23.8	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:39	7439-93-2	
Magnesium	53100	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:39	7439-95-4	
Manganese	2740	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:39	7439-96-5	
Molybdenum	<1.4	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:39	7439-98-7	
Potassium	5920	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:39	7440-09-7	
Sodium	20700	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:39	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	04/19/22 13:10	04/22/22 13:36	7440-36-0	
Arsenic	31.7	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:36	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:36	7440-43-9	
Chromium	0.47J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:36	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:36	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:36	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:50	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		04/16/22 07:31		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	828	mg/L	10.0	10.0	1		04/14/22 16:02		H1
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	24.4	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.40	mg/L	0.20	0.060	1		04/19/22 11:31	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-BMW-1S **Lab ID: 60397347013** Collected: 04/06/22 11:18 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:53	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	2.5	mg/L	1.0	0.53	1		04/26/22 22:09	16887-00-6	B
Fluoride	0.20J	mg/L	0.20	0.12	1		04/26/22 22:09	16984-48-8	
Sulfate	38.6	mg/L	10.0	5.5	10		04/26/22 22:23	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-BMW-2S **Lab ID: 60397347014** Collected: 04/06/22 13:27 Received: 04/08/22 05:28 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	264	ug/L	5.0	1.7	1	04/19/22 13:10	04/21/22 19:41	7440-39-3	
Beryllium	<0.31	ug/L	1.0	0.31	1	04/19/22 13:10	04/21/22 19:41	7440-41-7	
Boron	55.2J	ug/L	100	13.5	1	04/19/22 13:10	04/21/22 19:41	7440-42-8	
Calcium	138000	ug/L	200	38.2	1	04/19/22 13:10	04/21/22 19:41	7440-70-2	
Cobalt	<0.78	ug/L	5.0	0.78	1	04/19/22 13:10	04/21/22 19:41	7440-48-4	
Iron	<23.9	ug/L	50.0	23.9	1	04/19/22 13:10	04/21/22 19:41	7439-89-6	
Lead	<4.3	ug/L	10.0	4.3	1	04/19/22 13:10	04/21/22 19:41	7439-92-1	
Lithium	21.8	ug/L	10.0	1.1	1	04/19/22 13:10	04/21/22 19:41	7439-93-2	
Magnesium	20900	ug/L	50.0	43.0	1	04/19/22 13:10	04/21/22 19:41	7439-95-4	
Manganese	6.4	ug/L	5.0	3.8	1	04/19/22 13:10	04/21/22 19:41	7439-96-5	
Molybdenum	1.7J	ug/L	20.0	1.4	1	04/19/22 13:10	04/21/22 19:41	7439-98-7	
Potassium	5790	ug/L	500	167	1	04/19/22 13:10	04/21/22 19:41	7440-09-7	
Sodium	4340	ug/L	500	64.8	1	04/19/22 13:10	04/21/22 19:41	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Antimony	0.29J	ug/L	1.0	0.12	1	04/19/22 13:10	04/22/22 13:39	7440-36-0	
Arsenic	0.45J	ug/L	1.0	0.14	1	04/19/22 13:10	04/22/22 13:39	7440-38-2	
Cadmium	0.055J	ug/L	0.50	0.053	1	04/19/22 13:10	04/22/22 13:39	7440-43-9	
Chromium	0.36J	ug/L	1.0	0.31	1	04/19/22 13:10	04/22/22 13:39	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/19/22 13:10	04/22/22 13:39	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/19/22 13:10	04/22/22 13:39	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:57	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	403	mg/L	20.0	4.6	1		04/16/22 07:35		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	513	mg/L	10.0	10.0	1		04/14/22 16:02		H1
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.0060J	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 11:31	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-BMW-2S **Lab ID: 60397347014** Collected: 04/06/22 13:27 Received: 04/08/22 05:28 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:54	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	2.5	mg/L	1.0	0.53	1		04/26/22 22:37	16887-00-6	B
Fluoride	0.19J	mg/L	0.20	0.12	1		04/26/22 22:37	16984-48-8	
Sulfate	45.7	mg/L	5.0	2.8	5		04/27/22 10:05	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AM-1D Lab ID: 60397347017 Collected: 04/11/22 09:10 Received: 04/12/22 03:45 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	76.4	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 17:00	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 17:00	7440-41-7	
Boron	8050	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 17:00	7440-42-8	
Calcium	109000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:21	7440-70-2	
Cobalt	<1.4	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 17:00	7440-48-4	
Iron	5150	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 17:00	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 17:00	7439-92-1	
Lithium	35.2	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:21	7439-93-2	
Magnesium	13700	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 17:00	7439-95-4	
Manganese	282	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 17:00	7439-96-5	
Molybdenum	301	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 17:00	7439-98-7	
Potassium	8630	ug/L	500	224	1	04/21/22 14:08	04/22/22 17:00	7440-09-7	
Sodium	115000	ug/L	500	166	1	04/21/22 14:08	04/22/22 17:00	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	04/21/22 14:08	04/22/22 14:09	7440-36-0	
Arsenic	2.6	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:09	7440-38-2	
Cadmium	0.090J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:09	7440-43-9	
Chromium	0.33J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:09	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:09	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:09	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 14:46	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	139	mg/L	20.0	4.6	1		04/20/22 12:22		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	878	mg/L	10.0	10.0	1		04/15/22 16:11		
Total Dissolved Solids	815	mg/L	10.0	10.0	1		05/16/22 18:13		H5
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	4.6	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.54	mg/L	0.20	0.060	1		04/18/22 16:22	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AM-1D **Lab ID: 60397347017** Collected: 04/11/22 09:10 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/18/22 17:18	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	36.4	mg/L	5.0	2.6	5		04/27/22 19:47	16887-00-6	M1, R1
Fluoride	0.40	mg/L	0.20	0.12	1		04/27/22 18:52	16984-48-8	M1
Sulfate	371	mg/L	50.0	27.5	50		04/27/22 21:10	14808-79-8	M1

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-1D **Lab ID: 60397347020** Collected: 04/11/22 09:52 Received: 04/12/22 03:45 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	1380	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 17:07	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 17:07	7440-41-7	
Boron	79.6J	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 17:07	7440-42-8	
Calcium	135000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:29	7440-70-2	
Cobalt	6.9	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 17:07	7440-48-4	
Iron	7780	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 17:07	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 17:07	7439-92-1	
Lithium	25.0	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:29	7439-93-2	
Magnesium	32300	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 17:07	7439-95-4	
Manganese	221	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 17:07	7439-96-5	
Molybdenum	<1.8	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 17:07	7439-98-7	
Potassium	4180	ug/L	500	224	1	04/21/22 14:08	04/22/22 17:07	7440-09-7	
Sodium	11600	ug/L	500	166	1	04/21/22 14:08	04/22/22 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	04/21/22 14:08	04/22/22 14:19	7440-36-0	
Arsenic	1.2	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:19	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:19	7440-43-9	
Chromium	0.51J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:19	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:19	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:19	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 14:53	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	476	mg/L	20.0	4.6	1		04/20/22 12:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	662	mg/L	10.0	10.0	1		04/15/22 16:11		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	7.6	mg/L	0.050		1		04/28/22 15:04	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	0.060	1		04/19/22 11:37	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-1D **Lab ID: 60397347020** Collected: 04/11/22 09:52 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/18/22 17:21	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	3.8	mg/L	1.0	0.53	1		04/27/22 22:06	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		04/27/22 22:06	16984-48-8	
Sulfate	18.4	mg/L	1.0	0.55	1		04/27/22 22:06	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-2M **Lab ID: 60397347021** Collected: 04/11/22 11:37 Received: 04/12/22 03:45 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	127	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 17:09	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 17:09	7440-41-7	
Boron	1820	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 17:09	7440-42-8	
Calcium	97400	ug/L	200	71.3	1	04/21/22 14:08	04/22/22 17:09	7440-70-2	
Cobalt	<1.4	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 17:09	7440-48-4	
Iron	2840	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 17:09	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 17:09	7439-92-1	
Lithium	32.9	ug/L	10.0	1.2	1	04/21/22 14:08	04/22/22 17:09	7439-93-2	
Magnesium	14600	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 17:09	7439-95-4	
Manganese	411	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 17:09	7439-96-5	
Molybdenum	77.1	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 17:09	7439-98-7	
Potassium	6740	ug/L	500	224	1	04/21/22 14:08	04/22/22 17:09	7440-09-7	
Sodium	64900	ug/L	500	166	1	04/21/22 14:08	04/22/22 17:09	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	04/21/22 14:08	04/22/22 14:21	7440-36-0	
Arsenic	0.49J	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:21	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:21	7440-43-9	
Chromium	0.38J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:21	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:21	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:21	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 14:55	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	245	mg/L	20.0	4.6	1		04/20/22 12:42		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	602	mg/L	10.0	10.0	1		04/15/22 16:11		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	2.8	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 16:41	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-2M **Lab ID: 60397347021** Collected: 04/11/22 11:37 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/18/22 17:21	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	24.4	mg/L	2.0	1.1	2		04/28/22 12:08	16887-00-6	
Fluoride	0.47	mg/L	0.20	0.12	1		04/27/22 22:34	16984-48-8	
Sulfate	164	mg/L	20.0	11.0	20		04/27/22 23:15	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-2D Lab ID: 60397347022 Collected: 04/11/22 12:19 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	117	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 17:11	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 17:11	7440-41-7	
Boron	1820	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 17:11	7440-42-8	
Calcium	92800	ug/L	200	71.3	1	04/21/22 14:08	04/22/22 17:11	7440-70-2	
Cobalt	<1.4	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 17:11	7440-48-4	
Iron	3370	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 17:11	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 17:11	7439-92-1	
Lithium	41.8	ug/L	10.0	1.2	1	04/21/22 14:08	04/22/22 17:11	7439-93-2	
Magnesium	16600	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 17:11	7439-95-4	
Manganese	305	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 17:11	7439-96-5	
Molybdenum	123	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 17:11	7439-98-7	
Potassium	5750	ug/L	500	224	1	04/21/22 14:08	04/22/22 17:11	7440-09-7	
Sodium	60400	ug/L	500	166	1	04/21/22 14:08	04/22/22 17:11	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	04/21/22 14:08	04/22/22 14:24	7440-36-0	
Arsenic	11.4	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:24	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:24	7440-43-9	
Chromium	0.44J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:24	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:24	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:24	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:02	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	239	mg/L	20.0	4.6	1		04/20/22 12:48		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	647	mg/L	10.0	10.0	1		04/15/22 16:11		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	3.3	mg/L	0.050		1		04/28/22 15:04	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.064J	mg/L	0.20	0.060	1		04/19/22 16:41	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-2D **Lab ID: 60397347022** Collected: 04/11/22 12:19 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/18/22 17:21	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	24.2	mg/L	10.0	5.3	10		04/27/22 23:43	16887-00-6	B
Fluoride	0.45	mg/L	0.20	0.12	1		04/27/22 23:29	16984-48-8	
Sulfate	152	mg/L	10.0	5.5	10		04/27/22 23:43	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AM-1S **Lab ID: 60397347023** Collected: 04/11/22 10:25 Received: 04/12/22 03:45 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	592	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 17:13	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 17:13	7440-41-7	
Boron	306	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 17:13	7440-42-8	
Calcium	194000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:40	7440-70-2	
Cobalt	5.8	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 17:13	7440-48-4	
Iron	4400	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 17:13	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 17:13	7439-92-1	
Lithium	36.1	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:40	7439-93-2	
Magnesium	37400	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 17:13	7439-95-4	
Manganese	1390	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 17:13	7439-96-5	
Molybdenum	2.9J	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 17:13	7439-98-7	
Potassium	7200	ug/L	500	224	1	04/21/22 14:08	04/22/22 17:13	7440-09-7	
Sodium	59500	ug/L	500	166	1	04/21/22 14:08	04/22/22 17:13	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	04/21/22 14:08	04/22/22 14:29	7440-36-0	
Arsenic	3.0	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:29	7440-38-2	
Cadmium	0.14J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:29	7440-43-9	
Chromium	0.48J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:29	7440-47-3	
Selenium	0.43J	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:29	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:29	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:04	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	551	mg/L	20.0	4.6	1		04/20/22 12:55		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	913	mg/L	13.3	13.3	1		04/15/22 16:12		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	4.4	mg/L	0.050		1		05/10/22 17:16	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 11:38	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AM-1S **Lab ID: 60397347023** Collected: 04/11/22 10:25 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/18/22 17:22	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	138	mg/L	10.0	5.3	10		04/28/22 00:11	16887-00-6	
Fluoride	0.20J	mg/L	0.20	0.12	1		04/27/22 23:57	16984-48-8	
Sulfate	22.3	mg/L	10.0	5.5	10		04/28/22 00:11	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-S-1 Lab ID: 60397347024 Collected: 04/11/22 14:50 Received: 04/12/22 03:45 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	363	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 17:18	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 17:18	7440-41-7	
Boron	114	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 17:18	7440-42-8	
Calcium	138000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:46	7440-70-2	
Cobalt	3.9J	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 17:18	7440-48-4	
Iron	76.4	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 17:18	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 17:18	7439-92-1	
Lithium	29.0	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:46	7439-93-2	
Magnesium	21300	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 17:18	7439-95-4	
Manganese	651	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 17:18	7439-96-5	
Molybdenum	<1.8	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 17:18	7439-98-7	
Potassium	28100	ug/L	500	224	1	04/21/22 14:08	04/22/22 17:18	7440-09-7	
Sodium	3700	ug/L	500	166	1	04/21/22 14:08	04/22/22 17:18	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	04/21/22 14:08	04/22/22 14:34	7440-36-0	
Arsenic	0.60J	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:34	7440-38-2	
Cadmium	0.088J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:34	7440-43-9	
Chromium	0.37J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:34	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:34	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:34	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:07	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	453	mg/L	20.0	4.6	1		04/20/22 13:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	671	mg/L	10.0	10.0	1		04/15/22 16:12		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	0.076	mg/L	0.050		1		05/10/22 17:16	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 16:48	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-S-1 **Lab ID: 60397347024** Collected: 04/11/22 14:50 Received: 04/12/22 03:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/18/22 17:22	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	4.9	mg/L	1.0	0.53	1		04/28/22 00:25	16887-00-6	B
Fluoride	1.7	mg/L	0.20	0.12	1		04/28/22 00:25	16984-48-8	
Sulfate	14.1	mg/L	1.0	0.55	1		04/28/22 00:25	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AMW-8 Lab ID: 60397347025 Collected: 04/08/22 12:55 Received: 04/09/22 04:16 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	1.2	1	04/21/22 14:08	04/22/22 16:37	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 16:37	7440-41-7	
Boron	5960	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 16:37	7440-42-8	
Calcium	63400	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 17:56	7440-70-2	
Cobalt	<1.4	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 16:37	7440-48-4	
Iron	4070	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 16:37	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 16:37	7439-92-1	
Lithium	15.6	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 17:56	7439-93-2	
Magnesium	8830	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 16:37	7439-95-4	
Manganese	290	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 16:37	7439-96-5	
Molybdenum	262	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 16:37	7439-98-7	
Potassium	6130	ug/L	500	224	1	04/21/22 14:08	04/22/22 16:37	7440-09-7	
Sodium	78600	ug/L	500	166	1	04/21/22 14:08	04/22/22 16:37	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	04/21/22 14:08	04/22/22 13:49	7440-36-0	
Arsenic	0.45J	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 13:49	7440-38-2	
Cadmium	0.084J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 13:49	7440-43-9	
Chromium	0.38J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 13:49	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 13:49	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 13:49	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 15:59	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	86.6	mg/L	20.0	4.6	1		04/16/22 10:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	546	mg/L	10.0	10.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	3.9	mg/L	0.050		1		04/28/22 15:01	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	0.060	1		04/19/22 11:36	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AMW-8 **Lab ID: 60397347025** Collected: 04/08/22 12:55 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 15:59	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	20.1	mg/L	2.0	1.1	2		04/26/22 23:19	16887-00-6	
Fluoride	0.37	mg/L	0.20	0.12	1		04/26/22 23:05	16984-48-8	
Sulfate	248	mg/L	20.0	11.0	20		04/27/22 00:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-4S **Lab ID: 60397347026** Collected: 04/08/22 14:35 Received: 04/09/22 04:16 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	1.2	1	04/21/22 14:08	04/22/22 16:40	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 16:40	7440-41-7	
Boron	8240	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 16:40	7440-42-8	
Calcium	127000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:07	7440-70-2	
Cobalt	1.8J	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 16:40	7440-48-4	
Iron	12000	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 16:40	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 16:40	7439-92-1	
Lithium	40.8	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:07	7439-93-2	
Magnesium	27100	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 16:40	7439-95-4	
Manganese	1880	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 16:40	7439-96-5	
Molybdenum	131	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 16:40	7439-98-7	
Potassium	6960	ug/L	500	224	1	04/21/22 14:08	04/22/22 16:40	7440-09-7	
Sodium	92400	ug/L	500	166	1	04/21/22 14:08	04/22/22 16:40	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	04/21/22 14:08	04/22/22 13:51	7440-36-0	
Arsenic	35.7	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 13:51	7440-38-2	
Cadmium	0.061J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 13:51	7440-43-9	
Chromium	0.37J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 13:51	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 13:51	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 13:51	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 16:01	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	397	mg/L	20.0	4.6	1		04/16/22 10:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	765	mg/L	10.0	10.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	11.3	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.74	mg/L	0.20	0.060	1		04/19/22 11:36	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-4S **Lab ID: 60397347026** Collected: 04/08/22 14:35 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 16:00	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	23.3	mg/L	2.0	1.1	2		04/27/22 00:28	16887-00-6	
Fluoride	0.29	mg/L	0.20	0.12	1		04/27/22 00:14	16984-48-8	
Sulfate	220	mg/L	20.0	11.0	20		04/27/22 00:42	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-1S **Lab ID: 60397347027** Collected: 04/08/22 11:15 Received: 04/09/22 04:16 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	108	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 16:42	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 16:42	7440-41-7	
Boron	1130	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 16:42	7440-42-8	
Calcium	116000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:10	7440-70-2	
Cobalt	<1.4	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 16:42	7440-48-4	
Iron	3560	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 16:42	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 16:42	7439-92-1	
Lithium	13.9	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:10	7439-93-2	
Magnesium	20900	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 16:42	7439-95-4	
Manganese	878	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 16:42	7439-96-5	
Molybdenum	3.9J	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 16:42	7439-98-7	
Potassium	3730	ug/L	500	224	1	04/21/22 14:08	04/22/22 16:42	7440-09-7	
Sodium	7600	ug/L	500	166	1	04/21/22 14:08	04/22/22 16:42	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	04/21/22 14:08	04/22/22 13:54	7440-36-0	
Arsenic	8.0	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 13:54	7440-38-2	
Cadmium	0.058J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 13:54	7440-43-9	
Chromium	0.33J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 13:54	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 13:54	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 13:54	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 16:04	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	335	mg/L	20.0	4.6	1		04/16/22 10:40		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	492	mg/L	10.0	10.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	3.5	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 11:35	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-1S **Lab ID: 60397347027** Collected: 04/08/22 11:15 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 16:00	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	3.5	mg/L	1.0	0.53	1		04/27/22 00:56	16887-00-6	B
Fluoride	0.22	mg/L	0.20	0.12	1		04/27/22 00:56	16984-48-8	
Sulfate	65.5	mg/L	10.0	5.5	10		04/27/22 01:10	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-DUP-2 Lab ID: 60397347028 Collected: 04/08/22 08:00 Received: 04/09/22 04:16 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	108	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 16:44	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 16:44	7440-41-7	
Boron	1160	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 16:44	7440-42-8	
Calcium	117000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:13	7440-70-2	
Cobalt	1.4J	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 16:44	7440-48-4	
Iron	3490	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 16:44	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 16:44	7439-92-1	
Lithium	14.0	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:13	7439-93-2	
Magnesium	21000	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 16:44	7439-95-4	
Manganese	887	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 16:44	7439-96-5	
Molybdenum	4.1J	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 16:44	7439-98-7	
Potassium	3700	ug/L	500	224	1	04/21/22 14:08	04/22/22 16:44	7440-09-7	
Sodium	7550	ug/L	500	166	1	04/21/22 14:08	04/22/22 16:44	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	04/21/22 14:08	04/22/22 13:59	7440-36-0	
Arsenic	7.7	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 13:59	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 13:59	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 13:59	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 13:59	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 13:59	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 16:06	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	333	mg/L	20.0	4.6	1		04/18/22 11:25		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	457	mg/L	10.0	10.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	3.5	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 11:35	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-DUP-2 **Lab ID: 60397347028** Collected: 04/08/22 08:00 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 16:00	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	3.5	mg/L	1.0	0.53	1		04/27/22 02:19	16887-00-6	B
Fluoride	0.22	mg/L	0.20	0.12	1		04/27/22 02:19	16984-48-8	
Sulfate	65.6	mg/L	10.0	5.5	10		04/27/22 02:33	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-3 **Lab ID: 60397347029** Collected: 04/08/22 12:35 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City									
Barium	<1.2	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 16:46	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 16:46	7440-41-7	
Boron	<7.1	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 16:46	7440-42-8	
Calcium	<71.3	ug/L	200	71.3	1	04/21/22 14:08	04/22/22 16:46	7440-70-2	
Cobalt	<1.4	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 16:46	7440-48-4	
Iron	<21.1	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 16:46	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 16:46	7439-92-1	
Lithium	<1.2	ug/L	10.0	1.2	1	04/21/22 14:08	04/22/22 16:46	7439-93-2	
Magnesium	<11.7	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 16:46	7439-95-4	
Manganese	<1.1	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 16:46	7439-96-5	
Molybdenum	<1.8	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 16:46	7439-98-7	
Potassium	<224	ug/L	500	224	1	04/21/22 14:08	04/22/22 16:46	7440-09-7	
Sodium	<166	ug/L	500	166	1	04/21/22 14:08	04/22/22 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	04/21/22 14:08	04/22/22 14:01	7440-36-0	
Arsenic	<0.14	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:01	7440-38-2	
Cadmium	<0.053	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:01	7440-43-9	
Chromium	0.75J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:01	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:01	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:01	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 16:08	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		04/18/22 11:36		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Kansas City									
Total Dissolved Solids	14.0	mg/L	5.0	5.0	1		04/14/22 16:04		D6
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferric	0.0074J	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City									
Iron, Ferrous	<0.060	mg/L	0.20	0.060	1		04/19/22 11:35	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-3 **Lab ID: 60397347029** Collected: 04/08/22 12:35 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 16:00	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	0.61J	mg/L	1.0	0.53	1		04/27/22 02:47	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		04/27/22 02:47	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		04/27/22 02:47	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-7S Lab ID: 60397347030 Collected: 04/08/22 15:04 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	234	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 16:49	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 16:49	7440-41-7	
Boron	10700	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 16:49	7440-42-8	
Calcium	136000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:15	7440-70-2	
Cobalt	3.8J	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 16:49	7440-48-4	
Iron	4910	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 16:49	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 16:49	7439-92-1	
Lithium	41.8	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:15	7439-93-2	
Magnesium	30500	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 16:49	7439-95-4	
Manganese	1410	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 16:49	7439-96-5	
Molybdenum	80.7	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 16:49	7439-98-7	
Potassium	6860	ug/L	500	224	1	04/21/22 14:08	04/22/22 16:49	7440-09-7	
Sodium	59000	ug/L	500	166	1	04/21/22 14:08	04/22/22 16:49	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	04/21/22 14:08	04/22/22 14:04	7440-36-0	
Arsenic	15.5	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:04	7440-38-2	
Cadmium	0.059J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:04	7440-43-9	
Chromium	0.73J	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:04	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:04	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:04	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 16:11	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	287	mg/L	20.0	4.6	1		04/18/22 11:39		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	795	mg/L	10.0	10.0	1		04/14/22 16:04		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	4.8	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.14J	mg/L	0.20	0.060	1		04/19/22 11:37	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-7S **Lab ID: 60397347030** Collected: 04/08/22 15:04 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Pace Analytical Services - Kansas City									
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/15/22 16:01	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	20.8	mg/L	2.0	1.1	2		04/27/22 03:14	16887-00-6	
Fluoride	0.26	mg/L	0.20	0.12	1		04/27/22 03:00	16984-48-8	
Sulfate	274	mg/L	20.0	11.0	20		04/27/22 03:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-8S **Lab ID: 60397347031** Collected: 04/08/22 12:51 Received: 04/09/22 04:16 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	137	ug/L	5.0	1.2	1	04/21/22 14:08	04/22/22 16:51	7440-39-3	
Beryllium	<0.24	ug/L	1.0	0.24	1	04/21/22 14:08	04/22/22 16:51	7440-41-7	
Boron	7890	ug/L	100	7.1	1	04/21/22 14:08	04/22/22 16:51	7440-42-8	
Calcium	194000	ug/L	200	38.2	1	04/21/22 14:08	04/25/22 18:18	7440-70-2	
Cobalt	3.1J	ug/L	5.0	1.4	1	04/21/22 14:08	04/22/22 16:51	7440-48-4	
Iron	7050	ug/L	50.0	21.1	1	04/21/22 14:08	04/22/22 16:51	7439-89-6	
Lead	<6.1	ug/L	10.0	6.1	1	04/21/22 14:08	04/22/22 16:51	7439-92-1	
Lithium	26.4	ug/L	10.0	1.1	1	04/21/22 14:08	04/25/22 18:18	7439-93-2	
Magnesium	33800	ug/L	50.0	11.7	1	04/21/22 14:08	04/22/22 16:51	7439-95-4	
Manganese	2550	ug/L	5.0	1.1	1	04/21/22 14:08	04/22/22 16:51	7439-96-5	
Molybdenum	177	ug/L	20.0	1.8	1	04/21/22 14:08	04/22/22 16:51	7439-98-7	
Potassium	7960	ug/L	500	224	1	04/21/22 14:08	04/22/22 16:51	7440-09-7	
Sodium	90900	ug/L	500	166	1	04/21/22 14:08	04/22/22 16:51	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	04/21/22 14:08	04/22/22 14:06	7440-36-0	
Arsenic	11.4	ug/L	1.0	0.14	1	04/21/22 14:08	04/22/22 14:06	7440-38-2	
Cadmium	0.089J	ug/L	0.50	0.053	1	04/21/22 14:08	04/22/22 14:06	7440-43-9	
Chromium	<0.31	ug/L	1.0	0.31	1	04/21/22 14:08	04/22/22 14:06	7440-47-3	
Selenium	<0.18	ug/L	1.0	0.18	1	04/21/22 14:08	04/22/22 14:06	7782-49-2	
Thallium	<0.15	ug/L	1.0	0.15	1	04/21/22 14:08	04/22/22 14:06	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Pace Analytical Services - Kansas City									
Mercury	<0.12	ug/L	0.20	0.12	1	04/22/22 10:29	04/22/22 14:39	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	340	mg/L	20.0	4.6	1		04/18/22 11:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1080	mg/L	13.3	13.3	1		04/15/22 16:10		
Iron, Ferric (Calculation)									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferric	6.9	mg/L	0.050		1		04/28/22 15:01	20074-52-6	
Iron, Ferrous									
Analytical Method: SM 3500-Fe B#4									
Pace Analytical Services - Kansas City									
Iron, Ferrous	0.12J	mg/L	0.20	0.060	1		04/19/22 11:36	15438-31-0	H6

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-8S **Lab ID: 60397347031** Collected: 04/08/22 12:51 Received: 04/09/22 04:16 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	<0.026	mg/L	0.050	0.026	1		04/18/22 17:18	18496-25-8	H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	17.6	mg/L	1.0	0.53	1		04/27/22 03:42	16887-00-6	
Fluoride	0.30	mg/L	0.20	0.12	1		04/27/22 03:42	16984-48-8	
Sulfate	537	mg/L	50.0	27.5	50		04/27/22 04:37	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA
Pace Project No.: 60397347

QC Batch:	782784	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030

METHOD BLANK: 3121525 Matrix: Water
Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.12	0.20	0.12	04/22/22 15:09	

LABORATORY CONTROL SAMPLE: 3121526

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: 3121527 3121528

Parameter	Units	60397347001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.12	5	5	4.9	5.0	97	99	75-125	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	782785	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347031

METHOD BLANK: 3121531 Matrix: Water

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.12	0.20	0.12	04/22/22 14:35	

LABORATORY CONTROL SAMPLE: 3121532

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121533 3121534

Parameter	Units	60397347017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.12	5	5	4.9	4.9	98	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	782070	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014

METHOD BLANK: 3119106 Matrix: Water
Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.7	5.0	1.7	04/21/22 18:32	
Beryllium	ug/L	<0.31	1.0	0.31	04/21/22 18:32	
Boron	ug/L	<13.5	100	13.5	04/21/22 18:32	
Calcium	ug/L	<38.2	200	38.2	04/21/22 18:32	
Cobalt	ug/L	<0.78	5.0	0.78	04/21/22 18:32	
Iron	ug/L	<23.9	50.0	23.9	04/21/22 18:32	
Lead	ug/L	<4.3	10.0	4.3	04/21/22 18:32	
Lithium	ug/L	<1.1	10.0	1.1	04/21/22 18:32	
Magnesium	ug/L	<43.0	50.0	43.0	04/21/22 18:32	
Manganese	ug/L	<3.8	5.0	3.8	04/21/22 18:32	
Molybdenum	ug/L	<1.4	20.0	1.4	04/21/22 18:32	
Potassium	ug/L	<167	500	167	04/21/22 18:32	
Sodium	ug/L	<64.8	500	64.8	04/22/22 11:39	

LABORATORY CONTROL SAMPLE: 3119107

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1080	108	85-115	
Beryllium	ug/L	1000	1090	109	85-115	
Boron	ug/L	1000	1020	102	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Cobalt	ug/L	1000	981	98	85-115	
Iron	ug/L	10000	9940	99	85-115	
Lead	ug/L	1000	1030	103	85-115	
Lithium	ug/L	1000	1010	101	85-115	
Magnesium	ug/L	10000	10400	104	85-115	
Manganese	ug/L	1000	1060	106	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	10100	101	85-115	
Sodium	ug/L	10000	9980	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119108 3119109

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Barium	ug/L	44.9	1000	1000	1010	1070	97	102	70-130	5	20

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119108 3119109												
Parameter	Units	60397347001		MS	MSD	MS		MSD		% Rec Limits	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Beryllium	ug/L	<0.31	1000	1000	1010	1070	101	107	70-130	5	20	
Boron	ug/L	3330	1000	1000	4050	4310	71	97	70-130	6	20	
Calcium	ug/L	69700	10000	10000	74400	78800	47	91	70-130	6	20	M1
Cobalt	ug/L	<0.78	1000	1000	894	941	89	94	70-130	5	20	
Iron	ug/L	<23.9	10000	10000	9200	9670	92	97	70-130	5	20	
Lead	ug/L	<4.3	1000	1000	921	968	92	97	70-130	5	20	
Lithium	ug/L	12.7	1000	1000	996	1050	98	103	70-130	5	20	
Magnesium	ug/L	89.9	10000	10000	9540	10000	94	100	70-130	5	20	
Manganese	ug/L	<3.8	1000	1000	970	1020	97	102	70-130	5	20	
Molybdenum	ug/L	162	1000	1000	1090	1140	92	98	70-130	5	20	
Potassium	ug/L	9260	10000	10000	17900	18900	86	96	70-130	5	20	
Sodium	ug/L	64000	10000	10000	68200	72400	42	84	70-130	6	20	M1

MATRIX SPIKE SAMPLE: 3119110							
Parameter	Units	60397347011	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits	
Barium	ug/L	<1.7	1000	1080	108	70-130	
Beryllium	ug/L	<0.31	1000	1090	109	70-130	
Boron	ug/L	<13.5	1000	1030	102	70-130	
Calcium	ug/L	<38.2	10000	10300	103	70-130	
Cobalt	ug/L	<0.78	1000	952	95	70-130	
Iron	ug/L	<23.9	10000	9670	97	70-130	
Lead	ug/L	<4.3	1000	995	100	70-130	
Lithium	ug/L	<1.1	1000	994	99	70-130	
Magnesium	ug/L	<43.0	10000	10300	103	70-130	
Manganese	ug/L	<3.8	1000	1050	105	70-130	
Molybdenum	ug/L	<1.4	1000	982	98	70-130	
Potassium	ug/L	<167	10000	9960	100	70-130	
Sodium	ug/L	<64.8	10000	9780	97	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	782570	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

METHOD BLANK:	3120868	Matrix:	Water
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Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.2	5.0	1.2	04/22/22 16:33	
Beryllium	ug/L	<0.24	1.0	0.24	04/22/22 16:33	
Boron	ug/L	<7.1	100	7.1	04/22/22 16:33	
Calcium	ug/L	<38.2	200	38.2	04/22/22 16:33	
Cobalt	ug/L	<1.4	5.0	1.4	04/22/22 16:33	
Iron	ug/L	<21.1	50.0	21.1	04/22/22 16:33	
Lead	ug/L	<6.1	10.0	6.1	04/22/22 16:33	
Lithium	ug/L	<1.1	10.0	1.1	04/22/22 16:33	
Magnesium	ug/L	<11.7	50.0	11.7	04/22/22 16:33	
Manganese	ug/L	<1.1	5.0	1.1	04/22/22 16:33	
Molybdenum	ug/L	<1.8	20.0	1.8	04/22/22 16:33	
Potassium	ug/L	<224	500	224	04/22/22 16:33	
Sodium	ug/L	<166	500	166	04/22/22 16:33	

LABORATORY CONTROL SAMPLE: 3120869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Boron	ug/L	1000	967	97	85-115	
Calcium	ug/L	10000	9920	99	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1040	104	85-115	
Lithium	ug/L	1000	889	89	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9970	100	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120870 3120871

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Spike Conc.	MS Result	MSD Result						
Barium	ug/L	76.4	1000	1000	1050	1060	98	98	70-130	1	20

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120870 3120871												
Parameter	Units	60397347017		MS	MSD	MS		MSD		% Rec Limits	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec			
Beryllium	ug/L	<0.24	1000	1000	1020	1020	102	102	70-130	0	20	
Boron	ug/L	8050	1000	1000	9030	9220	98	117	70-130	2	20	
Calcium	ug/L	109000	10000	10000	118000	120000	87	108	70-130	2	20	
Cobalt	ug/L	<1.4	1000	1000	961	968	96	97	70-130	1	20	
Iron	ug/L	5150	10000	10000	14900	15100	98	99	70-130	1	20	
Lead	ug/L	<6.1	1000	1000	974	972	97	97	70-130	0	20	
Lithium	ug/L	35.2	1000	1000	1000	1000	97	97	70-130	0	20	
Magnesium	ug/L	13700	10000	10000	22800	23100	92	94	70-130	1	20	
Manganese	ug/L	282	1000	1000	1270	1270	98	99	70-130	1	20	
Molybdenum	ug/L	301	1000	1000	1290	1300	99	100	70-130	1	20	
Potassium	ug/L	8630	10000	10000	18800	19200	102	106	70-130	2	20	
Sodium	ug/L	115000	10000	10000	125000	128000	100	132	70-130	2	20 M1	

MATRIX SPIKE SAMPLE: 3120872									
Parameter	Units	60397347023		Spike	MS	MS	% Rec		Qualifiers
		Result	Conc.	Conc.	Result	% Rec	Limits		
Barium	ug/L	592	1000	1000	1570	97	70-130		
Beryllium	ug/L	<0.24	1000	1000	1030	103	70-130		
Boron	ug/L	306	1000	1000	1270	97	70-130		
Calcium	ug/L	194000	10000	10000	203000	83	70-130		
Cobalt	ug/L	5.8	1000	1000	966	96	70-130		
Iron	ug/L	4400	10000	10000	14200	98	70-130		
Lead	ug/L	<6.1	1000	1000	987	99	70-130		
Lithium	ug/L	36.1	1000	1000	1020	98	70-130		
Magnesium	ug/L	37400	10000	10000	44600	72	70-130		
Manganese	ug/L	1390	1000	1000	2380	98	70-130		
Molybdenum	ug/L	2.9J	1000	1000	1000	100	70-130		
Potassium	ug/L	7200	10000	10000	17500	103	70-130		
Sodium	ug/L	59500	10000	10000	69400	99	70-130		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	782069	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014

METHOD BLANK: 3119101 Matrix: Water
Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/22/22 12:47	
Arsenic	ug/L	<0.14	1.0	0.14	04/22/22 12:47	
Cadmium	ug/L	<0.053	0.50	0.053	04/22/22 12:47	
Chromium	ug/L	<0.31	1.0	0.31	04/22/22 12:47	
Selenium	ug/L	<0.18	1.0	0.18	04/22/22 12:47	
Thallium	ug/L	<0.15	1.0	0.15	04/22/22 12:47	

LABORATORY CONTROL SAMPLE: 3119102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.8	97	85-115	
Arsenic	ug/L	40	39.0	97	85-115	
Cadmium	ug/L	40	41.0	102	85-115	
Chromium	ug/L	40	40.5	101	85-115	
Selenium	ug/L	40	40.0	100	85-115	
Thallium	ug/L	40	38.1	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119103 3119104

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397347001 Result	Spike Conc.	Spike Conc.	MS Result						
Antimony	ug/L	<0.12	40	40	37.2	38.4	93	96	70-130	3	20
Arsenic	ug/L	45.4	40	40	84.6	83.5	98	95	70-130	1	20
Cadmium	ug/L	<0.053	40	40	38.9	38.2	97	95	70-130	2	20
Chromium	ug/L	<0.31	40	40	39.7	40.2	99	100	70-130	1	20
Selenium	ug/L	<0.18	40	40	40.1	39.4	100	98	70-130	2	20
Thallium	ug/L	<0.15	40	40	38.8	38.7	97	97	70-130	0	20

MATRIX SPIKE SAMPLE: 3119105

Parameter	Units	60397347011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	38.8	97	70-130	
Arsenic	ug/L	<0.14	40	38.8	97	70-130	
Cadmium	ug/L	<0.053	40	41.2	103	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

MATRIX SPIKE SAMPLE:		3119105					
Parameter	Units	60397347011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	<0.31	40	40.5	100	70-130	
Selenium	ug/L	<0.18	40	38.8	97	70-130	
Thallium	ug/L	<0.15	40	38.5	96	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA
Pace Project No.: 60397347

QC Batch: 782568 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

METHOD BLANK: 3120863 Matrix: Water
Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/22/22 13:45	
Arsenic	ug/L	<0.14	1.0	0.14	04/22/22 13:45	
Cadmium	ug/L	<0.053	0.50	0.053	04/22/22 13:45	
Chromium	ug/L	<0.31	1.0	0.31	04/22/22 13:45	
Selenium	ug/L	<0.18	1.0	0.18	04/22/22 13:45	
Thallium	ug/L	<0.15	1.0	0.15	04/22/22 13:45	

LABORATORY CONTROL SAMPLE: 3120864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.0	100	85-115	
Arsenic	ug/L	40	39.8	100	85-115	
Cadmium	ug/L	40	43.1	108	85-115	
Chromium	ug/L	40	41.2	103	85-115	
Selenium	ug/L	40	40.8	102	85-115	
Thallium	ug/L	40	38.7	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120865 3120866

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60397347017 Result	Spike Conc.	Spike Conc.	MS Result						
Antimony	ug/L	<0.12	40	40	33.7	33.6	84	84	70-130	0	20
Arsenic	ug/L	2.6	40	40	43.5	43.5	102	102	70-130	0	20
Cadmium	ug/L	0.090J	40	40	37.5	37.2	94	93	70-130	1	20
Chromium	ug/L	0.33J	40	40	39.4	38.9	98	96	70-130	1	20
Selenium	ug/L	<0.18	40	40	40.6	40.5	101	101	70-130	0	20
Thallium	ug/L	<0.15	40	40	39.4	39.3	98	98	70-130	0	20

MATRIX SPIKE SAMPLE: 3120867

Parameter	Units	60397347023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.12	40	40.4	101	70-130	
Arsenic	ug/L	3.0	40	42.2	98	70-130	
Cadmium	ug/L	0.14J	40	38.9	97	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

MATRIX SPIKE SAMPLE:		3120867					
Parameter	Units	60397347023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	0.48J	40	38.8	96	70-130	
Selenium	ug/L	0.43J	40	41.0	101	70-130	
Thallium	ug/L	<0.15	40	40.3	101	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 781580 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347013, 60397347014

METHOD BLANK: 3117114 Matrix: Water
 Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347013, 60397347014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/15/22 16:07	

LABORATORY CONTROL SAMPLE: 3117115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	496	99	90-110	

SAMPLE DUPLICATE: 3117116

Parameter	Units	60397346006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	408	406	0	10	

SAMPLE DUPLICATE: 3117118

Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	34.3	35.0	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	781581	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

METHOD BLANK: 3117119 Matrix: Water

Associated Lab Samples: 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	04/16/22 08:47	

LABORATORY CONTROL SAMPLE: 3117120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	487	97	90-110	

SAMPLE DUPLICATE: 3117121

Parameter	Units	60397347007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	122	120	2	10	

SAMPLE DUPLICATE: 3117123

Parameter	Units	60397479003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	372	375	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 782260

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024

METHOD BLANK: 3119662

Matrix: Water

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<4.6	20.0	4.6	04/20/22 10:52	

LABORATORY CONTROL SAMPLE: 3119663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	475	95	90-110	

SAMPLE DUPLICATE: 3119664

Parameter	Units	60397403002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	620	622	0	10	

SAMPLE DUPLICATE: 3119665

Parameter	Units	60397347017 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	139	137	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	781487	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030		

METHOD BLANK:	3116838	Matrix:	Water
Associated Lab Samples:	60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/14/22 16:01	

LABORATORY CONTROL SAMPLE:	3116839					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	891	89	80-120	

SAMPLE DUPLICATE:	3116840					
Parameter	Units	60397347029 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	14.0	11.0	24	10	D6

SAMPLE DUPLICATE:	3116841					
Parameter	Units	60397347030 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	795	784	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	781721	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347031

METHOD BLANK: 3117705 Matrix: Water

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/15/22 16:10	

LABORATORY CONTROL SAMPLE: 3117706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	873	87	80-120	

SAMPLE DUPLICATE: 3117707

Parameter	Units	60397403002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	975	939	4	10	

SAMPLE DUPLICATE: 3117708

Parameter	Units	60397683001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	374	363	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 787090	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347001, 60397347017

METHOD BLANK: 3137539 Matrix: Water

Associated Lab Samples: 60397347001, 60397347017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	05/16/22 18:12	

LABORATORY CONTROL SAMPLE: 3137540

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

SAMPLE DUPLICATE: 3137541

Parameter	Units	60396337010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1140	1180	1	10	H1

SAMPLE DUPLICATE: 3137542

Parameter	Units	60396735001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	520	517	2	10	H1

SAMPLE DUPLICATE: 3137543

Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	474	489	3	10	H1

SAMPLE DUPLICATE: 3137544

Parameter	Units	60397479003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	453	444	3	10	H1

SAMPLE DUPLICATE: 3137545

Parameter	Units	60397347017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	878	821	1	10	H1

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 781338 Analysis Method: SM 3500-Fe B#4
 QC Batch Method: SM 3500-Fe B#4 Analysis Description: Iron, Ferrous
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60397347002, 60397347003, 60397347004, 60397347005, 60397347006

METHOD BLANK: 3116192 Matrix: Water
 Associated Lab Samples: 60397347002, 60397347003, 60397347004, 60397347005, 60397347006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/15/22 10:51	H6

LABORATORY CONTROL SAMPLE: 3116193

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

SAMPLE DUPLICATE: 3116194

Parameter	Units	60397346004 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.060	<0.060		20	H6

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 781910 Analysis Method: SM 3500-Fe B#4

QC Batch Method: SM 3500-Fe B#4 Analysis Description: Iron, Ferrous

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347020, 60397347023, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

METHOD BLANK: 3118584 Matrix: Water

Associated Lab Samples: 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347020, 60397347023, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/19/22 11:30	H6

LABORATORY CONTROL SAMPLE: 3118585

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

SAMPLE DUPLICATE: 3118602

Parameter	Units	60397347013 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.40	0.40	0	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA
Pace Project No.: 60397347

QC Batch: 781919	Analysis Method: SM 3500-Fe B#4
QC Batch Method: SM 3500-Fe B#4	Analysis Description: Iron, Ferrous
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347017

METHOD BLANK: 3118603 Matrix: Water
Associated Lab Samples: 60397347017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/18/22 16:21	H6

LABORATORY CONTROL SAMPLE: 3118604

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

SAMPLE DUPLICATE: 3118605

Parameter	Units	60397347017 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.54	0.55	0	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 782077	Analysis Method: SM 3500-Fe B#4
QC Batch Method: SM 3500-Fe B#4	Analysis Description: Iron, Ferrous
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347021, 60397347022, 60397347024

METHOD BLANK: 3119130 Matrix: Water

Associated Lab Samples: 60397347021, 60397347022, 60397347024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/19/22 16:40	H6

LABORATORY CONTROL SAMPLE: 3119131

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

SAMPLE DUPLICATE: 3119132

Parameter	Units	60397418002 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	ND	0.13J		20	H6

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 783444

Analysis Method: SM 3500-Fe B#4

QC Batch Method: SM 3500-Fe B#4

Analysis Description: Iron, Ferrous

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347001

METHOD BLANK: 3124147

Matrix: Water

Associated Lab Samples: 60397347001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.060	0.20	0.060	04/28/22 13:41	H6

LABORATORY CONTROL SAMPLE: 3124148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.0	101	90-110	H6

SAMPLE DUPLICATE: 3124149

Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.060	<0.060		20	H6

SAMPLE DUPLICATE: 3124150

Parameter	Units	60398376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	2.8	2.8	0	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	781701	Analysis Method:	SM 4500-S-2 D
QC Batch Method:	SM 4500-S-2 D	Analysis Description:	4500S2D Sulfide, Total
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030		

METHOD BLANK:	3117661	Matrix:	Water
Associated Lab Samples:	60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/15/22 15:52	

LABORATORY CONTROL SAMPLE:	3117662					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3117664			3117665								
Parameter	Units	60397347001 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	<0.026	0.5	0.5	0.57	0.57	113	113	75-125	0	20	H1

SAMPLE DUPLICATE:	3117663							
Parameter	Units	60397347001 Result	Dup Result	RPD	Max RPD	Qualifiers		
Sulfide, Total	mg/L	<0.026	<0.026		20	H1		

SAMPLE DUPLICATE:	3117666					
Parameter	Units	60397347009 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.035J	0.035J		20	H1

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 781812

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347031

METHOD BLANK: 3118276

Matrix: Water

Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.026	0.050	0.026	04/18/22 17:17	

LABORATORY CONTROL SAMPLE: 3118277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.52	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3118279 3118280

Parameter	Units	60397347017		3118280		% Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide, Total	mg/L	<0.026	0.5	0.5	0.50	0.50	101	101	75-125	0	20

SAMPLE DUPLICATE: 3118278

Parameter	Units	60397347017 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.026	<0.026		20	

SAMPLE DUPLICATE: 3118281

Parameter	Units	60397647001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.75	0.75	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 782267 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60397347002, 60397347003, 60397347004, 60397347005, 60397347006

METHOD BLANK: 3119718 Matrix: Water
 Associated Lab Samples: 60397347002, 60397347003, 60397347004, 60397347005, 60397347006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/20/22 08:07	
Fluoride	mg/L	<0.12	0.20	0.12	04/20/22 08:07	
Sulfate	mg/L	<0.55	1.0	0.55	04/20/22 08:07	

METHOD BLANK: 3121096 Matrix: Water
 Associated Lab Samples: 60397347002, 60397347003, 60397347004, 60397347005, 60397347006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/21/22 09:52	
Fluoride	mg/L	<0.12	0.20	0.12	04/21/22 09:52	
Sulfate	mg/L	<0.55	1.0	0.55	04/21/22 09:52	

LABORATORY CONTROL SAMPLE: 3119719

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	103	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

LABORATORY CONTROL SAMPLE: 3121097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.5	91	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.7	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119720 3119721

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60394153001 Result	Spike Conc.	Spike Conc.	Result						
Chloride	mg/L	ND	250	250	246	245	85	85	80-120	1	15 H1
Fluoride	mg/L	ND	125	125	128	129	103	103	80-120	0	15 H1
Sulfate	mg/L	198	250	250	439	439	96	96	80-120	0	15 H1

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA
Pace Project No.: 60397347

QC Batch: 782513 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60397347001, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027

METHOD BLANK: 3120630 Matrix: Water
Associated Lab Samples: 60397347001, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.63J	1.0	0.53	04/26/22 12:57	
Fluoride	mg/L	<0.12	0.20	0.12	04/26/22 12:57	
Sulfate	mg/L	<0.55	1.0	0.55	04/26/22 12:57	

METHOD BLANK: 3124994 Matrix: Water
Associated Lab Samples: 60397347001, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014, 60397347025, 60397347026, 60397347027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.61J	1.0	0.53	04/27/22 09:06	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 09:06	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 09:06	

LABORATORY CONTROL SAMPLE: 3120631

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	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 3124995

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120632 3120633

Parameter	Units	3120632		3120633		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	17.4	5	25.3	22.7	157	105	80-120	11	15	E,M1
Fluoride	mg/L	0.16J	2.5	4.0	2.6	153	98	80-120	42	15	M1,R1

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120632												3120633	
Parameter	Units	60397347001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Sulfate	mg/L	263	250	250	505	506	97	97	80-120	0	15		

SAMPLE DUPLICATE: 3120634

Parameter	Units	60397347001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Chloride	mg/L	17.4	17.5	0	15	
Fluoride	mg/L	0.16J	<0.12		15	
Sulfate	mg/L	263	266	1	15	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 782517 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60397347028, 60397347029, 60397347030, 60397347031

METHOD BLANK: 3120651 Matrix: Water
 Associated Lab Samples: 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	04/27/22 01:51	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 01:51	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 01:51	

METHOD BLANK: 3125964 Matrix: Water
 Associated Lab Samples: 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/27/22 12:39	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 12:39	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 12:39	

METHOD BLANK: 3125967 Matrix: Water
 Associated Lab Samples: 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/26/22 11:12	
Fluoride	mg/L	<0.12	0.20	0.12	04/26/22 11:12	
Sulfate	mg/L	<0.55	1.0	0.55	04/26/22 11:12	

LABORATORY CONTROL SAMPLE: 3120652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3125965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	104	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

LABORATORY CONTROL SAMPLE: 3125968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	103	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3120653 3120654

Parameter	Units	60397479003		MS		MSD		% Rec		Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
Chloride	mg/L	2.8	5	5	7.5	7.4	94	92	80-120	1	15		
Fluoride	mg/L	<0.12	2.5	2.5	2.3	2.3	91	91	80-120	0	15		
Sulfate	mg/L	30.5	25	25	55.4	55.4	100	99	80-120	0	15		

SAMPLE DUPLICATE: 3120655

Parameter	Units	60397479003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	2.8	2.8	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	30.5	30.7	1	15	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 783376 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024

METHOD BLANK: 3123990 Matrix: Water
 Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/27/22 17:43	
Fluoride	mg/L	<0.12	0.20	0.12	04/27/22 17:43	
Sulfate	mg/L	<0.55	1.0	0.55	04/27/22 17:43	

METHOD BLANK: 3127057 Matrix: Water
 Associated Lab Samples: 60397347017, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	04/28/22 09:00	
Fluoride	mg/L	<0.12	0.20	0.12	04/28/22 09:00	
Sulfate	mg/L	<0.55	1.0	0.55	04/28/22 09:00	

LABORATORY CONTROL SAMPLE: 3123991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	103	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 3127058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123992 3123993

Parameter	Units	3123992		3123993		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	36.4	50	25	120	66.7	168	121	80-120	57	15 E, M1, R1
Fluoride	mg/L	0.40	2.5	2.5	3.3	3.4	117	121	80-120	2	15 M1
Sulfate	mg/L	371	250	250	675	655	121	113	80-120	3	15 M1

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

MATRIX SPIKE SAMPLE: 3123995

Parameter	Units	60398262003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	19300	10000	32900	137	80-120	M1
Fluoride	mg/L	ND	5000	6650	133	80-120	M1
Sulfate	mg/L	2460	10000	14300	118	80-120	

SAMPLE DUPLICATE: 3123994

Parameter	Units	60397347017 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	36.4	37.2	2	15	
Fluoride	mg/L	0.40	0.36	12	15	
Sulfate	mg/L	371	381	3	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-2S **Lab ID: 60397347001** Collected: 04/06/22 09:11 Received: 04/08/22 05:28 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	0.120 ± 0.274 (0.163) C:NA T:61%	pCi/L	04/29/22 14:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.350 ± 0.516 (1.11) C:78% T:83%	pCi/L	04/21/22 20:30	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-3M **Lab ID: 60397347002** Collected: 04/07/22 14:00 Received: 04/08/22 05:28 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	0.561 ± 0.440 (0.612) C:NA T:80%	pCi/L	04/29/22 14:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.00947 ± 0.488 (1.15) C:72% T:80%	pCi/L	04/21/22 20:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-3D **Lab ID: 60397347003** Collected: 04/07/22 13:10 Received: 04/08/22 05:28 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	0.398 ± 0.334 (0.478) C:NA T:89%	pCi/L	04/29/22 14:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.48 ± 0.643 (1.01) C:76% T:89%	pCi/L	04/21/22 20:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-4D **Lab ID: 60397347004** Collected: 04/07/22 10:17 Received: 04/08/22 05:28 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	1.97 ± 0.712 (0.660) C:NA T:84%	pCi/L	04/29/22 14:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.808 ± 0.630 (1.23) C:71% T:84%	pCi/L	04/21/22 20:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-24 **Lab ID: 60397347005** Collected: 04/07/22 10:35 Received: 04/08/22 05:28 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	0.0817 ± 0.277 (0.535) C:NA T:90%	pCi/L	04/29/22 14:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.446 ± 0.299 (0.556) C:81% T:90%	pCi/L	04/21/22 16:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-26 **Lab ID: 60397347006** Collected: 04/07/22 13:41 Received: 04/08/22 05:28 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	0.0874 ± 0.242 (0.470) C:NA T:84%	pCi/L	04/29/22 14:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.04 ± 0.444 (0.710) C:80% T:84%	pCi/L	04/21/22 16:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-MW-33D Lab ID: 60397347007 Collected: 04/07/22 14:59 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.267 ± 0.351 (0.584) C:NA T:84%	pCi/L	04/29/22 14:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.247 ± 0.384 (0.830) C:66% T:84%	pCi/L	04/21/22 16:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-MW-34D Lab ID: 60397347008 Collected: 04/07/22 15:18 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.251 ± 0.234 (0.308) C:NA T:87%	pCi/L	04/29/22 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.24 ± 0.435 (0.579) C:79% T:87%	pCi/L	04/21/22 16:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-MW-35D **Lab ID: 60397347009** Collected: 04/07/22 11:48 Received: 04/08/22 05:28 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 ± 0.214 (0.126) C:NA T:86%	pCi/L	04/29/22 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.517 ± 0.352 (0.668) C:78% T:86%	pCi/L	04/21/22 16:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-FB-1 Lab ID: 60397347010 Collected: 04/07/22 13:56 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0413 ± 0.188 (0.383) C:NA T:84%	pCi/L	04/29/22 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.913 ± 0.453 (0.787) C:76% T:84%	pCi/L	04/21/22 16:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-2 **Lab ID: 60397347011** Collected: 04/07/22 13:30 Received: 04/08/22 05:28 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	-0.0393 ± 0.298 (0.623) C:NA T:90%	pCi/L	04/29/22 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	-0.0322 ± 0.459 (1.08) C:78% T:90%	pCi/L	04/21/22 20:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-DUP-1 Lab ID: 60397347012 Collected: 04/07/22 08:00 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.0796 ± 0.221 (0.522) C:NA T:85%	pCi/L	04/29/22 14:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.163 ± 0.548 (1.24) C:79% T:85%	pCi/L	04/21/22 20:31	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-BMW-1S **Lab ID: 60397347013** Collected: 04/06/22 11:18 Received: 04/08/22 05:28 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	0.467 ± 0.397 (0.558) C:NA T:81%	pCi/L	04/29/22 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.15 ± 0.758 (1.45) C:75% T:81%	pCi/L	04/21/22 20:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-BMW-2S **Lab ID: 60397347014** Collected: 04/06/22 13:27 Received: 04/08/22 05:28 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	0.286 ± 0.215 (0.111) C:NA T:89%	pCi/L	04/29/22 14:32	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0766 ± 0.565 (1.30) C:75% T:89%	pCi/L	04/21/22 20:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-MS-1 Lab ID: 60397347015 Collected: 04/06/22 09:11 Received: 04/08/22 05:28 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	86.42 %REC ± NA (NA) C:NA T:NA%	pCi/L	05/10/22 15:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	66.28 %REC ± NA (NA) C:NA T:NA	pCi/L	05/02/22 16:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	68.50 %REC 23.13 RPD ± NA (NA) C:NA T:NA%	pCi/L	05/10/22 15:24	13982-63-3	1e
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	63.45 %REC 4.37 RPD ± NA (NA) C:NA T:NA	pCi/L	05/02/22 16:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AM-1D **Lab ID: 60397347017** Collected: 04/11/22 09:10 Received: 04/12/22 03:45 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	0.552 ± 0.576 (0.861) C:NA T:77%	pCi/L	05/13/22 12:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.0577 ± 0.433 (1.02) C:72% T:83%	pCi/L	05/16/22 16:14	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LCPA-CA-MS-2 **Lab ID: 60397347018** Collected: 04/11/22 09:10 Received: 04/12/22 03:45 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	91.97 %REC ± NA (NA) C:NA T:NA%	pCi/L	05/13/22 12:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	99.25 %REC ± NA (NA) C:NA T:NA	pCi/L	05/16/22 16:14	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LCPA-CA-MSD-2 **Lab ID: 60397347019** Collected: 04/11/22 09:10 Received: 04/12/22 03:45 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	109.43 %REC 17.34 RPD ± NA (NA) C:NA T:NA%	pCi/L	05/13/22 12:15	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	96.14 %REC 3.18 RPD ± NA (NA) C:NA T:NA	pCi/L	05/16/22 16:14	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-1D **Lab ID: 60397347020** Collected: 04/11/22 09:52 Received: 04/12/22 03:45 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 ± 0.466 (0.409) C:NA T:87%	pCi/L	05/10/22 15:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.22 ± 0.484 (0.736) C:75% T:87%	pCi/L	05/02/22 16:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-2M **Lab ID: 60397347021** Collected: 04/11/22 11:37 Received: 04/12/22 03:45 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	0.443 ± 0.327 (0.443) C:NA T:88%	pCi/L	05/10/22 15:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.297 ± 0.391 (0.835) C:74% T:88%	pCi/L	05/02/22 16:22	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-TP-2D **Lab ID: 60397347022** Collected: 04/11/22 12:19 Received: 04/12/22 03:45 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	0.229 ± 0.211 (0.124) C:NA T:83%	pCi/L	05/10/22 15:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.744 ± 0.539 (1.04) C:76% T:83%	pCi/L	05/02/22 19:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AM-1S **Lab ID: 60397347023** Collected: 04/11/22 10:25 Received: 04/12/22 03:45 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	0.205 ± 0.243 (0.381) C:NA T:91%	pCi/L	05/10/22 15:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.683 ± 0.441 (0.804) C:73% T:91%	pCi/L	05/02/22 19:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-S-1 **Lab ID: 60397347024** Collected: 04/11/22 14:50 Received: 04/12/22 03:45 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	0.297 ± 0.223 (0.115) C:NA T:86%	pCi/L	05/10/22 15:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.541 ± 0.486 (0.976) C:72% T:86%	pCi/L	05/02/22 19:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-AMW-8 **Lab ID: 60397347025** Collected: 04/08/22 12:55 Received: 04/09/22 04:16 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	0.327 ± 0.217 (0.0986) C:NA T:88%	pCi/L	05/10/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.760 ± 0.524 (0.997) C:72% T:88%	pCi/L	05/02/22 19:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-4S **Lab ID: 60397347026** Collected: 04/08/22 14:35 Received: 04/09/22 04:16 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	0.210 ± 0.170 (0.0947) C:NA T:89%	pCi/L	05/10/22 15:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.779 ± 0.528 (0.995) C:68% T:89%	pCi/L	05/02/22 19:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-1S **Lab ID: 60397347027** Collected: 04/08/22 11:15 Received: 04/09/22 04:16 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	-0.0388 ± 0.313 (0.646) C:NA T:88%	pCi/L	05/10/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.286 ± 0.443 (0.959) C:72% T:88%	pCi/L	05/02/22 19:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-DUP-2 **Lab ID: 60397347028** Collected: 04/08/22 08:00 Received: 04/09/22 04:16 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	0.148 ± 0.169 (0.100) C:NA T:86%	pCi/L	05/10/22 15:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.752 ± 0.566 (1.11) C:71% T:86%	pCi/L	05/02/22 19:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-CA-FB-3 **Lab ID: 60397347029** Collected: 04/08/22 12:35 Received: 04/09/22 04:16 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	0.119 ± 0.182 (0.107) C:NA T:89%	pCi/L	05/10/22 15:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	-0.0341 ± 0.416 (0.988) C:72% T:89%	pCi/L	05/02/22 19:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-7S Lab ID: 60397347030 Collected: 04/08/22 15:04 Received: 04/09/22 04:16 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.160 ± 0.193 (0.294) C:NA T:82%	pCi/L	05/10/22 15:58	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0186 ± 0.416 (0.979) C:72% T:82%	pCi/L	05/02/22 19:06	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Sample: L-LMW-8S **Lab ID: 60397347031** Collected: 04/08/22 12:51 Received: 04/09/22 04:16 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	0.335 ± 0.284 (0.352) C:NA T:75%	pCi/L	05/10/22 15:58	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.573 ± 0.557 (1.14) C:73% T:75%	pCi/L	05/02/22 19:06	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	497787	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:	60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014		

METHOD BLANK:	2409277	Matrix:	Water
Associated Lab Samples:	60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.165 ± 0.264 (0.571) C:79% T:89%	pCi/L	04/21/22 16:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	499335	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:	60397347015, 60397347016, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031		

METHOD BLANK:	2416808	Matrix:	Water
Associated Lab Samples:	60397347015, 60397347016, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0508 ± 0.284 (0.651) C:84% T:93%	pCi/L	05/02/22 16:21	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 497786

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: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014

METHOD BLANK: 2409276

Matrix: Water

Associated Lab Samples: 60397347001, 60397347002, 60397347003, 60397347004, 60397347005, 60397347006, 60397347007, 60397347008, 60397347009, 60397347010, 60397347011, 60397347012, 60397347013, 60397347014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.112 ± 0.171 (0.449) C:NA T:89%	pCi/L	04/29/22 14:22	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 499333

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: 60397347015, 60397347016, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

METHOD BLANK: 2416800

Matrix: Water

Associated Lab Samples: 60397347015, 60397347016, 60397347020, 60397347021, 60397347022, 60397347023, 60397347024, 60397347025, 60397347026, 60397347027, 60397347028, 60397347029, 60397347030, 60397347031

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0409 ± 0.187 (0.111) C:NA T:93%	pCi/L	05/10/22 15:24	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch:	502397	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: 60397347017, 60397347018, 60397347019

METHOD BLANK: 2432407 Matrix: Water

Associated Lab Samples: 60397347017, 60397347018, 60397347019

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.329 ± 0.329 (0.675) C:75% T:93%	pCi/L	05/16/22 16:12	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

QC Batch: 502396

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: 60397347017, 60397347018, 60397347019

METHOD BLANK: 2432406

Matrix: Water

Associated Lab Samples: 60397347017, 60397347018, 60397347019

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0407 ± 0.312 (0.656) C:NA T:100%	pCi/L	05/13/22 11:57	

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QUALIFIERS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

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

1e Matrix Spike Duplicate recovery less than default acceptance criteria for MS recovery. Results reported based on acceptable RPD for the RQS set.

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.

H5 Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397347001	L-LMW-2S	EPA 200.7	782070	EPA 200.7	782144
60397347002	L-TP-3M	EPA 200.7	782070	EPA 200.7	782144
60397347003	L-TP-3D	EPA 200.7	782070	EPA 200.7	782144
60397347004	L-TP-4D	EPA 200.7	782070	EPA 200.7	782144
60397347005	L-MW-24	EPA 200.7	782070	EPA 200.7	782144
60397347006	L-MW-26	EPA 200.7	782070	EPA 200.7	782144
60397347007	L-MW-33D	EPA 200.7	782070	EPA 200.7	782144
60397347008	L-MW-34D	EPA 200.7	782070	EPA 200.7	782144
60397347009	L-MW-35D	EPA 200.7	782070	EPA 200.7	782144
60397347010	L-CA-FB-1	EPA 200.7	782070	EPA 200.7	782144
60397347011	L-CA-FB-2	EPA 200.7	782070	EPA 200.7	782144
60397347012	L-CA-DUP-1	EPA 200.7	782070	EPA 200.7	782144
60397347013	L-BMW-1S	EPA 200.7	782070	EPA 200.7	782144
60397347014	L-BMW-2S	EPA 200.7	782070	EPA 200.7	782144
60397347017	L-AM-1D	EPA 200.7	782570	EPA 200.7	782653
60397347020	L-TP-1D	EPA 200.7	782570	EPA 200.7	782653
60397347021	L-TP-2M	EPA 200.7	782570	EPA 200.7	782653
60397347022	L-TP-2D	EPA 200.7	782570	EPA 200.7	782653
60397347023	L-AM-1S	EPA 200.7	782570	EPA 200.7	782653
60397347024	L-S-1	EPA 200.7	782570	EPA 200.7	782653
60397347025	L-AMW-8	EPA 200.7	782570	EPA 200.7	782653
60397347026	L-LMW-4S	EPA 200.7	782570	EPA 200.7	782653
60397347027	L-LMW-1S	EPA 200.7	782570	EPA 200.7	782653
60397347028	L-CA-DUP-2	EPA 200.7	782570	EPA 200.7	782653
60397347029	L-CA-FB-3	EPA 200.7	782570	EPA 200.7	782653
60397347030	L-LMW-7S	EPA 200.7	782570	EPA 200.7	782653
60397347031	L-LMW-8S	EPA 200.7	782570	EPA 200.7	782653
60397347001	L-LMW-2S	EPA 200.8	782069	EPA 200.8	782141
60397347002	L-TP-3M	EPA 200.8	782069	EPA 200.8	782141
60397347003	L-TP-3D	EPA 200.8	782069	EPA 200.8	782141
60397347004	L-TP-4D	EPA 200.8	782069	EPA 200.8	782141
60397347005	L-MW-24	EPA 200.8	782069	EPA 200.8	782141
60397347006	L-MW-26	EPA 200.8	782069	EPA 200.8	782141
60397347007	L-MW-33D	EPA 200.8	782069	EPA 200.8	782141
60397347008	L-MW-34D	EPA 200.8	782069	EPA 200.8	782141
60397347009	L-MW-35D	EPA 200.8	782069	EPA 200.8	782141
60397347010	L-CA-FB-1	EPA 200.8	782069	EPA 200.8	782141
60397347011	L-CA-FB-2	EPA 200.8	782069	EPA 200.8	782141
60397347012	L-CA-DUP-1	EPA 200.8	782069	EPA 200.8	782141
60397347013	L-BMW-1S	EPA 200.8	782069	EPA 200.8	782141
60397347014	L-BMW-2S	EPA 200.8	782069	EPA 200.8	782141
60397347017	L-AM-1D	EPA 200.8	782568	EPA 200.8	782651
60397347020	L-TP-1D	EPA 200.8	782568	EPA 200.8	782651
60397347021	L-TP-2M	EPA 200.8	782568	EPA 200.8	782651
60397347022	L-TP-2D	EPA 200.8	782568	EPA 200.8	782651
60397347023	L-AM-1S	EPA 200.8	782568	EPA 200.8	782651
60397347024	L-S-1	EPA 200.8	782568	EPA 200.8	782651

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397347025	L-AMW-8	EPA 200.8	782568	EPA 200.8	782651
60397347026	L-LMW-4S	EPA 200.8	782568	EPA 200.8	782651
60397347027	L-LMW-1S	EPA 200.8	782568	EPA 200.8	782651
60397347028	L-CA-DUP-2	EPA 200.8	782568	EPA 200.8	782651
60397347029	L-CA-FB-3	EPA 200.8	782568	EPA 200.8	782651
60397347030	L-LMW-7S	EPA 200.8	782568	EPA 200.8	782651
60397347031	L-LMW-8S	EPA 200.8	782568	EPA 200.8	782651
60397347001	L-LMW-2S	EPA 7470	782784	EPA 7470	782850
60397347002	L-TP-3M	EPA 7470	782784	EPA 7470	782850
60397347003	L-TP-3D	EPA 7470	782784	EPA 7470	782850
60397347004	L-TP-4D	EPA 7470	782784	EPA 7470	782850
60397347005	L-MW-24	EPA 7470	782784	EPA 7470	782850
60397347006	L-MW-26	EPA 7470	782784	EPA 7470	782850
60397347007	L-MW-33D	EPA 7470	782784	EPA 7470	782850
60397347008	L-MW-34D	EPA 7470	782784	EPA 7470	782850
60397347009	L-MW-35D	EPA 7470	782784	EPA 7470	782850
60397347010	L-CA-FB-1	EPA 7470	782784	EPA 7470	782850
60397347011	L-CA-FB-2	EPA 7470	782784	EPA 7470	782850
60397347012	L-CA-DUP-1	EPA 7470	782784	EPA 7470	782850
60397347013	L-BMW-1S	EPA 7470	782784	EPA 7470	782850
60397347014	L-BMW-2S	EPA 7470	782784	EPA 7470	782850
60397347017	L-AM-1D	EPA 7470	782785	EPA 7470	782849
60397347020	L-TP-1D	EPA 7470	782785	EPA 7470	782849
60397347021	L-TP-2M	EPA 7470	782785	EPA 7470	782849
60397347022	L-TP-2D	EPA 7470	782785	EPA 7470	782849
60397347023	L-AM-1S	EPA 7470	782785	EPA 7470	782849
60397347024	L-S-1	EPA 7470	782785	EPA 7470	782849
60397347025	L-AMW-8	EPA 7470	782784	EPA 7470	782850
60397347026	L-LMW-4S	EPA 7470	782784	EPA 7470	782850
60397347027	L-LMW-1S	EPA 7470	782784	EPA 7470	782850
60397347028	L-CA-DUP-2	EPA 7470	782784	EPA 7470	782850
60397347029	L-CA-FB-3	EPA 7470	782784	EPA 7470	782850
60397347030	L-LMW-7S	EPA 7470	782784	EPA 7470	782850
60397347031	L-LMW-8S	EPA 7470	782785	EPA 7470	782849
60397347001	L-LMW-2S	EPA 903.1	497786		
60397347002	L-TP-3M	EPA 903.1	497786		
60397347003	L-TP-3D	EPA 903.1	497786		
60397347004	L-TP-4D	EPA 903.1	497786		
60397347005	L-MW-24	EPA 903.1	497786		
60397347006	L-MW-26	EPA 903.1	497786		
60397347007	L-MW-33D	EPA 903.1	497786		
60397347008	L-MW-34D	EPA 903.1	497786		
60397347009	L-MW-35D	EPA 903.1	497786		
60397347010	L-CA-FB-1	EPA 903.1	497786		
60397347011	L-CA-FB-2	EPA 903.1	497786		
60397347012	L-CA-DUP-1	EPA 903.1	497786		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397347013	L-BMW-1S	EPA 903.1	497786		
60397347014	L-BMW-2S	EPA 903.1	497786		
60397347015	L-CA-MS-1	EPA 903.1	499333		
60397347016	L-CA-MSD-1	EPA 903.1	499333		
60397347017	L-AM-1D	EPA 903.1	502396		
60397347018	L-LCPA-CA-MS-2	EPA 903.1	502396		
60397347019	L-LCPA-CA-MSD-2	EPA 903.1	502396		
60397347020	L-TP-1D	EPA 903.1	499333		
60397347021	L-TP-2M	EPA 903.1	499333		
60397347022	L-TP-2D	EPA 903.1	499333		
60397347023	L-AM-1S	EPA 903.1	499333		
60397347024	L-S-1	EPA 903.1	499333		
60397347025	L-AMW-8	EPA 903.1	499333		
60397347026	L-LMW-4S	EPA 903.1	499333		
60397347027	L-LMW-1S	EPA 903.1	499333		
60397347028	L-CA-DUP-2	EPA 903.1	499333		
60397347029	L-CA-FB-3	EPA 903.1	499333		
60397347030	L-LMW-7S	EPA 903.1	499333		
60397347031	L-LMW-8S	EPA 903.1	499333		
60397347001	L-LMW-2S	EPA 904.0	497787		
60397347002	L-TP-3M	EPA 904.0	497787		
60397347003	L-TP-3D	EPA 904.0	497787		
60397347004	L-TP-4D	EPA 904.0	497787		
60397347005	L-MW-24	EPA 904.0	497787		
60397347006	L-MW-26	EPA 904.0	497787		
60397347007	L-MW-33D	EPA 904.0	497787		
60397347008	L-MW-34D	EPA 904.0	497787		
60397347009	L-MW-35D	EPA 904.0	497787		
60397347010	L-CA-FB-1	EPA 904.0	497787		
60397347011	L-CA-FB-2	EPA 904.0	497787		
60397347012	L-CA-DUP-1	EPA 904.0	497787		
60397347013	L-BMW-1S	EPA 904.0	497787		
60397347014	L-BMW-2S	EPA 904.0	497787		
60397347015	L-CA-MS-1	EPA 904.0	499335		
60397347016	L-CA-MSD-1	EPA 904.0	499335		
60397347017	L-AM-1D	EPA 904.0	502397		
60397347018	L-LCPA-CA-MS-2	EPA 904.0	502397		
60397347019	L-LCPA-CA-MSD-2	EPA 904.0	502397		
60397347020	L-TP-1D	EPA 904.0	499335		
60397347021	L-TP-2M	EPA 904.0	499335		
60397347022	L-TP-2D	EPA 904.0	499335		
60397347023	L-AM-1S	EPA 904.0	499335		
60397347024	L-S-1	EPA 904.0	499335		
60397347025	L-AMW-8	EPA 904.0	499335		
60397347026	L-LMW-4S	EPA 904.0	499335		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397347027	L-LMW-1S	EPA 904.0	499335		
60397347028	L-CA-DUP-2	EPA 904.0	499335		
60397347029	L-CA-FB-3	EPA 904.0	499335		
60397347030	L-LMW-7S	EPA 904.0	499335		
60397347031	L-LMW-8S	EPA 904.0	499335		
60397347001	L-LMW-2S	SM 2320B	781580		
60397347002	L-TP-3M	SM 2320B	781580		
60397347003	L-TP-3D	SM 2320B	781580		
60397347004	L-TP-4D	SM 2320B	781580		
60397347005	L-MW-24	SM 2320B	781580		
60397347006	L-MW-26	SM 2320B	781580		
60397347007	L-MW-33D	SM 2320B	781581		
60397347008	L-MW-34D	SM 2320B	781581		
60397347009	L-MW-35D	SM 2320B	781581		
60397347010	L-CA-FB-1	SM 2320B	781581		
60397347011	L-CA-FB-2	SM 2320B	781581		
60397347012	L-CA-DUP-1	SM 2320B	781581		
60397347013	L-BMW-1S	SM 2320B	781580		
60397347014	L-BMW-2S	SM 2320B	781580		
60397347017	L-AM-1D	SM 2320B	782260		
60397347020	L-TP-1D	SM 2320B	782260		
60397347021	L-TP-2M	SM 2320B	782260		
60397347022	L-TP-2D	SM 2320B	782260		
60397347023	L-AM-1S	SM 2320B	782260		
60397347024	L-S-1	SM 2320B	782260		
60397347025	L-AMW-8	SM 2320B	781581		
60397347026	L-LMW-4S	SM 2320B	781581		
60397347027	L-LMW-1S	SM 2320B	781581		
60397347028	L-CA-DUP-2	SM 2320B	781581		
60397347029	L-CA-FB-3	SM 2320B	781581		
60397347030	L-LMW-7S	SM 2320B	781581		
60397347031	L-LMW-8S	SM 2320B	781581		
60397347001	L-LMW-2S	SM 2540C	787090		
60397347002	L-TP-3M	SM 2540C	781487		
60397347003	L-TP-3D	SM 2540C	781487		
60397347004	L-TP-4D	SM 2540C	781487		
60397347005	L-MW-24	SM 2540C	781487		
60397347006	L-MW-26	SM 2540C	781487		
60397347007	L-MW-33D	SM 2540C	781487		
60397347008	L-MW-34D	SM 2540C	781487		
60397347009	L-MW-35D	SM 2540C	781487		
60397347010	L-CA-FB-1	SM 2540C	781487		
60397347011	L-CA-FB-2	SM 2540C	781487		
60397347012	L-CA-DUP-1	SM 2540C	781487		
60397347013	L-BMW-1S	SM 2540C	781487		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397347014	L-BMW-2S	SM 2540C	781487		
60397347017	L-AM-1D	SM 2540C	781721		
60397347017	L-AM-1D	SM 2540C	787090		
60397347020	L-TP-1D	SM 2540C	781721		
60397347021	L-TP-2M	SM 2540C	781721		
60397347022	L-TP-2D	SM 2540C	781721		
60397347023	L-AM-1S	SM 2540C	781721		
60397347024	L-S-1	SM 2540C	781721		
60397347025	L-AMW-8	SM 2540C	781487		
60397347026	L-LMW-4S	SM 2540C	781487		
60397347027	L-LMW-1S	SM 2540C	781487		
60397347028	L-CA-DUP-2	SM 2540C	781487		
60397347029	L-CA-FB-3	SM 2540C	781487		
60397347030	L-LMW-7S	SM 2540C	781487		
60397347031	L-LMW-8S	SM 2540C	781721		
60397347001	L-LMW-2S	SM 3500-Fe B#4	786068		
60397347002	L-TP-3M	SM 3500-Fe B#4	783948		
60397347003	L-TP-3D	SM 3500-Fe B#4	783948		
60397347004	L-TP-4D	SM 3500-Fe B#4	783948		
60397347005	L-MW-24	SM 3500-Fe B#4	783948		
60397347006	L-MW-26	SM 3500-Fe B#4	783948		
60397347007	L-MW-33D	SM 3500-Fe B#4	783948		
60397347008	L-MW-34D	SM 3500-Fe B#4	783948		
60397347009	L-MW-35D	SM 3500-Fe B#4	783948		
60397347010	L-CA-FB-1	SM 3500-Fe B#4	783948		
60397347011	L-CA-FB-2	SM 3500-Fe B#4	783948		
60397347012	L-CA-DUP-1	SM 3500-Fe B#4	783948		
60397347013	L-BMW-1S	SM 3500-Fe B#4	783948		
60397347014	L-BMW-2S	SM 3500-Fe B#4	783948		
60397347017	L-AM-1D	SM 3500-Fe B#4	783948		
60397347020	L-TP-1D	SM 3500-Fe B#4	783948		
60397347021	L-TP-2M	SM 3500-Fe B#4	783948		
60397347022	L-TP-2D	SM 3500-Fe B#4	783948		
60397347023	L-AM-1S	SM 3500-Fe B#4	786068		
60397347024	L-S-1	SM 3500-Fe B#4	786068		
60397347025	L-AMW-8	SM 3500-Fe B#4	783946		
60397347026	L-LMW-4S	SM 3500-Fe B#4	783946		
60397347027	L-LMW-1S	SM 3500-Fe B#4	783946		
60397347028	L-CA-DUP-2	SM 3500-Fe B#4	783946		
60397347029	L-CA-FB-3	SM 3500-Fe B#4	783946		
60397347030	L-LMW-7S	SM 3500-Fe B#4	783946		
60397347031	L-LMW-8S	SM 3500-Fe B#4	783946		
60397347001	L-LMW-2S	SM 3500-Fe B#4	783444		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397347002	L-TP-3M	SM 3500-Fe B#4	781338		
60397347003	L-TP-3D	SM 3500-Fe B#4	781338		
60397347004	L-TP-4D	SM 3500-Fe B#4	781338		
60397347005	L-MW-24	SM 3500-Fe B#4	781338		
60397347006	L-MW-26	SM 3500-Fe B#4	781338		
60397347007	L-MW-33D	SM 3500-Fe B#4	781910		
60397347008	L-MW-34D	SM 3500-Fe B#4	781910		
60397347009	L-MW-35D	SM 3500-Fe B#4	781910		
60397347010	L-CA-FB-1	SM 3500-Fe B#4	781910		
60397347011	L-CA-FB-2	SM 3500-Fe B#4	781910		
60397347012	L-CA-DUP-1	SM 3500-Fe B#4	781910		
60397347013	L-BMW-1S	SM 3500-Fe B#4	781910		
60397347014	L-BMW-2S	SM 3500-Fe B#4	781910		
60397347017	L-AM-1D	SM 3500-Fe B#4	781919		
60397347020	L-TP-1D	SM 3500-Fe B#4	781910		
60397347021	L-TP-2M	SM 3500-Fe B#4	782077		
60397347022	L-TP-2D	SM 3500-Fe B#4	782077		
60397347023	L-AM-1S	SM 3500-Fe B#4	781910		
60397347024	L-S-1	SM 3500-Fe B#4	782077		
60397347025	L-AMW-8	SM 3500-Fe B#4	781910		
60397347026	L-LMW-4S	SM 3500-Fe B#4	781910		
60397347027	L-LMW-1S	SM 3500-Fe B#4	781910		
60397347028	L-CA-DUP-2	SM 3500-Fe B#4	781910		
60397347029	L-CA-FB-3	SM 3500-Fe B#4	781910		
60397347030	L-LMW-7S	SM 3500-Fe B#4	781910		
60397347031	L-LMW-8S	SM 3500-Fe B#4	781910		
60397347001	L-LMW-2S	SM 4500-S-2 D	781701		
60397347002	L-TP-3M	SM 4500-S-2 D	781701		
60397347003	L-TP-3D	SM 4500-S-2 D	781701		
60397347004	L-TP-4D	SM 4500-S-2 D	781701		
60397347005	L-MW-24	SM 4500-S-2 D	781701		
60397347006	L-MW-26	SM 4500-S-2 D	781701		
60397347007	L-MW-33D	SM 4500-S-2 D	781701		
60397347008	L-MW-34D	SM 4500-S-2 D	781701		
60397347009	L-MW-35D	SM 4500-S-2 D	781701		
60397347010	L-CA-FB-1	SM 4500-S-2 D	781701		
60397347011	L-CA-FB-2	SM 4500-S-2 D	781701		
60397347012	L-CA-DUP-1	SM 4500-S-2 D	781701		
60397347013	L-BMW-1S	SM 4500-S-2 D	781701		
60397347014	L-BMW-2S	SM 4500-S-2 D	781701		
60397347017	L-AM-1D	SM 4500-S-2 D	781812		
60397347020	L-TP-1D	SM 4500-S-2 D	781812		
60397347021	L-TP-2M	SM 4500-S-2 D	781812		
60397347022	L-TP-2D	SM 4500-S-2 D	781812		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60397347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60397347023	L-AM-1S	SM 4500-S-2 D	781812		
60397347024	L-S-1	SM 4500-S-2 D	781812		
60397347025	L-AMW-8	SM 4500-S-2 D	781701		
60397347026	L-LMW-4S	SM 4500-S-2 D	781701		
60397347027	L-LMW-1S	SM 4500-S-2 D	781701		
60397347028	L-CA-DUP-2	SM 4500-S-2 D	781701		
60397347029	L-CA-FB-3	SM 4500-S-2 D	781701		
60397347030	L-LMW-7S	SM 4500-S-2 D	781701		
60397347031	L-LMW-8S	SM 4500-S-2 D	781812		
60397347001	L-LMW-2S	EPA 300.0	782513		
60397347002	L-TP-3M	EPA 300.0	782267		
60397347003	L-TP-3D	EPA 300.0	782267		
60397347004	L-TP-4D	EPA 300.0	782267		
60397347005	L-MW-24	EPA 300.0	782267		
60397347006	L-MW-26	EPA 300.0	782267		
60397347007	L-MW-33D	EPA 300.0	782513		
60397347008	L-MW-34D	EPA 300.0	782513		
60397347009	L-MW-35D	EPA 300.0	782513		
60397347010	L-CA-FB-1	EPA 300.0	782513		
60397347011	L-CA-FB-2	EPA 300.0	782513		
60397347012	L-CA-DUP-1	EPA 300.0	782513		
60397347013	L-BMW-1S	EPA 300.0	782513		
60397347014	L-BMW-2S	EPA 300.0	782513		
60397347017	L-AM-1D	EPA 300.0	783376		
60397347020	L-TP-1D	EPA 300.0	783376		
60397347021	L-TP-2M	EPA 300.0	783376		
60397347022	L-TP-2D	EPA 300.0	783376		
60397347023	L-AM-1S	EPA 300.0	783376		
60397347024	L-S-1	EPA 300.0	783376		
60397347025	L-AMW-8	EPA 300.0	782513		
60397347026	L-LMW-4S	EPA 300.0	782513		
60397347027	L-LMW-1S	EPA 300.0	782513		
60397347028	L-CA-DUP-2	EPA 300.0	782517		
60397347029	L-CA-FB-3	EPA 300.0	782517		
60397347030	L-LMW-7S	EPA 300.0	782517		
60397347031	L-LMW-8S	EPA 300.0	782517		

REPORT OF LABORATORY ANALYSIS

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WO#: 60397347



60397347



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

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T299 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1-6/1-3/1.9 Corr. Factor -0.2 Corrected 1-4/1.1/1.9

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 0-9/12-3/1.4.6 0-7/12-1/1.4.4

pry/1/22

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To: **Jeffrey Ingram**
 Copy To: **Eric Schneider, Ryan Feldman, Brendan Talbert**
 Company Name: **Golder Associates USA, Inc.**
 Address: _____
 Pace Quote Reference: _____
 Pace Project Manager: **Jamie Church**
 Pace Profile #: **9285**

Section C Invoice Information:

Attention: _____
 Regulatory Agency: _____
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: _____ MO _____
 STATE: _____

Purchase Order No.: **COC #12**
 Project Name: **Ameren Energy Center**
 Project Number: **153140604**
 COLLECTED: **4-7-22 1400**
4-7-22 1400
1310
1017
1035
1341
1451
1518
1148
1356
1330

Section D Requested Analysis Filtered (Y/N)

ITEM #	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE	COLLECTED		# OF CONTAINERS	Preservatives	Analysis Test	Chloride/Fluoride/Sulfate	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME														
1	L-MW-25	WT G	G	4-7-22	1400	6	NaOH												387M
2	L-MW-3M	WT G	G	4-7-22	1400		NaOH												387M
3	L-MW-3D	WT G	G				NaOH												387M
4	L-MW-4D	WT G	G				NaOH												387M
5	L-MW-24	WT G	G				NaOH												387M
6	L-MW-26	WT G	G				NaOH												387M
7	L-MW-33D	WT G	G				NaOH												387M
8	L-MW-34D	WT G	G				NaOH												387M
9	L-MW-35D	WT G	G				NaOH												387M
10	L-CA-FB-1	WT G	G				NaOH												387M
11	L-CA-FB-2	WT G	G				NaOH												387M
12	L-CA-DUP-1	WT G	G				NaOH												387M

Additional Comments

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

Requested Analysis Filtered (Y/N)

Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	

ACCEPTED BY / AFFILIATION: **Jamie Church** DATE: **4/8/22 0528** TIME: _____

RELINQUISHED BY / AFFILIATION: _____ DATE: _____ TIME: _____

SAMPLER NAME AND SIGNATURE: **Brendan Talbert**

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

DATE Signed (MM/DD/YYYY): **04/07/22**

Temp (C): **12.1** Received on Ice (Y/N): **Y**

Cooler (Y/N): **Y** Custody Sealed (Y/N): **Y**

Samples Intact (Y/N): **Y**



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A

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

Section B

Required Project Information: **Report To:** Jeffrey Ingram
 Copy To: Eric Schneider, Ryan Feldman, Brendan Talbert
 Purchase Order No.: **COC # 2**
 Project Name: Ameren Energy Center
 Project Number: 153140604

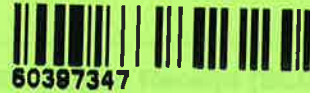
Section C

Invoice Information: **Company Name:** Golder Associates USA, Inc.
 Attention:
 Address:
 Pace Quote Reference: Jamie Church
 Pace Project Manager: Jamie Church
 Pace Profile #: 9285
REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: MO
 STATE:

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER: DW WATER: WT WASTE WATER: WW PRODUCT: P SOL/SOLID: SL OIL: OL WP: WP AR: AR OT: OT TS: TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives Unpreserved H2SO4 HNO3 HCl NaOH Na2O2 Methanol Other	Y/N	Requested Analysis Filtered (Y/N)							Residual Chlorine (Y/N)		
		DATE	TIME						DATE	TIME	APP III AND CAT/AN METALS	CHLORIDE/FLUORIDE/SULFATE	ALKALINITY	TDS	APPENDIX IV METALS *		MERCURY	RADIUM 226
1	S-UMW-4B L-BMW-15	4-6-22	1118	G	WT G	6	Unpreserved H2SO4 HNO3 HCl NaOH Na2O2 Methanol Other											
2	S-UMW-2D L-BMW-25		1327	G	WT G	2	Unpreserved H2SO4 HNO3 HCl NaOH Na2O2 Methanol Other											
3	S-UMW-3D			G	WT G	1												
4	S-UMW-4D			G	WT G	1												
5	S-UMW-5D			G	WT G	1												
6	S-UMW-6D			G	WT G	1												
7	S-BMW-1D			G	WT G	1												
8	S-BMW-3D			G	WT G	1												
9	S-UMW-DUP-1			G	WT G	1												
10	S-UMW-FB-1			G	WT G	1												
11	S-UMW-MS-1			G	WT G	1												
12	S-UMW-MSD-1			G	WT G	1												

RELINQUISHED BY / AFFILIATION: Brendan Talbert/Golder DATE: 4-7-22 TIME: 1720
 ACCEPTED BY / AFFILIATION: [Signature] DATE: 4/17/22 TIME: []
 ADDITIONAL COMMENTS: EPA 200.7: Fe, Mg, Mn, K, Na
 EPA 200.8: Sb, As, Cd, Cr, Se, Tl
 EPA 200.7: Ba, Be, Co, Pb, Li, Mo
 EPA 200.8: Sb, As, Cd, Cr, Se, Tl

SAMPLER NAME AND SIGNATURE: [Signature]
 PRINT Name of SAMPLER: Brendan Talbert
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YY): 4/17/22
 Temp in °C: [] Received on Ice (Y/N): [] Custody Sealed (Y/N): [] Samples Intact (Y/N): []



DC# Title: ENV-FRM-LENE-0009_Sample Con

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: Golden

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: T301 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 3.0/3.4 Corr. Factor -0.2 Corrected 2.0/2.4/19.6

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 10.6

-1.0 RM/12

RM/12/22

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

LOT#: 55192/55193

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: Golder Associates	Report To: Jeffrey Ingram	Attention: _____	
Address: 701 Emerson Road, Suite 250	Copy To: Eric Schneider, Ryan Feldman, Brendan Talbert	Company Name: Golder Associates USA, Inc.	REGULATORY AGENCY
Creve Coeur, Missouri, 63141	Purchase Order No.: COC #8	Address: _____	<input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
Email To: jeffrey_ingram@golder.com	Project Name: Ameren State Energy Center SCAEC	Pace Project Reference: _____	<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
Phone: 636-724-9191	Project Number: 153140604.00031	Pace Project Manager: Jamie Church	Site Location: _____
Requested Due Date/TAT: Standard		Pace Profile #: 9285	STATE: MO

ITEM #	Section D Required Client Information	Valid Matrix Codes	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)												
			COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	Y	N	Y	N	Y	N	Y	N		Y	N										
1	S-GAMSD-L-AM-1D	<input type="checkbox"/> DRINKING WATER <input type="checkbox"/> WASTE WATER <input type="checkbox"/> WASTE WATER PRODUCT <input type="checkbox"/> SOLID <input type="checkbox"/> OIL	DATE	TIME	G	WT	6	Analysis Test ↑	Chloride/Fluoride/Sulfate	Y	N	Alkalinity	N	N	TDS	N	Appendix IV Metals **	Mercury	X	Radium 226	X	Radium 228	X	Ferrous/Ferric Iron	X	SM4500-S2D Sulfide	X			
2	L-LCA-CA-MS-Z				G	WT	1	Preservatives	HCl			HNO3			NaOH			Na2S2O3												
3	L-LCA-CA-MSD-Z				G	WT	1																							
4	L-TP-1D				G	WT	1																							
5	L-TP-2M				G	WT	1																							
6	L-TP-2D				G	WT	1																							
7	L-AM-1S				G	WT	1																							
8	L-S-1				G	WT	1																							
9					G	WT	1																							
10					G	WT	1																							
11					G	WT	1																							
12					G	WT	1																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	<i>Eric Schneider</i>	4/11/12	1640	<i>Angie Newman</i>	4/11	1640	Y Y Y
	<i>Angie Newman</i>	4/11	1640	<i>Eric Schneider</i>	4/12	0345	Y Y Y
							Temp in °C: 2.0, 2.4, 9.6
							Received on Ice (Y/N)
							Cooler (Y/N)
							Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: *Eric Schneider*

SIGNATURE of SAMPLER: *Eric Schneider*

DATE Signed (MM/DD/YYYY): *04/11/2012*

*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.

60397347

Client: _____

Profile # _____

9285

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																			3		3	2	3							
2																						2								
3																						2								
4																						2								
5																						2								
6																						2								
7																						1								
8																						1								
9																						1								
10																						1								
11																						1								
12																						1								

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 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												
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	BP3J	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 unpreserved plastic												

Work Order Number:

60397347

WO#: 60397347



60397347

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

Client Name: Golder Assoc

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other 2PIC

Thermometer Used: 799 T301 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 2.3, 8.1, Corr. Factor -1.0 Corrected 1.3, 7.1, 2.2 Date and initials of person examining contents: vrb 9/12/22
Temperature should be above freezing to 6°C 3.2

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>Cooler out of temp Compliance only Contained RAD samples</u>
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WH</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: <u>55192, 55193</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:
Section B Required Project Information:
Section C Invoice Information:

Company: Golder Associates
Report To: Jeffrey Ingram
Company Name: Golder Associates USA, Inc.
Address: 701 Emerson Road, Suite 250
 Creve Coeur, Missouri, 63141
Purchase Order No.: ~~000-88~~ Labative LCFA-1A
Project Name: Ameren Show Energy Center SEPAC
Project Manager: Jamie Church
Project Profile #: 9285
Requested Due Date/TAT: Standard

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location MO
STATE:

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER WATER WASTE WATER PRODUCT SOL/SOLID OIL	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives										Y/N ↑	Requested Analysis Filtered (Y/N)												Temp in °C	Received on	Cooler (Y/N)	Samples Intact (Y/N)
		COMPOSITE START DATE	COMPOSITE ENDIGRAB DATE				DATE	TIME	UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ O ₃	Methanol	Other		Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals *	Merccury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	DATE				
1	SAM-48 L-LMW-8		4-8-22	12:55	G	6		2	3	1					Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	4-8-22	12:55	Vandenberg	4/9/22 09:16	1.3	Y	Y		
2	SAM-49 L-LMW-4S		4-8-22	14:35	G																												
3	S-PZ-4S L-LMW-1S		4-8-22	11:15	G																												
4	S-PZ-9B L-LCPA-CA-DUB-3		4-8-22	12:55	G																												
5	S-TP-2DL-LCPA-CA-FB-3		4-8-22	15:04	G																												
6	S-TP-39 L-LMW-7S		4-8-22	12:51	G																												
7	S-TP-4D L-LMW-8S				G																												
8	S-TP-5D				G																												
9	S-TP-6S				G																												
10	S-TP-8D				G																												
11	S-TP-8D				G																												
12	S-UG-3				G																												

MEMORANDUM

DATE June 6, 2022

Project No. 153140604.0001

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Annie Muehlfarth

EMAIL ann.muehlfarth@wsp.com

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA-CA – CORRECTIVE ACTION SAMPLING APRIL 2022 - DATA PACKAGE 60397347

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc
 Project Name: Ameren - LEC - LCPA-CA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: GL153140604.0001
 Validation Date: 6/6/2022

Laboratory: Pace Analytical

SDG #: 60397347

Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM2320B (Alkalinity); SM2540C (TDS); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)

Matrix: Air Soil/Sed. Water Waste SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide)

Sample Names L-LMW-2S, , L-TP-3M, L-TP-3D, L-TP-4D, L-MW-24, L-MW-26, L-MW-33D, L-MW-34D, L-MW-35D, L-CA-FB-1, L-CA-FB-2, L-CA-DUP-1, L-BMW-1S, L-BMW-2S, L-CA-MS-1, L-CA-MSD-1, L-AM-1D, L-LCPA-CA-MS-2, L-LCPA-CA-MSD-2, L-TP-1D, L-TP-2M, L-TP-2D, L-AM-1S, L-S-1, L-AMW-8, L-LMW-4S, L-LMW-1S, L-CA-DUP-2, L-CA-FB-3, L-LMW-7S, L-LMW-8S

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>4/6/2022 - 4/11/2022</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>EMS/GTM/BTT</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Note Deficiencies: <u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-CA-DUP-1 @ L-MW-35D
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L-CA-DUP-2 @ L-LMW-1S
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Notes

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

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

Comments/Notes:

One cooler noted outside of recommended temperature range contained radium samples only, no qualification necessary.

Hold times:

TDS was analyzed outside of hold time in some samples.

Sulfide was analyzed outside of hold time in samples -001 through -014 and -031.

Ferrous Iron was analyzed outside of hold time in all samples.

All results are qualified as estimates.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Sulfate and chloride analyzed at a dilution in multiple samples, no qualification necessary.

Blanks:

MB 3120630: Chloride (0.63J), associated with samples -001, -007 through -014, -025, -026, -027. Results >10x blank and RL and non-detects not qualified. Results >RL but <10x blank qualified as estimates. Results <RL were reported as non-detect at RL.

MB 3124994: Chloride (0.61J), associated with samples -001, -007 through -014, -025, -026, -027. Results >10x blank and RL and non-detects not qualified. Results >RL but <10x blank qualified as estimates. Results <RL were reported as non-detect at RL.

MB 3120651: Chloride (0.60J), associated with samples -028 through -031. Results >RL but <10x blank qualified as estimates. Results <RL were reported as non-detect at RL.

3127057: Chloride (0.60J), associated with samples -017, -020 through -024. Results >RL but <10x blank qualified as estimates. Results >10x blank and RL not qualified.

L-CA-FB-1 @ L-MW-26: Boron (27.1J), iron (92.3), sodium (73.4J), chromium (14.8), ferric iron (0.092), chloride (0.60J), radium-228 (0.913 ± 0.453). Results >RL but <10x blank qualified as estimates. NDs and results >RL and 10x blank not qualified. Results <RL reported at RL and qualified as ND estimates.

L-CA-FB-2 @ L-TP-3D: TDS (18.0), ferric iron (0.0000000010J). Sample results >RL and 10x blank, no qualification necessary.

L-CA-FB-3 @ L-AMW-8: Chromium (0.75J), TDS (14.0), ferric iron (0.0074J), chloride (0.61J). Results <RL reported at RL and qualified as ND estimates. Results >RL and 10x blank not qualified.

Duplicates:

L-CA-DUP-1 @ L-MW-35D: Arsenic and sulfide are reported as detected in the parent sample and ND in the duplicate. Chromium and radium-226 detected in the duplicate and ND in the parent sample.

L-CA-DUP-2 @ L-LMW-1S: Cobalt and radium-226 detected in dup, ND in parent; cadmium and chromium detected in parent, ND in dup.

3116840: RPD exceeds limit (10%) for TDS (24%). Associated with sample -029. Qualified as an estimate.

MS/MSD:

3119108/3119109: MS % recovery low for calcium, sodium. Associated with sample -001. Only 1 QC indicator out, no qualification necessary.

3120870/3120871: MSD % recovery high for sodium. Associated with sample -017. Only 1 QC indicator out, no qualification necessary.

3120632/3120633: MS % recovery high for chloride; only 1 QC indicator out, no qualification necessary. MS % recovery and RPD high for fluoride, associated with sample -001. Qualified as an estimate.

3123992/3123993: MS/MSD % recovery and RPD high for chloride; MS/MSD % recovery high for sulfate; associated with sample -017, qualified as estimates. MSD % recovery high for fluoride, only 1 QC indicator out, no qualification necessary.

3123995: MS % recovery high for chloride and fluoride. MS performed on unrelated sample, no qualification necessary.

QA LEVEL II - iNORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-AM-1D (re-analysis)	TDS	815	J	Analyzed outside of hold time
L-LMW-2S	"	474	J	"
L-BMW-1S	"	828	J	"
"	Sulfide	0.026	UJ	Analyzed outside of hold time; non-detect
L-BMW-2S	TDS	513	J	Analyzed outside of hold time
"	Sulfide	0.026	UJ	Analyzed outside of hold time; non-detect
L-LMW-2S	"	0.026	UJ	"
L-TP-3M	"	0.026	UJ	"
L-TP-3D	"	0.026	UJ	"
L-TP-4D	"	0.026	UJ	"
L-MW-24	"	0.026	UJ	"
L-MW-26	"	0.026	UJ	"
L-MW-33D	"	0.026	UJ	"
L-MW-34D	"	0.026	UJ	"
L-CA-FB-1	"	0.026	UJ	"
L-CA-FB-2	"	0.026	UJ	"
L-LMW-8S	"	0.026	UJ	"
L-LMW-2S	Ferrous Iron	0.060	UJ	"
L-MW-24	"	0.060	UJ	"
L-MW-26	"	0.060	UJ	"
L-CA-FB-1	"	0.060	UJ	"
L-CA-FB-2	"	0.060	UJ	"
L-BMW-2S	"	0.060	UJ	"
L-TP-2M	"	0.060	UJ	"
L-AM-1S	"	0.060	UJ	"
L-S-1	"	0.060	UJ	"
L-LMW-1S	"	0.060	UJ	"
L-CA-DUP-2	"	0.060	UJ	"
L-CA-FB-3	"	0.060	UJ	"
L-TP-3M	"	0.34	J	Analyzed outside of hold time
L-TP-3D	"	0.23	J	"
L-TP-4D	"	0.18	J	"
L-MW-33D	"	0.20	J	"
L-MW-34D	"	0.18	J	"

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-MW-35D	Ferrous Iron	0.17	J	Analyzed outside of hold time
L-CA-DUP-1	"	0.16	J	"
L-BMW-1S	"	0.40	J	"
L-TP-1D	"	0.23	J	"
L-TP-2D	"	0.064	J	"
L-AMW-8	"	0.18	J	"
L-LMW-4S	"	0.74	J	"
L-LMW-7S	"	0.14	J	"
L-LMW-8S	"	0.12	J	"
L-CA-FB-1	Chloride	1.0	UJ	Detected in MB, RL>result>MDL
L-CA-FB-3	"	1.0	UJ	"
L-BMW-1S	"	2.5	J	Detected in MB, 10x blank > result > RL
L-BMW-2S	"	2.5	J	"
L-LMW-1S	"	3.5	J	"
L-CA-DUP-2	"	3.5	J	"
L-TP-1D	"	3.8	J	"
L-S-1	"	4.9	J	"
L-AMW-8	Chromium	1.0	UJ	Detected in FB, RL>result>MDL
L-MW-26	Boron	96.8	J	Detected in FB, 10x blank > result > RL
"	Chromium	1.0	UJ	Detected in FB, RL>result>MDL
"	Ferric Iron	0.050	UJ	"
"	Chloride	5.9	J	Detected in FB, 10x blank > result > RL
"	Radium-228	1.04 ± 0.444	J	"
L-MW-35D	Sulfide	0.035	J	Detected in parent, ND in dup; analyzed outside of hold time
"	Arsenic	0.14	J	Detected in parent, ND in dup
"	Radium-226	0.186 ± 0.214	J	"
"	Chromium	0.31	UJ	Detected in dup, ND in parent
L-CA-DUP-1	Sulfide	0.026	UJ	Detected in parent, ND in dup; analyzed outside of hold time
"	Arsenic	0.14	UJ	Detected in parent, ND in dup
"	Radium-226	-0.0796 ± 0.221	UJ	"
"	Chromium	0.38	J	Detected in dup, ND in parent
L-LMW-1S	Cobalt	1.4	UJ	"
"	Radium-226	-0.0388 ± 0.313	UJ	"
"	Cadmium	0.058	J	Detected in parent, ND in dup

July 08, 2022

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

RE: Project: AMEREN VERIFICATION LCPA
Pace Project No.: 60403843

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 22-031-0

Arkansas Drinking Water

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-21-15

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN VERIFICATION LCPA
Pace Project No.: 60403843

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60403843001	HOLD	Water	06/22/22 00:00	06/23/22 03:57
60403836005	L-UMW-5D	Water	06/22/22 13:02	06/23/22 03:57
60403836006	L-UMW-7D	Water	06/22/22 12:18	06/23/22 03:57
60403836007	L-UMW-9D	Water	06/22/22 11:00	06/23/22 03:57
60403836008	L-LCPA-DUP-1	Water	06/22/22 08:00	06/23/22 03:57
60403836009	L-LCPA-FB-1	Water	06/22/22 12:33	06/23/22 03:57

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60403836005	L-UMW-5D	EPA 200.7	MA1	1	PASI-K
		SM 2540C	SK	1	PASI-K
60403836006	L-UMW-7D	EPA 200.7	MA1	1	PASI-K
		SM 2540C	SK	1	PASI-K
60403836007	L-UMW-9D	EPA 200.7	MA1	1	PASI-K
		SM 2540C	SK	1	PASI-K
60403836008	L-LCPA-DUP-1	EPA 200.7	MA1	1	PASI-K
		SM 2540C	SK	1	PASI-K
60403836009	L-LCPA-FB-1	EPA 200.7	MA1	1	PASI-K
		SM 2540C	SK	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Sample: L-UMW-5D **Lab ID: 60403836005** Collected: 06/22/22 13:02 Received: 06/23/22 03:57 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	12000	ug/L	100	4.2	1	06/28/22 02:41	07/01/22 18:52	7440-42-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	601	mg/L	10.0	10.0	1		06/29/22 11:26		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Sample: L-UMW-7D **Lab ID: 60403836006** Collected: 06/22/22 12:18 Received: 06/23/22 03:57 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	2000	ug/L	100	4.2	1	06/28/22 02:41	07/01/22 18:54	7440-42-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	591	mg/L	10.0	10.0	1		06/29/22 11:26		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Sample: L-UMW-9D **Lab ID: 60403836007** Collected: 06/22/22 11:00 Received: 06/23/22 03:57 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	79.6J	ug/L	100	4.2	1	06/28/22 02:41	07/01/22 19:02	7440-42-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	485	mg/L	10.0	10.0	1		06/29/22 11:26		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Sample: L-LCPA-DUP-1 **Lab ID: 60403836008** Collected: 06/22/22 08:00 Received: 06/23/22 03:57 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	11700	ug/L	100	4.2	1	06/28/22 02:41	07/01/22 19:08	7440-42-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	603	mg/L	10.0	10.0	1		06/29/22 11:26		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Sample: L-LCPA-FB-1 **Lab ID: 60403836009** Collected: 06/22/22 12:33 Received: 06/23/22 03:57 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Boron	13.7J	ug/L	100	4.2	1	06/28/22 02:41	07/01/22 19:10	7440-42-8	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	11.5	mg/L	5.0	5.0	1		06/29/22 11:26		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

QC Batch:	794741	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60403836005, 60403836006, 60403836007, 60403836008, 60403836009

METHOD BLANK: 3166162 Matrix: Water
Associated Lab Samples: 60403836005, 60403836006, 60403836007, 60403836008, 60403836009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<4.2	100	4.2	07/01/22 18:48	

LABORATORY CONTROL SAMPLE: 3166163

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	951	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3166164 3166165

Parameter	Units	60403836007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	79.6J	1000	1000	1050	1010	97	93	70-130	4	20	

MATRIX SPIKE SAMPLE: 3166166

Parameter	Units	60403825009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L		216	1000	1180	96	70-130

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

QC Batch: 794977 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60403836005, 60403836006, 60403836007, 60403836008, 60403836009

METHOD BLANK: 3167039 Matrix: Water
 Associated Lab Samples: 60403836005, 60403836006, 60403836007, 60403836008, 60403836009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	06/29/22 11:26	

LABORATORY CONTROL SAMPLE: 3167040

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

SAMPLE DUPLICATE: 3167041

Parameter	Units	60403836007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	485	464	4	10	

SAMPLE DUPLICATE: 3167042

Parameter	Units	60403836010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	940	900	4	10	

SAMPLE DUPLICATE: 3167043

Parameter	Units	60403987001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	173	170	2	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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QUALIFIERS

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN VERIFICATION LCPA

Pace Project No.: 60403843

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60403836005	L-UMW-5D	EPA 200.7	794741	EPA 200.7	794755
60403836006	L-UMW-7D	EPA 200.7	794741	EPA 200.7	794755
60403836007	L-UMW-9D	EPA 200.7	794741	EPA 200.7	794755
60403836008	L-LCPA-DUP-1	EPA 200.7	794741	EPA 200.7	794755
60403836009	L-LCPA-FB-1	EPA 200.7	794741	EPA 200.7	794755
60403836005	L-UMW-5D	SM 2540C	794977		
60403836006	L-UMW-7D	SM 2540C	794977		
60403836007	L-UMW-9D	SM 2540C	794977		
60403836008	L-LCPA-DUP-1	SM 2540C	794977		
60403836009	L-LCPA-FB-1	SM 2540C	794977		

REPORT OF LABORATORY ANALYSIS

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WO#: 60403836



DC#_ Title: ENV-FRM-LENE-0009_Sam



Revision: 2

Effective Date: 01/12/2

Client Name: Holder

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 epk

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

Cooler Temperature (°C): As-read 3.4, 3.0 Corr. Factor -1.0 Corrected 2.4, 2.0

Date and initials of person examining contents: 6/25/22 [initials]

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY Analytical Request Document

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

Company: **Golden Associates**
Address: **701 Emerson Rd, Ste 250, Grove Landing, MD, 21114**
Report To: **J. Ingram, E. Schneider, B. Talkot**
Copy To:

Customer Project Name/Number: **153140604**
Site/Facility ID #: **LCPA VS**
Purchase Order #: **VS**
Quote #:

State: **VA** County/City: **Stafford** Time Zone Collected: **ET**

Compliance Monitoring: **Yes**
DW PWS ID #: **VS**
DW Location Code: **VS**
Immediately Packed on Ice: **Yes**

Sample Disposal: **STANDARD**
Rush: **Same Day**
Turnaround Date Required: **13 Day**

Analysis: **None**

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Res Cl	# of Ctns
			Date	Time		
L-UMW-5D	GW	6	6-22-22	1302		2
L-UMW-7D				1218		
L-UMW-9D				1100		
L-LCPA-DW-1				1233		
L-LCPA-FB-1				1100		
L-LCPA-MS-1				1100		
L-LCPA-MSD-1						

Customer Remarks / Special Conditions / Possible Hazards:

Relinquished by/Company: **Brendan Talkot (Golden)** Date/Time: **6-22-22/1510** Received by/Company: **Angela McMane** Date/Time: **6-22-22/1510**

Relinquished by/Company: **Angela McMane** Date/Time: **6-22-22/1510** Received by/Company: **EBrockert Pace** Date/Time: **6-22-22/0357**

Relinquished by/Company: **Angela McMane** Date/Time: **6-22-22/1510** Received by/Company: **EBrockert Pace** Date/Time: **6-22-22/0357**

LAB USE ONLY - Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Container Preservative Type: **NA** Lab Project Manager:

Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Analyses

Lab Profile/Line:	Lab Sample Receipt Checklist:
Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signatures Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	Y N NA
Sample pH Acceptable	Y N NA
pH Strips:	Y N NA
Sulfide Present	Y N NA
Lead Acetate Strips:	Y N NA

LAB USE ONLY: Lab Sample # / Comments:

Short Holds Present (<72 hours):	Y	N	N/A
Lab Tracking #:			2568345
Samples received via:			
FEDEX			
UPS			
Client			
Courier			
Pace Courier			

Lab Sample Temperature Info:
Temp Blank Received: **1-299** **DN** **NA**
Therm ID#: **1-299**
Cooler 1 Temp Upon Receipt: **3.43** **oC**
Cooler 1 Therm Corr. Factor: **-1.0** **oC**
Cooler 1 Corrected Temp: **2.43** **oC**
Comments:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO
Page: of:

MEMORANDUM**DATE** July 25, 2022**Project No.** 153140604.0001**TO** Project File
Golder Associates**CC** Amanda Derhake, Jeff Ingram**FROM** Annie Muehlfarth**EMAIL** ann.muehlfarth@wsp.com**DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – VERIFICATION SAMPLING - DATA PACKAGE 60403843**

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

- When a compound was detected in a sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates USA Inc/WSP
 Project Name: Ameren - LEC - LCPA
 Reviewer: A. Muehlfarth

Project Manager: J. Ingram
 Project Number: GL153140604.0001
 Validation Date: 7/25/2022

Laboratory: Pace Analytical SDG #: 60403843
 Analytical Method (type and no.): EPA 200.7(Total Metals); SM2540C (TDS)
 Matrix: Air Soil/Sed. Water Waste _____
 Sample Names L-UMW-5D, L-UMW-7D, L-UMW-9D, L-LCPA-DUP-1, L-LCPA-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>6/22/2022</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>BTT/GTM</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Notes</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Note Deficiencies: _____				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L-LCPA-DUP-1 @ L-UMW-5D
b) Were field dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD: 2.5% [<20%]
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD: 4% [<10%]

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

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

Comments/Notes:

Field Blanks:

L-LCPA-FB-1 @ L-UMW-7D: Boron (13.7J), TDS (11.5). Associated results >RL and 10x blank, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ *Ann Muehlfoorth* _____

Date: 7/25/2022

November 22, 2022

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

RE: Project: AMEREN LEC LCPA
Pace Project No.: 60413959

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between October 26, 2022 and October 29, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 22-031-0

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212023-1

Oklahoma Certification #: 2022-057

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-21-15

Utah Certification #: KS000212022-12

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60413959001	L-UMW-5D	Water	10/25/22 12:51	10/26/22 03:51
60413959002	L-UMW-6D	Water	10/25/22 11:14	10/26/22 03:51
60413959003	L-UMW-DUP-1	Water	10/25/22 08:00	10/26/22 03:51
60413959004	L-UMW-DUP-2	Water	10/25/22 08:00	10/26/22 03:51
60413959005	L-UMW-1D	Water	10/26/22 15:56	10/28/22 03:43
60413959006	L-UMW-2D	Water	10/26/22 17:21	10/28/22 03:43
60413959007	L-UMW-3D	Water	10/27/22 09:37	10/28/22 03:43
60413959008	L-UMW-4D	Water	10/27/22 12:03	10/28/22 03:43
60413959009	L-UMW-7D	Water	10/27/22 13:51	10/28/22 03:43
60413959010	L-BMW-1D	Water	10/27/22 09:49	10/28/22 03:43
60413959011	L-BMW-2D	Water	10/27/22 13:15	10/28/22 03:43
60413959012	L-UMW-FB-1	Water	10/26/22 16:10	10/28/22 03:43
60413959013	L-UMW-FB-2	Water	10/26/22 17:21	10/28/22 03:43
60413959014	L-UMW-MS-1	Water	10/27/22 09:37	10/28/22 03:43
60413959015	L-UMW-MSD-1	Water	10/27/22 09:37	10/28/22 03:43
60413959016	L-UMW-8D	Water	10/28/22 09:50	10/29/22 03:41
60413959017	L-UMW-9D	Water	10/27/22 18:12	10/29/22 03:41

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413959001	L-UMW-5D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60413959002	L-UMW-6D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60413959003	L-UMW-DUP-1	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60413959004	L-UMW-DUP-2	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60413959005	L-UMW-1D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413959006	L-UMW-2D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413959007	L-UMW-3D	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
60413959008	L-UMW-4D	SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
60413959009	L-UMW-7D	EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60413959010	L-BMW-1D	SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413959011	L-BMW-2D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413959012	L-UMW-FB-1	SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
60413959013	L-UMW-FB-2	SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
60413959014	L-UMW-MS-1	EPA 300.0	RKA	3	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60413959015	L-UMW-MSD-1	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60413959016	L-UMW-8D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
60413959017	L-UMW-9D	SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TML	1	PASI-K
EPA 300.0	CRN2	3	PASI-K		

PASI-K = Pace Analytical Services - Kansas City

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-5D **Lab ID: 60413959001** Collected: 10/25/22 12:51 Received: 10/26/22 03:51 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	64.5	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 14:04	7440-39-3	
Boron	6680	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 14:04	7440-42-8	
Calcium	74800	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 14:04	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 14:04	7440-48-4	
Iron	18.1J	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:58	7439-89-6	
Lithium	20.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 14:04	7439-93-2	
Magnesium	91.1	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 14:04	7439-95-4	
Manganese	10.6	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 14:04	7439-96-5	
Molybdenum	451	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 14:04	7439-98-7	
Potassium	12300	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 14:04	7440-09-7	
Sodium	78700	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 14:04	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	20.4	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 16:00	7440-38-2	
Selenium	0.21J	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 16:00	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	333	mg/L	20.0	4.6	1		11/02/22 19:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	558	mg/L	10.0	10.0	1		11/01/22 14:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.1	mg/L	10.0	5.3	10		11/15/22 22:04	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 23:16	16984-48-8	
Sulfate	272	mg/L	20.0	11.0	20		11/11/22 23:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-6D **Lab ID: 60413959002** Collected: 10/25/22 11:14 Received: 10/26/22 03:51 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	0.82	1	11/15/22 14:08	11/18/22 14:14	7440-39-3	
Boron	10500	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 14:14	7440-42-8	
Calcium	123000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 14:14	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 14:14	7440-48-4	
Iron	168	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 14:14	7439-89-6	B
Lithium	11.4	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 14:14	7439-93-2	
Magnesium	2020	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 14:14	7439-95-4	
Manganese	152	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 14:14	7439-96-5	
Molybdenum	575	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 14:14	7439-98-7	
Potassium	22000	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 14:14	7440-09-7	
Sodium	127000	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 14:14	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	25.9	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 16:06	7440-38-2	
Selenium	0.29J	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 16:06	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	66.6	mg/L	20.0	4.6	1		11/02/22 14:11		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1080	mg/L	13.3	13.3	1		11/01/22 14:16		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.8	mg/L	10.0	5.3	10		11/15/22 22:17	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 23:45	16984-48-8	
Sulfate	511	mg/L	50.0	27.5	50		11/12/22 00:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-DUP-1 **Lab ID: 60413959003** Collected: 10/25/22 08:00 Received: 10/26/22 03:51 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	0.82	1	11/15/22 14:08	11/18/22 14:17	7440-39-3	
Boron	10600	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 14:17	7440-42-8	
Calcium	125000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 14:17	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 14:17	7440-48-4	
Iron	225	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 14:17	7439-89-6	
Lithium	11.9	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 14:17	7439-93-2	
Magnesium	2230	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 14:17	7439-95-4	
Manganese	186	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 14:17	7439-96-5	
Molybdenum	584	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 14:17	7439-98-7	
Potassium	21800	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 14:17	7440-09-7	
Sodium	128000	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 14:17	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	22.3	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 16:12	7440-38-2	
Selenium	0.28J	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 16:12	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	58.1	mg/L	20.0	4.6	1		11/02/22 14:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	963	mg/L	13.3	13.3	1		11/01/22 14:16		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.7	mg/L	10.0	5.3	10		11/15/22 22:30	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/12/22 00:14	16984-48-8	
Sulfate	517	mg/L	100	55.0	100		11/15/22 22:44	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-DUP-2 **Lab ID: 60413959004** Collected: 10/25/22 08:00 Received: 10/26/22 03:51 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	67.1	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 14:19	7440-39-3	
Boron	7280	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 14:19	7440-42-8	
Calcium	76500	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 14:19	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 14:19	7440-48-4	
Iron	27.2J	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 14:19	7439-89-6	B
Lithium	16.8	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 14:19	7439-93-2	
Magnesium	84.6	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 14:19	7439-95-4	
Manganese	10.5	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 14:19	7439-96-5	
Molybdenum	488	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 14:19	7439-98-7	
Potassium	12600	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 14:19	7440-09-7	
Sodium	78800	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 14:19	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	21.0	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 16:18	7440-38-2	
Selenium	0.27J	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 16:18	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	68.4	mg/L	20.0	4.6	1		11/02/22 14:25		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	564	mg/L	10.0	10.0	1		11/01/22 14:17		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.1	mg/L	10.0	5.3	10		11/15/22 22:57	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/12/22 01:13	16984-48-8	
Sulfate	273	mg/L	50.0	27.5	50		11/12/22 01:27	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-1D **Lab ID: 60413959005** Collected: 10/26/22 15:56 Received: 10/28/22 03:43 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	488	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 14:21	7440-39-3	
Boron	556	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 14:21	7440-42-8	
Calcium	141000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 14:21	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 14:21	7440-48-4	
Iron	18200	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 14:21	7439-89-6	
Lithium	28.1	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 14:21	7439-93-2	
Magnesium	34600	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 14:21	7439-95-4	
Manganese	402	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 14:21	7439-96-5	
Molybdenum	2.9J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 14:21	7439-98-7	
Potassium	6360	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 14:21	7440-09-7	
Sodium	23100	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 14:21	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	41.9	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 16:21	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 16:21	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	551	mg/L	20.0	4.6	1		11/03/22 19:09		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	609	mg/L	10.0	10.0	1		11/02/22 11:37		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	10.6	mg/L	1.0	0.53	1		11/14/22 15:16	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 15:16	16984-48-8	
Sulfate	20.0	mg/L	5.0	2.8	5		11/14/22 15:31	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-2D **Lab ID: 60413959006** Collected: 10/26/22 17:21 Received: 10/28/22 03:43 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	0.82	1	11/15/22 14:08	11/18/22 14:23	7440-39-3	
Boron	941	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 14:23	7440-42-8	
Calcium	121000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 14:23	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 14:23	7440-48-4	
Iron	3860	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 14:23	7439-89-6	
Lithium	27.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 14:23	7439-93-2	
Magnesium	24700	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 14:23	7439-95-4	
Manganese	436	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 14:23	7439-96-5	
Molybdenum	30.5	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 14:23	7439-98-7	
Potassium	7700	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 14:23	7440-09-7	
Sodium	62100	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 14:23	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.1	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 16:24	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 16:24	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	381	mg/L	20.0	4.6	1		11/03/22 19:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	643	mg/L	10.0	10.0	1		11/02/22 11:37		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	28.0	mg/L	5.0	2.6	5		11/14/22 16:00	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 15:45	16984-48-8	
Sulfate	128	mg/L	20.0	11.0	20		11/14/22 16:15	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-3D **Lab ID: 60413959007** Collected: 10/27/22 09:37 Received: 10/28/22 03:43 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	0.82	1	11/15/22 14:22	11/18/22 14:29	7440-39-3	
Boron	10000	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:29	7440-42-8	
Calcium	152000	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:29	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:29	7440-48-4	
Iron	1280	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:29	7439-89-6	
Lithium	26.7	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:29	7439-93-2	
Magnesium	15400	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:29	7439-95-4	
Manganese	377	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:29	7439-96-5	
Molybdenum	173	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:29	7439-98-7	
Potassium	10600	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:29	7440-09-7	
Sodium	63200	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:29	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.95J	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 16:34	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 16:34	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	158	mg/L	20.0	4.6	1		11/03/22 17:11		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	762	mg/L	10.0	10.0	1		11/03/22 15:40		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	17.9	mg/L	1.0	0.53	1		11/14/22 16:29	16887-00-6	M1
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 16:29	16984-48-8	
Sulfate	413	mg/L	50.0	27.5	50		11/14/22 17:57	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-4D **Lab ID: 60413959008** Collected: 10/27/22 12:03 Received: 10/28/22 03:43 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	70.7	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 14:42	7440-39-3	
Boron	4960	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:42	7440-42-8	
Calcium	58600	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:42	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:42	7440-48-4	
Iron	259	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:42	7439-89-6	
Lithium	28.6	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:42	7439-93-2	
Magnesium	6340	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:42	7439-95-4	
Manganese	278	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:42	7439-96-5	
Molybdenum	263	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:42	7439-98-7	
Potassium	8270	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:42	7440-09-7	
Sodium	93200	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:42	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.14	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 16:46	7440-38-2	
Selenium	0.19J	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 16:46	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	59.7	mg/L	20.0	4.6	1		11/03/22 17:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	545	mg/L	10.0	10.0	1		11/03/22 15:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.2	mg/L	2.0	1.1	2		11/14/22 19:10	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 18:55	16984-48-8	
Sulfate	289	mg/L	50.0	27.5	50		11/14/22 19:24	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-7D **Lab ID: 6041395909** Collected: 10/27/22 13:51 Received: 10/28/22 03:43 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	96.3	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 14:44	7440-39-3	
Boron	1320	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:44	7440-42-8	
Calcium	140000	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:44	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:44	7440-48-4	
Iron	12700	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:44	7439-89-6	
Lithium	26.6	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:44	7439-93-2	
Magnesium	21000	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:44	7439-95-4	
Manganese	1490	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:44	7439-96-5	
Molybdenum	89.9	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:44	7439-98-7	
Potassium	4730	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:44	7440-09-7	
Sodium	23200	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:44	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	25.6	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 16:48	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 16:48	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	443	mg/L	20.0	4.6	1		11/03/22 17:38		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	545	mg/L	10.0	10.0	1		11/03/22 15:41		
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		11/14/22 20:08	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 20:08	16984-48-8	
Sulfate	58.9	mg/L	5.0	2.8	5		11/14/22 20:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-BMW-1D **Lab ID: 60413959010** Collected: 10/27/22 09:49 Received: 10/28/22 03:43 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	1070	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 14:46	7440-39-3	
Boron	79.1J	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:46	7440-42-8	
Calcium	132000	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:46	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:46	7440-48-4	
Iron	10900	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:46	7439-89-6	
Lithium	30.8	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:46	7439-93-2	
Magnesium	29500	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:46	7439-95-4	
Manganese	626	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:46	7439-96-5	
Molybdenum	1.9J	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:46	7439-98-7	
Potassium	4380	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:46	7440-09-7	
Sodium	8440	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:46	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	2.3	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 16:51	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 16:51	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	457	mg/L	20.0	4.6	1		11/03/22 17:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	504	mg/L	10.0	10.0	1		11/03/22 15:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	7.3	mg/L	1.0	0.53	1		11/14/22 20:52	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 20:52	16984-48-8	
Sulfate	22.5	mg/L	5.0	2.8	5		11/14/22 21:07	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-BMW-2D **Lab ID: 60413959011** Collected: 10/27/22 13:15 Received: 10/28/22 03:43 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	320	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 14:49	7440-39-3	
Boron	67.9J	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:49	7440-42-8	
Calcium	138000	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:49	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:49	7440-48-4	
Iron	6990	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:49	7439-89-6	
Lithium	45.5	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:49	7439-93-2	
Magnesium	26400	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:49	7439-95-4	
Manganese	275	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:49	7439-96-5	
Molybdenum	1.4J	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:49	7439-98-7	
Potassium	3690	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:49	7440-09-7	
Sodium	5770	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:49	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	33.9	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 16:54	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 16:54	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	428	mg/L	20.0	4.6	1		11/03/22 17:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	495	mg/L	10.0	10.0	1		11/03/22 15:41		
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		11/14/22 21:21	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 21:21	16984-48-8	
Sulfate	45.5	mg/L	5.0	2.8	5		11/14/22 21:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-FB-1 **Lab ID: 60413959012** Collected: 10/26/22 16:10 Received: 10/28/22 03:43 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	<0.82	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 14:51	7440-39-3	
Boron	<7.6	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:51	7440-42-8	
Calcium	<26.5	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:51	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:51	7440-48-4	
Iron	<7.4	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:51	7439-89-6	
Lithium	<2.9	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:51	7439-93-2	
Magnesium	<24.1	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:51	7439-95-4	
Manganese	<0.38	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:51	7439-96-5	
Molybdenum	<0.91	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:51	7439-98-7	
Potassium	<90.1	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:51	7440-09-7	
Sodium	<38.8	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:51	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.14	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 17:00	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 17:00	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		11/03/22 19:23		
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		11/02/22 11:37		
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		11/14/22 21:51	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 21:51	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		11/14/22 21:51	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-FB-2 **Lab ID: 60413959013** Collected: 10/26/22 17:21 Received: 10/28/22 03:43 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	<0.82	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 14:53	7440-39-3	
Boron	<7.6	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:53	7440-42-8	
Calcium	<26.5	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:53	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:53	7440-48-4	
Iron	<7.4	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:53	7439-89-6	
Lithium	<2.9	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:53	7439-93-2	
Magnesium	<24.1	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:53	7439-95-4	
Manganese	<0.38	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:53	7439-96-5	
Molybdenum	<0.91	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:53	7439-98-7	
Potassium	<90.1	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:53	7440-09-7	
Sodium	<38.8	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:53	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.14	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 17:03	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 17:03	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	500	mg/L	20.0	4.6	1		11/03/22 19:39		
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		11/02/22 11:37		
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		11/14/22 22:05	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 22:05	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		11/14/22 22:05	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-8D **Lab ID: 60413959016** Collected: 10/28/22 09:50 Received: 10/29/22 03:41 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	75.8	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 14:55	7440-39-3	
Boron	654	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 14:55	7440-42-8	
Calcium	26400	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 14:55	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 14:55	7440-48-4	
Iron	4890	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 14:55	7439-89-6	
Lithium	13.1	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 14:55	7439-93-2	
Magnesium	6480	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 14:55	7439-95-4	
Manganese	170	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 14:55	7439-96-5	
Molybdenum	18.5J	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 14:55	7439-98-7	
Potassium	2570	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 14:55	7440-09-7	
Sodium	24800	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 14:55	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	23.2	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 17:06	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 17:06	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	133	mg/L	20.0	4.6	1		11/11/22 16:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	181	mg/L	5.0	5.0	1		11/04/22 13:26		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	3.4	mg/L	1.0	0.53	1		11/11/22 12:31	16887-00-6	
Fluoride	0.42	mg/L	0.20	0.12	1		11/11/22 12:31	16984-48-8	
Sulfate	17.2	mg/L	1.0	0.55	1		11/11/22 12:31	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-9D **Lab ID: 60413959017** Collected: 10/27/22 18:12 Received: 10/29/22 03:41 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	493	ug/L	5.0	0.82	1	11/15/22 14:22	11/18/22 15:04	7440-39-3	
Boron	86.4J	ug/L	100	7.6	1	11/15/22 14:22	11/18/22 15:04	7440-42-8	
Calcium	114000	ug/L	200	26.5	1	11/15/22 14:22	11/18/22 15:04	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:22	11/18/22 15:04	7440-48-4	
Iron	24200	ug/L	50.0	7.4	1	11/15/22 14:22	11/18/22 15:04	7439-89-6	
Lithium	18.5	ug/L	10.0	2.9	1	11/15/22 14:22	11/18/22 15:04	7439-93-2	
Magnesium	30300	ug/L	50.0	24.1	1	11/15/22 14:22	11/18/22 15:04	7439-95-4	
Manganese	380	ug/L	5.0	0.38	1	11/15/22 14:22	11/18/22 15:04	7439-96-5	
Molybdenum	1.8J	ug/L	20.0	0.91	1	11/15/22 14:22	11/18/22 15:04	7439-98-7	
Potassium	4160	ug/L	500	90.1	1	11/15/22 14:22	11/18/22 15:04	7440-09-7	
Sodium	13700	ug/L	500	38.8	1	11/15/22 14:22	11/18/22 15:04	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	27.9	ug/L	1.0	0.14	1	11/15/22 14:22	11/18/22 17:09	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:22	11/18/22 17:09	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	405	mg/L	20.0	4.6	1		11/10/22 11:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	453	mg/L	10.0	10.0	1		11/03/22 15:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	25.5	mg/L	5.0	2.6	5		11/11/22 14:13	16887-00-6	B
Fluoride	0.22	mg/L	0.20	0.12	1		11/11/22 13:58	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		11/11/22 13:58	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	818353	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004, 60413959005, 60413959006

METHOD BLANK:	3254702	Matrix:	Water
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Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004, 60413959005, 60413959006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	0.82J	5.0	0.82	11/18/22 13:30	
Boron	ug/L	<7.6	100	7.6	11/18/22 13:30	
Calcium	ug/L	<26.5	200	26.5	11/18/22 13:30	
Cobalt	ug/L	<1.3	5.0	1.3	11/18/22 13:30	
Iron	ug/L	19.1J	50.0	7.4	11/21/22 11:19	
Lithium	ug/L	<2.9	10.0	2.9	11/18/22 13:30	
Magnesium	ug/L	<24.1	50.0	24.1	11/18/22 13:30	
Manganese	ug/L	0.76J	5.0	0.38	11/18/22 13:30	
Molybdenum	ug/L	<0.91	20.0	0.91	11/18/22 13:30	
Potassium	ug/L	<90.1	500	90.1	11/18/22 13:30	
Sodium	ug/L	<38.8	500	38.8	11/18/22 13:30	

LABORATORY CONTROL SAMPLE: 3254703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	934	93	85-115	
Boron	ug/L	1000	896	90	85-115	
Calcium	ug/L	10000	9510	95	85-115	
Cobalt	ug/L	1000	930	93	85-115	
Iron	ug/L	10000	9980	100	85-115	
Lithium	ug/L	1000	923	92	85-115	
Magnesium	ug/L	10000	9300	93	85-115	
Manganese	ug/L	1000	940	94	85-115	
Molybdenum	ug/L	1000	944	94	85-115	
Potassium	ug/L	10000	9370	94	85-115	
Sodium	ug/L	10000	9530	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254704 3254705

Parameter	Units	60413956017		3254705		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Barium	ug/L	61.2	1000	1000	1000	1000	1020	94	95	70-130	1	20
Boron	ug/L	8070	1000	1000	1000	9180	9250	111	117	70-130	1	20
Calcium	ug/L	97400	10000	10000	109000	110000		117	123	70-130	1	20
Cobalt	ug/L	<1.3	1000	1000	1000	911	941	91	94	70-130	3	20
Iron	ug/L	4830	10000	10000	14900	14800		101	99	70-130	1	20
Lithium	ug/L	38.9	1000	1000	992	1010		95	97	70-130	2	20

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254704												3254705	
Parameter	Units	60413956017		MS	MSD	MS	MSD	MS	MSD	% Rec	Max		
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD		
Magnesium	ug/L	11900	10000	10000	21200	21300	93	94	70-130	0	20		
Manganese	ug/L	248	1000	1000	1170	1200	92	95	70-130	3	20		
Molybdenum	ug/L	321	1000	1000	1270	1300	95	98	70-130	2	20		
Potassium	ug/L	8950	10000	10000	18900	19200	100	103	70-130	2	20		
Sodium	ug/L	104000	10000	10000	115000	115000	109	113	70-130	0	20		

MATRIX SPIKE SAMPLE: 3254706									
Parameter	Units	60413956026		Spike	MS	MS	% Rec	Limits	Qualifiers
		Result	Conc.		Result	% Rec			
Barium	ug/L		130	1000	1050	92	70-130		
Boron	ug/L		9220	1000	7710	-151	70-130	M1	
Calcium	ug/L		108000	10000	84800	-232	70-130	M1	
Cobalt	ug/L		<1.3	1000	975	97	70-130		
Iron	ug/L		5240	10000	10400	51	70-130	M1	
Lithium	ug/L		34.0	1000	1010	98	70-130		
Magnesium	ug/L		22000	10000	9740	-122	70-130	M1	
Manganese	ug/L		275	1000	995	72	70-130		
Molybdenum	ug/L		792	1000	1450	65	70-130	M1	
Potassium	ug/L		7390	10000	22600	152	70-130	M1	
Sodium	ug/L		99400	10000	89100	-103	70-130	M1	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	818360	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013, 60413959016, 60413959017

METHOD BLANK:	3254735	Matrix:	Water
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Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013, 60413959016, 60413959017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.82	5.0	0.82	11/18/22 14:25	
Boron	ug/L	<7.6	100	7.6	11/18/22 14:25	
Calcium	ug/L	<26.5	200	26.5	11/18/22 14:25	
Cobalt	ug/L	<1.3	5.0	1.3	11/18/22 14:25	
Iron	ug/L	<7.4	50.0	7.4	11/18/22 14:25	
Lithium	ug/L	<2.9	10.0	2.9	11/18/22 14:25	
Magnesium	ug/L	<24.1	50.0	24.1	11/18/22 14:25	
Manganese	ug/L	<0.38	5.0	0.38	11/18/22 14:25	
Molybdenum	ug/L	<0.91	20.0	0.91	11/18/22 14:25	
Potassium	ug/L	<90.1	500	90.1	11/18/22 14:25	
Sodium	ug/L	41.0J	500	38.8	11/18/22 14:25	

LABORATORY CONTROL SAMPLE: 3254736

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	998	100	85-115	
Boron	ug/L	1000	955	96	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	982	98	85-115	
Iron	ug/L	10000	10500	105	85-115	
Lithium	ug/L	1000	981	98	85-115	
Magnesium	ug/L	10000	9920	99	85-115	
Manganese	ug/L	1000	998	100	85-115	
Molybdenum	ug/L	1000	992	99	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254737 3254738

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		60413959007 Result	Spike Conc.	Spike Conc.	Result							Result
Barium	ug/L	110	1000	1000	1130	1120	102	101	70-130	1	20	
Boron	ug/L	10000	1000	1000	11100	10900	113	94	70-130	2	20	
Calcium	ug/L	152000	10000	10000	164000	161000	112	85	70-130	2	20	
Cobalt	ug/L	<1.3	1000	1000	977	982	98	98	70-130	1	20	
Iron	ug/L	1280	10000	10000	11800	11600	105	103	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254737												3254738	
Parameter	Units	60413959007		MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Conc.	Spike	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		
Lithium	ug/L	26.7	1000	1000	1040	1030	102	101	70-130	1	20		
Magnesium	ug/L	15400	10000	10000	25300	25100	99	97	70-130	1	20		
Manganese	ug/L	377	1000	1000	1380	1370	100	100	70-130	0	20		
Molybdenum	ug/L	173	1000	1000	1190	1200	102	102	70-130	1	20		
Potassium	ug/L	10600	10000	10000	21200	20800	107	102	70-130	2	20		
Sodium	ug/L	63200	10000	10000	74100	73000	108	98	70-130	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254739												3254740	
Parameter	Units	60413960001		MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Conc.	Spike	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		
Barium	ug/L	112	1000	1000	1080	1100	97	99	70-130	2	20		
Boron	ug/L	4340	1000	1000	5230	5330	89	99	70-130	2	20		
Calcium	ug/L	112000	10000	10000	120000	123000	76	104	70-130	2	20		
Cobalt	ug/L	<1.3	1000	1000	944	976	94	98	70-130	3	20		
Iron	ug/L	11500	10000	10000	21300	21700	98	102	70-130	2	20		
Lithium	ug/L	26.6	1000	1000	1000	1020	98	99	70-130	1	20		
Magnesium	ug/L	14200	10000	10000	23500	24200	93	100	70-130	3	20		
Manganese	ug/L	1140	1000	1000	2070	2140	93	100	70-130	3	20		
Molybdenum	ug/L	106	1000	1000	1090	1130	98	102	70-130	4	20		
Potassium	ug/L	7060	10000	10000	17100	17400	101	103	70-130	1	20		
Sodium	ug/L	95100	10000	10000	104000	105000	86	103	70-130	2	20		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 818355 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004, 60413959005, 60413959006

METHOD BLANK: 3254713 Matrix: Water
 Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004, 60413959005, 60413959006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/18/22 15:20	
Selenium	ug/L	<0.18	1.0	0.18	11/18/22 15:20	

LABORATORY CONTROL SAMPLE: 3254714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	36.9	92	85-115	
Selenium	ug/L	40	38.3	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254715 3254716

Parameter	Units	60413956017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	3.7	40	40	45.3	40.2	104	91	70-130	12	20	
Selenium	ug/L	<0.18	40	40	40.5	36.3	101	91	70-130	11	20	

MATRIX SPIKE SAMPLE: 3254717

Parameter	Units	60413956026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	3.4	40	58.8	138	70-130	M1
Selenium	ug/L	<0.18	40	35.6	89	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	818361	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013, 60413959016, 60413959017

METHOD BLANK: 3254741 Matrix: Water

Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013, 60413959016, 60413959017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/18/22 16:30	
Selenium	ug/L	<0.18	1.0	0.18	11/18/22 16:30	

LABORATORY CONTROL SAMPLE: 3254742

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	37.8	94	85-115	
Selenium	ug/L	40	39.8	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254743 3254744

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.								
Arsenic	ug/L	0.95J	40	40	38.7	37.6	94	92	70-130	3	20		
Selenium	ug/L	<0.18	40	40	37.5	37.1	93	92	70-130	1	20		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 816115	Analysis Method: SM 2320B
QC Batch Method: SM 2320B	Analysis Description: 2320B Alkalinity
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959001

METHOD BLANK: 3245813 Matrix: Water

Associated Lab Samples: 60413959001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/02/22 17:08	

LABORATORY CONTROL SAMPLE: 3245814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3245815

Parameter	Units	60414372001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	331	332	0	10	

SAMPLE DUPLICATE: 3245816

Parameter	Units	60414372006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	246	247	0	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 816118 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60413959002, 60413959003, 60413959004

METHOD BLANK: 3245823 Matrix: Water
 Associated Lab Samples: 60413959002, 60413959003, 60413959004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/02/22 14:01	

LABORATORY CONTROL SAMPLE: 3245824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3245825

Parameter	Units	60413959002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	66.6	63.3	5	10	

SAMPLE DUPLICATE: 3245826

Parameter	Units	60413960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	326	327	0	10	

SAMPLE DUPLICATE: 3245827

Parameter	Units	60413961001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	651	659	1	10	

SAMPLE DUPLICATE: 3245828

Parameter	Units	60414104002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	508	505	1	10	

SAMPLE DUPLICATE: 3245829

Parameter	Units	60414104004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	392	383	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 816349 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60413959005, 60413959006, 60413959012, 60413959013

METHOD BLANK: 3246752 Matrix: Water
 Associated Lab Samples: 60413959005, 60413959006, 60413959012, 60413959013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/03/22 17:58	

LABORATORY CONTROL SAMPLE: 3246753

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3246754

Parameter	Units	60413956013 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	6.6J	<4.6		10	

SAMPLE DUPLICATE: 3246755

Parameter	Units	60413956017 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	147	143	3	10	

SAMPLE DUPLICATE: 3246756

Parameter	Units	60413959012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	<4.6		10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 816350 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011

METHOD BLANK: 3246761 Matrix: Water
 Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/03/22 15:09	

LABORATORY CONTROL SAMPLE: 3246762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3246763

Parameter	Units	60414155002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	81.3	77.4	5	10	

SAMPLE DUPLICATE: 3246764

Parameter	Units	60414190001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	297	299	1	10	

SAMPLE DUPLICATE: 3246765

Parameter	Units	60413959007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	158	152	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 817517

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959017

METHOD BLANK: 3251232

Matrix: Water

Associated Lab Samples: 60413959017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<4.6	20.0	4.6	11/10/22 10:12	

LABORATORY CONTROL SAMPLE: 3251233

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	508	102	90-110	

SAMPLE DUPLICATE: 3251234

Parameter	Units	60414609001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	241	239	1	10	

SAMPLE DUPLICATE: 3251235

Parameter	Units	60414252001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	338	341	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 817839

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959016

METHOD BLANK: 3252545

Matrix: Water

Associated Lab Samples: 60413959016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	8.0J	20.0	4.6	11/11/22 16:12	

LABORATORY CONTROL SAMPLE: 3252546

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	483	97	90-110	

SAMPLE DUPLICATE: 3252547

Parameter	Units	60413956031 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	493	496	0	10	

SAMPLE DUPLICATE: 3252548

Parameter	Units	60414790006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	325	322	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	815775	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004

METHOD BLANK: 3244259 Matrix: Water
Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/01/22 14:13	

LABORATORY CONTROL SAMPLE: 3244260

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

SAMPLE DUPLICATE: 3244261

Parameter	Units	60413960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	700	707	1	10	

SAMPLE DUPLICATE: 3244262

Parameter	Units	60413961001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1070	1080	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 815993

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959005, 60413959006, 60413959012, 60413959013

METHOD BLANK: 3245280

Matrix: Water

Associated Lab Samples: 60413959005, 60413959006, 60413959012, 60413959013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/02/22 11:26	

LABORATORY CONTROL SAMPLE: 3245281

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

SAMPLE DUPLICATE: 3245282

Parameter	Units	60413956020 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5.0	<5.0		10	

SAMPLE DUPLICATE: 3245283

Parameter	Units	60413960003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	511	561	9	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	816279	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959017

METHOD BLANK: 3246425 Matrix: Water
Associated Lab Samples: 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/03/22 15:39	

LABORATORY CONTROL SAMPLE: 3246426

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

SAMPLE DUPLICATE: 3246427

Parameter	Units	60414192001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3930	4030	3	10	

SAMPLE DUPLICATE: 3246428

Parameter	Units	60413959007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	762	794	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 816527

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959016

METHOD BLANK: 3247566

Matrix: Water

Associated Lab Samples: 60413959016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/04/22 13:24	

LABORATORY CONTROL SAMPLE: 3247959

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

SAMPLE DUPLICATE: 3247568

Parameter	Units	60414267001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2770	3010	8	10	

SAMPLE DUPLICATE: 3247569

Parameter	Units	60413959016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	181	176	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	817445	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959016, 60413959017

METHOD BLANK: 3250964 Matrix: Water

Associated Lab Samples: 60413959016, 60413959017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/11/22 08:59	
Fluoride	mg/L	<0.12	0.20	0.12	11/11/22 08:59	
Sulfate	mg/L	<0.55	1.0	0.55	11/11/22 08:59	

METHOD BLANK: 3254907 Matrix: Water

Associated Lab Samples: 60413959016, 60413959017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.77J	1.0	0.53	11/15/22 01:16	
Fluoride	mg/L	<0.12	0.20	0.12	11/15/22 01:16	
Sulfate	mg/L	<0.55	1.0	0.55	11/15/22 01:16	

LABORATORY CONTROL SAMPLE: 3250965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 3254908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	102	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250966 3250967

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60413956031	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	17.5	100	100	114	111	97	94	80-120	3	15		
Fluoride	mg/L	<0.12	2.5	2.5	2.3	2.2	90	87	80-120	4	15		
Sulfate	mg/L	202	100	100	322	293	120	91	80-120	9	15		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	817771	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004

METHOD BLANK: 3252261 Matrix: Water
Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.59J	1.0	0.53	11/11/22 17:54	
Fluoride	mg/L	<0.12	0.20	0.12	11/11/22 17:54	
Sulfate	mg/L	<0.55	1.0	0.55	11/11/22 17:54	

METHOD BLANK: 3255749 Matrix: Water
Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/15/22 09:48	
Fluoride	mg/L	<0.12	0.20	0.12	11/15/22 09:48	
Sulfate	mg/L	<0.55	1.0	0.55	11/15/22 09:48	

LABORATORY CONTROL SAMPLE: 3252262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 3255750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252263 3252264

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60413956008	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	10.3	5	5	16.5	16.3	124	121	80-120	1	15	M1	
Fluoride	mg/L	<0.12	2.5	2.5	3.2	3.1	125	122	80-120	2	15	M1	
Sulfate	mg/L	31.3	50	50	88.8	86.5	115	110	80-120	3	15		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252266												3252267	
Parameter	Units	60413960001		MS	MSD	MS	MSD	MS	MSD	% Rec	Max		
		Result	Spike Conc.	Spike Conc.	Result	Result	Result	Result	% Rec	% Rec	Limits	RPD	RPD
Chloride	mg/L	20.8	25	25	46.5	46.1	103	101	80-120	1	15		
Fluoride	mg/L	0.33	2.5	2.5	3.4	3.4	124	125	80-120	0	15 M1		
Sulfate	mg/L	198	100	100	307	305	109	107	80-120	1	15		

SAMPLE DUPLICATE: 3252265

Parameter	Units	60413956008		Dup Result	RPD	Max RPD	Qualifiers
		Result	Result				
Chloride	mg/L	10.3	10.4	1	15		
Fluoride	mg/L	<0.12	<0.12	3	15		
Sulfate	mg/L	31.3	30.3	3	15		

SAMPLE DUPLICATE: 3252268

Parameter	Units	60413960001		Dup Result	RPD	Max RPD	Qualifiers
		Result	Result				
Chloride	mg/L	20.8	21.4	3	15		
Fluoride	mg/L	0.33	0.33	0	15		
Sulfate	mg/L	198	188	5	15		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch:	817968	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60413959005, 60413959006, 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013		

METHOD BLANK:	3253027	Matrix:	Water
Associated Lab Samples:	60413959005, 60413959006, 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/14/22 08:48	
Fluoride	mg/L	<0.12	0.20	0.12	11/14/22 08:48	
Sulfate	mg/L	<0.55	1.0	0.55	11/14/22 08:48	

LABORATORY CONTROL SAMPLE:	3253028					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3253029	3253030										
Parameter	Units	60413959007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	17.9	5	5	24.0	23.8	121	118	80-120	1	15	E,M1
Fluoride	mg/L	<0.12	2.5	2.5	2.6	2.5	102	98	80-120	4	15	
Sulfate	mg/L	413	250	250	685	685	108	108	80-120	0	15	

SAMPLE DUPLICATE:	3253031					
Parameter	Units	60413959007 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	17.9	18.0	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	413	409	1	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-5D Lab ID: 60413959001 Collected: 10/25/22 12:51 Received: 10/26/22 03:51 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0600 ± 0.353 (0.787) C:NA T:96%	pCi/L	11/15/22 13:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.509 ± 0.432 (0.870) C:67% T:88%	pCi/L	11/14/22 15:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-6D Lab ID: 60413959002 Collected: 10/25/22 11:14 Received: 10/26/22 03:51 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.359 (0.777) C:NA T:97%	pCi/L	11/15/22 13:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.231 ± 0.333 (0.715) C:78% T:86%	pCi/L	11/14/22 15:45	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-DUP-1 Lab ID: 60413959003 Collected: 10/25/22 08:00 Received: 10/26/22 03:51 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.365 ± 0.552 (0.946) C:NA T:107%	pCi/L	11/15/22 13:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.339 ± 0.352 (0.730) C:74% T:96%	pCi/L	11/14/22 15:45	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Sample: L-UMW-DUP-2 **Lab ID: 60413959004** Collected: 10/25/22 08:00 Received: 10/26/22 03:51 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	0.0603 ± 0.313 (0.649) C:NA T:96%	pCi/L	11/15/22 13:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.192 ± 0.336 (0.734) C:79% T:86%	pCi/L	11/14/22 15:45	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-1D Lab ID: 60413959005 Collected: 10/26/22 15:56 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.433 ± 0.440 (0.666) C:NA T:99%	pCi/L	11/17/22 16:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.58 ± 0.497 (0.645) C:82% T:90%	pCi/L	11/16/22 12:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-2D Lab ID: 60413959006 Collected: 10/26/22 17:21 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.252 ± 0.429 (0.758) C:NA T:93%	pCi/L	11/17/22 16:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.27 ± 0.419 (0.547) C:85% T:88%	pCi/L	11/16/22 12:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-3D Lab ID: 60413959007 Collected: 10/27/22 09:37 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.238 ± 0.337 (0.571) C:NA T:92%	pCi/L	11/17/22 16:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.01 ± 0.400 (0.606) C:85% T:81%	pCi/L	11/16/22 12:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-4D Lab ID: 60413959008 Collected: 10/27/22 12:03 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.326 ± 0.425 (0.701) C:NA T:94%	pCi/L	11/17/22 16:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.554 ± 0.347 (0.653) C:88% T:82%	pCi/L	11/16/22 12:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-7D Lab ID: 60413959009 Collected: 10/27/22 13:51 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0594 ± 0.349 (0.713) C:NA T:102%	pCi/L	11/17/22 16:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.605 ± 0.318 (0.558) C:85% T:90%	pCi/L	11/16/22 12:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-1D Lab ID: 60413959010 Collected: 10/27/22 09:49 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.847 ± 0.467 (0.415) C:NA T:99%	pCi/L	11/17/22 16:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.08 ± 0.379 (0.506) C:85% T:89%	pCi/L	11/16/22 12:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-2D Lab ID: 60413959011 Collected: 10/27/22 13:15 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0456 ± 0.389 (0.759) C:NA T:97%	pCi/L	11/17/22 16:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.529 ± 0.284 (0.499) C:85% T:97%	pCi/L	11/16/22 12:29	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-FB-1 Lab ID: 60413959012 Collected: 10/26/22 16:10 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.239 ± 0.333 (0.556) C:NA T:99%	pCi/L	11/17/22 16:22	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0536 ± 0.258 (0.591) C:83% T:90%	pCi/L	11/16/22 12:29	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.253 (0.514) C:NA T:101%	pCi/L	11/17/22 16:22	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.496 ± 0.344 (0.664) C:87% T:88%	pCi/L	11/16/22 15:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-MS-1 Lab ID: 60413959014 Collected: 10/27/22 09:37 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	118.48 %REC ± NA (NA) C:NA T:NA	pCi/L	11/17/22 16:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	86.83 %REC ± NA (NA) C:NA T:NA	pCi/L	11/16/22 15:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	101.06 %REC 15.86RPD ± NA (NA) C:NA T:NA	pCi/L	11/17/22 16:22	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	66.57 %REC 26.42RPD ± NA (NA) C:NA T:NA	pCi/L	11/16/22 15:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-8D Lab ID: 60413959016 Collected: 10/28/22 09:50 Received: 10/29/22 03:41 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.159 ± 0.243 (0.390) C:NA T:88%	pCi/L	11/22/22 16:35	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.696 ± 0.392 (0.721) C:83% T:88%	pCi/L	11/16/22 15:03	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-UMW-9D Lab ID: 60413959017 Collected: 10/27/22 18:12 Received: 10/29/22 03:41 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.281 ± 0.227 (0.127) C:NA T:94%	pCi/L	11/22/22 16:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.502 ± 0.387 (0.776) C:81% T:94%	pCi/L	11/16/22 15:03	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

QC Batch: 544802

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: 60413959016, 60413959017

METHOD BLANK: 2644711

Matrix: Water

Associated Lab Samples: 60413959016, 60413959017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0565 ± 0.258 (0.524) C:NA T:88%	pCi/L	11/22/22 16:14	

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 LEC LCPA

Pace Project No.: 60413959

QC Batch: 544067

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: 60413959005, 60413959006, 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013, 60413959014, 60413959015

METHOD BLANK: 2640470

Matrix: Water

Associated Lab Samples: 60413959005, 60413959006, 60413959007, 60413959008, 60413959009, 60413959010, 60413959011, 60413959012, 60413959013, 60413959014, 60413959015

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.109 ± 0.301 (0.584) C:NA T:88%	pCi/L	11/17/22 16:36	

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 LEC LCPA

Pace Project No.: 60413959

QC Batch: 543614

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: 60413959001, 60413959002, 60413959003, 60413959004

METHOD BLANK: 2638252

Matrix: Water

Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.179 ± 0.311 (0.678) C:79% T:88%	pCi/L	11/14/22 15:40	

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 LEC LCPA

Pace Project No.: 60413959

QC Batch: 543612

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: 60413959001, 60413959002, 60413959003, 60413959004

METHOD BLANK: 2638251

Matrix: Water

Associated Lab Samples: 60413959001, 60413959002, 60413959003, 60413959004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.240 ± 0.250 (0.353) C:NA T:96%	pCi/L	11/15/22 12:37	

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 LEC LCPA

Pace Project No.: 60413959

QC Batch: 544803

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: 60413959016, 60413959017

METHOD BLANK: 2644713

Matrix: Water

Associated Lab Samples: 60413959016, 60413959017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.378 ± 0.267 (0.503) C:84% T:88%	pCi/L	11/16/22 15:02	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

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.

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413959001	L-UMW-5D	EPA 200.7	818353	EPA 200.7	818470
60413959002	L-UMW-6D	EPA 200.7	818353	EPA 200.7	818470
60413959003	L-UMW-DUP-1	EPA 200.7	818353	EPA 200.7	818470
60413959004	L-UMW-DUP-2	EPA 200.7	818353	EPA 200.7	818470
60413959005	L-UMW-1D	EPA 200.7	818353	EPA 200.7	818470
60413959006	L-UMW-2D	EPA 200.7	818353	EPA 200.7	818470
60413959007	L-UMW-3D	EPA 200.7	818360	EPA 200.7	818495
60413959008	L-UMW-4D	EPA 200.7	818360	EPA 200.7	818495
60413959009	L-UMW-7D	EPA 200.7	818360	EPA 200.7	818495
60413959010	L-BMW-1D	EPA 200.7	818360	EPA 200.7	818495
60413959011	L-BMW-2D	EPA 200.7	818360	EPA 200.7	818495
60413959012	L-UMW-FB-1	EPA 200.7	818360	EPA 200.7	818495
60413959013	L-UMW-FB-2	EPA 200.7	818360	EPA 200.7	818495
60413959016	L-UMW-8D	EPA 200.7	818360	EPA 200.7	818495
60413959017	L-UMW-9D	EPA 200.7	818360	EPA 200.7	818495
60413959001	L-UMW-5D	EPA 200.8	818355	EPA 200.8	818471
60413959002	L-UMW-6D	EPA 200.8	818355	EPA 200.8	818471
60413959003	L-UMW-DUP-1	EPA 200.8	818355	EPA 200.8	818471
60413959004	L-UMW-DUP-2	EPA 200.8	818355	EPA 200.8	818471
60413959005	L-UMW-1D	EPA 200.8	818355	EPA 200.8	818471
60413959006	L-UMW-2D	EPA 200.8	818355	EPA 200.8	818471
60413959007	L-UMW-3D	EPA 200.8	818361	EPA 200.8	818497
60413959008	L-UMW-4D	EPA 200.8	818361	EPA 200.8	818497
60413959009	L-UMW-7D	EPA 200.8	818361	EPA 200.8	818497
60413959010	L-BMW-1D	EPA 200.8	818361	EPA 200.8	818497
60413959011	L-BMW-2D	EPA 200.8	818361	EPA 200.8	818497
60413959012	L-UMW-FB-1	EPA 200.8	818361	EPA 200.8	818497
60413959013	L-UMW-FB-2	EPA 200.8	818361	EPA 200.8	818497
60413959016	L-UMW-8D	EPA 200.8	818361	EPA 200.8	818497
60413959017	L-UMW-9D	EPA 200.8	818361	EPA 200.8	818497
60413959001	L-UMW-5D	EPA 903.1	543612		
60413959002	L-UMW-6D	EPA 903.1	543612		
60413959003	L-UMW-DUP-1	EPA 903.1	543612		
60413959004	L-UMW-DUP-2	EPA 903.1	543612		
60413959005	L-UMW-1D	EPA 903.1	544067		
60413959006	L-UMW-2D	EPA 903.1	544067		
60413959007	L-UMW-3D	EPA 903.1	544067		
60413959008	L-UMW-4D	EPA 903.1	544067		
60413959009	L-UMW-7D	EPA 903.1	544067		
60413959010	L-BMW-1D	EPA 903.1	544067		
60413959011	L-BMW-2D	EPA 903.1	544067		
60413959012	L-UMW-FB-1	EPA 903.1	544067		
60413959013	L-UMW-FB-2	EPA 903.1	544067		
60413959014	L-UMW-MS-1	EPA 903.1	544067		
60413959015	L-UMW-MSD-1	EPA 903.1	544067		
60413959016	L-UMW-8D	EPA 903.1	544802		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413959017	L-UMW-9D	EPA 903.1	544802		
60413959001	L-UMW-5D	EPA 904.0	543614		
60413959002	L-UMW-6D	EPA 904.0	543614		
60413959003	L-UMW-DUP-1	EPA 904.0	543614		
60413959004	L-UMW-DUP-2	EPA 904.0	543614		
60413959005	L-UMW-1D	EPA 904.0	544091		
60413959006	L-UMW-2D	EPA 904.0	544091		
60413959007	L-UMW-3D	EPA 904.0	544091		
60413959008	L-UMW-4D	EPA 904.0	544091		
60413959009	L-UMW-7D	EPA 904.0	544091		
60413959010	L-BMW-1D	EPA 904.0	544091		
60413959011	L-BMW-2D	EPA 904.0	544091		
60413959012	L-UMW-FB-1	EPA 904.0	544091		
60413959013	L-UMW-FB-2	EPA 904.0	544091		
60413959014	L-UMW-MS-1	EPA 904.0	544091		
60413959015	L-UMW-MSD-1	EPA 904.0	544091		
60413959016	L-UMW-8D	EPA 904.0	544803		
60413959017	L-UMW-9D	EPA 904.0	544803		
60413959001	L-UMW-5D	SM 2320B	816115		
60413959002	L-UMW-6D	SM 2320B	816118		
60413959003	L-UMW-DUP-1	SM 2320B	816118		
60413959004	L-UMW-DUP-2	SM 2320B	816118		
60413959005	L-UMW-1D	SM 2320B	816349		
60413959006	L-UMW-2D	SM 2320B	816349		
60413959007	L-UMW-3D	SM 2320B	816350		
60413959008	L-UMW-4D	SM 2320B	816350		
60413959009	L-UMW-7D	SM 2320B	816350		
60413959010	L-BMW-1D	SM 2320B	816350		
60413959011	L-BMW-2D	SM 2320B	816350		
60413959012	L-UMW-FB-1	SM 2320B	816349		
60413959013	L-UMW-FB-2	SM 2320B	816349		
60413959016	L-UMW-8D	SM 2320B	817839		
60413959017	L-UMW-9D	SM 2320B	817517		
60413959001	L-UMW-5D	SM 2540C	815775		
60413959002	L-UMW-6D	SM 2540C	815775		
60413959003	L-UMW-DUP-1	SM 2540C	815775		
60413959004	L-UMW-DUP-2	SM 2540C	815775		
60413959005	L-UMW-1D	SM 2540C	815993		
60413959006	L-UMW-2D	SM 2540C	815993		
60413959007	L-UMW-3D	SM 2540C	816279		
60413959008	L-UMW-4D	SM 2540C	816279		
60413959009	L-UMW-7D	SM 2540C	816279		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA

Pace Project No.: 60413959

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413959010	L-BMW-1D	SM 2540C	816279		
60413959011	L-BMW-2D	SM 2540C	816279		
60413959012	L-UMW-FB-1	SM 2540C	815993		
60413959013	L-UMW-FB-2	SM 2540C	815993		
60413959016	L-UMW-8D	SM 2540C	816527		
60413959017	L-UMW-9D	SM 2540C	816279		
60413959001	L-UMW-5D	EPA 300.0	817771		
60413959002	L-UMW-6D	EPA 300.0	817771		
60413959003	L-UMW-DUP-1	EPA 300.0	817771		
60413959004	L-UMW-DUP-2	EPA 300.0	817771		
60413959005	L-UMW-1D	EPA 300.0	817968		
60413959006	L-UMW-2D	EPA 300.0	817968		
60413959007	L-UMW-3D	EPA 300.0	817968		
60413959008	L-UMW-4D	EPA 300.0	817968		
60413959009	L-UMW-7D	EPA 300.0	817968		
60413959010	L-BMW-1D	EPA 300.0	817968		
60413959011	L-BMW-2D	EPA 300.0	817968		
60413959012	L-UMW-FB-1	EPA 300.0	817968		
60413959013	L-UMW-FB-2	EPA 300.0	817968		
60413959016	L-UMW-8D	EPA 300.0	817445		
60413959017	L-UMW-9D	EPA 300.0	817445		

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

Revision: 2

Effective Date: 01/12/2022

WO#: 60413959



Client Name: WSP Golden

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: Ice Blue None

Cooler Temperature (°C): As-read 11.4/11.4 Corr. Factor 0.0 Corrected 11.4/11.4/11.1

Date and initials of person examining contents: 10/26/22

Temperature should be above freezing to 6°C 1.1

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: <u>55192</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Section B
Required Project Information:
Report To: Jeffrey Ingram
Copy To: Eric Schlieder
Purchase Order No.: COC #1
Project Name: Ameren Labadie Energy Center LCPA
Project Number: 153140604.0001

Section C
Invoice Information:
Attention:
Company Name: WSP Golder
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 9285, line 1

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

Page: 2 of 2

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N) Y/N	DATE	TIME	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				COMPOSITE START	COMPOSITE END/GRAB											
1	L-UMW-DUP-2	WT G	G	DATE: 10-25-02	TIME: -	5			10/26/02	0851	11-4	N	Y	Y	Y	Residual Chlorine (Y/N)
2	L-UMW-FB-1	WT G	G													
3	L-UMW-FB-2	WT G	G													
4	L-UMW-MS-1	WT G	G													
5	L-UMW-MSD-1	WT G	G													
6		WT G	G													
7		WT G	G													
8		WT G	G													
9		WT G	G													
10		WT G	G													
11		WT G	G													
12		WT G	G													

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

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Grant Morley
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YY): 10/25/02

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

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

WO#: 60413959



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

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: WSP Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T299 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 1.0/1.4/1.1 Corr. Factor 0.0 Corrected 1.0/1.4/2.1

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 13.4/12.5/14.9

13.4/12.5/14.9

pv/10/28/22

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

LOT#: 55192

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



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

WO#: 60413959



Revision: 2

Effective Date: 01/12/2022

Client Name: WSP Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: 7699 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 0.7/13.9 Corr. Factor 0.0 Corrected 0.7/13.9

Date and initials of person examining contents:

Temperature should be above freezing to 6°C

10/31/22

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

LOT#: 55192

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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: WSP Golder	Report To: Jeffrey Ingram	Company Name: WSP Golder	Attention:	Page: 1 of 2	
Address: 701 Emerson Road, Suite 250	Copy To: Eric Schnieder	Address:			
		Creve Coeur, Missouri, 63141			
Email To: jeffrey_ingram@golder.com	Purchase Order No.: COC #1	Pace Quote Reference:			
Phone: 636-724-9191	Project Name: Ameren Labadie Energy Center LCPA	Pace Project Manager:	Jamie Church		
Requested Due Date/TAT: Standard	Project Number: 153140604.0001	Pace Profile #:	9285, line 1		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOL/SOLID SL OIL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives HCl HNO ₃ H ₂ SO ₄ Unpreserved	Analysis Test ↑ Chloride/Fluoride/Sulfate App III and Cat/An Metals Alkalinity TDS Appendix IV Metals * Radium 226 Radium 228	Requested Analysis Filtered (Y/N)	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	
					COMPOSITE START	COMPOSITE END/GRAB										DATE
1	L-UMMW-1D		WT G													
2	L-UMMW-2D		WT G													
3	L-UMMW-3D		WT G													
4	L-UMMW-4D		WT G													
5	L-UMMW-5D		WT G													
6	L-UMMW-6D		WT G													
7	L-UMMW-7D		WT G													
8	L-UMMW-8D		WT G		10/26/22	0950		41	3							
9	L-UMMW-9D		WT G		10-27-22	1812		41	3							
10	L-BMW-1D		WT G													
11	L-BMW-2D		WT G													
12	L-UMMW-DUP-1		WT G													
ADDITIONAL COMMENTS																
Payton Spohn / WSP 10/28/22 3:16 Pmm and 10/29/22 0341																
*App III and Cat/An Metals - EPA 200.7; Fe, Mg, Mn, K, Na, Ca, B																
** App IV Metals - EPA 200.7 - Ba, Co, Li, Mo																
200.8 Metals - As, Se																

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: Grant Morry	DATE Signed (MM/DD/YY): 10/28/22
SIGNATURE of SAMPLER: <i>Grant Morry</i>	



MEMORANDUM

DATE January 10, 2023

Project No. 153140604.0001

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

FROM Rahel Pommerenke

EMAIL rahel.pommerenke@wsp.com

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60413959

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
 Project Name: Ameren LEC - LCPA
 Reviewer: R.Pommerenke

Project Manager: J. Ingram
 Project Number: 153140604
 Validation Date: 1/10/2023

Laboratory: Pace Analytical Services SDG #: 60413959
 Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 903.1/904.0 (Radium 226/228); SM2320B (Alkalinity);
 Matrix: Air Soil/Sed. Water Waste SM2540C (TDS); EPA 300.0 (Anions)
 Sample Names L-UMW-5D, L-UMW-6D, L-UMW-DUP-1, L-UMW-DUP-2, L-UMW-1D, L-UMW-2D, L-UMW-3D, L-UMW-4D, L-UMW-7D
L-BMW-1D, L-BMW-2D, L-UMW-FB-1, L-UMW-FB-2, L-UMW-MS-1, L-UMW-MSD-1, L-UMW-8D, L-UMW-9D

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>10/25/2022 - 10/28/2022</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>GTM/PCS/SMA</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See notes.</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>See notes.</u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Note Deficiencies: <u></u>				

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-UMW-DUP-1 @ L-UMW-5D
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L-UMW-DUP-2 @ L-UMW-6D
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See notes.
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See notes.

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

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See notes.
Recovery could not be calculated since sample contained high concentration of analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b) Was MSD accuracy criteria met?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See notes.
Recovery could not be calculated since sample contained high concentration of analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c) Were MS/MSD precision criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max RPD (12%) < 20%

Comments/Notes:

Dilutions:

Chloride and sulfate analyzed at a dilution. No qualification necessary.

Blank:

MB3254702: Barium (0.82J), Iron (19.1J), Manganese (0.76J). Associated with -001 through -006.

Results > x10 blank and > RL: not qualified. Results < RL reported as ND at RL. Results > RL but < 10 x blank: qualified as estimate.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MB3254735: Sodium (41.0J). Associated with samples -007 through -013, -016, and -017.

Results > x10 blank and > RL or ND: not qualified.

MB3252545: Alkalinity (8.0J). Associated with -016.

Result > x10 blank and > RL: not qualified.

MB3254907: Chloride (0.77J). Associated with -016 and -017.

Result > x10 blank and > RL: not qualified. Results > RL but < 10 x blank: qualified as estimate.

MB3252261: Chloride (0.59J). Associated with the -001 through -004.

Result > x10 blank and > RL: not qualified.

L-LMW-FB-1 @ L-UMW-1D: No qualification necessary.

L-UMW-FB-2 @ L-UMW-2D: Alkalinity (500). Result < x10 blank but > RL, quantified as estimate.

Duplicates:

L-UMW-DUP-1 @ L-UMW-5D: RPD exceeds limit (20%) for Alkalinity (140.6%), Barium (45.0%), Boron (45.4%), Calcium (50.3%), Iron (170.2%), Lithium (50.8%), Magnesium (184.3%), Manganese (178.4%), Molybdenum (25.7%), Potassium (55.7%), Selenium (28.6%), Sodium (47.7%), Sulfate (62.1%), and Total Dissolved Solids (53.3%).

L-UMW-DUP-2 @ L-UMW-6D: RPD exceeds limit for Arsenic (20.9%), Barium (43.1%), Boron (36.2%), Calcium (46.6%), Iron (144.3%), Lithium (38.3%), Magnesium (183.9%), Manganese (174.2%), Potassium (54.3%), Sodium (46.8%), Sulfate (60.7%), and Total Dissolved Solids (62.8%).

Sample Duplicate 3246754: Alkalinity detected in parent sample but not in DUP. Performed on unrelated sample: not qualified.

Sample Duplicate 3245282: Total Dissolved Solids detected in parent sample but no in DUP. Performed on unrelated sample: not qualified.

MS/MSD:

3254706: MS % recovery low for Boron, Calcium, Iron, Magnesium, Molybdenum, and Sodium.

MS % recovery high for Potassium. Performed on ~~unrelat~~ sample: not qualified.

3254717: MS % recovery high for Arsenic. Performed on unrelated sample: not qualified.

3252263/3252264: MS/MSD % recovery high for Chloride and Fluoride. Performed on unrelated sample: not qualified.

3252266/3252267: MS/MSD % recovery high for Fluoride. Performed on unrelated sample: not qualified.

3253029/3253030: MS % recovery high for Chloride. Associated with L-UMW-3D.

Only one QC indicator out of control limits: not qualified.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-2D	Alkalinity	381	J	Detected in FB, x10 blank > Result > RL
L-UMW-5D	Alkalinity	333	J	DUP RPD exceeds limit
"	Barium	64.5	J	"
"	Boron	6680	J	"
"	Calcium	74800	J	"
"	Iron	50.0	UJ	Detected in MB, Result < RL;DUP RPD exceeds limit.
"	Lithium	20	J	DUP RPD exceeds limit
"	Magnesium	91.1	J	"
"	Manganese	10.6	J	"
"	Molybdenum	451	J	"
"	Potassium	12300	J	"
"	Selenium	0.21	J	"
"	Sodium	78700	J	"
"	Sulfate	272	J	"
"	Total Dissolved Solids	558	J	"
L-UMW-6D	Arsenic	25.9	J	"
"	Barium	104	J	"
"	Boron	10500	J	"
"	Calcium	123000	J	"
"	Iron	168	J	DUP RPD exceeds limit; 10x blank > result > RL
"	Lithium	11.4	J	DUP RPD exceeds limit
"	Magnesium	2020	J	"
"	Manganese	152	J	"
"	Potassium	22000	J	"
"	Sodium	127000	J	"
"	Sulfate	511	J	"
"	Total Dissolved Solids	1080	J	"
L-UMW-8D	Chloride	3.4	J	Detected in MB, 10x blank > result > RL
L-UMW-DUP-1	Alkalinity	58.1	J	DUP RPD exceeds limit
"	Barium	102	J	"
"	Boron	10600	J	"
"	Calcium	125000	J	"
"	Iron	225	J	"
"	Lithium	11.9	J	"

January 13, 2023

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

RE: Project: AMEREN LEC LCPA-CA
Pace Project No.: 60413956

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between October 26, 2022 and October 29, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

REV-1, 11/29/22: Sample ID corrections.

REV-2, 1/13/23: Sample collection date updated from 10/28/22 to 10/27/22 for sample L-LMW-8S.

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

Sincerely,



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

Enclosures

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



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Florida: Cert E871149 SEKS WET

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 22-031-0

Illinois Certification #: 2000302021-3

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212023-1

Oklahoma Certification #: 2022-057

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-21-15

Utah Certification #: KS000212022-12

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60413956001	L-MW-24	Water	10/24/22 13:36	10/26/22 03:51
60413956002	L-MW-35(D)	Water	10/24/22 11:52	10/26/22 03:51
60413956003	L-TP-4D	Water	10/24/22 15:57	10/26/22 03:51
60413956004	L-CA-DUP-1	Water	10/24/22 08:00	10/26/22 03:51
60413956005	L-CA-DUP-2	Water	10/24/22 08:00	10/26/22 03:51
60413956006	L-CA-MS-1	Water	10/24/22 09:28	10/26/22 03:51
60413956007	L-CA-MSD-1	Water	10/24/22 09:28	10/26/22 03:51
60413956011	L-AMW-8	Water	10/26/22 10:08	10/28/22 03:43
60413956012	L-S-1	Water	10/26/22 12:40	10/28/22 03:43
60413956013	L-TP-1D	Water	10/26/22 14:39	10/28/22 03:43
60413956014	L-TP-2M	Water	10/26/22 13:15	10/28/22 03:43
60413956015	L-TP-2D	Water	10/26/22 14:05	10/28/22 03:43
60413956016	L-AM-1S	Water	10/26/22 10:40	10/28/22 03:43
60413956017	L-AM-1D	Water	10/26/22 11:50	10/28/22 03:43
60413956018	L-CA-DUP-3	Water	10/26/22 08:00	10/28/22 03:43
60413956019	L-CA-FB-1	Water	10/26/22 14:49	10/28/22 03:43
60413956020	L-CA-FB-2	Water	10/26/22 10:50	10/28/22 03:43
60413956021	L-CA-MS-2	Water	10/26/22 11:50	10/28/22 03:43
60413956022	L-CA-MSD-2	Water	10/26/22 11:50	10/28/22 03:43
60413956026	L-MW-33(D)	Water	10/28/22 13:29	10/29/22 03:41
60413956027	L-MW-34(D)	Water	10/28/22 12:50	10/29/22 03:41
60413956028	L-TP-3M	Water	10/28/22 09:50	10/29/22 03:41
60413956029	L-TP-3D	Water	10/28/22 09:10	10/29/22 03:41
60413956030	L-CA-FB-3	Water	10/28/22 13:05	10/29/22 03:41
60413956008	L-MW-26	Water	10/24/22 09:28	10/26/22 03:51
60413956009	L-LMW-2S	Water	10/25/22 12:58	10/26/22 03:51
60413956010	L-LMW-4S	Water	10/25/22 14:17	10/26/22 03:51
60413956023	L-LMW-1S	Water	10/27/22 13:12	10/28/22 03:43
60413956024	L-BMW-1S	Water	10/27/22 10:36	10/28/22 03:43
60413956025	L-BMW-2S	Water	10/27/22 11:35	10/28/22 03:43
60413956031	L-LMW-7S	Water	10/28/22 11:14	10/29/22 03:41
60413956032	L-LMW-8S	Water	10/27/22 17:15	10/29/22 03:41

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413956001	L-MW-24	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60413956002	L-MW-35(D)	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60413956003	L-TP-4D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956004	L-CA-DUP-1	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956005	L-CA-DUP-2	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956006	L-CA-MS-1	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413956007	L-CA-MSD-1	EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60413956011	L-AMW-8	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
60413956012	L-S-1	EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
60413956013	L-TP-1D	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
60413956014	L-TP-2M	EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60413956015	L-TP-2D	SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		EPA 903.1	JDZ	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413956016	L-AM-1S	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956017	L-AM-1D	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956018	L-CA-DUP-3	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956019	L-CA-FB-1	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956020	L-CA-FB-2	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	KJD	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956021	L-CA-MS-2	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413956022	L-CA-MSD-2	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
60413956026	L-MW-33(D)	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
60413956027	L-MW-34(D)	EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
60413956028	L-TP-3M	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
60413956029	L-TP-3D	EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60413956030	L-CA-FB-3	SM 2320B	LDB	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413956008	L-MW-26	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60413956009	L-LMW-2S	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956010	L-LMW-4S	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	GDH	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956023	L-LMW-1S	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956024	L-BMW-1S	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60413956025	L-BMW-2S	EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60413956031	L-LMW-7S	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	SZ	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
60413956032	L-LMW-8S	SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JDS	11	PASI-K
		EPA 200.8	MRV	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-24 **Lab ID: 60413956001** Collected: 10/24/22 13:36 Received: 10/26/22 03:51 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	169	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:30	7440-39-3	
Boron	71.1J	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:30	7440-42-8	
Calcium	123000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:30	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:30	7440-48-4	
Iron	14.1J	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:30	7439-89-6	
Lithium	21.1	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:30	7439-93-2	
Magnesium	24400	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:30	7439-95-4	
Manganese	2.8J	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:30	7439-96-5	B
Molybdenum	1.4J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:30	7439-98-7	B
Potassium	5090	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:30	7440-09-7	
Sodium	7100	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:30	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.58J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:04	7440-38-2	
Selenium	31.8	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:04	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	417	mg/L	20.0	4.6	1		11/01/22 17:37		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	487	mg/L	10.0	10.0	1		10/31/22 14:22		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	5.7	mg/L	1.0	0.53	1		11/11/22 18:24	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 18:24	16984-48-8	
Sulfate	29.6	mg/L	10.0	5.5	10		11/15/22 20:17	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-35(D) **Lab ID: 60413956002** Collected: 10/24/22 11:52 Received: 10/26/22 03:51 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	42.6	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:32	7440-39-3	
Boron	7710	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:32	7440-42-8	
Calcium	119000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:32	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:32	7440-48-4	
Iron	5360	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:32	7439-89-6	
Lithium	25.7	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:32	7439-93-2	
Magnesium	26800	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:32	7439-95-4	
Manganese	393	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:32	7439-96-5	
Molybdenum	442	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:32	7439-98-7	
Potassium	5170	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:32	7440-09-7	
Sodium	75900	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:32	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.15J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:07	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:07	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	274	mg/L	20.0	4.6	1		11/01/22 17:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	779	mg/L	10.0	10.0	1		10/31/22 14:22		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	16.7	mg/L	1.0	0.53	1		11/11/22 18:38	16887-00-6	
Fluoride	0.18J	mg/L	0.20	0.12	1		11/11/22 18:38	16984-48-8	
Sulfate	399	mg/L	100	55.0	100		11/15/22 20:30	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-4D **Lab ID: 60413956003** Collected: 10/24/22 15:57 Received: 10/26/22 03:51 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	384	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:34	7440-39-3	
Boron	6860	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:34	7440-42-8	
Calcium	120000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:34	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:34	7440-48-4	
Iron	5270	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:34	7439-89-6	
Lithium	24.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:34	7439-93-2	
Magnesium	30700	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:34	7439-95-4	
Manganese	318	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:34	7439-96-5	
Molybdenum	3.9J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:34	7439-98-7	B
Potassium	4570	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:34	7440-09-7	
Sodium	28300	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:34	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	8.1	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:10	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:10	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	309	mg/L	20.0	4.6	1		11/01/22 17:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	627	mg/L	10.0	10.0	1		10/31/22 14:22		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	15.2	mg/L	1.0	0.53	1		11/11/22 19:22	16887-00-6	
Fluoride	0.15J	mg/L	0.20	0.12	1		11/11/22 19:22	16984-48-8	
Sulfate	171	mg/L	20.0	11.0	20		11/11/22 19:37	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-DUP-1 **Lab ID: 60413956004** Collected: 10/24/22 08:00 Received: 10/26/22 03:51 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	44.2	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:36	7440-39-3	
Boron	7900	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:36	7440-42-8	
Calcium	122000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:36	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:36	7440-48-4	
Iron	5540	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:36	7439-89-6	
Lithium	26.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:36	7439-93-2	
Magnesium	27400	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:36	7439-95-4	
Manganese	400	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:36	7439-96-5	
Molybdenum	447	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:36	7439-98-7	
Potassium	5350	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:36	7440-09-7	
Sodium	77100	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:36	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.16J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:16	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:16	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	273	mg/L	20.0	4.6	1		11/01/22 18:08		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	769	mg/L	10.0	10.0	1		10/31/22 14:22		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	16.7	mg/L	1.0	0.53	1		11/11/22 19:51	16887-00-6	
Fluoride	0.19J	mg/L	0.20	0.12	1		11/11/22 19:51	16984-48-8	
Sulfate	284	mg/L	20.0	11.0	20		11/11/22 20:06	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-DUP-2 **Lab ID: 60413956005** Collected: 10/24/22 08:00 Received: 10/26/22 03:51 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	397	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:39	7440-39-3	
Boron	7040	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:39	7440-42-8	
Calcium	122000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:39	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:39	7440-48-4	
Iron	5710	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:39	7439-89-6	
Lithium	24.2	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:39	7439-93-2	
Magnesium	31300	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:39	7439-95-4	
Manganese	332	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:39	7439-96-5	
Molybdenum	4.3J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:39	7439-98-7	B
Potassium	4740	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:39	7440-09-7	
Sodium	29100	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:39	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.7	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:19	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:19	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	310	mg/L	20.0	4.6	1		11/01/22 18:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	626	mg/L	10.0	10.0	1		10/31/22 14:22		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	15.2	mg/L	1.0	0.53	1		11/11/22 20:20	16887-00-6	
Fluoride	0.14J	mg/L	0.20	0.12	1		11/11/22 20:20	16984-48-8	
Sulfate	175	mg/L	20.0	11.0	20		11/11/22 20:35	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-AMW-8 **Lab ID: 60413956011** Collected: 10/26/22 10:08 Received: 10/28/22 03:43 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	107	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:58	7440-39-3	
Boron	5770	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:58	7440-42-8	
Calcium	61400	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:58	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:58	7440-48-4	
Iron	2390	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:58	7439-89-6	
Lithium	18.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:58	7439-93-2	
Magnesium	10200	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:58	7439-95-4	
Manganese	294	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:58	7439-96-5	
Molybdenum	269	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:58	7439-98-7	
Potassium	5350	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:58	7440-09-7	
Sodium	81400	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:58	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.17J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:39	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:39	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	102	mg/L	20.0	4.6	1		11/02/22 16:55		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	534	mg/L	10.0	10.0	1		11/01/22 14:20		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.2	mg/L	5.0	2.6	5		11/15/22 02:01	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 22:30	16984-48-8	
Sulfate	236	mg/L	20.0	11.0	20		11/11/22 22:44	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-S-1 **Lab ID: 60413956012** Collected: 10/26/22 12:40 Received: 10/28/22 03:43 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	362	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:00	7440-39-3	
Boron	75.1J	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:00	7440-42-8	
Calcium	144000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:00	7440-70-2	
Cobalt	2.1J	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:00	7440-48-4	
Iron	62.9	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 13:00	7439-89-6	
Lithium	22.8	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:00	7439-93-2	
Magnesium	20400	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:00	7439-95-4	
Manganese	527	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:00	7439-96-5	
Molybdenum	1.6J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:00	7439-98-7	B
Potassium	28200	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:00	7440-09-7	
Sodium	2920	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:00	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.68J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:42	7440-38-2	
Selenium	4.3	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:42	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	464	mg/L	20.0	4.6	1		11/02/22 17:01		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	520	mg/L	10.0	10.0	1		11/01/22 14:20		
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		11/11/22 22:59	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 22:59	16984-48-8	
Sulfate	17.5	mg/L	1.0	0.55	1		11/11/22 22:59	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-1D **Lab ID: 60413956013** Collected: 10/26/22 14:39 Received: 10/28/22 03:43 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	1410	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:02	7440-39-3	
Boron	60.6J	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:02	7440-42-8	
Calcium	138000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:02	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:02	7440-48-4	
Iron	8450	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 13:02	7439-89-6	
Lithium	25.3	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:02	7439-93-2	
Magnesium	34300	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:02	7439-95-4	
Manganese	234	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:02	7439-96-5	
Molybdenum	1.2J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:02	7439-98-7	B
Potassium	4240	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:02	7440-09-7	
Sodium	11500	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:02	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	1.3	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:45	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:45	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	6.6J	mg/L	20.0	4.6	1		11/03/22 18:10		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	545	mg/L	10.0	10.0	1		11/01/22 14:20		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	3.5	mg/L	1.0	0.53	1		11/11/22 23:28	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 23:28	16984-48-8	
Sulfate	17.9	mg/L	1.0	0.55	1		11/11/22 23:28	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-2M **Lab ID: 60413956014** Collected: 10/26/22 13:15 Received: 10/28/22 03:43 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	89.5	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:04	7440-39-3	
Boron	1350	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:04	7440-42-8	
Calcium	70900	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:04	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:04	7440-48-4	
Iron	2120	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 13:04	7439-89-6	
Lithium	25.3	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:04	7439-93-2	
Magnesium	10300	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:04	7439-95-4	
Manganese	299	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:04	7439-96-5	
Molybdenum	62.1	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:04	7439-98-7	
Potassium	5040	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:04	7440-09-7	
Sodium	48700	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:04	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.63J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:51	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:51	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	254	mg/L	20.0	4.6	1		11/03/22 18:17		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	588	mg/L	10.0	10.0	1		11/01/22 14:20		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	25.0	mg/L	5.0	2.6	5		11/15/22 02:15	16887-00-6	B
Fluoride	0.15J	mg/L	0.20	0.12	1		11/12/22 00:27	16984-48-8	
Sulfate	163	mg/L	20.0	11.0	20		11/12/22 00:41	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-2D **Lab ID: 60413956015** Collected: 10/26/22 14:05 Received: 10/28/22 03:43 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	113	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:06	7440-39-3	
Boron	1620	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:06	7440-42-8	
Calcium	92500	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:06	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:06	7440-48-4	
Iron	3430	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 13:06	7439-89-6	
Lithium	38.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:06	7439-93-2	
Magnesium	16100	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:06	7439-95-4	
Manganese	302	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:06	7439-96-5	
Molybdenum	110	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:06	7439-98-7	
Potassium	5520	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:06	7440-09-7	
Sodium	58200	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:06	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	10.7	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:54	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:54	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	254	mg/L	20.0	4.6	1		11/03/22 18:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	1320	mg/L	10.0	10.0	1		11/01/22 14:20		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	25.0	mg/L	10.0	5.3	10		11/12/22 01:11	16887-00-6	B
Fluoride	0.14J	mg/L	0.20	0.12	1		11/12/22 00:56	16984-48-8	
Sulfate	154	mg/L	10.0	5.5	10		11/12/22 01:11	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-AM-1S **Lab ID: 60413956016** Collected: 10/26/22 10:40 Received: 10/28/22 03:43 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	577	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:08	7440-39-3	
Boron	316	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:08	7440-42-8	
Calcium	166000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:08	7440-70-2	
Cobalt	3.5J	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:08	7440-48-4	
Iron	14200	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 13:08	7439-89-6	
Lithium	33.5	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:08	7439-93-2	
Magnesium	33700	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:08	7439-95-4	
Manganese	2780	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:08	7439-96-5	
Molybdenum	3.3J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:08	7439-98-7	B
Potassium	6180	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:08	7440-09-7	
Sodium	50300	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:08	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	11.0	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:56	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:56	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	672	mg/L	20.0	4.6	1		11/03/22 18:39		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	755	mg/L	13.3	13.3	1		11/01/22 14:21		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	35.9	mg/L	5.0	2.6	5		11/12/22 01:40	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/12/22 01:25	16984-48-8	
Sulfate	5.1	mg/L	1.0	0.55	1		11/12/22 01:25	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-AM-1D **Lab ID: 60413956017** Collected: 10/26/22 11:50 Received: 10/28/22 03:43 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	61.2	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:34	7440-39-3	
Boron	8070	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:34	7440-42-8	
Calcium	97400	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:34	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:34	7440-48-4	
Iron	4830	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:23	7439-89-6	
Lithium	38.9	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:34	7439-93-2	
Magnesium	11900	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:34	7439-95-4	
Manganese	248	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:34	7439-96-5	
Molybdenum	321	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:34	7439-98-7	
Potassium	8950	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:34	7440-09-7	
Sodium	104000	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:34	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	3.7	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:24	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:24	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	147	mg/L	20.0	4.6	1		11/03/22 18:47		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	807	mg/L	10.0	10.0	1		11/01/22 14:21		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	36.9	mg/L	10.0	5.3	10		11/15/22 02:59	16887-00-6	B,D6
Fluoride	<0.12	mg/L	0.20	0.12	1		11/12/22 01:55	16984-48-8	M1
Sulfate	353	mg/L	50.0	27.5	50		11/12/22 03:22	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-DUP-3 **Lab ID: 60413956018** Collected: 10/26/22 08:00 Received: 10/28/22 03:43 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	100	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:13	7440-39-3	
Boron	5510	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:13	7440-42-8	
Calcium	57900	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:13	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:13	7440-48-4	
Iron	2220	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 13:13	7439-89-6	
Lithium	16.7	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:13	7439-93-2	
Magnesium	9860	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:13	7439-95-4	
Manganese	285	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:13	7439-96-5	
Molybdenum	259	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:13	7439-98-7	
Potassium	5150	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:13	7440-09-7	
Sodium	78000	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:13	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.20J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:59	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:59	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	101	mg/L	20.0	4.6	1		11/03/22 18:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	539	mg/L	10.0	10.0	1		11/01/22 14:21		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	22.8	mg/L	5.0	2.6	5		11/15/22 03:58	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/12/22 04:21	16984-48-8	
Sulfate	239	mg/L	50.0	27.5	50		11/12/22 04:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-FB-1 **Lab ID: 60413956019** Collected: 10/26/22 14:49 Received: 10/28/22 03:43 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	<0.82	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:21	7440-39-3	
Boron	<7.6	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:21	7440-42-8	
Calcium	<26.5	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:21	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:21	7440-48-4	
Iron	<7.4	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:11	7439-89-6	
Lithium	<2.9	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:21	7439-93-2	
Magnesium	<24.1	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:21	7439-95-4	
Manganese	<0.38	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:21	7439-96-5	
Molybdenum	<0.91	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:21	7439-98-7	
Potassium	<90.1	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:21	7440-09-7	
Sodium	<38.8	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:21	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.14	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:08	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:08	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		11/03/22 19:03		
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		11/01/22 14:21		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.57J	mg/L	1.0	0.53	1		11/12/22 04:50	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/12/22 04:50	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		11/12/22 04:50	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-FB-2 **Lab ID: 60413956020** Collected: 10/26/22 10:50 Received: 10/28/22 03:43 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	<0.82	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:23	7440-39-3	
Boron	<7.6	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:23	7440-42-8	
Calcium	<26.5	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:23	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:23	7440-48-4	
Iron	<7.4	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:13	7439-89-6	
Lithium	<2.9	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:23	7439-93-2	
Magnesium	<24.1	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:23	7439-95-4	
Manganese	<0.38	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:23	7439-96-5	
Molybdenum	<0.91	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:23	7439-98-7	
Potassium	<90.1	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:23	7440-09-7	
Sodium	<38.8	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:23	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	<0.14	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:10	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:10	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		11/03/22 19:07		
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		11/02/22 11:26		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	0.54J	mg/L	1.0	0.53	1		11/12/22 05:05	16887-00-6	B
Fluoride	<0.12	mg/L	0.20	0.12	1		11/12/22 05:05	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		11/12/22 05:05	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-33(D) **Lab ID: 60413956026** Collected: 10/28/22 13:29 Received: 10/29/22 03:41 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	130	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:49	7440-39-3	
Boron	9220	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:49	7440-42-8	M1
Calcium	108000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:49	7440-70-2	M1
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:49	7440-48-4	
Iron	5240	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:38	7439-89-6	M1
Lithium	34.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:49	7439-93-2	
Magnesium	22000	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:49	7439-95-4	M1
Manganese	275	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:49	7439-96-5	
Molybdenum	792	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:49	7439-98-7	M1
Potassium	7390	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:49	7440-09-7	M1
Sodium	99400	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:49	7440-23-5	M1
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	3.4	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:39	7440-38-2	M1
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:39	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	109	mg/L	20.0	4.6	1		11/10/22 12:42		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	801	mg/L	10.0	10.0	1		11/04/22 13:25		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	21.1	mg/L	2.0	1.1	2		11/10/22 22:23	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/10/22 22:09	16984-48-8	
Sulfate	425	mg/L	50.0	27.5	50		11/10/22 23:07	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-34(D) **Lab ID: 60413956027** Collected: 10/28/22 12:50 Received: 10/29/22 03:41 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	94.1	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:51	7440-39-3	
Boron	9580	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:51	7440-42-8	
Calcium	101000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:51	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:51	7440-48-4	
Iron	5670	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:40	7439-89-6	
Lithium	35.1	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:51	7439-93-2	
Magnesium	23700	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:51	7439-95-4	
Manganese	256	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:51	7439-96-5	
Molybdenum	762	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:51	7439-98-7	
Potassium	6880	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:51	7440-09-7	
Sodium	71700	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:51	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	3.4	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:42	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:42	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	200	mg/L	20.0	4.6	1		11/10/22 12:48		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	666	mg/L	10.0	10.0	1		11/04/22 13:26		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.5	mg/L	1.0	0.53	1		11/10/22 23:22	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/10/22 23:22	16984-48-8	
Sulfate	267	mg/L	20.0	11.0	20		11/10/22 23:36	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-3M **Lab ID: 60413956028** Collected: 10/28/22 09:50 Received: 10/29/22 03:41 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	0.82	1	11/15/22 14:08	11/18/22 13:53	7440-39-3	
Boron	5050	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:53	7440-42-8	
Calcium	103000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:53	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:53	7440-48-4	
Iron	8200	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:42	7439-89-6	
Lithium	30.9	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:53	7439-93-2	
Magnesium	21900	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:53	7439-95-4	
Manganese	1240	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:53	7439-96-5	
Molybdenum	296	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:53	7439-98-7	
Potassium	5020	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:53	7440-09-7	
Sodium	59300	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:53	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.36J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:44	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:44	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	262	mg/L	20.0	4.6	1		11/10/22 13:04		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	608	mg/L	10.0	10.0	1		11/04/22 13:26		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	19.2	mg/L	1.0	0.53	1		11/10/22 23:51	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/10/22 23:51	16984-48-8	
Sulfate	197	mg/L	20.0	11.0	20		11/11/22 00:06	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-3D **Lab ID: 60413956029** Collected: 10/28/22 09:10 Received: 10/29/22 03:41 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	62.3	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:55	7440-39-3	
Boron	9470	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:55	7440-42-8	
Calcium	90500	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:55	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:55	7440-48-4	
Iron	4220	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:44	7439-89-6	
Lithium	31.7	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:55	7439-93-2	
Magnesium	19800	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:55	7439-95-4	
Manganese	158	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:55	7439-96-5	
Molybdenum	481	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:55	7439-98-7	
Potassium	6690	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:55	7440-09-7	
Sodium	119000	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:55	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.5	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:47	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:47	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	117	mg/L	20.0	4.6	1		11/10/22 13:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	814	mg/L	10.0	10.0	1		11/04/22 13:26		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	23.8	mg/L	5.0	2.6	5		11/11/22 00:35	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 00:20	16984-48-8	
Sulfate	527	mg/L	100	55.0	100		11/11/22 00:49	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-FB-3 **Lab ID: 60413956030** Collected: 10/28/22 13:05 Received: 10/29/22 03:41 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	<0.82	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:57	7440-39-3	
Boron	16.5J	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:57	7440-42-8	
Calcium	<26.5	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:57	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:57	7440-48-4	
Iron	9.0J	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:46	7439-89-6	
Lithium	<2.9	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:57	7439-93-2	
Magnesium	<24.1	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:57	7439-95-4	
Manganese	<0.38	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:57	7439-96-5	
Molybdenum	1.2J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:57	7439-98-7	
Potassium	<90.1	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:57	7440-09-7	
Sodium	103J	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:57	7440-23-5	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic	<0.14	ug/L	1.0	0.14	1	11/15/22 14:08	11/22/22 09:26	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/22/22 09:26	7782-49-2	
2320B Alkalinity		Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity, Total as CaCO3	<4.6	mg/L	20.0	4.6	1		11/10/22 13:21		
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		11/04/22 13:26		
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		11/11/22 01:04	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 01:04	16984-48-8	
Sulfate	<0.55	mg/L	1.0	0.55	1		11/11/22 01:04	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-26 **Lab ID: 60413956008** Collected: 10/24/22 09:28 Received: 10/26/22 03:51 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Kansas City									
Barium	184	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:41	7440-39-3	
Boron	68.3J	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:41	7440-42-8	
Calcium	128000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:41	7440-70-2	M1
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:41	7440-48-4	
Iron	7.5J	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:41	7439-89-6	
Lithium	24.3	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:41	7439-93-2	
Magnesium	23200	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:41	7439-95-4	
Manganese	68.9	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:41	7439-96-5	
Molybdenum	<0.91	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:41	7439-98-7	
Potassium	4180	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:41	7440-09-7	
Sodium	5270	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:41	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.48J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:22	7440-38-2	
Selenium	5.6	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:22	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	410	mg/L	20.0	4.6	1		11/01/22 18:26		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	493	mg/L	10.0	10.0	1		10/31/22 14:22		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	10.3	mg/L	1.0	0.53	1		11/11/22 20:50	16887-00-6	M1
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 20:50	16984-48-8	M1
Sulfate	31.3	mg/L	10.0	5.5	10		11/15/22 21:10	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-LMW-2S **Lab ID: 60413956009** Collected: 10/25/22 12:58 Received: 10/26/22 03:51 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	48.4	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:47	7440-39-3	
Boron	3250	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:47	7440-42-8	
Calcium	75900	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:47	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:47	7440-48-4	
Iron	17.4J	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:47	7439-89-6	
Lithium	13.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:47	7439-93-2	
Magnesium	103	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:47	7439-95-4	
Manganese	2.0J	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:47	7439-96-5	B
Molybdenum	218	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:47	7439-98-7	
Potassium	9690	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:47	7440-09-7	
Sodium	69000	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:47	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	46.0	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:33	7440-38-2	
Selenium	0.24J	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:33	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	35.1	mg/L	20.0	4.6	1		11/02/22 19:30		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	556	mg/L	10.0	10.0	1		11/01/22 14:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	15.8	mg/L	1.0	0.53	1		11/11/22 22:17	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 22:17	16984-48-8	
Sulfate	299	mg/L	20.0	11.0	20		11/11/22 22:32	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-LMW-4S **Lab ID: 60413956010** Collected: 10/25/22 14:17 Received: 10/26/22 03:51 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	142	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 12:56	7440-39-3	
Boron	5490	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 12:56	7440-42-8	
Calcium	139000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 12:56	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 12:56	7440-48-4	
Iron	6370	ug/L	50.0	7.4	1	11/15/22 14:08	11/18/22 12:56	7439-89-6	
Lithium	35.4	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 12:56	7439-93-2	
Magnesium	24000	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 12:56	7439-95-4	
Manganese	1380	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 12:56	7439-96-5	
Molybdenum	87.7	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 12:56	7439-98-7	
Potassium	6150	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 12:56	7440-09-7	
Sodium	67700	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 12:56	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	19.3	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 14:36	7440-38-2	
Selenium	0.46J	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 14:36	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	398	mg/L	20.0	4.6	1		11/02/22 19:35		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	756	mg/L	10.0	10.0	1		11/01/22 14:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	39.5	mg/L	10.0	5.3	10		11/11/22 23:01	16887-00-6	B
Fluoride	0.13J	mg/L	0.20	0.12	1		11/11/22 22:47	16984-48-8	
Sulfate	174	mg/L	10.0	5.5	10		11/11/22 23:01	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-LMW-1S **Lab ID: 60413956023** Collected: 10/27/22 13:12 Received: 10/28/22 03:43 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	88.2	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:25	7440-39-3	
Boron	2240	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:25	7440-42-8	
Calcium	108000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:25	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:25	7440-48-4	
Iron	1270	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:15	7439-89-6	
Lithium	11.2	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:25	7439-93-2	
Magnesium	18300	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:25	7439-95-4	
Manganese	647	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:25	7439-96-5	
Molybdenum	3.5J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:25	7439-98-7	B
Potassium	3600	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:25	7440-09-7	
Sodium	8040	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:25	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	3.5	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:11	7440-38-2	
Selenium	5.7	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:11	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	311	mg/L	20.0	4.6	1		11/03/22 16:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	430	mg/L	10.0	10.0	1		11/03/22 15:40		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	4.9	mg/L	1.0	0.53	1		11/14/22 12:46	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 12:46	16984-48-8	
Sulfate	74.3	mg/L	20.0	11.0	20		11/14/22 13:00	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-BMW-1S **Lab ID: 60413956024** Collected: 10/27/22 10:36 Received: 10/28/22 03:43 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	315	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:27	7440-39-3	
Boron	91.2J	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:27	7440-42-8	
Calcium	185000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:27	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:27	7440-48-4	
Iron	30500	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:17	7439-89-6	
Lithium	16.8	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:27	7439-93-2	
Magnesium	37200	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:27	7439-95-4	
Manganese	2320	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:27	7439-96-5	
Molybdenum	<0.91	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:27	7439-98-7	
Potassium	4940	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:27	7440-09-7	
Sodium	15500	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:27	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	22.8	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:14	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:14	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	625	mg/L	20.0	4.6	1		11/03/22 16:57		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	710	mg/L	10.0	10.0	1		11/03/22 15:40		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	5.9	mg/L	1.0	0.53	1		11/14/22 13:44	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 13:44	16984-48-8	
Sulfate	66.5	mg/L	5.0	2.8	5		11/14/22 13:59	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-BMW-2S **Lab ID: 60413956025** Collected: 10/27/22 11:35 Received: 10/28/22 03:43 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	271	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:47	7440-39-3	
Boron	45.3J	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:47	7440-42-8	
Calcium	146000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:47	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:47	7440-48-4	
Iron	16.0J	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:35	7439-89-6	
Lithium	19.6	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:47	7439-93-2	
Magnesium	21300	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:47	7439-95-4	
Manganese	4.9J	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:47	7439-96-5	
Molybdenum	2.2J	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:47	7439-98-7	
Potassium	5400	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:47	7440-09-7	
Sodium	4130	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:47	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	0.40J	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:36	7440-38-2	
Selenium	5.1	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:36	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	404	mg/L	20.0	4.6	1		11/03/22 17:04		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	496	mg/L	10.0	10.0	1		11/03/22 15:40		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	1.4	mg/L	1.0	0.53	1		11/14/22 14:47	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/14/22 14:47	16984-48-8	
Sulfate	34.4	mg/L	5.0	2.8	5		11/14/22 15:01	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-LMW-7S **Lab ID: 60413956031** Collected: 10/28/22 11:14 Received: 10/29/22 03:41 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	280	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 13:59	7440-39-3	
Boron	7050	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 13:59	7440-42-8	
Calcium	185000	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 13:59	7440-70-2	
Cobalt	4.0J	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 13:59	7440-48-4	
Iron	2430	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:48	7439-89-6	
Lithium	49.0	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 13:59	7439-93-2	
Magnesium	38800	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 13:59	7439-95-4	
Manganese	1840	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 13:59	7439-96-5	
Molybdenum	59.7	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 13:59	7439-98-7	
Potassium	7900	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 13:59	7440-09-7	
Sodium	44200	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 13:59	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	7.8	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:55	7440-38-2	
Selenium	<0.18	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:55	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	493	mg/L	20.0	4.6	1		11/11/22 16:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	829	mg/L	13.3	13.3	1		11/04/22 13:26		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	17.5	mg/L	1.0	0.53	1		11/11/22 09:52	16887-00-6	
Fluoride	<0.12	mg/L	0.20	0.12	1		11/11/22 09:52	16984-48-8	
Sulfate	202	mg/L	20.0	11.0	20		11/11/22 10:40	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-LMW-8S **Lab ID: 60413956032** Collected: 10/27/22 17:15 Received: 10/29/22 03:41 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	90.1	ug/L	5.0	0.82	1	11/15/22 14:08	11/18/22 14:02	7440-39-3	
Boron	2760	ug/L	100	7.6	1	11/15/22 14:08	11/18/22 14:02	7440-42-8	
Calcium	82700	ug/L	200	26.5	1	11/15/22 14:08	11/18/22 14:02	7440-70-2	
Cobalt	<1.3	ug/L	5.0	1.3	1	11/15/22 14:08	11/18/22 14:02	7440-48-4	
Iron	2310	ug/L	50.0	7.4	1	11/15/22 14:08	11/21/22 11:50	7439-89-6	
Lithium	15.7	ug/L	10.0	2.9	1	11/15/22 14:08	11/18/22 14:02	7439-93-2	
Magnesium	14000	ug/L	50.0	24.1	1	11/15/22 14:08	11/18/22 14:02	7439-95-4	
Manganese	389	ug/L	5.0	0.38	1	11/15/22 14:08	11/18/22 14:02	7439-96-5	
Molybdenum	99.2	ug/L	20.0	0.91	1	11/15/22 14:08	11/18/22 14:02	7439-98-7	
Potassium	4450	ug/L	500	90.1	1	11/15/22 14:08	11/18/22 14:02	7440-09-7	
Sodium	38200	ug/L	500	38.8	1	11/15/22 14:08	11/18/22 14:02	7440-23-5	
200.8 MET ICPMS									
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Pace Analytical Services - Kansas City									
Arsenic	9.2	ug/L	1.0	0.14	1	11/15/22 14:08	11/18/22 15:58	7440-38-2	
Selenium	1.8	ug/L	1.0	0.18	1	11/15/22 14:08	11/18/22 15:58	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Kansas City									
Alkalinity, Total as CaCO3	266	mg/L	20.0	4.6	1		11/11/22 16:12		H3
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Kansas City									
Total Dissolved Solids	404	mg/L	10.0	10.0	1		11/04/22 13:26		H3
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Pace Analytical Services - Kansas City									
Chloride	3.2	mg/L	1.0	0.53	1		11/11/22 11:27	16887-00-6	B
Fluoride	0.54	mg/L	0.20	0.12	1		11/11/22 11:27	16984-48-8	
Sulfate	93.1	mg/L	20.0	11.0	20		11/14/22 23:48	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	818348	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 Metals, Total
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008, 60413956009, 60413956010, 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956018, 60413956019, 60413956020, 60413956023, 60413956024

METHOD BLANK: 3254663 Matrix: Water

Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008, 60413956009, 60413956010, 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956018, 60413956019, 60413956020, 60413956023, 60413956024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.82	5.0	0.82	11/18/22 12:19	
Boron	ug/L	<7.6	100	7.6	11/18/22 12:19	
Calcium	ug/L	57.2J	200	26.5	11/18/22 12:19	
Cobalt	ug/L	<1.3	5.0	1.3	11/18/22 12:19	
Iron	ug/L	<7.4	50.0	7.4	11/18/22 12:19	
Lithium	ug/L	<2.9	10.0	2.9	11/18/22 12:19	
Magnesium	ug/L	<24.1	50.0	24.1	11/18/22 12:19	
Manganese	ug/L	0.71J	5.0	0.38	11/18/22 12:19	
Molybdenum	ug/L	1.6J	20.0	0.91	11/18/22 12:19	
Potassium	ug/L	<90.1	500	90.1	11/18/22 12:19	
Sodium	ug/L	<38.8	500	38.8	11/21/22 11:09	

LABORATORY CONTROL SAMPLE: 3254664

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	983	98	85-115	
Boron	ug/L	1000	960	96	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	993	99	85-115	
Iron	ug/L	10000	10000	100	85-115	
Lithium	ug/L	1000	976	98	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9940	99	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254665 3254666

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60413956008	Spike Conc.	Spike Conc.	Result						
Barium	ug/L	184	1000	1000	1150	1120	97	94	70-130	2	20
Boron	ug/L	68.3J	1000	1000	1010	990	94	92	70-130	2	20
Calcium	ug/L	128000	10000	10000	141000	139000	132	115	70-130	1	20 M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254665 3254666											
Parameter	Units	60413956008 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Cobalt	ug/L	<1.3	1000	1000	938	916	94	92	70-130	2	20
Iron	ug/L	7.5J	10000	10000	9930	9660	99	97	70-130	3	20
Lithium	ug/L	24.3	1000	1000	1000	976	98	95	70-130	3	20
Magnesium	ug/L	23200	10000	10000	33300	33000	101	98	70-130	1	20
Manganese	ug/L	68.9	1000	1000	1040	1020	97	95	70-130	2	20
Molybdenum	ug/L	<0.91	1000	1000	992	970	99	97	70-130	2	20
Potassium	ug/L	4180	10000	10000	14300	13900	101	97	70-130	3	20
Sodium	ug/L	5270	10000	10000	15500	15200	102	99	70-130	2	20

MATRIX SPIKE SAMPLE: 3254667								
Parameter	Units	60413956016 Result	Spike	MS	MS	% Rec	Qualifiers	
			Conc.	Result	% Rec	Limits		
Barium	ug/L	577	1000	1520	94	70-130		
Boron	ug/L	316	1000	1240	92	70-130		
Calcium	ug/L	166000	10000	178000	120	70-130		
Cobalt	ug/L	3.5J	1000	905	90	70-130		
Iron	ug/L	14200	10000	24400	102	70-130		
Lithium	ug/L	33.5	1000	976	94	70-130		
Magnesium	ug/L	33700	10000	43500	98	70-130		
Manganese	ug/L	2780	1000	3680	90	70-130		
Molybdenum	ug/L	3.3J	1000	958	96	70-130		
Potassium	ug/L	6180	10000	16000	98	70-130		
Sodium	ug/L	50300	10000	60800	105	70-130		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA
Pace Project No.: 60413956

QC Batch: 818353 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60413956017, 60413956025, 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

METHOD BLANK: 3254702 Matrix: Water
Associated Lab Samples: 60413956017, 60413956025, 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	0.82J	5.0	0.82	11/18/22 13:30	
Boron	ug/L	<7.6	100	7.6	11/18/22 13:30	
Calcium	ug/L	<26.5	200	26.5	11/18/22 13:30	
Cobalt	ug/L	<1.3	5.0	1.3	11/18/22 13:30	
Iron	ug/L	19.1J	50.0	7.4	11/21/22 11:19	
Lithium	ug/L	<2.9	10.0	2.9	11/18/22 13:30	
Magnesium	ug/L	<24.1	50.0	24.1	11/18/22 13:30	
Manganese	ug/L	0.76J	5.0	0.38	11/18/22 13:30	
Molybdenum	ug/L	<0.91	20.0	0.91	11/18/22 13:30	
Potassium	ug/L	<90.1	500	90.1	11/18/22 13:30	
Sodium	ug/L	<38.8	500	38.8	11/18/22 13:30	

LABORATORY CONTROL SAMPLE: 3254703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	934	93	85-115	
Boron	ug/L	1000	896	90	85-115	
Calcium	ug/L	10000	9510	95	85-115	
Cobalt	ug/L	1000	930	93	85-115	
Iron	ug/L	10000	9980	100	85-115	
Lithium	ug/L	1000	923	92	85-115	
Magnesium	ug/L	10000	9300	93	85-115	
Manganese	ug/L	1000	940	94	85-115	
Molybdenum	ug/L	1000	944	94	85-115	
Potassium	ug/L	10000	9370	94	85-115	
Sodium	ug/L	10000	9530	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254704 3254705

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		60413956017 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Barium	ug/L	61.2	1000	1000	1000	1020	94	95	70-130	1	20	
Boron	ug/L	8070	1000	1000	9180	9250	111	117	70-130	1	20	
Calcium	ug/L	97400	10000	10000	109000	110000	117	123	70-130	1	20	
Cobalt	ug/L	<1.3	1000	1000	911	941	91	94	70-130	3	20	
Iron	ug/L	4830	10000	10000	14900	14800	101	99	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3254704												3254705	
Parameter	Units	60413956017		MS	MSD	MS	MSD	MS	MSD	% Rec	Max		
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD		
Lithium	ug/L	38.9	1000	1000	992	1010	95	97	70-130	2	20		
Magnesium	ug/L	11900	10000	10000	21200	21300	93	94	70-130	0	20		
Manganese	ug/L	248	1000	1000	1170	1200	92	95	70-130	3	20		
Molybdenum	ug/L	321	1000	1000	1270	1300	95	98	70-130	2	20		
Potassium	ug/L	8950	10000	10000	18900	19200	100	103	70-130	2	20		
Sodium	ug/L	104000	10000	10000	115000	115000	109	113	70-130	0	20		

MATRIX SPIKE SAMPLE: 3254706											
Parameter	Units	60413956026		Spike	MS	MS	% Rec	Qualifiers			
		Result	Conc.						Result	% Rec	
Barium	ug/L	130	1000	1050	92	70-130					
Boron	ug/L	9220	1000	7710	-151	70-130	M1				
Calcium	ug/L	108000	10000	84800	-232	70-130	M1				
Cobalt	ug/L	<1.3	1000	975	97	70-130					
Iron	ug/L	5240	10000	10400	51	70-130	M1				
Lithium	ug/L	34.0	1000	1010	98	70-130					
Magnesium	ug/L	22000	10000	9740	-122	70-130	M1				
Manganese	ug/L	275	1000	995	72	70-130					
Molybdenum	ug/L	792	1000	1450	65	70-130	M1				
Potassium	ug/L	7390	10000	22600	152	70-130	M1				
Sodium	ug/L	99400	10000	89100	-103	70-130	M1				

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	818349	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008, 60413956009, 60413956010, 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956018, 60413956019, 60413956020, 60413956023, 60413956024		

METHOD BLANK:	3254670	Matrix:	Water
Associated Lab Samples:	60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008, 60413956009, 60413956010, 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956018, 60413956019, 60413956020, 60413956023, 60413956024		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/18/22 14:00	
Selenium	ug/L	<0.18	1.0	0.18	11/18/22 14:00	

LABORATORY CONTROL SAMPLE:	3254671					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	36.0	90	85-115	
Selenium	ug/L	40	37.2	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3254672		3254673									
Parameter	Units	60413956008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.48J	40	40	35.4	35.8	87	88	70-130	1	20	
Selenium	ug/L	5.6	40	40	40.5	40.7	87	88	70-130	1	20	

MATRIX SPIKE SAMPLE:	3254674											
Parameter	Units	60413956018 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers					
Arsenic	ug/L	0.20J	40	42.6	106	70-130						
Selenium	ug/L	<0.18	40	42.1	105	70-130						

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

QC Project No.: 60413956

QC Batch:	818355	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60413956017, 60413956025, 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032		

METHOD BLANK:	3254713	Matrix:	Water
Associated Lab Samples:	60413956017, 60413956025, 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.14	1.0	0.14	11/18/22 15:20	
Selenium	ug/L	<0.18	1.0	0.18	11/18/22 15:20	

LABORATORY CONTROL SAMPLE:	3254714					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	36.9	92	85-115	
Selenium	ug/L	40	38.3	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3254715			3254716								
Parameter	Units	60413956017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	3.7	40	40	45.3	40.2	104	91	70-130	12	20	
Selenium	ug/L	<0.18	40	40	40.5	36.3	101	91	70-130	11	20	

MATRIX SPIKE SAMPLE:	3254717										
Parameter	Units	60413956026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
Arsenic	ug/L		3.4	40	58.8	138	70-130 M1				
Selenium	ug/L		<0.18	40	35.6	89	70-130				

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 815835 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008

METHOD BLANK: 3244507 Matrix: Water
 Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	4.8J	20.0	4.6	11/01/22 16:22	

LABORATORY CONTROL SAMPLE: 3244508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	485	97	90-110	

SAMPLE DUPLICATE: 3244509

Parameter	Units	60414091002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	639	641	0	10	

SAMPLE DUPLICATE: 3244510

Parameter	Units	60413956004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	273	274	0	10	

SAMPLE DUPLICATE: 3244511

Parameter	Units	60413956008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	410	412	0	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 816115

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956009, 60413956010

METHOD BLANK: 3245813

Matrix: Water

Associated Lab Samples: 60413956009, 60413956010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/02/22 17:08	

LABORATORY CONTROL SAMPLE: 3245814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3245815

Parameter	Units	60414372001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	331	332	0	10	

SAMPLE DUPLICATE: 3245816

Parameter	Units	60414372006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	246	247	0	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	816118	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956011, 60413956012

METHOD BLANK: 3245823 Matrix: Water

Associated Lab Samples: 60413956011, 60413956012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/02/22 14:01	

LABORATORY CONTROL SAMPLE: 3245824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3245825

Parameter	Units	60413959002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	66.6	63.3	5	10	

SAMPLE DUPLICATE: 3245826

Parameter	Units	60413960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	326	327	0	10	

SAMPLE DUPLICATE: 3245827

Parameter	Units	60413961001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	651	659	1	10	

SAMPLE DUPLICATE: 3245828

Parameter	Units	60414104002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	508	505	1	10	

SAMPLE DUPLICATE: 3245829

Parameter	Units	60414104004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	392	383	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	816349	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020		

METHOD BLANK:	3246752	Matrix:	Water
Associated Lab Samples:	60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/03/22 17:58	

LABORATORY CONTROL SAMPLE: 3246753

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3246754

Parameter	Units	60413956013 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	6.6J	<4.6		10	

SAMPLE DUPLICATE: 3246755

Parameter	Units	60413956017 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	147	143	3	10	

SAMPLE DUPLICATE: 3246756

Parameter	Units	60413959012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	<4.6		10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 816350 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Kansas City
 Associated Lab Samples: 60413956023, 60413956024, 60413956025

METHOD BLANK: 3246761 Matrix: Water
 Associated Lab Samples: 60413956023, 60413956024, 60413956025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<4.6	20.0	4.6	11/03/22 15:09	

LABORATORY CONTROL SAMPLE: 3246762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3246763

Parameter	Units	60414155002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	81.3	77.4	5	10	

SAMPLE DUPLICATE: 3246764

Parameter	Units	60414190001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	297	299	1	10	

SAMPLE DUPLICATE: 3246765

Parameter	Units	60413959007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	158	152	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 817517

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956026, 60413956027

METHOD BLANK: 3251232

Matrix: Water

Associated Lab Samples: 60413956026, 60413956027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<4.6	20.0	4.6	11/10/22 10:12	

LABORATORY CONTROL SAMPLE: 3251233

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	508	102	90-110	

SAMPLE DUPLICATE: 3251234

Parameter	Units	60414609001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	241	239	1	10	

SAMPLE DUPLICATE: 3251235

Parameter	Units	60414252001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	338	341	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 817518

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956028, 60413956029, 60413956030

METHOD BLANK: 3251236

Matrix: Water

Associated Lab Samples: 60413956028, 60413956029, 60413956030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	6.0J	20.0	4.6	11/10/22 12:53	

LABORATORY CONTROL SAMPLE: 3251237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	482	96	90-110	

SAMPLE DUPLICATE: 3251238

Parameter	Units	60413956028 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	262	258	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 817839

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956031, 60413956032

METHOD BLANK: 3252545

Matrix: Water

Associated Lab Samples: 60413956031, 60413956032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	8.0J	20.0	4.6	11/11/22 16:12	

LABORATORY CONTROL SAMPLE: 3252546

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	483	97	90-110	

SAMPLE DUPLICATE: 3252547

Parameter	Units	60413956031 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	493	496	0	10	

SAMPLE DUPLICATE: 3252548

Parameter	Units	60414790006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	325	322	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	815561	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008

METHOD BLANK: 3243642 Matrix: Water
Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	10/31/22 14:20	

LABORATORY CONTROL SAMPLE: 3243643

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

SAMPLE DUPLICATE: 3243645

Parameter	Units	60413956008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	493	489	1	10	

SAMPLE DUPLICATE: 3244133

Parameter	Units	60413768001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	720	735	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 815775

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956009, 60413956010

METHOD BLANK: 3244259

Matrix: Water

Associated Lab Samples: 60413956009, 60413956010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/01/22 14:13	

LABORATORY CONTROL SAMPLE: 3244260

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

SAMPLE DUPLICATE: 3244261

Parameter	Units	60413960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	700	707	1	10	

SAMPLE DUPLICATE: 3244262

Parameter	Units	60413961001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1070	1080	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	815776	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019

METHOD BLANK: 3244263 Matrix: Water

Associated Lab Samples: 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/01/22 14:18	

LABORATORY CONTROL SAMPLE: 3244264

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

SAMPLE DUPLICATE: 3244265

Parameter	Units	60414104002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	671	674	0	10	

SAMPLE DUPLICATE: 3244266

Parameter	Units	60413956017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	807	818	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 815993

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956020

METHOD BLANK: 3245280

Matrix: Water

Associated Lab Samples: 60413956020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/02/22 11:26	

LABORATORY CONTROL SAMPLE: 3245281

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

SAMPLE DUPLICATE: 3245282

Parameter	Units	60413956020 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5.0	<5.0		10	

SAMPLE DUPLICATE: 3245283

Parameter	Units	60413960003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	511	561	9	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	816279	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956023, 60413956024, 60413956025

METHOD BLANK: 3246425 Matrix: Water

Associated Lab Samples: 60413956023, 60413956024, 60413956025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/03/22 15:39	

LABORATORY CONTROL SAMPLE: 3246426

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

SAMPLE DUPLICATE: 3246427

Parameter	Units	60414192001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3930	4030	3	10	

SAMPLE DUPLICATE: 3246428

Parameter	Units	60413959007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	762	794	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA
Pace Project No.: 60413956

QC Batch:	816527	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

METHOD BLANK: 3247566 Matrix: Water
Associated Lab Samples: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/04/22 13:24	

LABORATORY CONTROL SAMPLE: 3247959

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

SAMPLE DUPLICATE: 3247568

Parameter	Units	60414267001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2770	3010	8	10	

SAMPLE DUPLICATE: 3247569

Parameter	Units	60413959016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	181	176	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	817444	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030

METHOD BLANK: 3250958 Matrix: Water
Associated Lab Samples: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/10/22 08:51	
Fluoride	mg/L	<0.12	0.20	0.12	11/10/22 08:51	
Sulfate	mg/L	<0.55	1.0	0.55	11/10/22 08:51	

METHOD BLANK: 3253824 Matrix: Water
Associated Lab Samples: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/11/22 08:59	
Fluoride	mg/L	<0.12	0.20	0.12	11/11/22 08:59	
Sulfate	mg/L	<0.55	1.0	0.55	11/11/22 08:59	

LABORATORY CONTROL SAMPLE: 3250959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	102	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 3253825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250960 3250961

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60415072001 Result	Spike Conc.	Spike Conc.	Result						
Chloride	mg/L	306000	100000	100000	371000	65	51	80-120	4	15	M1
Fluoride	mg/L	ND	50000	50000	51300	103	104	80-120	2	15	
Sulfate	mg/L	ND	100000	100000	101000	91	92	80-120	1	15	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

MATRIX SPIKE SAMPLE:		3250962					
Parameter	Units	60414190001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	49.1	50	97.3	96	80-120	
Fluoride	mg/L	1.7	2.5	3.2	57	80-120	M1
Sulfate	mg/L	2630	2500	4770	86	80-120	M1

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	817445	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956031, 60413956032

METHOD BLANK: 3250964 Matrix: Water

Associated Lab Samples: 60413956031, 60413956032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/11/22 08:59	
Fluoride	mg/L	<0.12	0.20	0.12	11/11/22 08:59	
Sulfate	mg/L	<0.55	1.0	0.55	11/11/22 08:59	

METHOD BLANK: 3254907 Matrix: Water

Associated Lab Samples: 60413956031, 60413956032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.77J	1.0	0.53	11/15/22 01:16	
Fluoride	mg/L	<0.12	0.20	0.12	11/15/22 01:16	
Sulfate	mg/L	<0.55	1.0	0.55	11/15/22 01:16	

LABORATORY CONTROL SAMPLE: 3250965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 3254908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	102	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3250966 3250967

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60413956031 Result	Spike Conc.	Spike Conc.	Result						
Chloride	mg/L	17.5	100	100	114	111	97	94	80-120	3	15
Fluoride	mg/L	<0.12	2.5	2.5	2.3	2.2	90	87	80-120	4	15
Sulfate	mg/L	202	100	100	322	293	120	91	80-120	9	15

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA
Pace Project No.: 60413956

QC Batch: 817771 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008, 60413956009, 60413956010

METHOD BLANK: 3252261 Matrix: Water
Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008, 60413956009, 60413956010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.59J	1.0	0.53	11/11/22 17:54	
Fluoride	mg/L	<0.12	0.20	0.12	11/11/22 17:54	
Sulfate	mg/L	<0.55	1.0	0.55	11/11/22 17:54	

METHOD BLANK: 3255749 Matrix: Water
Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956008, 60413956009, 60413956010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/15/22 09:48	
Fluoride	mg/L	<0.12	0.20	0.12	11/15/22 09:48	
Sulfate	mg/L	<0.55	1.0	0.55	11/15/22 09:48	

LABORATORY CONTROL SAMPLE: 3252262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 3255750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252263 3252264

Parameter	Units	3252263		3252264		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	10.3	5	16.5	5	124	121	80-120	1	15	M1
Fluoride	mg/L	<0.12	2.5	3.2	2.5	125	122	80-120	2	15	M1

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252263												3252264	
Parameter	Units	60413956008 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Sulfate	mg/L	31.3	50	50	88.8	86.5	115	110	80-120	3	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252266												3252267	
Parameter	Units	60413960001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Chloride	mg/L	20.8	25	25	46.5	46.1	103	101	80-120	1	15		
Fluoride	mg/L	0.33	2.5	2.5	3.4	3.4	124	125	80-120	0	15 M1		
Sulfate	mg/L	198	100	100	307	305	109	107	80-120	1	15		

SAMPLE DUPLICATE: 3252265							
Parameter	Units	60413956008 Result	Dup Result	RPD	Max RPD	Qualifiers	
Chloride	mg/L	10.3	10.4	1	15		
Fluoride	mg/L	<0.12	<0.12		15		
Sulfate	mg/L	31.3	30.3	3	15		

SAMPLE DUPLICATE: 3252268							
Parameter	Units	60413960001 Result	Dup Result	RPD	Max RPD	Qualifiers	
Chloride	mg/L	20.8	21.4	3	15		
Fluoride	mg/L	0.33	0.33	0	15		
Sulfate	mg/L	198	188	5	15		

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	817773	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City
Associated Lab Samples:	60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020		

METHOD BLANK:	3252278	Matrix:	Water
Associated Lab Samples:	60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/11/22 19:05	
Fluoride	mg/L	<0.12	0.20	0.12	11/11/22 19:05	
Sulfate	mg/L	<0.55	1.0	0.55	11/11/22 19:05	

METHOD BLANK:	3255629	Matrix:	Water
Associated Lab Samples:	60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.60J	1.0	0.53	11/14/22 08:48	
Fluoride	mg/L	<0.12	0.20	0.12	11/14/22 08:48	
Sulfate	mg/L	<0.55	1.0	0.55	11/14/22 08:48	

LABORATORY CONTROL SAMPLE:	3252279					
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	103	90-110	
Sulfate	mg/L	5	4.7	93	90-110	

LABORATORY CONTROL SAMPLE:	3255630					
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	103	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3252280			3252281									
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result								
Chloride	mg/L	36.9	50	50	93.6	92.6	113	111	80-120	1	15		
Fluoride	mg/L	<0.12	2.5	2.5	3.2	3.2	124	125	80-120	1	15	M1	

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QUALITY CONTROL DATA

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3252280												3252281	
Parameter	Units	60413956017 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Sulfate	mg/L	353	250	250	631	626	111	109	80-120	1	15		

SAMPLE DUPLICATE: 3252282

Parameter	Units	60413956017 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	36.9	50.3	31	15	D6
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	353	332	6	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 LEC LCPA-CA

Pace Project No.: 60413956

QC Batch:	817968	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60413956023, 60413956024, 60413956025

METHOD BLANK: 3253027 Matrix: Water
Associated Lab Samples: 60413956023, 60413956024, 60413956025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/14/22 08:48	
Fluoride	mg/L	<0.12	0.20	0.12	11/14/22 08:48	
Sulfate	mg/L	<0.55	1.0	0.55	11/14/22 08:48	

LABORATORY CONTROL SAMPLE: 3253028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3253029 3253030

Parameter	Units	60413959007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	17.9	5	5	24.0	23.8	121	118	80-120	1	15	E,M1
Fluoride	mg/L	<0.12	2.5	2.5	2.6	2.5	102	98	80-120	4	15	
Sulfate	mg/L	413	250	250	685	685	108	108	80-120	0	15	

SAMPLE DUPLICATE: 3253031

Parameter	Units	60413959007 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	17.9	18.0	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	413	409	1	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-24 **Lab ID: 60413956001** Collected: 10/24/22 13:36 Received: 10/26/22 03:51 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	0.257 ± 0.193 (0.0996) C:NA T:95%	pCi/L	11/17/22 17:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.560 ± 0.438 (0.876) C:67% T:95%	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-35(D) **Lab ID: 60413956002** Collected: 10/24/22 11:52 Received: 10/26/22 03:51 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	-0.0782 ± 0.287 (0.621) C:NA T:93%	pCi/L	11/17/22 17:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.552 ± 0.393 (0.765) C:71% T:93%	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-4D **Lab ID: 60413956003** Collected: 10/24/22 15:57 Received: 10/26/22 03:51 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	1.20 ± 0.539 (0.615) C:NA T:95%	pCi/L	11/17/22 17:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.983 ± 0.445 (0.750) C:73% T:95%	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-DUP-1 Lab ID: 60413956004 Collected: 10/24/22 08:00 Received: 10/26/22 03:51 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.237 ± 0.192 (0.107) C:NA T:91%	pCi/L	11/17/22 17:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.01 ± 0.487 (0.847) C:71% T:91%	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-DUP-2 **Lab ID: 60413956005** Collected: 10/24/22 08:00 Received: 10/26/22 03:51 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	1.64 ± 0.530 (0.106) C:NA T:96%	pCi/L	11/17/22 17:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.42 ± 0.546 (0.853) C:67% T:96%	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-MS-1 Lab ID: 60413956006 Collected: 10/24/22 09:28 Received: 10/26/22 03:51 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	75.91 %REC ± NA (NA) C:NA T:NA	pCi/L	11/17/22 17:20	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	81.55 %REC ± NA (NA) C:NA T:NA	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	91.35 %REC 18.46RPD ± NA (NA) C:NA T:NA	pCi/L	11/17/22 17:20	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	87.19 %REC 6.68RPD ± NA (NA) C:NA T:NA	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	-0.0588 ± 0.346 (0.771) C:NA T:85%	pCi/L	11/22/22 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.759 ± 0.363 (0.624) C:88% T:85%	pCi/L	11/16/22 11:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-S-1 **Lab ID: 60413956012** Collected: 10/26/22 12:40 Received: 10/28/22 03:43 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	0.211 ± 0.463 (0.836) C:NA T:89%	pCi/L	11/22/22 12:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.75 ± 0.533 (0.702) C:86% T:89%	pCi/L	11/16/22 11:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-1D **Lab ID: 60413956013** Collected: 10/26/22 14:39 Received: 10/28/22 03:43 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	0.975 ± 0.536 (0.639) C:NA T:95%	pCi/L	11/22/22 12:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	2.09 ± 0.550 (0.578) C:91% T:95%	pCi/L	11/16/22 11:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-2M **Lab ID: 60413956014** Collected: 10/26/22 13:15 Received: 10/28/22 03:43 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	0.521 ± 0.547 (0.869) C:NA T:86%	pCi/L	11/22/22 12:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	1.87 ± 0.538 (0.642) C:87% T:86%	pCi/L	11/16/22 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-TP-2D Lab ID: 60413956015 Collected: 10/26/22 14:05 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.231 ± 0.392 (0.692) C:NA T:88%	pCi/L	11/22/22 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.47 ± 0.484 (0.663) C:82% T:88%	pCi/L	11/16/22 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-AM-1S **Lab ID: 60413956016** Collected: 10/26/22 10:40 Received: 10/28/22 03:43 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	0.307 ± 0.512 (0.890) C:NA T:94%	pCi/L	11/22/22 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.812 ± 0.390 (0.683) C:85% T:94%	pCi/L	11/16/22 11:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-AM-1D **Lab ID: 60413956017** Collected: 10/26/22 11:50 Received: 10/28/22 03:43 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	0.219 ± 0.505 (0.913) C:NA T:83%	pCi/L	11/22/22 12:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.915 ± 0.538 (1.02) C:83% T:83%	pCi/L	11/16/22 16:00	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-DUP-3 Lab ID: 60413956018 Collected: 10/26/22 08:00 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.221 ± 0.460 (0.829) C:NA T:88%	pCi/L	11/22/22 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.09 ± 0.596 (1.12) C:82% T:88%	pCi/L	11/16/22 16:00	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-FB-1 **Lab ID: 60413956019** Collected: 10/26/22 14:49 Received: 10/28/22 03:43 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	0.114 ± 0.317 (0.614) C:NA T:86%	pCi/L	11/22/22 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.0303 ± 0.323 (0.742) C:83% T:86%	pCi/L	11/16/22 15:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-FB-2 Lab ID: 60413956020 Collected: 10/26/22 10:50 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.103 ± 0.235 (0.378) C:NA T:93%	pCi/L	11/22/22 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.251 ± 0.275 (0.576) C:90% T:93%	pCi/L	11/16/22 15:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-CA-MS-2 Lab ID: 60413956021 Collected: 10/26/22 11:50 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	80.82 %REC ± NA (NA) C:NA T:NA	pCi/L	11/22/22 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	95.15 %REC ± NA (NA) C:NA T:NA	pCi/L	11/16/22 15:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	92.44 %REC 13.41RPD ± NA (NA) C:NA T:NA	pCi/L	11/22/22 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	92.69 %REC 2.62RPD ± NA (NA) C:NA T:NA	pCi/L	11/16/22 15:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-MW-33(D) Lab ID: 60413956026 Collected: 10/28/22 13:29 Received: 10/29/22 03:41 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.111 ± 0.406 (0.781) C:NA T:86%	pCi/L	11/22/22 16:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.905 ± 0.613 (1.17) C:81% T:86%	pCi/L	11/16/22 19:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-MW-34(D) **Lab ID: 60413956027** Collected: 10/28/22 12:50 Received: 10/29/22 03:41 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	0.398 ± 0.298 (0.154) C:NA T:92%	pCi/L	11/22/22 16:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.676 ± 0.494 (0.943) C:80% T:92%	pCi/L	11/16/22 19:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-TP-3M **Lab ID: 60413956028** Collected: 10/28/22 09:50 Received: 10/29/22 03:41 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	0.0492 ± 0.398 (0.781) C:NA T:95%	pCi/L	11/22/22 16:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.12 ± 0.401 (0.569) C:87% T:95%	pCi/L	11/16/22 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-TP-3D Lab ID: 60413956029 Collected: 10/28/22 09:10 Received: 10/29/22 03:41 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.296 (0.640) C:NA T:94%	pCi/L	11/22/22 16:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.418 ± 0.265 (0.485) C:89% T:94%	pCi/L	11/16/22 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-CA-FB-3 **Lab ID: 60413956030** Collected: 10/28/22 13:05 Received: 10/29/22 03:41 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	0.205 ± 0.236 (0.139) C:NA T:93%	pCi/L	11/22/22 16:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.782 ± 0.344 (0.550) C:84% T:93%	pCi/L	11/16/22 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-MW-26 Lab ID: 60413956008 Collected: 10/24/22 09:28 Received: 10/26/22 03:51 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.444 ± 0.276 (0.272) C:NA T:98%	pCi/L	11/17/22 17:20	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.327 ± 0.342 (0.709) C:69% T:98%	pCi/L	11/10/22 15:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-2S Lab ID: 60413956009 Collected: 10/25/22 12:58 Received: 10/26/22 03:51 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.0386 ± 0.176 (0.105) C:NA T:93%	pCi/L	11/17/22 17:20	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.170 ± 0.333 (0.734) C:64% T:93%	pCi/L	11/10/22 15:21	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.211 ± 0.194 (0.114) C:NA T:84%	pCi/L	11/17/22 17:35	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.490 ± 0.338 (0.629) C:71% T:84%	pCi/L	11/10/22 15:21	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-1S Lab ID: 60413956023 Collected: 10/27/22 13:12 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	-0.175 ± 0.266 (0.626) C:NA T:87%	pCi/L	11/22/22 13:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.567 ± 0.282 (0.497) C:118% T:87%	pCi/L	11/16/22 15:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-1S Lab ID: 60413956024 Collected: 10/27/22 10:36 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.129 ± 0.311 (0.601) C:NA T:87%	pCi/L	11/22/22 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	1.35 ± 0.480 (0.702) C:81% T:87%	pCi/L	11/16/22 15:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-BMW-2S Lab ID: 60413956025 Collected: 10/27/22 11:35 Received: 10/28/22 03:43 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.335 ± 0.515 (0.886) C:NA T:90%	pCi/L	11/22/22 13:07	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.774 ± 0.393 (0.694) C:80% T:90%	pCi/L	11/16/22 15:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Sample: L-LMW-7S **Lab ID: 60413956031** Collected: 10/28/22 11:14 Received: 10/29/22 03:41 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	0.0526 ± 0.372 (0.742) C:NA T:89%	pCi/L	11/22/22 16:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.870 ± 0.376 (0.597) C:84% T:89%	pCi/L	11/16/22 15:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: L-LMW-8S Lab ID: 60413956032 Collected: 10/27/22 17:15 Received: 10/29/22 03:41 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 903.1	0.000 ± 0.509 (1.02) C:NA T:81%	pCi/L	11/22/22 16:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 904.0	0.676 ± 0.464 (0.911) C:82% T:81%	pCi/L	11/16/22 15:03	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 544802

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: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

METHOD BLANK: 2644711

Matrix: Water

Associated Lab Samples: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0565 ± 0.258 (0.524) C:NA T:88%	pCi/L	11/22/22 16:14	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 544795

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: 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020, 60413956021, 60413956022, 60413956023, 60413956024, 60413956025

METHOD BLANK: 2644705

Matrix: Water

Associated Lab Samples: 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020, 60413956021, 60413956022, 60413956023, 60413956024, 60413956025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.113 ± 0.314 (0.610) C:NA T:88%	pCi/L	11/22/22 12:52	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 543609

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: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956006, 60413956007, 60413956008, 60413956009, 60413956010

METHOD BLANK: 2638249

Matrix: Water

Associated Lab Samples: 60413956001, 60413956002, 60413956003, 60413956004, 60413956005, 60413956006, 60413956007, 60413956008, 60413956009, 60413956010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.174 ± 0.210 (0.321) C:NA T:94%	pCi/L	11/17/22 18:30	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 544797

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: 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020, 60413956021, 60413956022, 60413956023, 60413956024, 60413956025

METHOD BLANK: 2644706

Matrix: Water

Associated Lab Samples: 60413956011, 60413956012, 60413956013, 60413956014, 60413956015, 60413956016, 60413956017, 60413956018, 60413956019, 60413956020, 60413956021, 60413956022, 60413956023, 60413956024, 60413956025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.565 ± 0.314 (0.566) C:89% T:88%	pCi/L	11/16/22 11:48	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

QC Batch: 544803

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: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

METHOD BLANK: 2644713

Matrix: Water

Associated Lab Samples: 60413956026, 60413956027, 60413956028, 60413956029, 60413956030, 60413956031, 60413956032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.378 ± 0.267 (0.503) C:84% T:88%	pCi/L	11/16/22 15:02	

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 LEC LCPA-CA

Pace Project No.: 60413956

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.

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.

H3 Sample was received or analysis requested beyond the recognized method holding time.

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413956001	L-MW-24	EPA 200.7	818348	EPA 200.7	818468
60413956002	L-MW-35(D)	EPA 200.7	818348	EPA 200.7	818468
60413956003	L-TP-4D	EPA 200.7	818348	EPA 200.7	818468
60413956004	L-CA-DUP-1	EPA 200.7	818348	EPA 200.7	818468
60413956005	L-CA-DUP-2	EPA 200.7	818348	EPA 200.7	818468
60413956008	L-MW-26	EPA 200.7	818348	EPA 200.7	818468
60413956009	L-LMW-2S	EPA 200.7	818348	EPA 200.7	818468
60413956010	L-LMW-4S	EPA 200.7	818348	EPA 200.7	818468
60413956011	L-AMW-8	EPA 200.7	818348	EPA 200.7	818468
60413956012	L-S-1	EPA 200.7	818348	EPA 200.7	818468
60413956013	L-TP-1D	EPA 200.7	818348	EPA 200.7	818468
60413956014	L-TP-2M	EPA 200.7	818348	EPA 200.7	818468
60413956015	L-TP-2D	EPA 200.7	818348	EPA 200.7	818468
60413956016	L-AM-1S	EPA 200.7	818348	EPA 200.7	818468
60413956017	L-AM-1D	EPA 200.7	818353	EPA 200.7	818470
60413956018	L-CA-DUP-3	EPA 200.7	818348	EPA 200.7	818468
60413956019	L-CA-FB-1	EPA 200.7	818348	EPA 200.7	818468
60413956020	L-CA-FB-2	EPA 200.7	818348	EPA 200.7	818468
60413956023	L-LMW-1S	EPA 200.7	818348	EPA 200.7	818468
60413956024	L-BMW-1S	EPA 200.7	818348	EPA 200.7	818468
60413956025	L-BMW-2S	EPA 200.7	818353	EPA 200.7	818470
60413956026	L-MW-33(D)	EPA 200.7	818353	EPA 200.7	818470
60413956027	L-MW-34(D)	EPA 200.7	818353	EPA 200.7	818470
60413956028	L-TP-3M	EPA 200.7	818353	EPA 200.7	818470
60413956029	L-TP-3D	EPA 200.7	818353	EPA 200.7	818470
60413956030	L-CA-FB-3	EPA 200.7	818353	EPA 200.7	818470
60413956031	L-LMW-7S	EPA 200.7	818353	EPA 200.7	818470
60413956032	L-LMW-8S	EPA 200.7	818353	EPA 200.7	818470
60413956001	L-MW-24	EPA 200.8	818349	EPA 200.8	818469
60413956002	L-MW-35(D)	EPA 200.8	818349	EPA 200.8	818469
60413956003	L-TP-4D	EPA 200.8	818349	EPA 200.8	818469
60413956004	L-CA-DUP-1	EPA 200.8	818349	EPA 200.8	818469
60413956005	L-CA-DUP-2	EPA 200.8	818349	EPA 200.8	818469
60413956008	L-MW-26	EPA 200.8	818349	EPA 200.8	818469
60413956009	L-LMW-2S	EPA 200.8	818349	EPA 200.8	818469
60413956010	L-LMW-4S	EPA 200.8	818349	EPA 200.8	818469
60413956011	L-AMW-8	EPA 200.8	818349	EPA 200.8	818469
60413956012	L-S-1	EPA 200.8	818349	EPA 200.8	818469
60413956013	L-TP-1D	EPA 200.8	818349	EPA 200.8	818469
60413956014	L-TP-2M	EPA 200.8	818349	EPA 200.8	818469
60413956015	L-TP-2D	EPA 200.8	818349	EPA 200.8	818469
60413956016	L-AM-1S	EPA 200.8	818349	EPA 200.8	818469
60413956017	L-AM-1D	EPA 200.8	818355	EPA 200.8	818471
60413956018	L-CA-DUP-3	EPA 200.8	818349	EPA 200.8	818469
60413956019	L-CA-FB-1	EPA 200.8	818349	EPA 200.8	818469
60413956020	L-CA-FB-2	EPA 200.8	818349	EPA 200.8	818469

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413956023	L-LMW-1S	EPA 200.8	818349	EPA 200.8	818469
60413956024	L-BMW-1S	EPA 200.8	818349	EPA 200.8	818469
60413956025	L-BMW-2S	EPA 200.8	818355	EPA 200.8	818471
60413956026	L-MW-33(D)	EPA 200.8	818355	EPA 200.8	818471
60413956027	L-MW-34(D)	EPA 200.8	818355	EPA 200.8	818471
60413956028	L-TP-3M	EPA 200.8	818355	EPA 200.8	818471
60413956029	L-TP-3D	EPA 200.8	818355	EPA 200.8	818471
60413956030	L-CA-FB-3	EPA 200.8	818355	EPA 200.8	818471
60413956031	L-LMW-7S	EPA 200.8	818355	EPA 200.8	818471
60413956032	L-LMW-8S	EPA 200.8	818355	EPA 200.8	818471
60413956001	L-MW-24	EPA 903.1	543609		
60413956002	L-MW-35(D)	EPA 903.1	543609		
60413956003	L-TP-4D	EPA 903.1	543609		
60413956004	L-CA-DUP-1	EPA 903.1	543609		
60413956005	L-CA-DUP-2	EPA 903.1	543609		
60413956006	L-CA-MS-1	EPA 903.1	543609		
60413956007	L-CA-MSD-1	EPA 903.1	543609		
60413956008	L-MW-26	EPA 903.1	543609		
60413956009	L-LMW-2S	EPA 903.1	543609		
60413956010	L-LMW-4S	EPA 903.1	543609		
60413956011	L-AMW-8	EPA 903.1	544795		
60413956012	L-S-1	EPA 903.1	544795		
60413956013	L-TP-1D	EPA 903.1	544795		
60413956014	L-TP-2M	EPA 903.1	544795		
60413956015	L-TP-2D	EPA 903.1	544795		
60413956016	L-AM-1S	EPA 903.1	544795		
60413956017	L-AM-1D	EPA 903.1	544795		
60413956018	L-CA-DUP-3	EPA 903.1	544795		
60413956019	L-CA-FB-1	EPA 903.1	544795		
60413956020	L-CA-FB-2	EPA 903.1	544795		
60413956021	L-CA-MS-2	EPA 903.1	544795		
60413956022	L-CA-MSD-2	EPA 903.1	544795		
60413956023	L-LMW-1S	EPA 903.1	544795		
60413956024	L-BMW-1S	EPA 903.1	544795		
60413956025	L-BMW-2S	EPA 903.1	544795		
60413956026	L-MW-33(D)	EPA 903.1	544802		
60413956027	L-MW-34(D)	EPA 903.1	544802		
60413956028	L-TP-3M	EPA 903.1	544802		
60413956029	L-TP-3D	EPA 903.1	544802		
60413956030	L-CA-FB-3	EPA 903.1	544802		
60413956031	L-LMW-7S	EPA 903.1	544802		
60413956032	L-LMW-8S	EPA 903.1	544802		
60413956001	L-MW-24	EPA 904.0	543610		
60413956002	L-MW-35(D)	EPA 904.0	543610		
60413956003	L-TP-4D	EPA 904.0	543610		
60413956004	L-CA-DUP-1	EPA 904.0	543610		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413956005	L-CA-DUP-2	EPA 904.0	543610		
60413956006	L-CA-MS-1	EPA 904.0	543610		
60413956007	L-CA-MSD-1	EPA 904.0	543610		
60413956008	L-MW-26	EPA 904.0	543610		
60413956009	L-LMW-2S	EPA 904.0	543610		
60413956010	L-LMW-4S	EPA 904.0	543610		
60413956011	L-AMW-8	EPA 904.0	544797		
60413956012	L-S-1	EPA 904.0	544797		
60413956013	L-TP-1D	EPA 904.0	544797		
60413956014	L-TP-2M	EPA 904.0	544797		
60413956015	L-TP-2D	EPA 904.0	544797		
60413956016	L-AM-1S	EPA 904.0	544797		
60413956017	L-AM-1D	EPA 904.0	544797		
60413956018	L-CA-DUP-3	EPA 904.0	544797		
60413956019	L-CA-FB-1	EPA 904.0	544797		
60413956020	L-CA-FB-2	EPA 904.0	544797		
60413956021	L-CA-MS-2	EPA 904.0	544797		
60413956022	L-CA-MSD-2	EPA 904.0	544797		
60413956023	L-LMW-1S	EPA 904.0	544797		
60413956024	L-BMW-1S	EPA 904.0	544797		
60413956025	L-BMW-2S	EPA 904.0	544797		
60413956026	L-MW-33(D)	EPA 904.0	544803		
60413956027	L-MW-34(D)	EPA 904.0	544803		
60413956028	L-TP-3M	EPA 904.0	544803		
60413956029	L-TP-3D	EPA 904.0	544803		
60413956030	L-CA-FB-3	EPA 904.0	544803		
60413956031	L-LMW-7S	EPA 904.0	544803		
60413956032	L-LMW-8S	EPA 904.0	544803		
60413956001	L-MW-24	SM 2320B	815835		
60413956002	L-MW-35(D)	SM 2320B	815835		
60413956003	L-TP-4D	SM 2320B	815835		
60413956004	L-CA-DUP-1	SM 2320B	815835		
60413956005	L-CA-DUP-2	SM 2320B	815835		
60413956008	L-MW-26	SM 2320B	815835		
60413956009	L-LMW-2S	SM 2320B	816115		
60413956010	L-LMW-4S	SM 2320B	816115		
60413956011	L-AMW-8	SM 2320B	816118		
60413956012	L-S-1	SM 2320B	816118		
60413956013	L-TP-1D	SM 2320B	816349		
60413956014	L-TP-2M	SM 2320B	816349		
60413956015	L-TP-2D	SM 2320B	816349		
60413956016	L-AM-1S	SM 2320B	816349		
60413956017	L-AM-1D	SM 2320B	816349		
60413956018	L-CA-DUP-3	SM 2320B	816349		
60413956019	L-CA-FB-1	SM 2320B	816349		
60413956020	L-CA-FB-2	SM 2320B	816349		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413956023	L-LMW-1S	SM 2320B	816350		
60413956024	L-BMW-1S	SM 2320B	816350		
60413956025	L-BMW-2S	SM 2320B	816350		
60413956026	L-MW-33(D)	SM 2320B	817517		
60413956027	L-MW-34(D)	SM 2320B	817517		
60413956028	L-TP-3M	SM 2320B	817518		
60413956029	L-TP-3D	SM 2320B	817518		
60413956030	L-CA-FB-3	SM 2320B	817518		
60413956031	L-LMW-7S	SM 2320B	817839		
60413956032	L-LMW-8S	SM 2320B	817839		
60413956001	L-MW-24	SM 2540C	815561		
60413956002	L-MW-35(D)	SM 2540C	815561		
60413956003	L-TP-4D	SM 2540C	815561		
60413956004	L-CA-DUP-1	SM 2540C	815561		
60413956005	L-CA-DUP-2	SM 2540C	815561		
60413956008	L-MW-26	SM 2540C	815561		
60413956009	L-LMW-2S	SM 2540C	815775		
60413956010	L-LMW-4S	SM 2540C	815775		
60413956011	L-AMW-8	SM 2540C	815776		
60413956012	L-S-1	SM 2540C	815776		
60413956013	L-TP-1D	SM 2540C	815776		
60413956014	L-TP-2M	SM 2540C	815776		
60413956015	L-TP-2D	SM 2540C	815776		
60413956016	L-AM-1S	SM 2540C	815776		
60413956017	L-AM-1D	SM 2540C	815776		
60413956018	L-CA-DUP-3	SM 2540C	815776		
60413956019	L-CA-FB-1	SM 2540C	815776		
60413956020	L-CA-FB-2	SM 2540C	815993		
60413956023	L-LMW-1S	SM 2540C	816279		
60413956024	L-BMW-1S	SM 2540C	816279		
60413956025	L-BMW-2S	SM 2540C	816279		
60413956026	L-MW-33(D)	SM 2540C	816527		
60413956027	L-MW-34(D)	SM 2540C	816527		
60413956028	L-TP-3M	SM 2540C	816527		
60413956029	L-TP-3D	SM 2540C	816527		
60413956030	L-CA-FB-3	SM 2540C	816527		
60413956031	L-LMW-7S	SM 2540C	816527		
60413956032	L-LMW-8S	SM 2540C	816527		
60413956001	L-MW-24	EPA 300.0	817771		
60413956002	L-MW-35(D)	EPA 300.0	817771		
60413956003	L-TP-4D	EPA 300.0	817771		
60413956004	L-CA-DUP-1	EPA 300.0	817771		
60413956005	L-CA-DUP-2	EPA 300.0	817771		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LEC LCPA-CA

Pace Project No.: 60413956

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60413956008	L-MW-26	EPA 300.0	817771		
60413956009	L-LMW-2S	EPA 300.0	817771		
60413956010	L-LMW-4S	EPA 300.0	817771		
60413956011	L-AMW-8	EPA 300.0	817773		
60413956012	L-S-1	EPA 300.0	817773		
60413956013	L-TP-1D	EPA 300.0	817773		
60413956014	L-TP-2M	EPA 300.0	817773		
60413956015	L-TP-2D	EPA 300.0	817773		
60413956016	L-AM-1S	EPA 300.0	817773		
60413956017	L-AM-1D	EPA 300.0	817773		
60413956018	L-CA-DUP-3	EPA 300.0	817773		
60413956019	L-CA-FB-1	EPA 300.0	817773		
60413956020	L-CA-FB-2	EPA 300.0	817773		
60413956023	L-LMW-1S	EPA 300.0	817968		
60413956024	L-BMW-1S	EPA 300.0	817968		
60413956025	L-BMW-2S	EPA 300.0	817968		
60413956026	L-MW-33(D)	EPA 300.0	817444		
60413956027	L-MW-34(D)	EPA 300.0	817444		
60413956028	L-TP-3M	EPA 300.0	817444		
60413956029	L-TP-3D	EPA 300.0	817444		
60413956030	L-CA-FB-3	EPA 300.0	817444		
60413956031	L-LMW-7S	EPA 300.0	817445		
60413956032	L-LMW-8S	EPA 300.0	817445		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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WO#: 60413956



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

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: WSP Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T299 Type of Ice: Yes Blue None

Cooler Temperature (°C): As-read 11.4/11.4 Corr. Factor 0.0 Corrected 11.4/11.4

Date and initials of person examining contents:

pv 10/26/22

Temperature should be above freezing to 6°C 1.1

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: <u>55192</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

WO#: 60413956



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

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: WSP Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: 7299 Type of Ice: Blue None

Cooler Temperature (°C): As-read 2.1/1.4/1.0 Corr. Factor 0.0 Corrected 2.1/1.4/1.0

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 13.4/12.5/14.9

13.4/12.5/14.9

P/10/28/22

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Receive L-TP-2D that's
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	not marked on the COC.
Pace containers used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	L-TP-2D date and time
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10/26/22 14:05
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

WO#: 60413956



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

Revision: 2

Effective Date: 01/12/2022

Issued By: Lenexa

Client Name: WSP Golder

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

Tracking #: _____ Pace Shipping Label Used? Yes No

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: 7299 Type of Ice: B Blue None

Cooler Temperature (°C): As-read 0.7/13.4 Corr. Factor 0.0 Corrected 0.7/13.4

Date and initials of person examining contents:

Temperature should be above freezing to 6°C

10/31/22

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

LOT#: 55192

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A

Required Client Information:

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

Section B

Required Project Information:

Report To: Jeffrey Ingram
Copy To: Eric Schnieder
Purchase Order No.: COC #2
Project Name: Ameren Labadie Energy Center LCPA-CA
Project Number: 153140604, 0001

Section C

Invoice Information:

Company Name: WSP Golder
Address:
Pace Quote Reference:
Pace Project Manager: Jamie Church
Pace Profile #: 9285, line 1
Site Location: MO
STATE:

Section D

Required Client Information:

Valid Matrix Codes
MATRIX CODE
DRINKING WATER DW
WASTE WATER WW
PRODUCT P
SOILSOLID SL
OIL OL
WP
AR
OT
TS

Table with columns: ITEM #, MATRIX CODE, SAMPLE ID, RELINQUISHED BY / AFFILIATION, DATE, TIME, ACCEPTED BY / AFFILIATION, DATE, TIME, ANALYSIS TEST, PRESERVATIVES, # OF CONTAINERS, SAMPLE TEMP AT COLLECTION, COLLECTED, REQUESTED ANALYSIS FILTERED (Y/N), Residual Chlorine (Y/N), Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS: Payton Spohn/WSP 10/28/22 3:16
SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: Grant Moray, SIGNATURE of SAMPLER: Grant Moray, DATE Signed (MM/DD/YY): 10/28/22
Received on Ice (Y/N), Custody Sealed (Y/N), Samples Intact (Y/N)

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



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:	WSP Golder	Report To:	Jeffrey Ingram	Company Name:	WSP Golder
Address:	701 Emerson Road, Suite 250 Creve Coeur, Missouri, 63141	Copy To:	Eric Schnieder	Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:	COC #2	Pace Quote Reference:	
Phone:	636-724-9191	Project Name:	Ameren Labadie Energy Center LCFA-CA	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	153140604.0001	Pace Profile #:	9285, line 1
REGULATORY AGENCY		REGULATORY AGENCY		REGULATORY AGENCY	
<input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Site Location		Site Location		Site Location	
STATE: MO		STATE: MO		STATE: MO	

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOLID S OIL O	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives HCl HNO ₃ H ₂ SO ₄ Unpreserved	Analysis Test ↑ Chloride/Fluoride/Sulfate App III and Cat/An Metals Alkalinity TDS Appendix IV Metals * Radium 226 Radium 228	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
				COMPOSITE START	COMPOSITE END/GRAB						
1	L-AM-1S	WT G	G	DATE	TIME						
2	L-AM-1D	WT G	G								
3	L-CA-DUP-1	WT G	G								
4	L-CA-DUP-2	WT G	G								
5	L-CA-DUP-3	WT G	G								
6	L-CA-FB-1	WT G	G								
7	L-CA-FB-2	WT G	G								
8	L-CA-FB-3	WT G	G	10/28/20	3:05		4	1	3		
9	L-CA-MS-1	WT G	G								
10	L-CA-MSD-1	WT G	G								
11	L-CA-MS-2	WT G	G								
12	L-CA-MSD-2	WT G	G								

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
Payton Spehn / WSP		10/28/20		3:16		amw amx		10/29/20		0341		07		Y Y Y	
														Y Y	
														Y Y	

SAMPLER NAME AND SIGNATURE		Temp in °C		Received on		Custody Sealed		Samples Intact	
PRINT Name of SAMPLER: Grant Mary		10/28/22		134		Y		Y	
SIGNATURE of SAMPLER: Grant Mary		10/28/22		134		Y		Y	
SIGNATURE of SAMPLER: Paul Why		10/28/22		134		Y		Y	



MEMORANDUM

DATE January 19, 2023

Project No. 153140604.0001

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

FROM Rahel Pommerenke

EMAIL rahel.pommerenke@wsp.com

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA-CA – CORRECTIVE ACTION SAMPLING NOVEMBER 2022 – DATA PACKAGE 60413956REV2

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
 Project Name: Ameren LEC - LCPA-CA
 Reviewer: R.Pommerenke

Project Manager: J. Ingram
 Project Number: 153140604
 Validation Date: 1/19/2023

Laboratory: Pace Analytical Services SDG #: 60413956rev2

Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 903.1/904.0 (Radium 226/228); SM2320B (Alkalinity);

Matrix: Air Soil/Sed. Water Waste SM2540C (TDS); EPA 300.0 (Anions)

Sample Names L-MW-24, L-MW-35(D), L-TP-4D, L-CA-DUP-1, L-CA-DUP-2, L-CA-MS-1, L-CA-MSD-1, L-AMW-8, L-S-1, L-TP-1D, L-TP-2M, L-TP-2D, L-AM-1S, L-AM-1D, L-CA-DUP-3, L-CA-FB-1, L-CA-FB-2, L-CA-MS-2, L-CA-MSD-3, L-MW-33(D), L-MW-34(D), L-TP-3M, L-TP-3D, L-CA-FB-3, L-MW-26, L-LMW-2S, L-LMW-4S, L-LMW-1S, L-BMW-1S, L-BMW-2S, L-LMW-7S, L-LMW-8S

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>10/24/2022 - 10/28/2022</u>
b) Sampling team indicated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>GTM/PCS/SMA</u>
c) Sample location noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u></u>
d) Sample depth indicated (Soils)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
e) Sample type indicated (grab/composite)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Grab</u>
f) Field QC noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See notes.</u>
g) Field parameters collected (note types)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH, Sp.Cond, ORP, Temp, DO, Turb</u>
h) Field Calibration within control limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
i) Notations of unacceptable field conditions/performances from field logs or field notes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u></u>
j) Does the laboratory narrative indicate deficiencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L-CA-DUP-1 @ L-MW-35(D)
				L-CA-DUP-2 @ L-TP-4D, L-CA-DUP-3 @ L-AMW-8
b) Were field dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See notes.
c) Were lab duplicates analyzed (note original and duplicate samples)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) Were lab dup. precision criteria met (note RPD)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See notes.

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

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

Comments/Notes:

L-TP-2D not marked on COC but included in shipment. Sample time and date verified with field notes. No qualification necessary.

Revisions were performed on sample IDs on 11/29/2022 and sample collection dates with updated from 10/28/2022 to 10/27/2022 for sample L-LMW-8S.

Total Dissolved Solids and Alkalinity analyzed out of hold time for L-LMW-8S: qualified as estimates.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Dilutions:

Sulfate and chloride analyzed at a dilution. No qualification necessary.

Blanks:

MB3254663: Calcium (57.2J), Manganese (0.71J), Molybdenum (1.6J). Associated with samples -001 through -005, -008 through -016, -018 through -020, and -023 through -024. Result > 10x blank result and > RL or Results ND: no qualification necessary. Result < RL, reported as ND at RL.

MB3254702: Barium (0.82J), Iron (19.1J), Manganese (0.76J). Associated with samples -017, -025 through -032. Result > 10x blank result and > RL or results ND: no qualification necessary. Results < RL, reported as ND at RL.

MB3244507: Alkalinity (4.8J). Associated with samples -001 through -005 and -008. Result > 10x blank result and > RL: no qualification necessary.

MB3251236: Alkalinity (6.0J). Associated with samples -028 through -030. Results > 10x blank results and > RL or ND: no qualification necessary.

MB3252545: Alkalinity (8.0J). Associated with samples -031 and -032. Results > 10x blank results and > RL: no qualification necessary.

MB3254907: Chloride (0.77J). Associated with samples -031 and -032. Results > 10x blank results and > RL: no qualification necessary. Results < 10x blank result and > RL: qualified as estimates.

MB3252261: Chloride (0.59J). Associated with samples -001 through -005 and -008 through -010. Results > 10x blank results and > RL: no qualification necessary. Results < 10x blank result and > RL: qualified as estimates.

MB3255629: Chloride (0.60J). Associated with samples -011 through -020. Result > 10x blank result and > RL: no qualification necessary. Results < 10 x blank result > RL: qualified as estimate.

L-CA-FB-1 @ L-TP-1D: Total Dissolved Solids (8.5), Chloride (0.57J). Result > 10x blank result and > RL: no qualification necessary. Result < 10 x blank result > RL: qualified as estimate.

L-CA-FB-2 @ L-AM-1S: Total Dissolved Solids (5.0), Chloride (0.54J). Result > 10x blank result and > RL: no qualification necessary.

L-CA-FB-3 @ L-MW-34(D): Boron (16.5J), Iron (9.0J), Molybdenum (1.2J), Sodium (103J), Radium-226 (0.205 ± 0.236), and Radium-228 (0.782 ± 0.344). Result > 10x blank result and > RL or ND: no qualification necessary. Radium-226 detected, qualified as an estimate.

Duplicates:

L-CA-DUP-1 @ L-MW-35(D): RPD (20%) exceeded for sulfate (33.7%). Radium-226 and Radium-228 detected in DUP but not in parent sample.

L-CA-DUP-2 @ L-TP-4D: RPD (20%) exceeded for Radium-226 (30.9%) and Radium-228 (36.4%).

L-CA-DUP-3 @ L-AMW-8: Radium-228 detected in parent sample but not in duplicate.

Sample Duplicate 3246754: Alkalinity detected in parent sample but not duplicate. Associated with L-TP-1D.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Sample Duplicate 3245282: Total Dissolved Solids detected in parent sample but not in duplicate. Associated with L-CA-FB-2.

Sample Duplicate 3252282: RPD (15%) exceeded for Chloride (31%). Associated with L-AM-1D.

3254706: MS % recovery low (<10%) for Boron, Calcium, Magnesium, and Sodium. Parent sample concentrations for Boron, Calcium, and Sodium are greater than 4x the spike concentration: no qualification necessary. Associated Magnesium result is greater than RL: qualified as estimate. MS % recovery low for Iron and Molybdenum, and MS % recovery high for Potassium.

Only one QC indicator outside control limits for Iron, Molybdenum, and Potassium: no qualification necessary. Associated with L-MW-33(D).

3254717: MS % recovery high for Arsenic. Associated with L-MW-33(D). Only on QC indicator out of control limits: no qualification necessary.

3250960/3250961: MS/MSD % recovery low for Chloride. Performed on unrelated sample: no qualification necessary.

3250962: MS % recovery low for Fluoride. Performed on unrelated sample: no qualification necessary.

3252263/3252264: MS/MSD % recovery high for Chloride and Fluoride. Associated with L-MW-26.

3252266/3252267: MS/MSD % recovery high for Fluoride. Performed on unrelated sample: no qualification necessary.

3252280/3252281: MS/MSD % recovery high for Fluoride. Associated with L-AM-1D. Result ND: no qualification necessary.

3254665/3254666: MS % recovery high for calcium. Associated with sample -008. Only 1 QC indicator outside of control limits, no qualification necessary.

3253029/3253030: MS % recovery high for chloride. Performed on unrelated sample, no qualification necessary.

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-AM-1D	Chloride	36.9	J	Lab DUP RPD exceeds limit.
L-AM-1S	Molybdenum	20.0	U	Detected in MB, result < RL.
L-AMW-8	Radium-228	0.759	J	Detected in parent sample, not DUP.
L-BMW-2S	Iron	50.0	U	Detected in MB, result < RL.
"	Manganese	5.0	U	"
L-CA-DUP-1	Radium-226	0.237	J	Detected in DUP, not in parent sample
"	Radium-228	1.01	J	"
"	Sulfate	284	J	DUP RPD exceeds limit.
L-CA-DUP-2	Molybdenum	20.0	U	Detected in MB, result < RL.
"	Radium-226	1.64	J	DUP RPD exceeds limit.
"	Radium-228	1.42	J	"
L-CA-DUP-3	Radium-228	1.12	UJ	Detected in parent sample, not DUP.
L-CA-FB-1	Chloride	1.0	U	Detected in MB, result < RL
L-CA-FB-2	Chloride	1.0	U	"
"	Total Dissolved Solids	5.0	J	Detected in parent sample, not lab DUP.
L-CA-FB-3	Iron	50.0	U	Detected in MB, result < RL.
L-LMW-1S	Molybdenum	20.0	U	"
L-LMW-2S	Manganese	5.0	U	"
L-LMW-8S	Chloride	3.2	J	Detected in MB, 10x blank > results > RL
L-MW-24	Chloride	5.7	J	"
"	Manganese	5.0	U	Detected in MB, result < RL.
"	Molybdenum	20.0	U	"
L-MW-26	Chloride	10.3	J+	MS/MSD % recovery outside control limits
L-MW-33(D)	Magnesium	22000	J-	Spike recovery < 10%, result > QL.
L-MW-34(D)	Radium-226	0.398	J	Detected in FB
L-MW-35(D)	Radium-226	0.621	UJ	Detected in DUP, not in parent sample
"	Radium-228	0.765	UJ	"
"	Sulfate	399	J	DUP RPD exceeds limit.
L-S-1	Chloride	1.8	J	Detected in MB, 10x blank > result > RL
	Molybdenum	20.0	U	Detected in MB, result < RL.
L-TP-1D	Alkalinity	6.6	J	Detected in parent sample, not lab DUP.
"	Chloride	3.5	J	Detected in MB/FB, 10x blank > result > RL
"	Molybdenum	20.0	U	Detected in MB, result < RL.
L-TP-4D	Molybdenum	20.0	U	Detected in MB, result < RL.

APPENDIX B

**November 2021 Assessment
Monitoring Statistical Evaluation**

TECHNICAL MEMORANDUM

DATE March 25, 2022

Project No. 153140603

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock

EMAIL Jeffrey_Ingram@golder.com

ASSESSMENT MONITORING STATISTICAL EVALUATION LCPA SURFACE IMPOUNDMENT LABADIE ENERGY CENTER, FRANKLIN COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the November 2021 sampling event at the LCPA Surface Impoundment at the Labadie Energy Center located in Franklin County, Missouri. Included in this memorandum is a brief summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A** and **Appendix B**).

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Groundwater Monitoring Plan's (GMP) Statistical Analysis Plan (SAP). The following outliers were removed prior to the calculation of confidence limits.

- Lithium
 - UMW-1D, UMW-2D, and UMW-6D at Non-Detect (ND) in November 2021. Analysis of the November 2021 sampling event data revealed that a laboratory dilution was required for analysis of the samples. The sample dilutions caused the Method Detection Limit (MDL) to be greater than the Groundwater Protection Standard (GWPS). These samples were re-analyzed on 2/9/2022 and the resultant data is consistent with historical results. The diluted results from November 2021 are considered outliers.
 - UMW-3D, UMW-7D, UMW-8D and UMW-9D at ND in November 2021. Analysis of the November 2021 sampling event data revealed that a laboratory dilution was required for analysis of the samples. The sample dilutions caused the MDL to be greater than the GWPS. Verification samples were collected on 2/9/2022 and 2/10/2022 and the resultant data is representative of the historical data trends at the well. The dilute results are considered outliers.
- Molybdenum
 - UMW-5D at 584 micrograms per liter (µg/L) on 11/2/2021. The result is statistically higher than other results at the same well. A confirmation sample was collected at the well on 2/9/2021 and the resultant datum is representative of the historical data trend at the well. The high result is considered an outlier.

- Radium 226 & 228
 - UMW-1D at 4.33 J picocuries per liter (pCi/L) on 11/7/2018. The result is statistically higher than other results at the same well. The high result is not consistent with previous sampling event results and will be further evaluated during subsequent sampling events.

An analysis of the outliers removed to-date was completed and two statistical outliers that were previously removed were added back into the dataset prior to the calculation of confidence limits.

- Radium 226 & 228
 - UMW-4D at 1.84 pCi/L on 9/13/2016. Was removed in November 2019 as an outlier because the result was statistically higher than other values at the same well. However, the result has been confirmed by subsequent sampling events and the result is no longer an outlier.
 - UMW-5D at 2.01 pCi/L on 9/9/2016. Was removed in November 2019 as an outlier because the result was statistically higher than other values at the same well. However, the result has been confirmed by subsequent sampling events and the result is no longer an outlier.

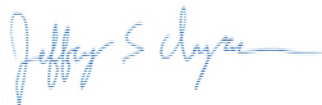
No new SSLs were identified in the November 2021 sampling event. The SSLs reported for the November 2021 monitoring event are as follows:

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

Golder appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please call our office at (314) 984-8800.

Sincerely,

Golder Associates USA Inc



Jeffrey Ingram
Senior Consultant, Geologist



Sean Paulsen
Senior Lead Consultant, Geologist

JSI/SCP/MNH

Attachments: Table 1 – LCPA Groundwater Protection Standards
Appendix A – Sanitas Confidence Interval Statistical Output
Appendix B – Sanitas Trending Confidence Bands Statistical Output

**Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center**

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring ⁷
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	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	0.3163
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) Drinking Water Standards and Health Advisories. <http://water.epa.gov/drink/contaminants/index.cfm>.

5. Health Based Groundwater Protection Standards (GWPS) were adopted for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at <https://www.epa.gov/coalash/coal-ash-rule>.

6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.

7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.

(calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.

9. GWPS and background values calculated using results collected through February 2021 from monitoring wells BMW-1D and BMW-2D.

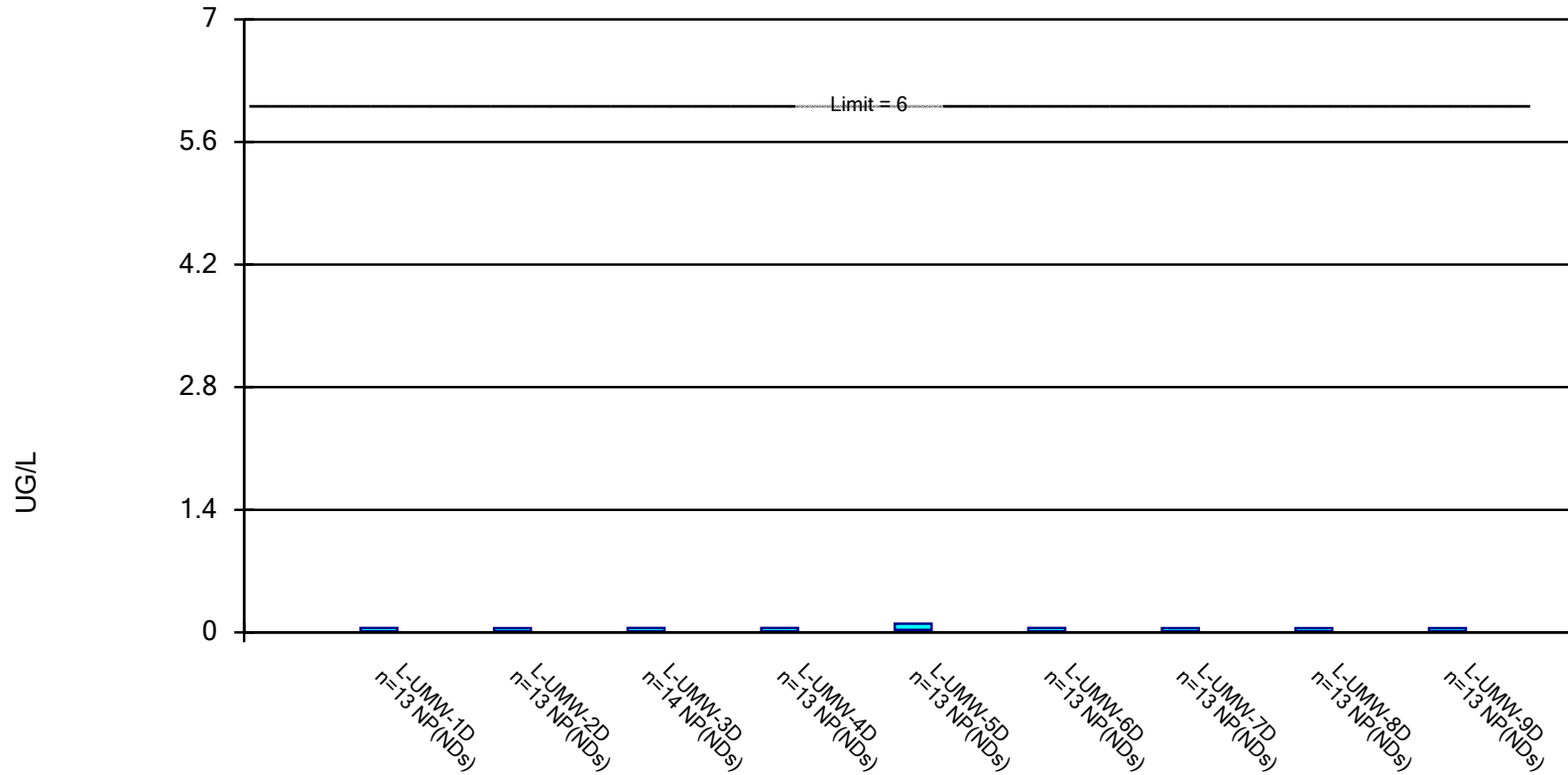
Prepared by: JSI
Checked by: EMS
Reviewed by: SCP

APPENDIX A

**Sanitas Confidence Interval
Statistical Output**

Non-Parametric Confidence Interval

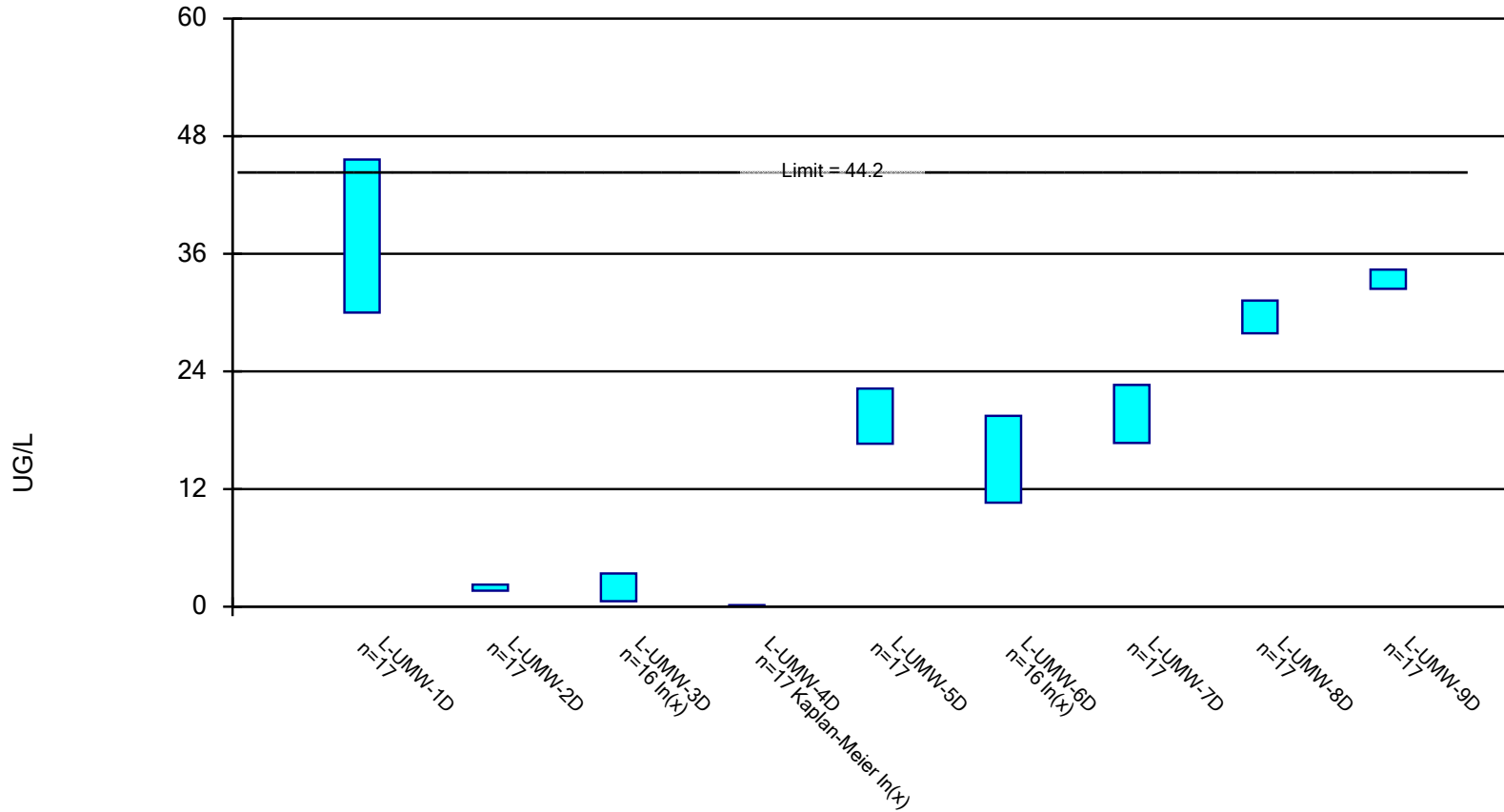
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: ANTIMONY, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval

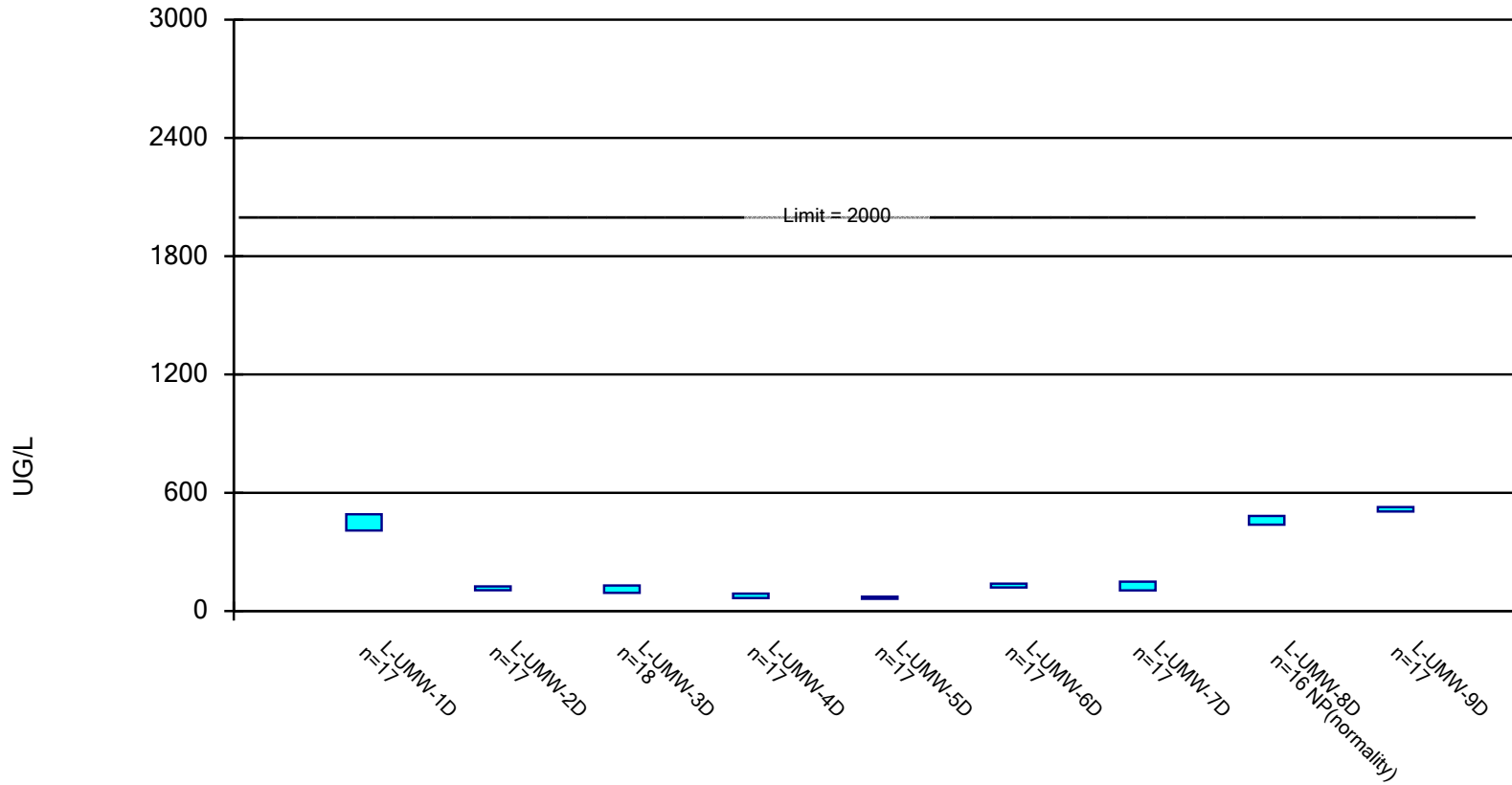
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ARSENIC, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

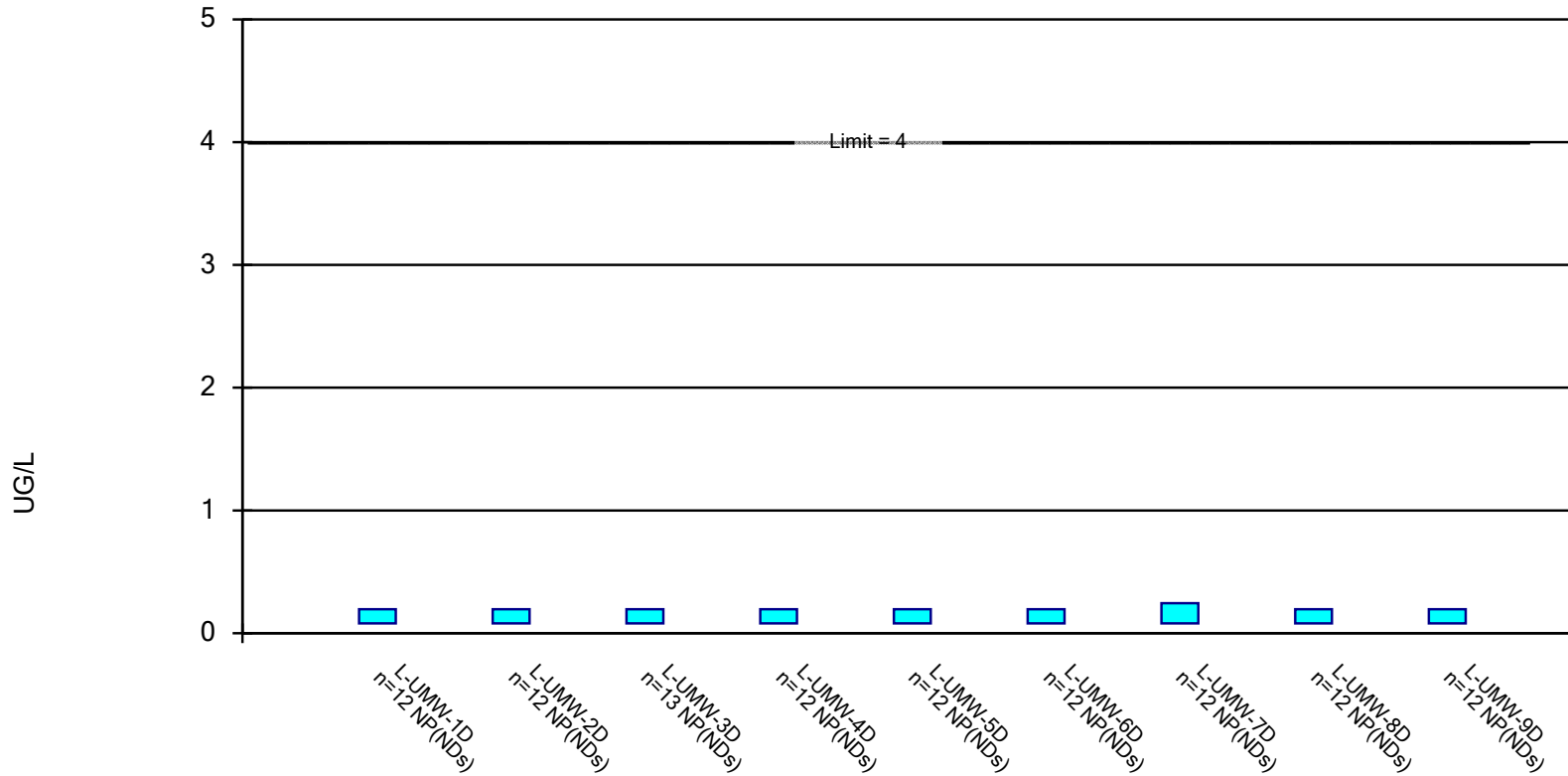
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: BARIUM, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

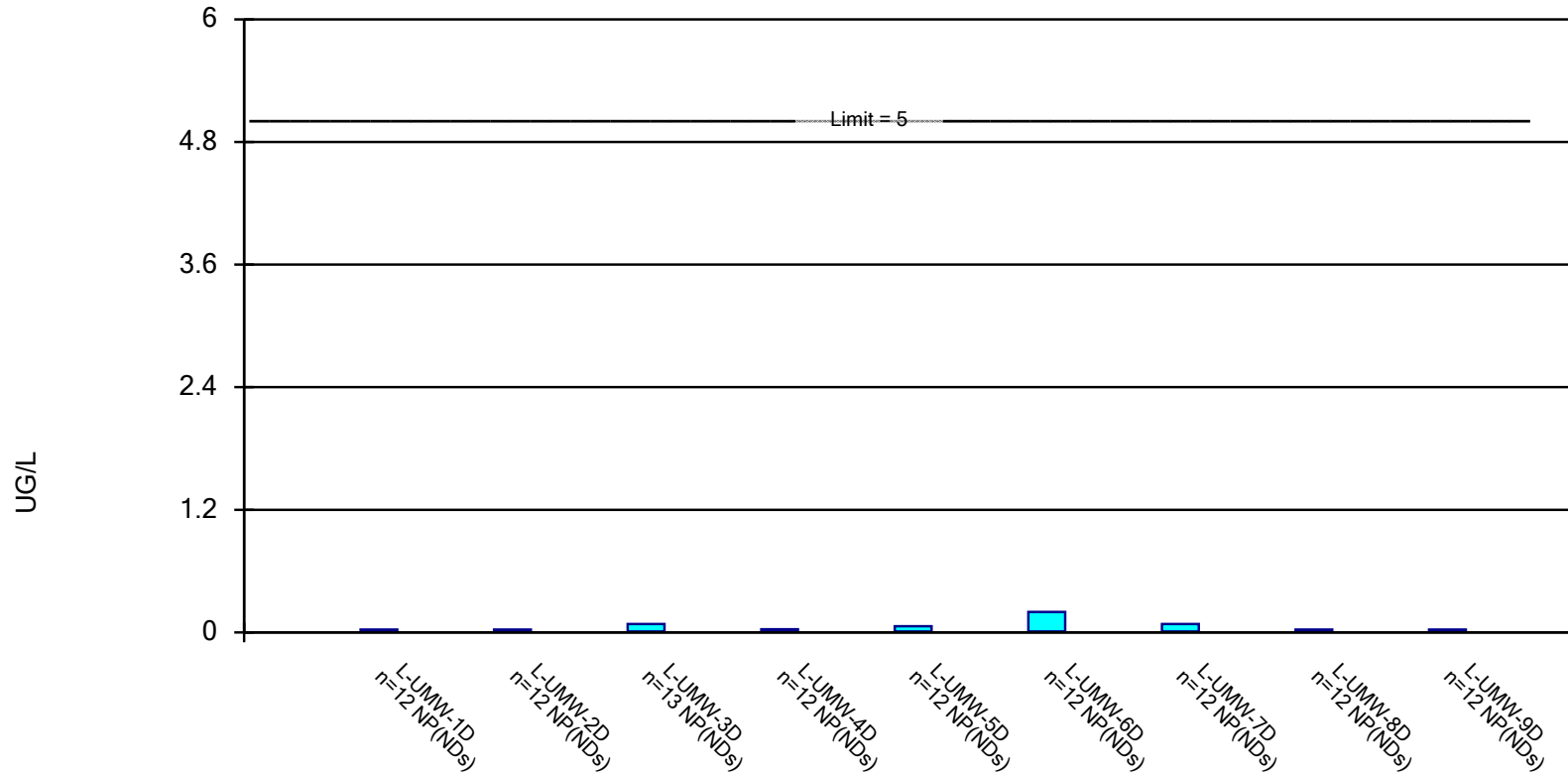
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: BERYLLIUM, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

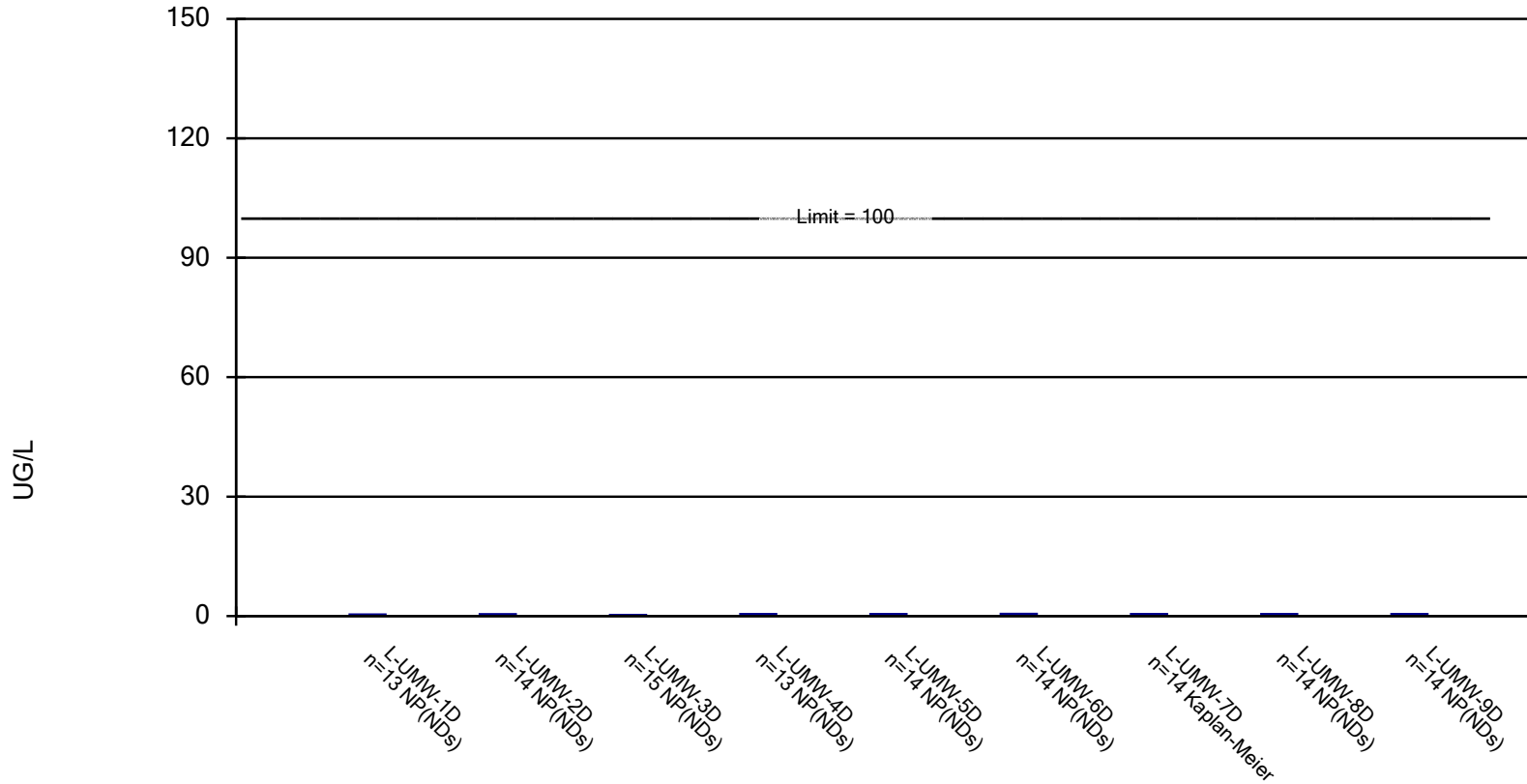
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: CADMIUM, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

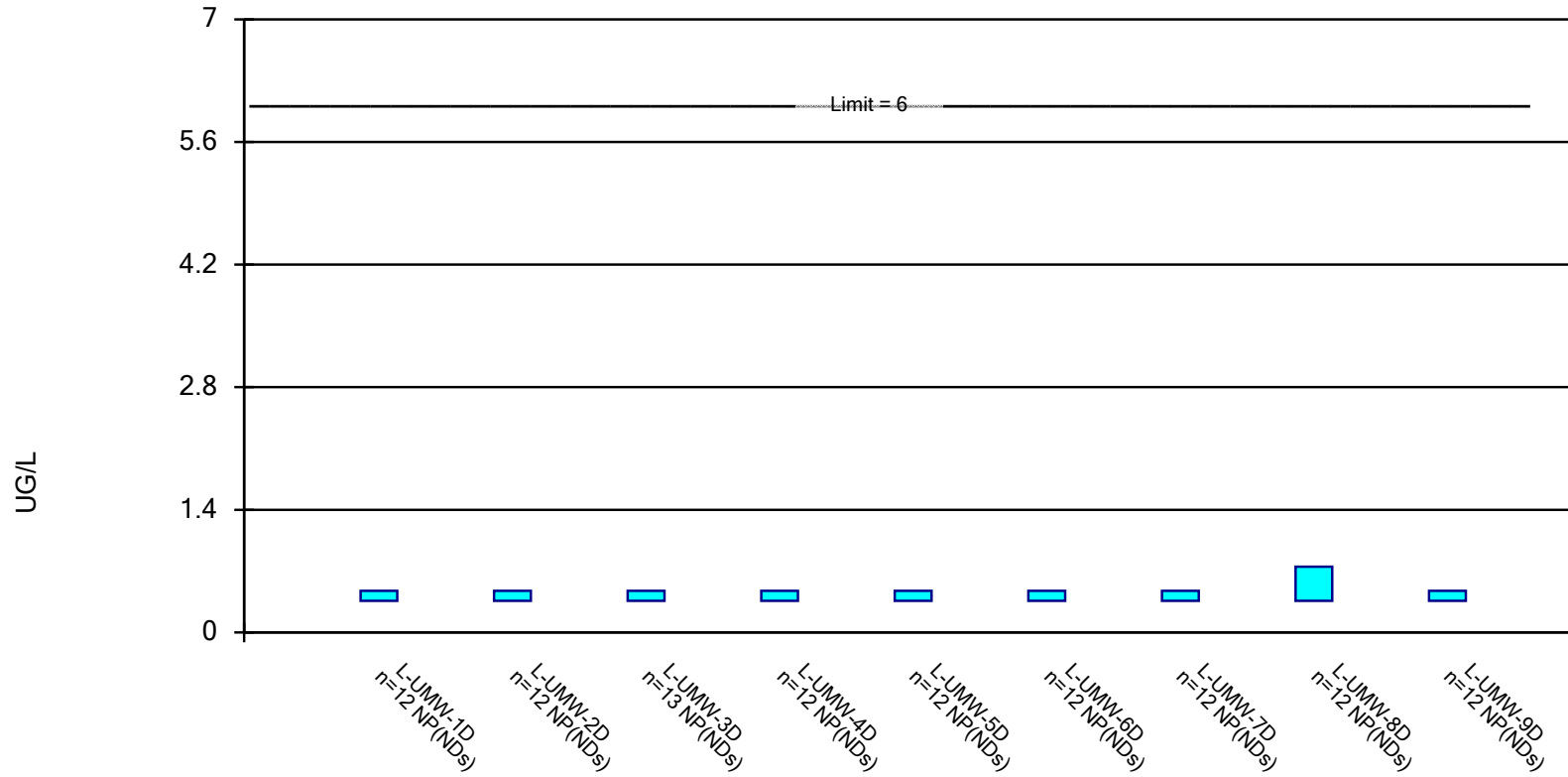


Constituent: CHROMIUM, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

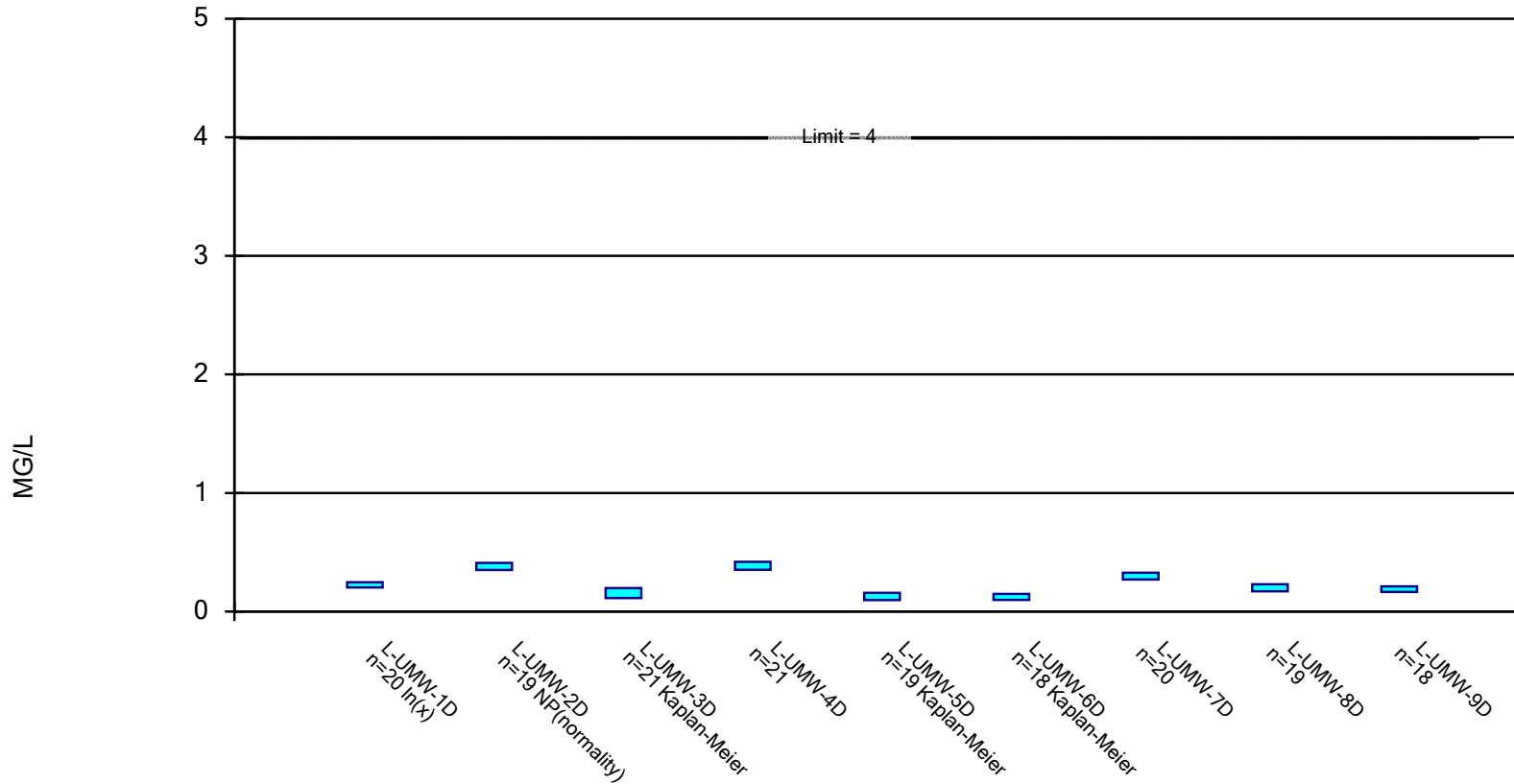
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

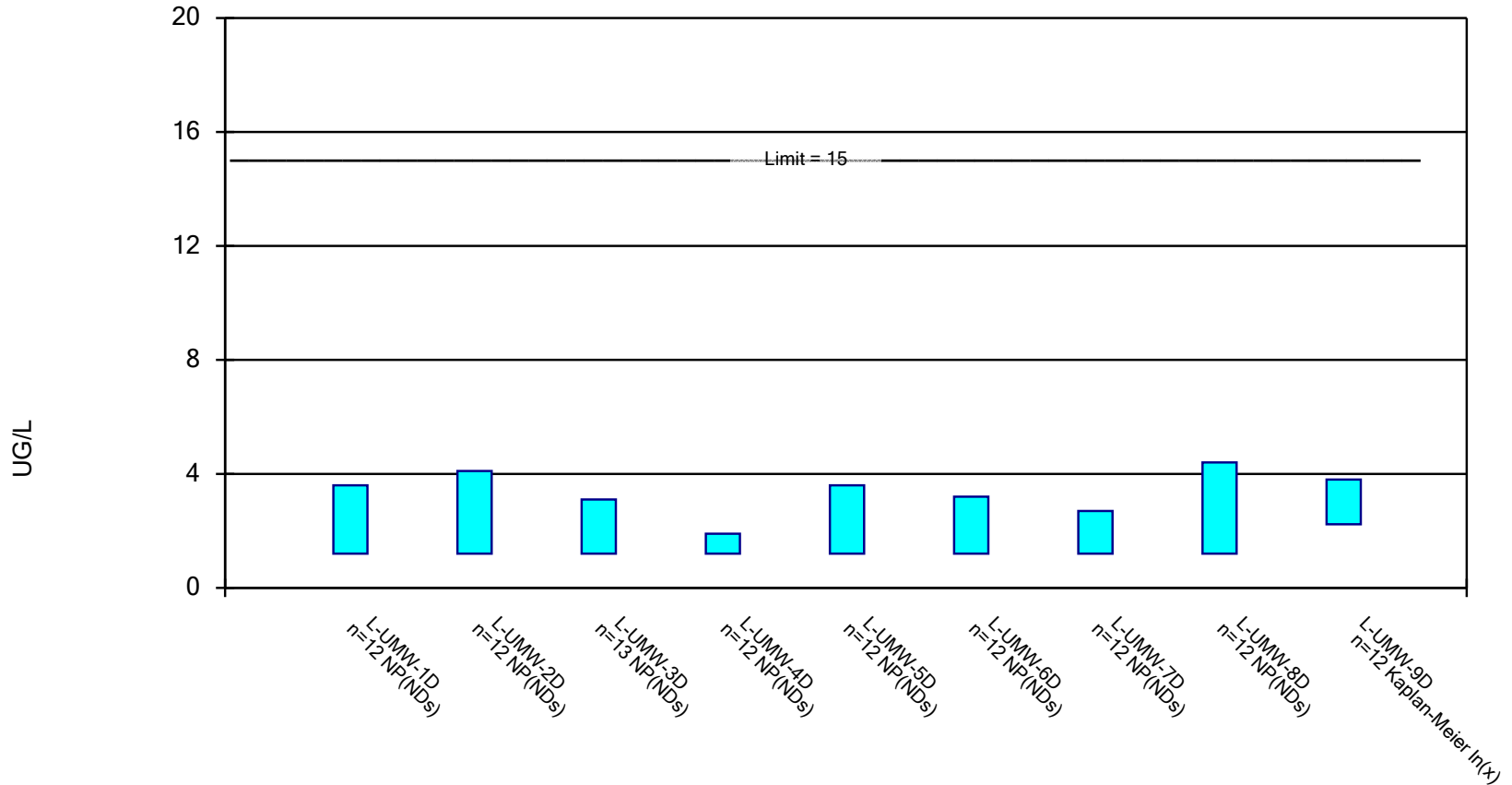
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: FLUORIDE, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

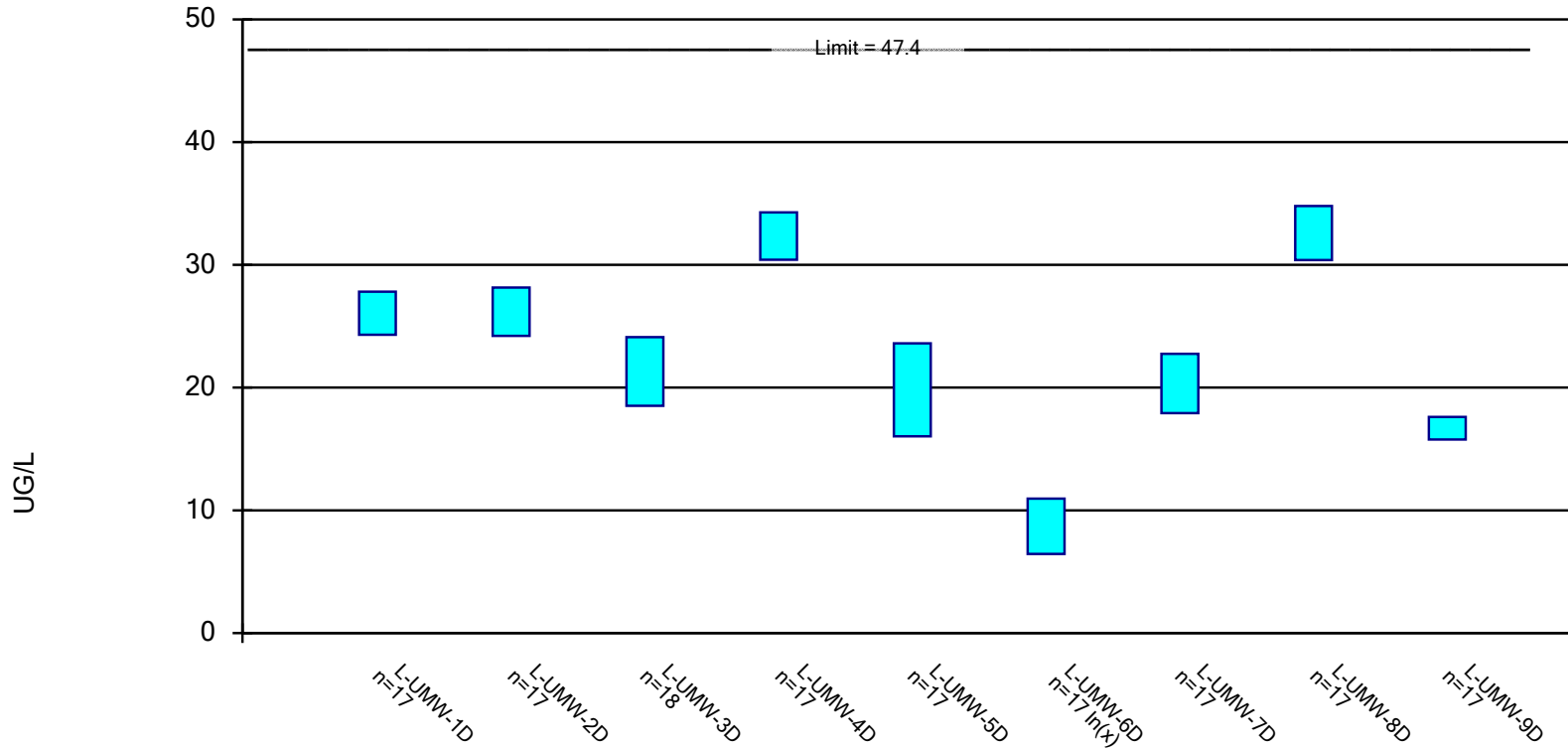
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: LEAD, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval

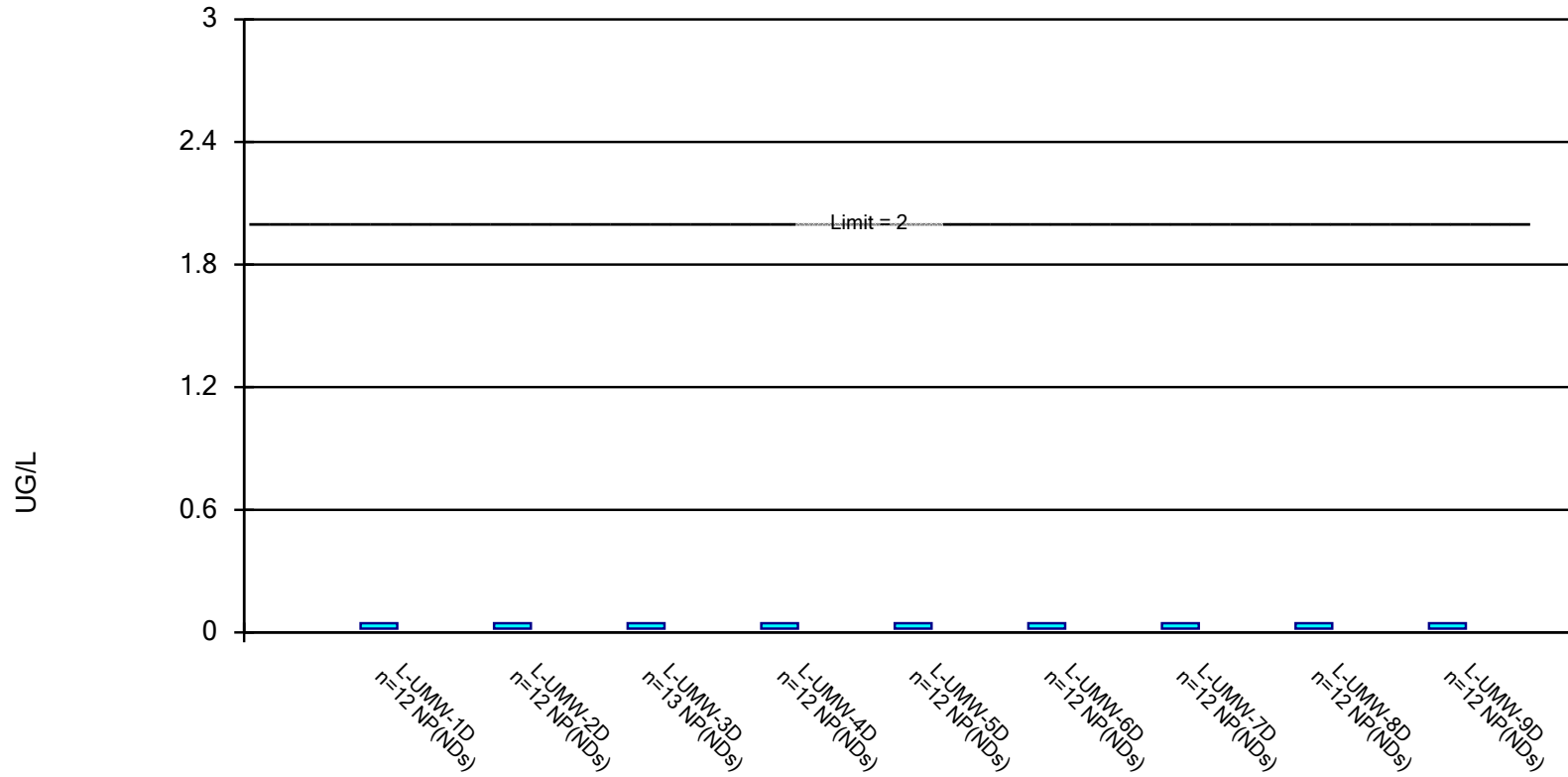
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: LITHIUM, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

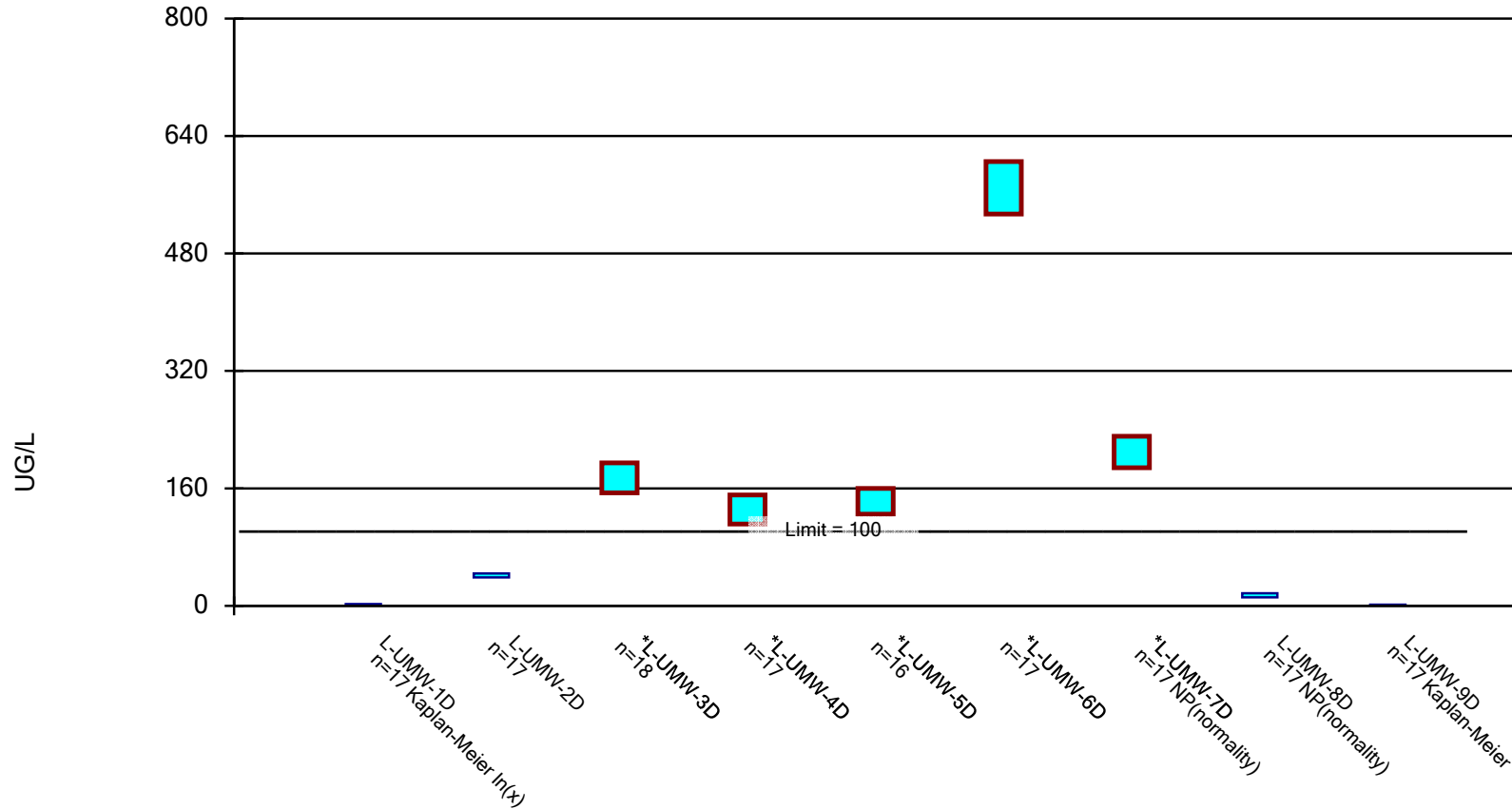
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: MERCURY, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

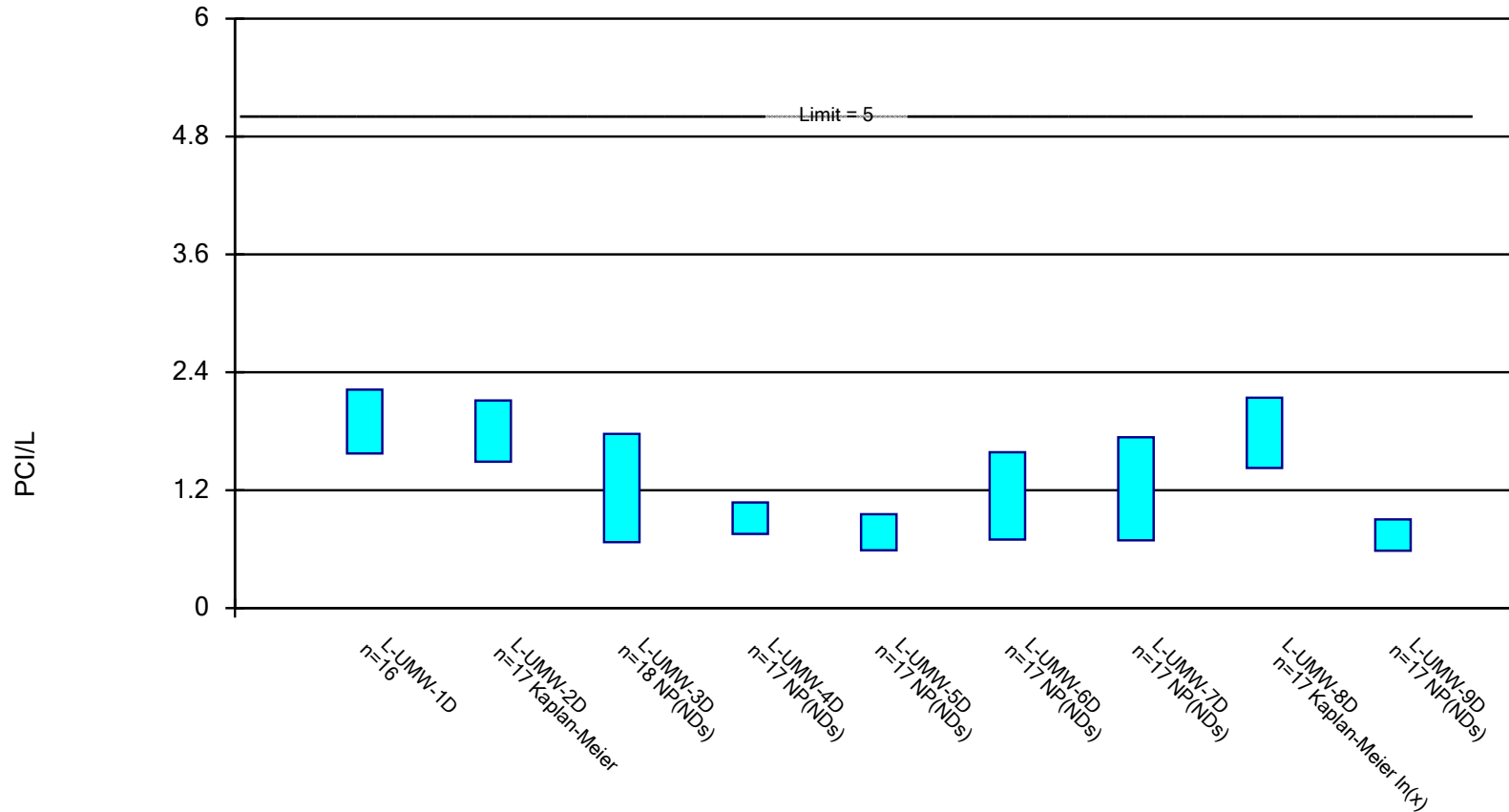
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: MOLYBDENUM, TOTAL Analysis Run 3/14/2022 3:47 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

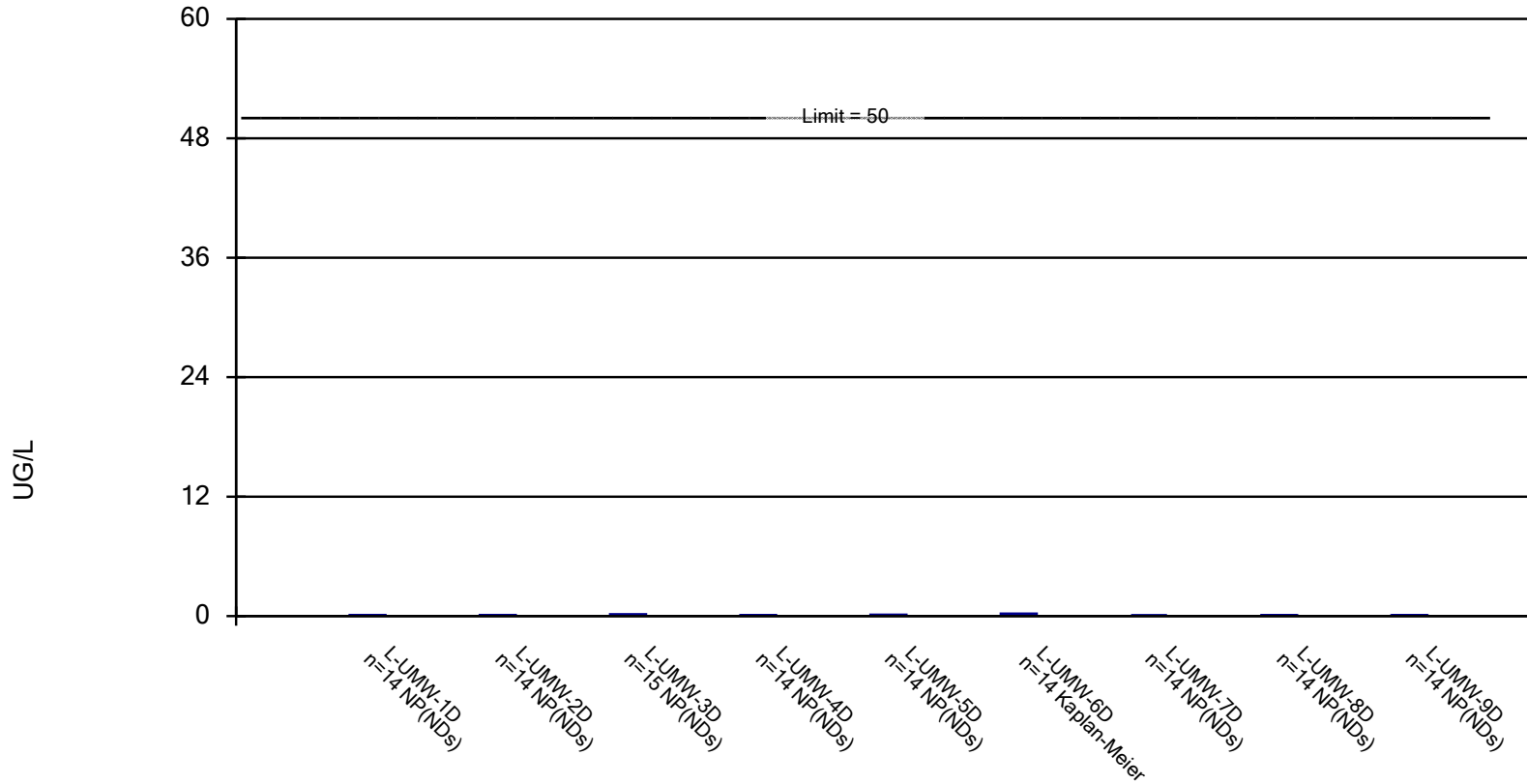
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Radium [226 + 228] Analysis Run 3/14/2022 3:48 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

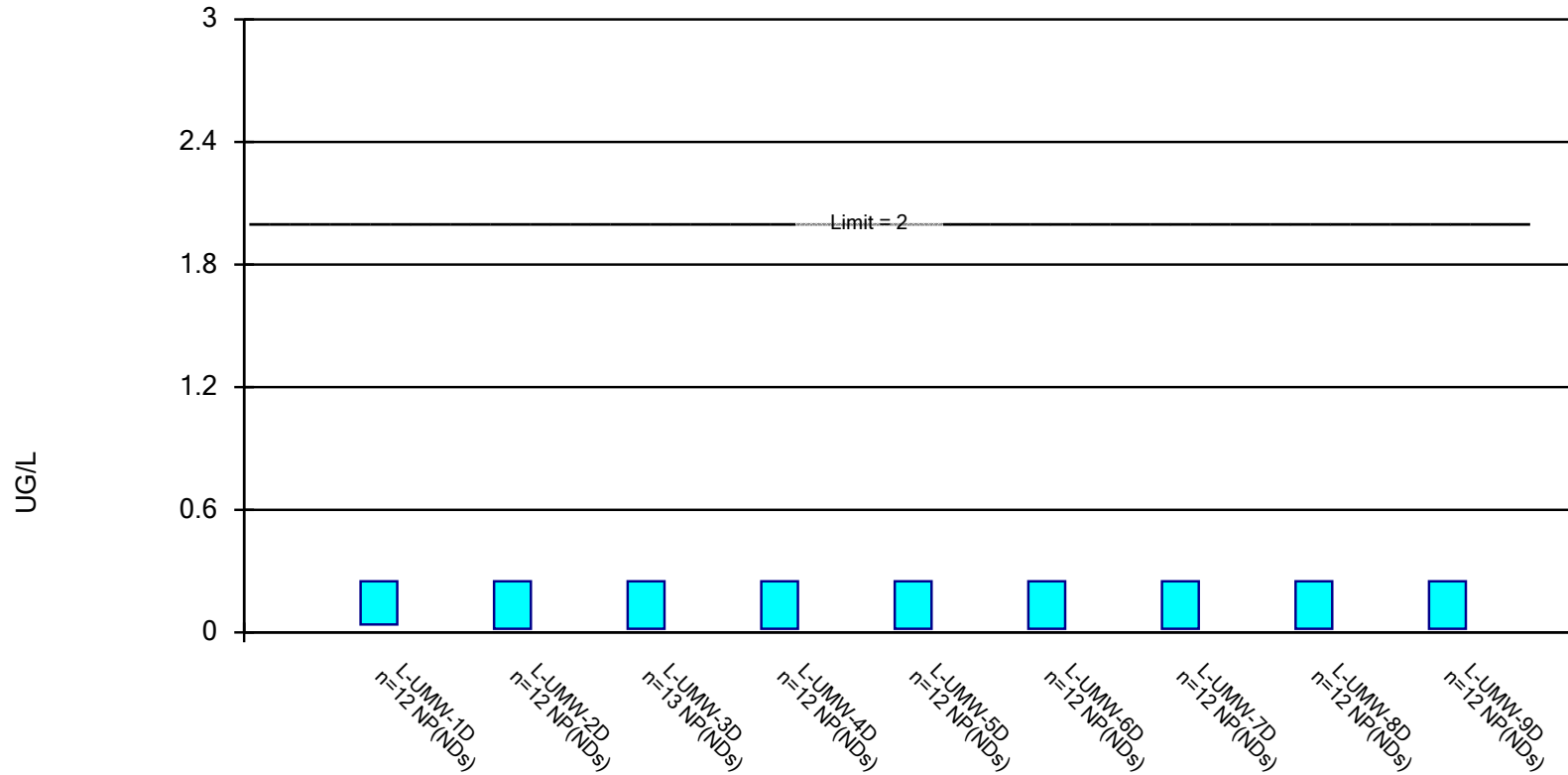
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: SELENIUM, TOTAL Analysis Run 3/14/2022 3:48 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: THALLIUM, TOTAL Analysis Run 3/14/2022 3:48 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 3/14/2022, 3:49 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0.05	0.013	6	No	13	84.62	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0.0485	0.013	6	No	13	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.05	0.013	6	No	14	85.71	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.05	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.1	0.029	6	No	13	53.85	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.05	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0.0485	0.013	6	No	13	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0.0485	0.013	6	No	13	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0.0485	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	L-UMW-1D	45.62	30	44.2	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-2D	2.255	1.628	44.2	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-3D	3.389	0.5506	44.2	No	16	6.25	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.152	0.09888	44.2	No	17	23.53	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-5D	22.24	16.63	44.2	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-6D	19.47	10.61	44.2	No	16	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-7D	22.62	16.7	44.2	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-8D	31.23	27.9	44.2	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-9D	34.39	32.42	44.2	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-1D	490.6	408.6	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-2D	125	105.7	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-3D	129.8	92.61	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-4D	88.38	65.92	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-5D	72.96	62.06	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-6D	138.5	119.2	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-7D	148.9	104.7	2000	No	17	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-8D	482	438	2000	No	16	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	L-UMW-9D	527.7	504.5	2000	No	17	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0.245	0.08	4	No	12	91.67	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.082	0.009	5	No	13	69.23	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0.031	0.009	5	No	12	91.67	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0.06	0.009	5	No	12	83.33	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.2	0.009	5	No	12	66.67	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0.082	0.009	5	No	12	83.33	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.36	0.039	100	No	13	53.85	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0.47	0.027	100	No	14	71.43	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0.25	0.039	100	No	15	73.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	0.49	0.039	100	No	13	69.23	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0.5	0.039	100	No	14	71.43	No	0.01	NP (NDs)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 3/14/2022, 3:49 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	0.54	0.039	100	No	14	57.14	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	0.4947	0.1124	100	No	14	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	0.48	0.039	100	No	14	64.29	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0.5	0.039	100	No	14	71.43	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-1D	0.475	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-2D	0.475	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-3D	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-4D	0.475	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-5D	0.475	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-6D	0.475	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-7D	0.475	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-8D	0.75	0.36	6	No	12	91.67	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-9D	0.475	0.36	6	No	12	100	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.2476	0.2027	4	No	20	0	ln(x)	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0.41	0.35	4	No	19	0	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.1973	0.1139	4	No	21	23.81	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.4188	0.3517	4	No	21	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.1577	0.09703	4	No	19	15.79	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0.1485	0.09787	4	No	18	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0.3277	0.2703	4	No	20	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.2299	0.1701	4	No	19	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.2124	0.1653	4	No	18	0	No	0.01	Param.
LEAD, TOTAL (UG/L)	L-UMW-1D	3.6	1.2	15	No	12	66.67	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-2D	4.1	1.2	15	No	12	75	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-3D	3.1	1.2	15	No	13	76.92	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-4D	1.9	1.2	15	No	12	100	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-5D	3.6	1.2	15	No	12	83.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-6D	3.2	1.2	15	No	12	83.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-7D	2.7	1.2	15	No	12	75	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-8D	4.4	1.2	15	No	12	75	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-9D	3.803	2.233	15	No	12	50	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-1D	27.81	24.31	47.4	No	17	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-2D	28.15	24.21	47.4	No	17	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-3D	24.1	18.52	47.4	No	18	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-4D	34.28	30.42	47.4	No	17	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-5D	23.61	16.02	47.4	No	17	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-6D	10.96	6.45	47.4	No	17	5.882	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-7D	22.75	17.92	47.4	No	17	5.882	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-8D	34.79	30.39	47.4	No	17	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-9D	17.61	15.77	47.4	No	17	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	L-UMW-1D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-2D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.045	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-4D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-5D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-6D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-7D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-8D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-9D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	2.446	0.8472	100	No	17	23.53	ln(x)	0.01	Param.

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 3/14/2022, 3:49 PM

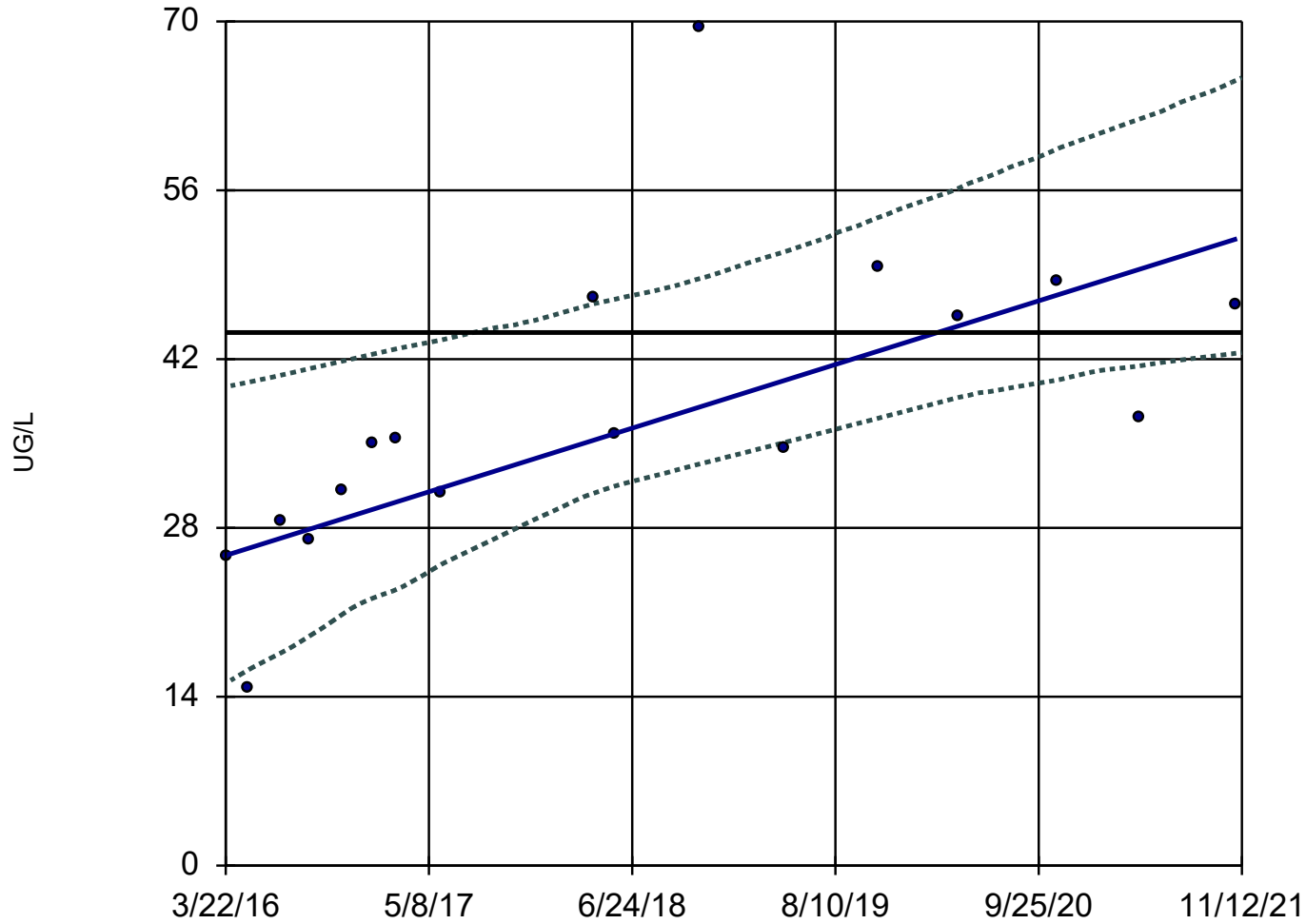
<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	44.06	38.68	100	No	17	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	194.6	153.8	100	Yes	18	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	151	111.5	100	Yes	17	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-5D	160	125	100	Yes	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	605.2	533.7	100	Yes	17	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-7D	231	188	100	Yes	17	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	17.1	11.5	100	No	17	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	1.603	0.7715	100	No	17	47.06	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-1D	2.223	1.574	5	No	16	12.5	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-2D	2.114	1.49	5	No	17	35.29	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-3D	1.772	0.6715	5	No	18	72.22	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-4D	1.075	0.7545	5	No	17	76.47	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.956	0.588	5	No	17	88.24	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-6D	1.587	0.6975	5	No	17	52.94	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-7D	1.738	0.689	5	No	17	70.59	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-8D	2.142	1.426	5	No	17	41.18	ln(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-9D	0.9025	0.5835	5	No	17	88.24	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0.11	0.043	50	No	14	92.86	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0.11	0.043	50	No	14	92.86	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0.19	0.043	50	No	15	60	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0.09	0.043	50	No	14	100	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0.14	0.09	50	No	14	64.29	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0.2487	0.186	50	No	14	21.43	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0.091	0.089	50	No	14	78.57	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0.09	0.043	50	No	14	92.86	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0.09	0.043	50	No	14	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-1D	0.25	0.039	2	No	12	83.33	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-2D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-3D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-4D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-5D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-6D	0.25	0.018	2	No	12	91.67	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-7D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-8D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-9D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)

APPENDIX B

**Sanitas Trending Confidence
Bands Statistical Output**

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 17

Slope = 4.672
units per year.

Mann-Kendall
statistic = 84
critical = 58

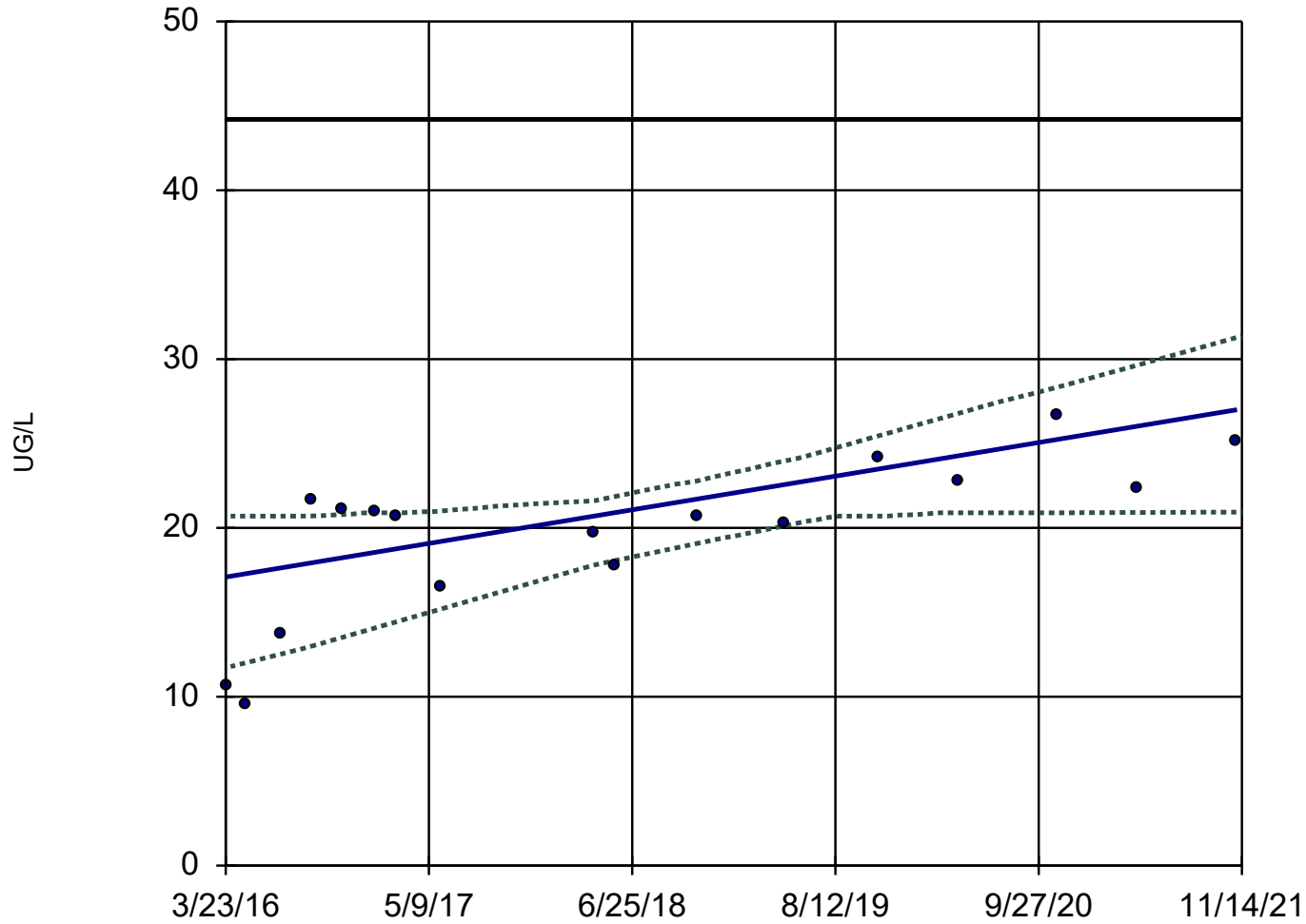
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 44.2.

Constituent: ARSENIC, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-7D

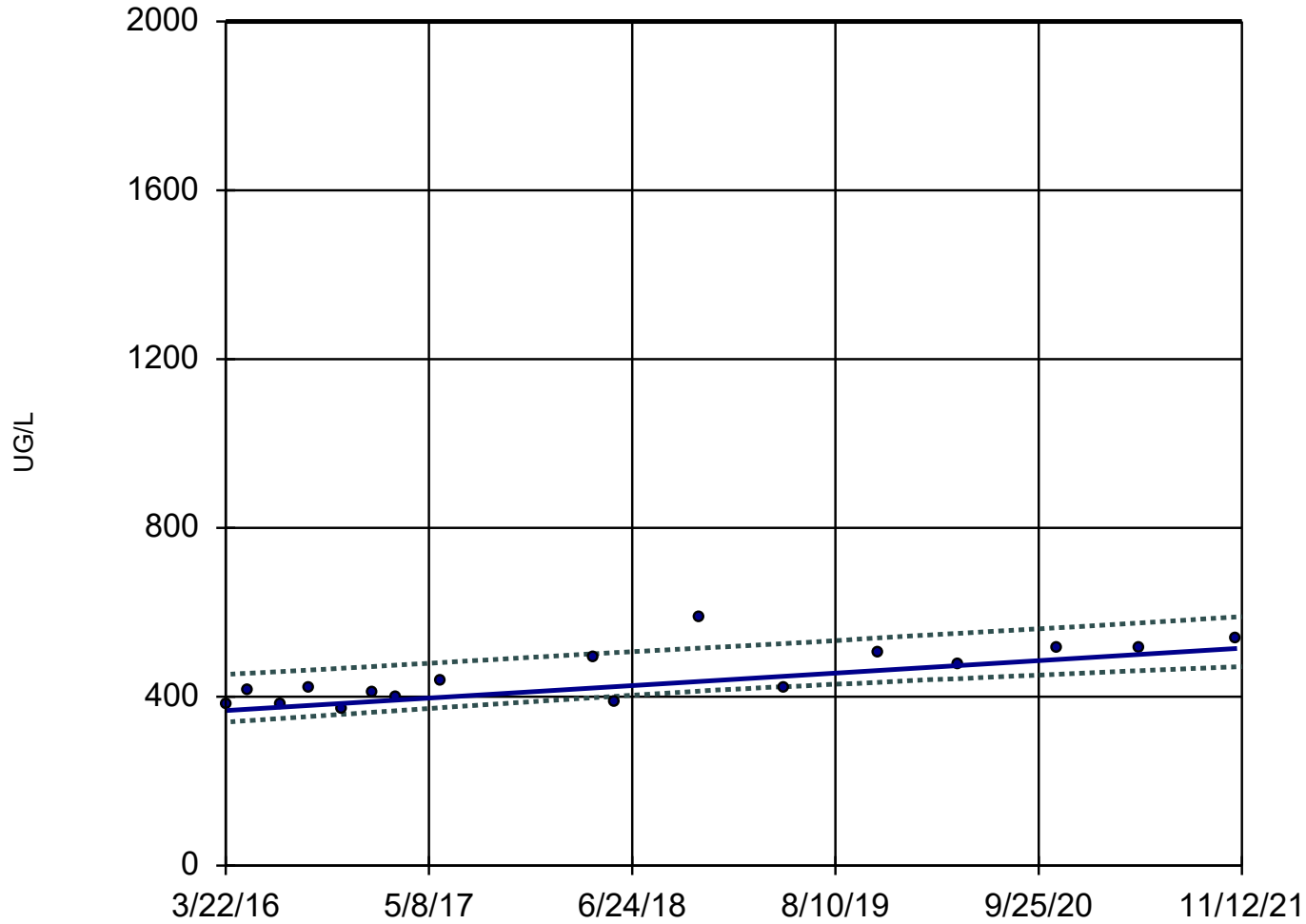


n = 17
Slope = 1.763 units per year.
Mann-Kendall statistic = 69
critical = 58
Increasing trend significant at 98% confidence level ($\alpha = 0.01$ per tail).
GWPS = 44.2.

Constituent: ARSENIC, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-1D

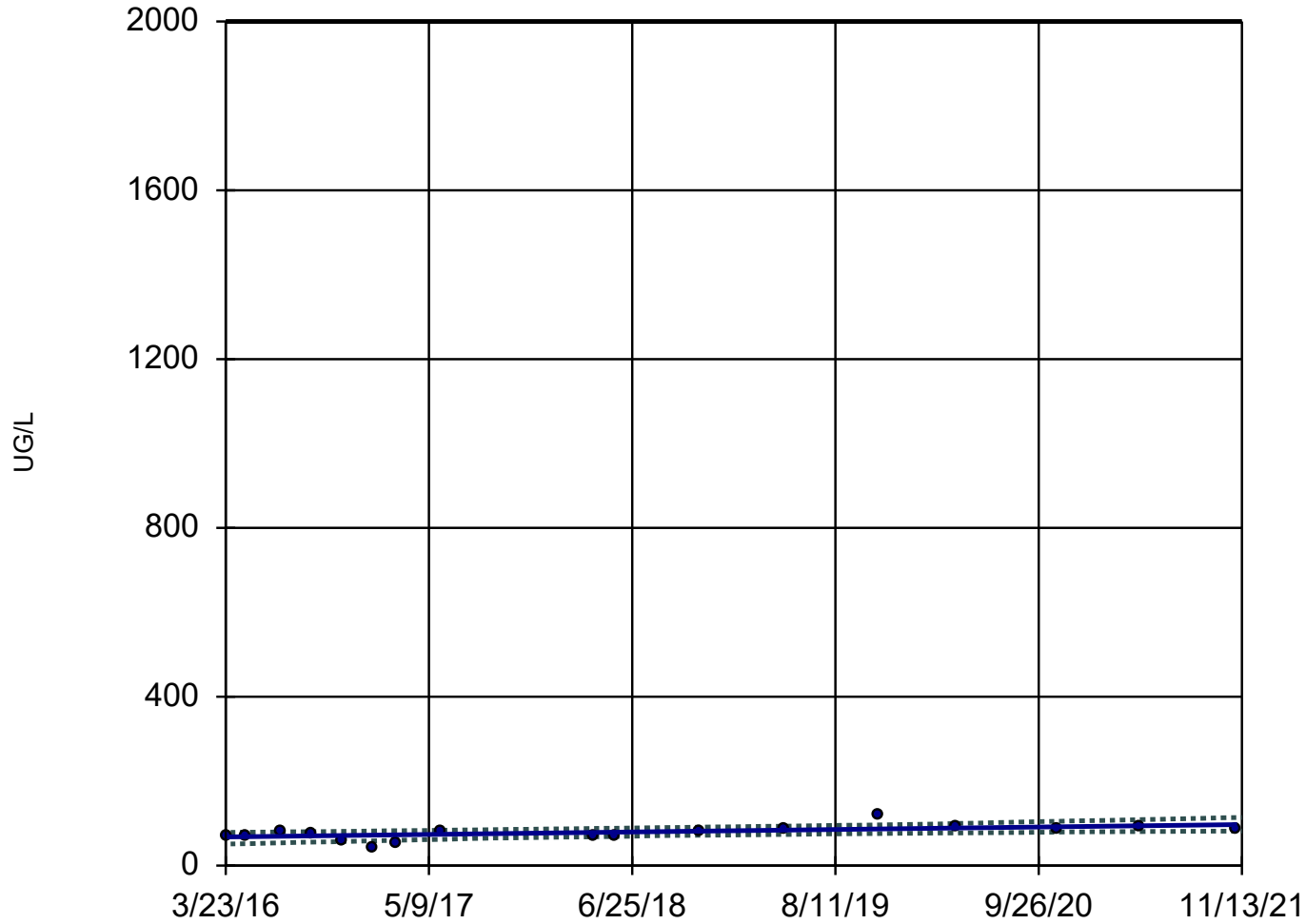


n = 17
Slope = 26.22 units per year.
Mann-Kendall statistic = 82
critical = 58
Increasing trend significant at 98% confidence level ($\alpha = 0.01$ per tail).
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-4D

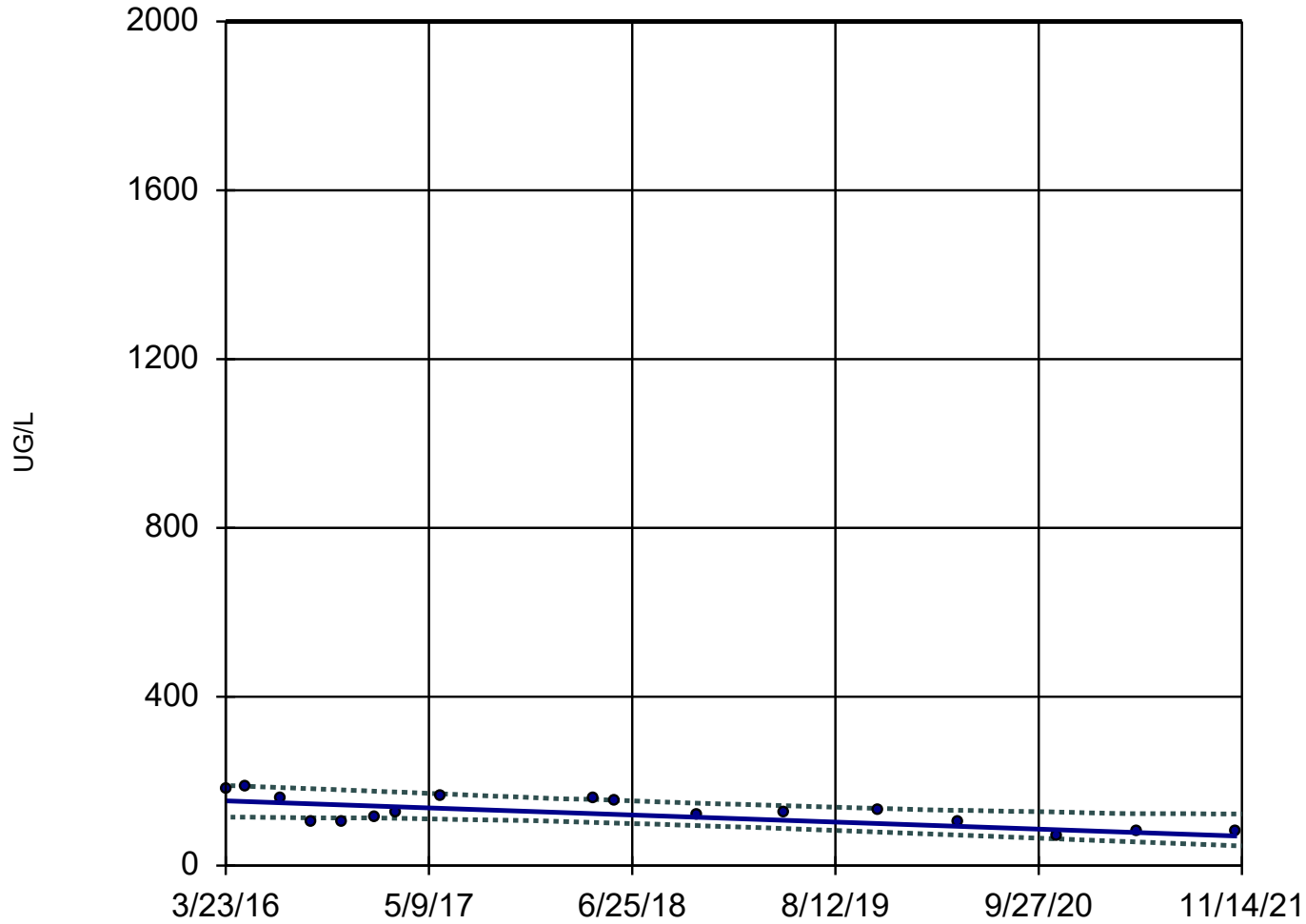


n = 17
Slope = 5.223 units per year.
Mann-Kendall statistic = 67 critical = 58
Increasing trend significant at 98% confidence level ($\alpha = 0.01$ per tail).
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 17

Slope = -14.85
units per year.

Mann-Kendall
statistic = -63
critical = -58

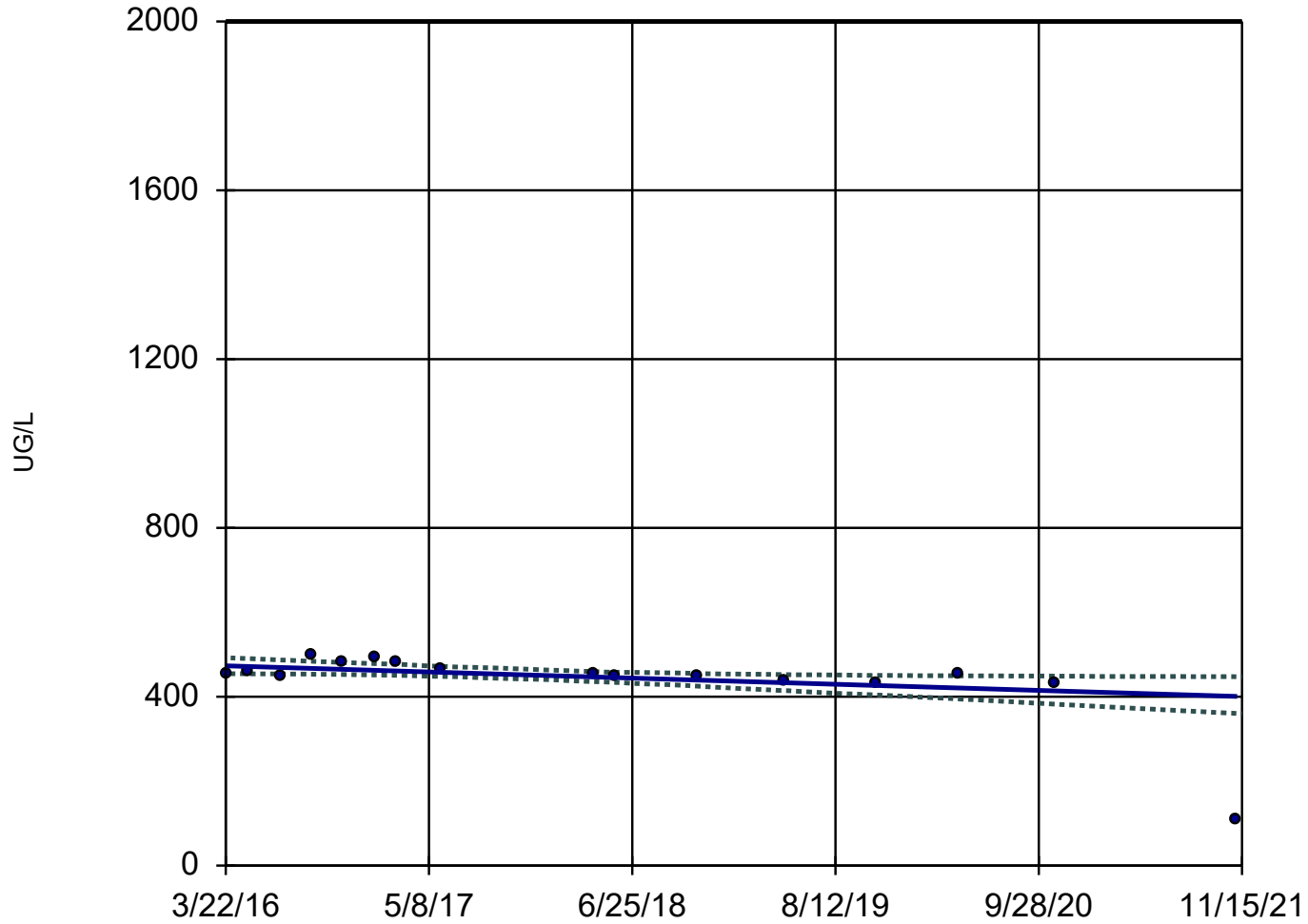
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-8D

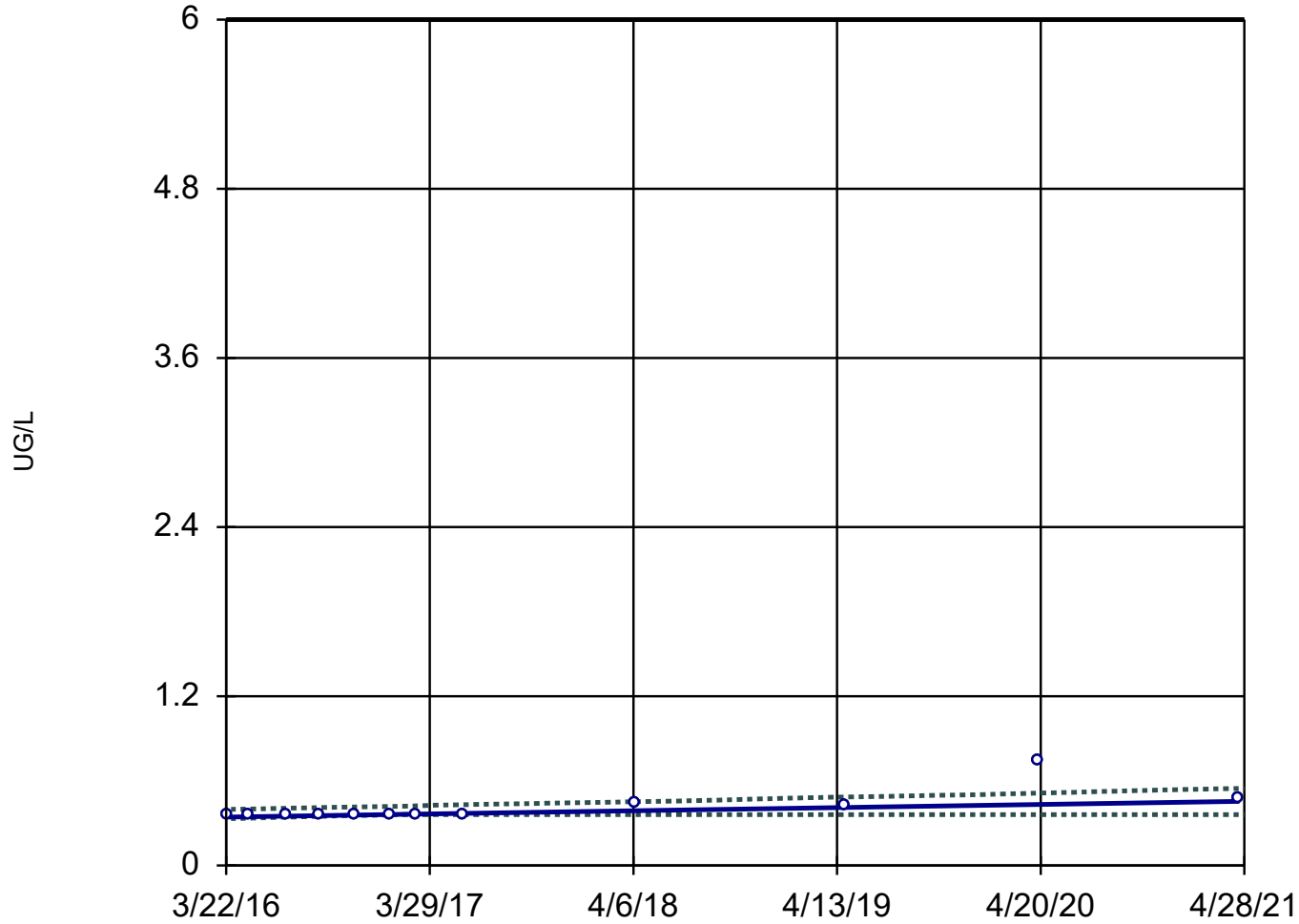


n = 16
Slope = -12.9 units per year.
Mann-Kendall statistic = -67 critical = -53
Decreasing trend significant at 98% confidence level ($\alpha = 0.01$ per tail).
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 12

Slope = 0.02203
units per year.

Mann-Kendall
statistic = 46
critical = 35

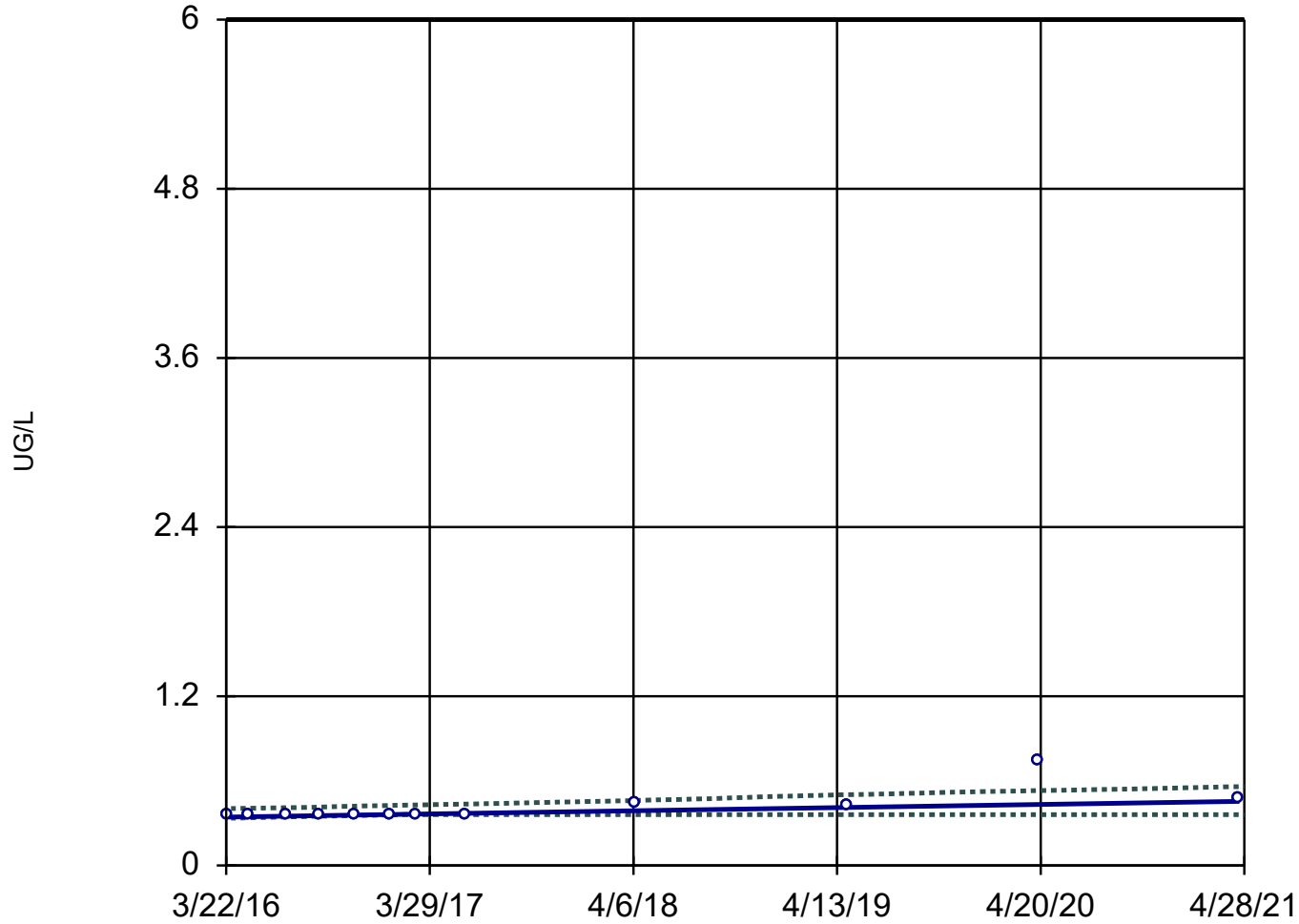
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 12

Slope = 0.02202
units per year.

Mann-Kendall
statistic = 46
critical = 35

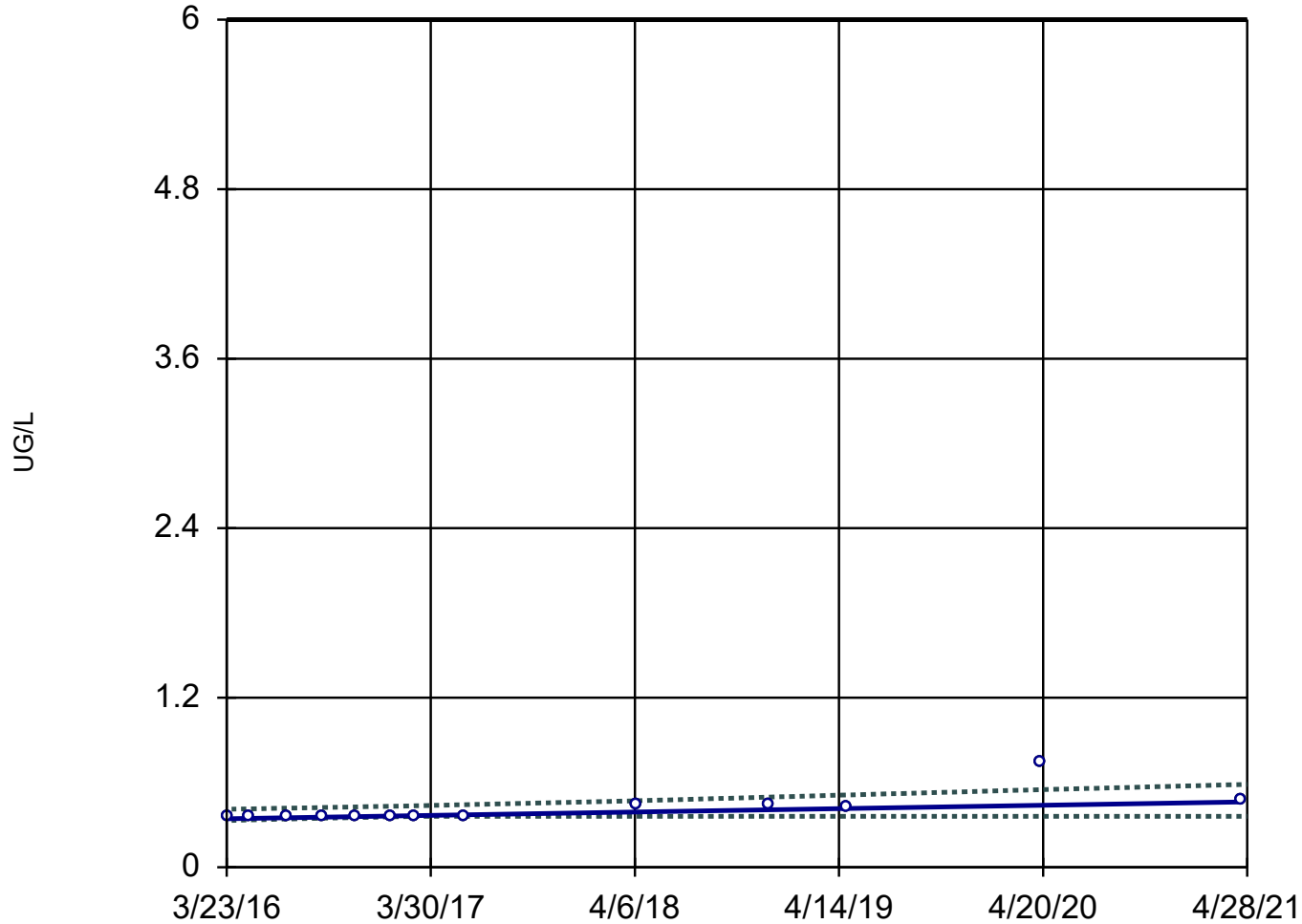
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:51 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

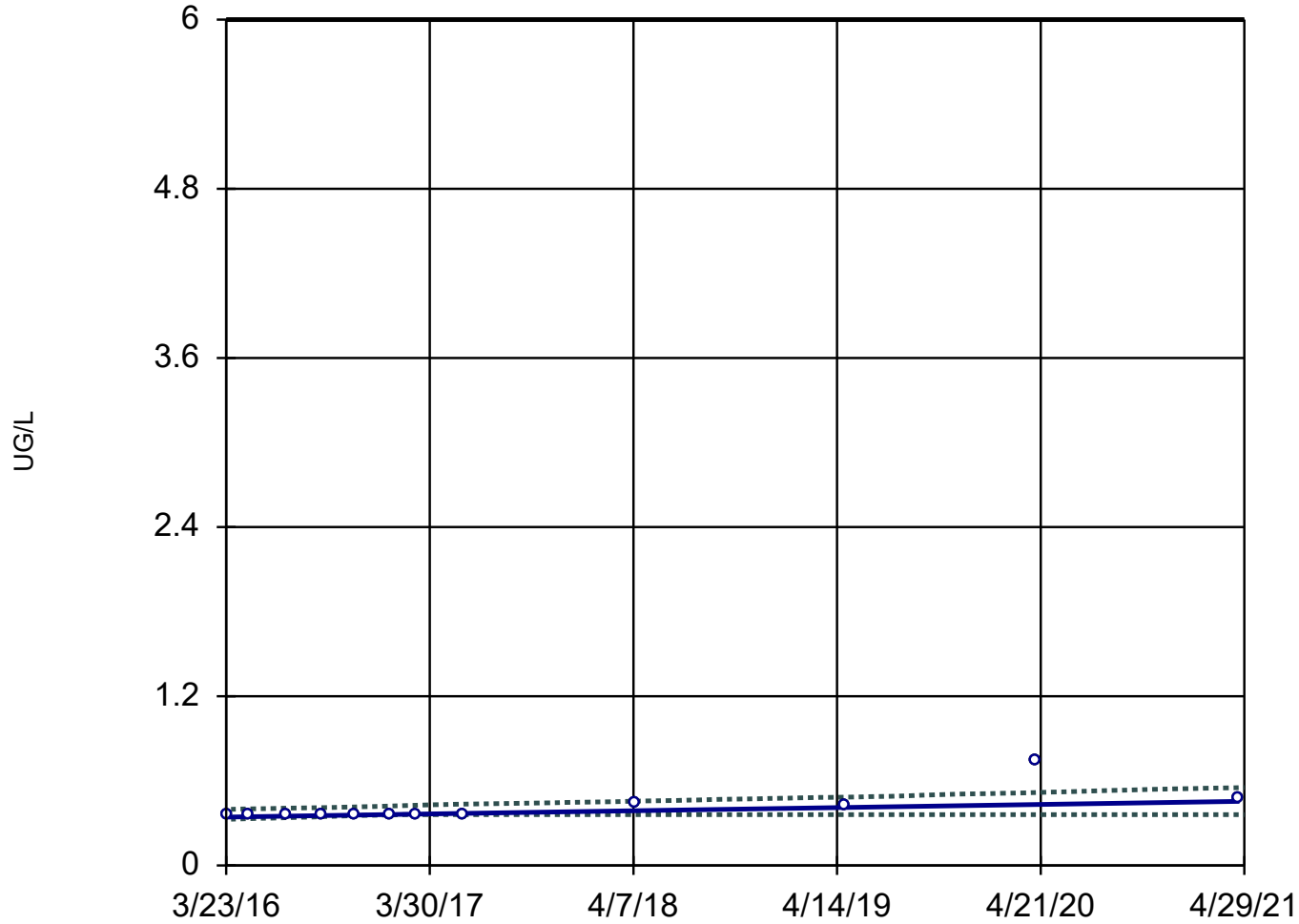
Sen's Slope and 95% Confidence Band

L-UMW-3D



Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 12

Slope = 0.02204
units per year.

Mann-Kendall
statistic = 46
critical = 35

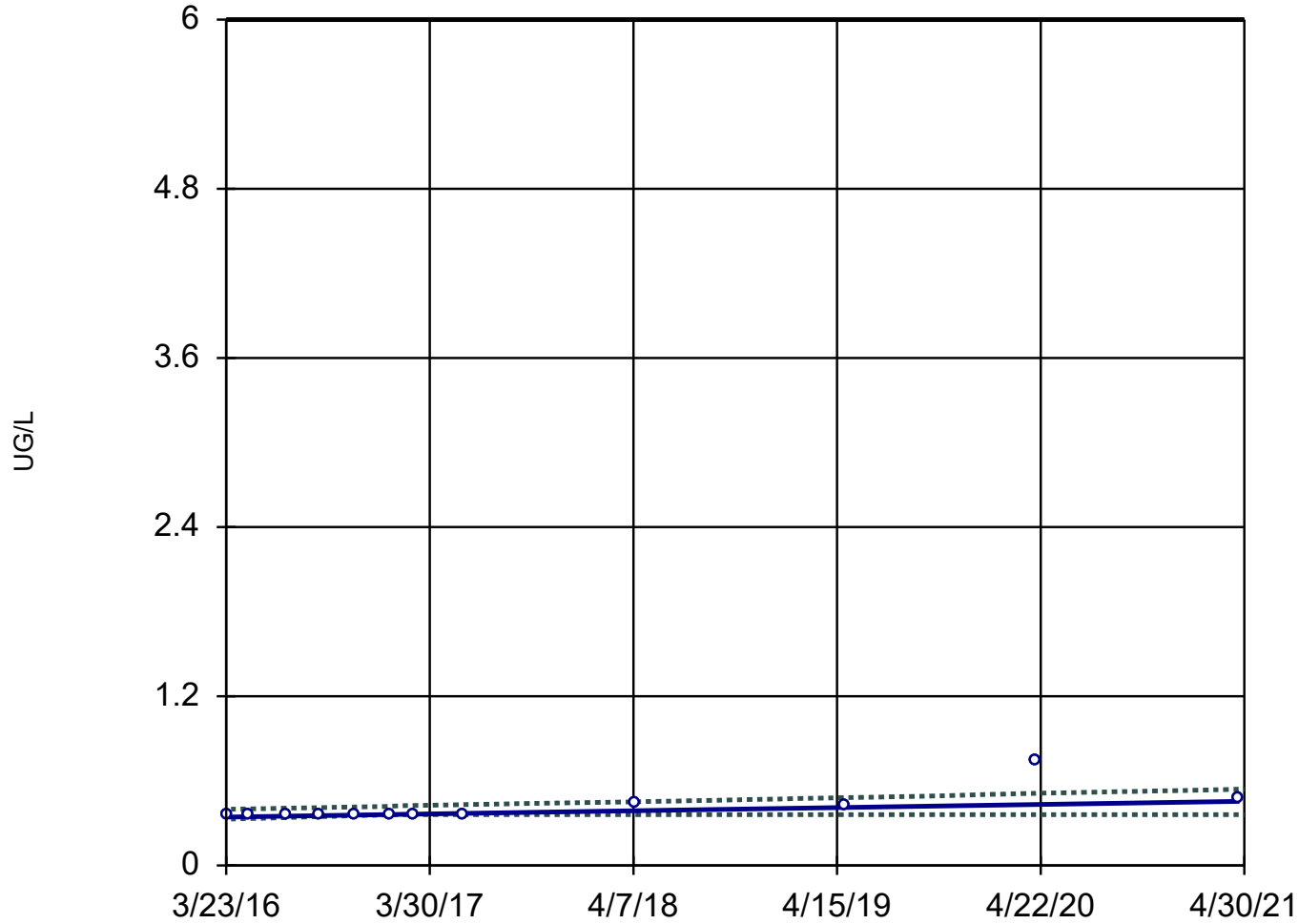
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 12

Slope = 0.02204
units per year.

Mann-Kendall
statistic = 46
critical = 35

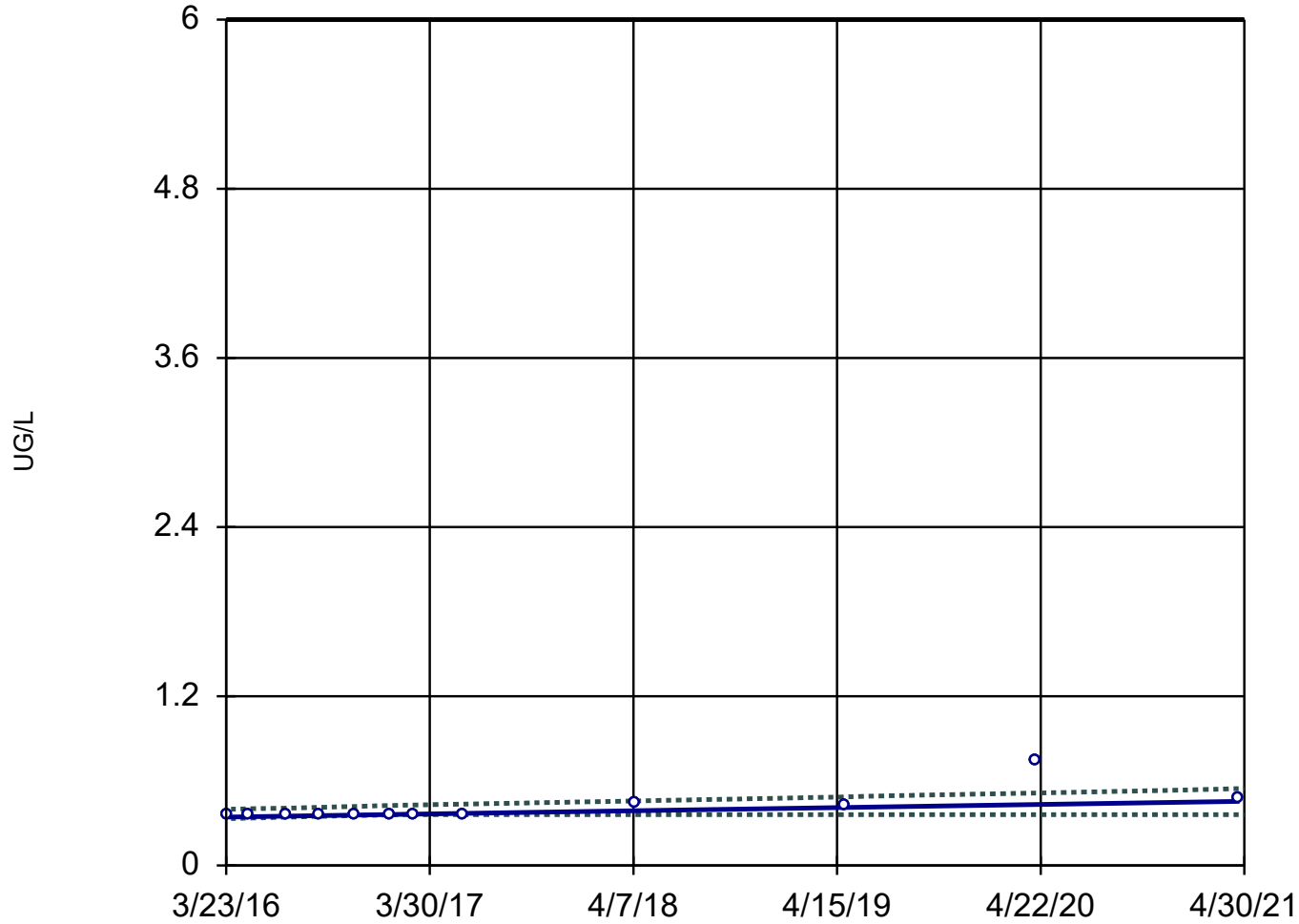
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 12

Slope = 0.02204
units per year.

Mann-Kendall
statistic = 46
critical = 35

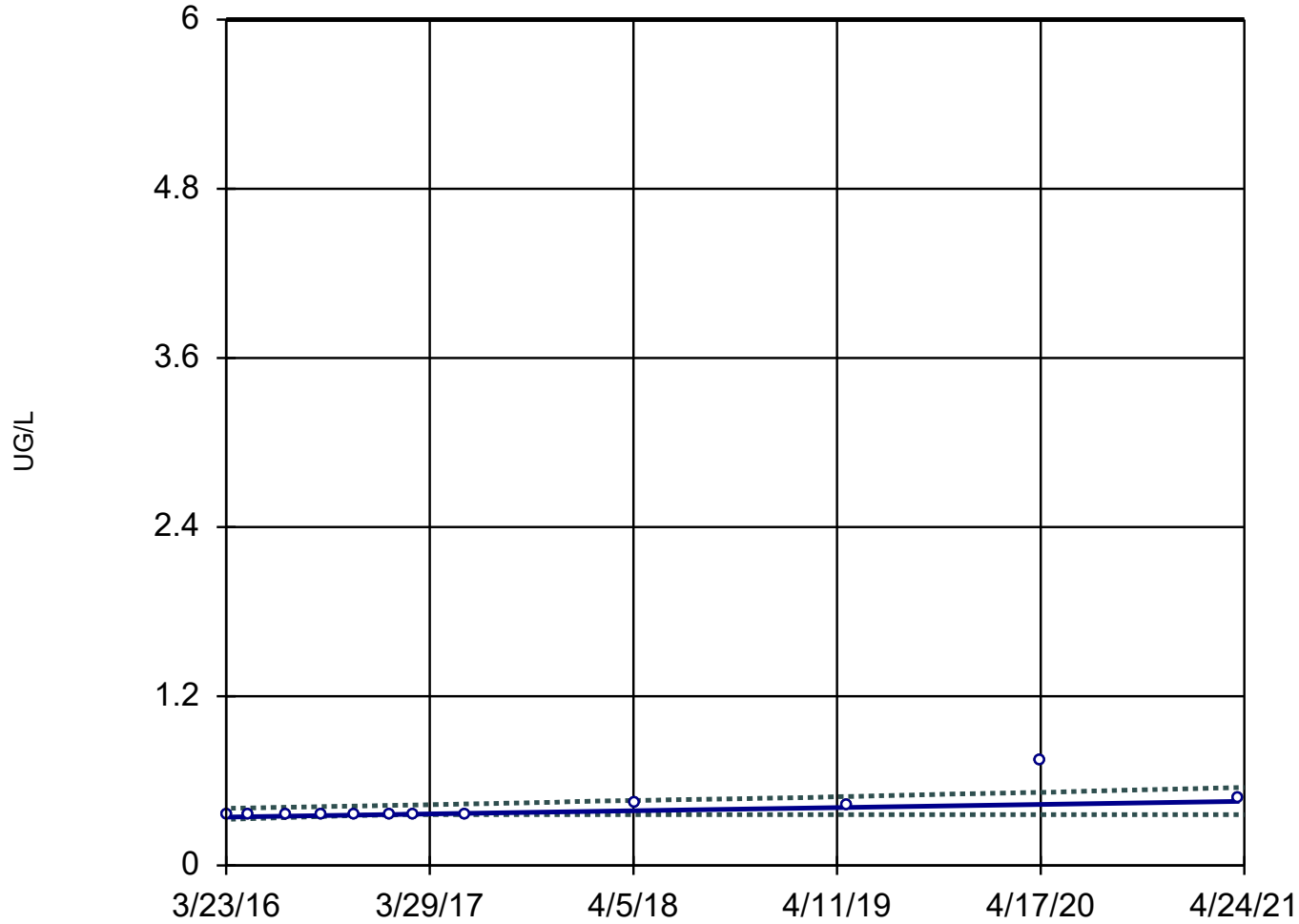
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 12

Slope = 0.02203
units per year.

Mann-Kendall
statistic = 46
critical = 35

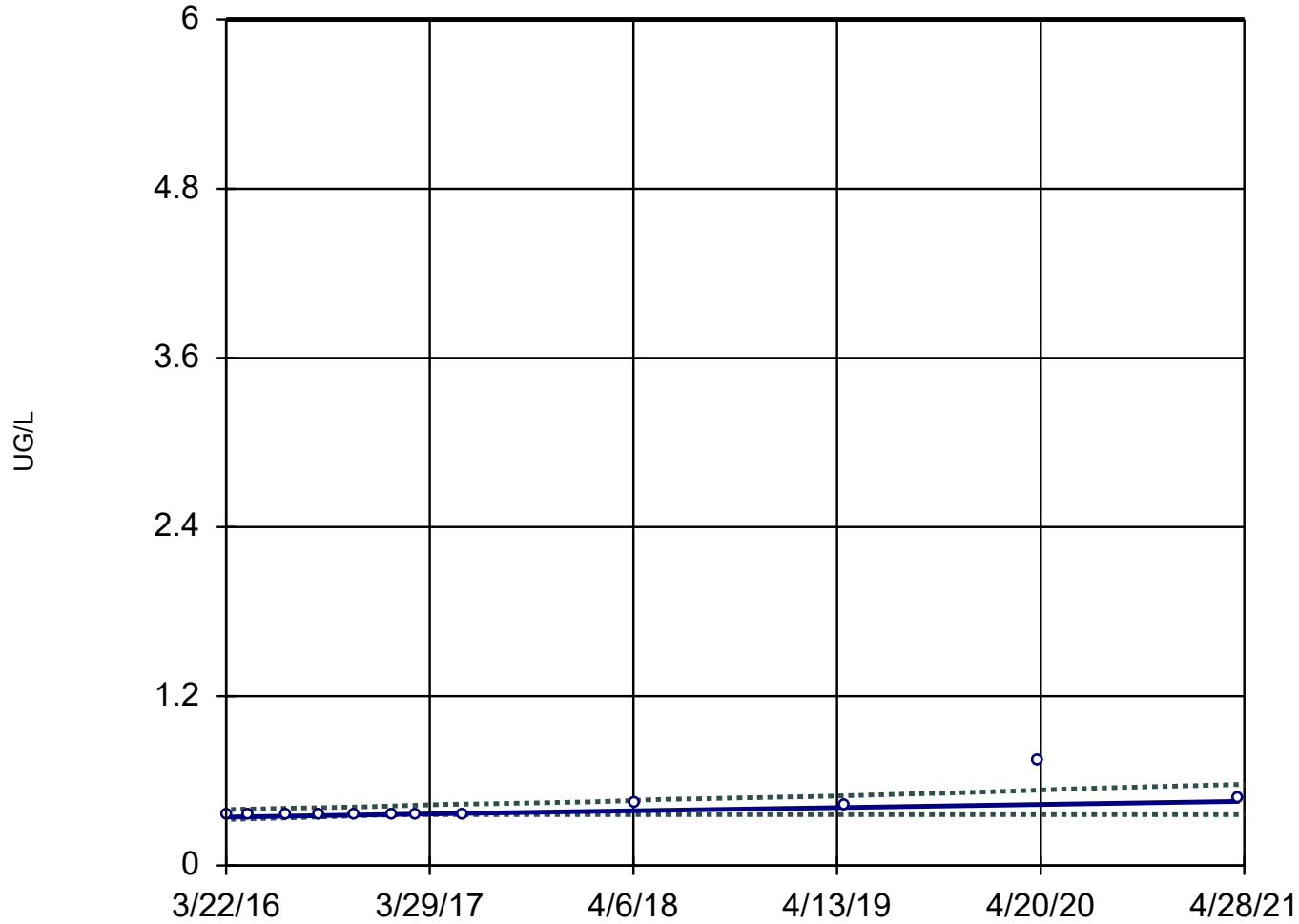
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 12

Slope = 0.02203
units per year.

Mann-Kendall
statistic = 46
critical = 35

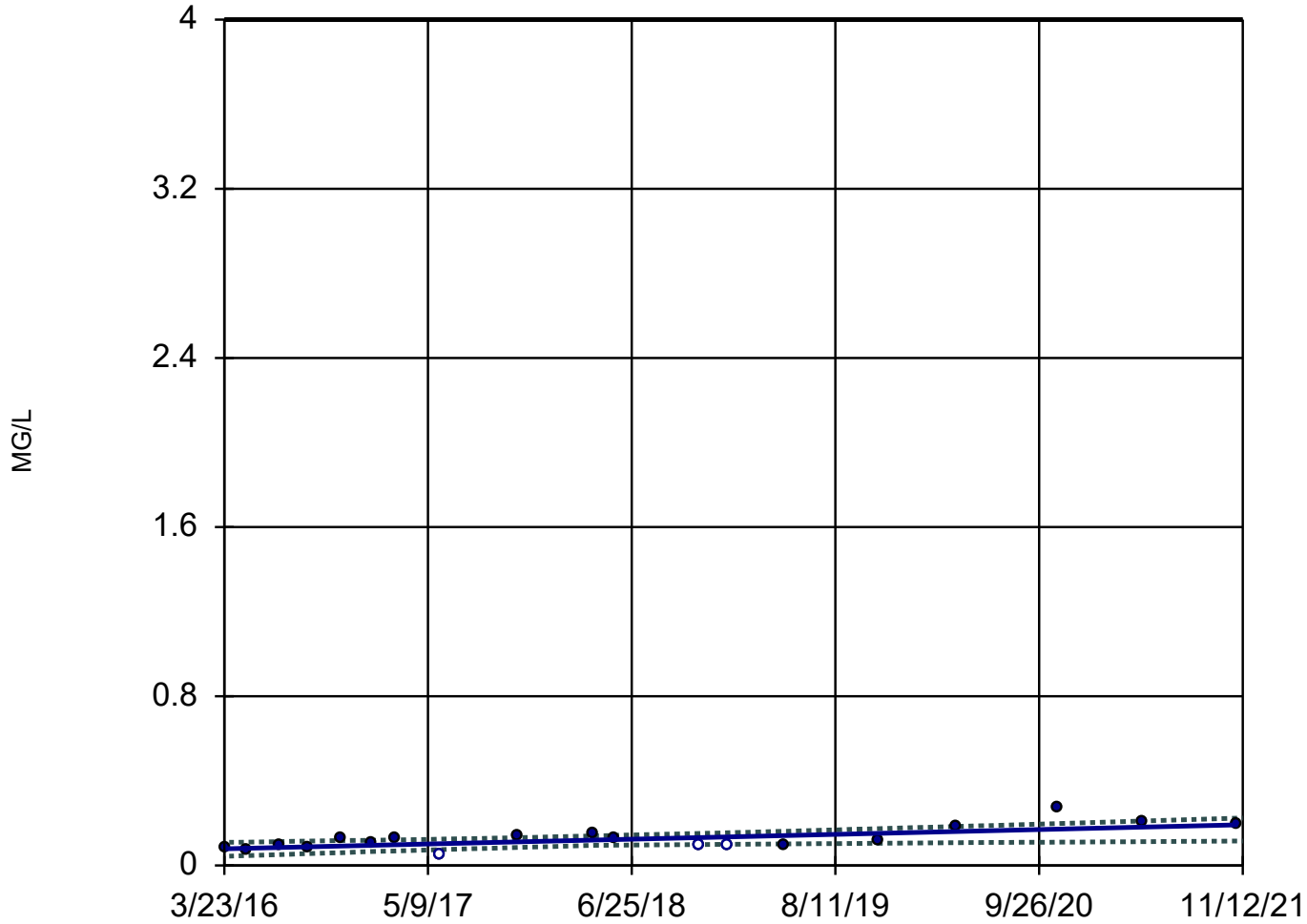
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

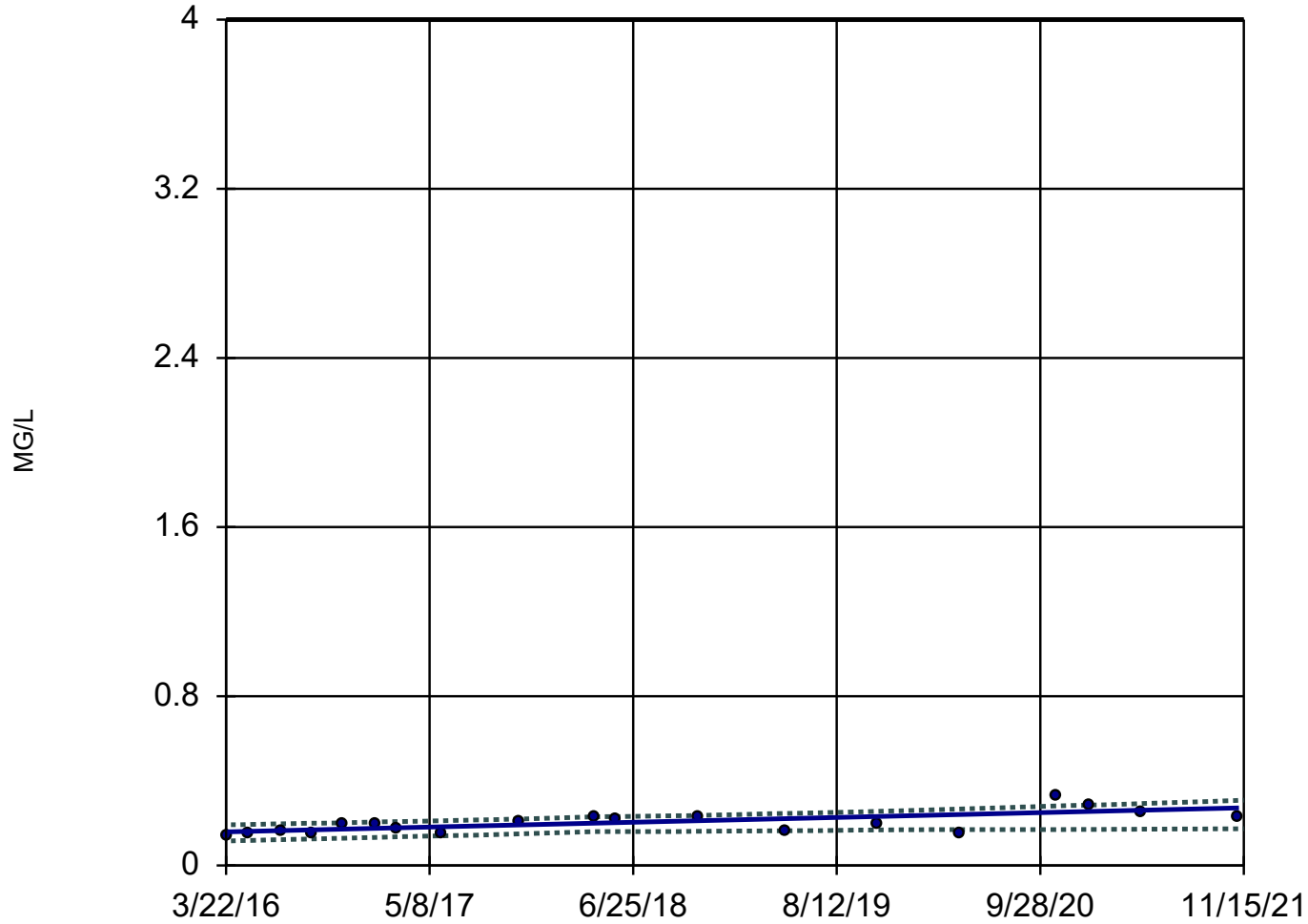
Sen's Slope and 95% Confidence Band

L-UMW-5D



Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 19

Slope = 0.02005
units per year.

Mann-Kendall
statistic = 88
critical = 68

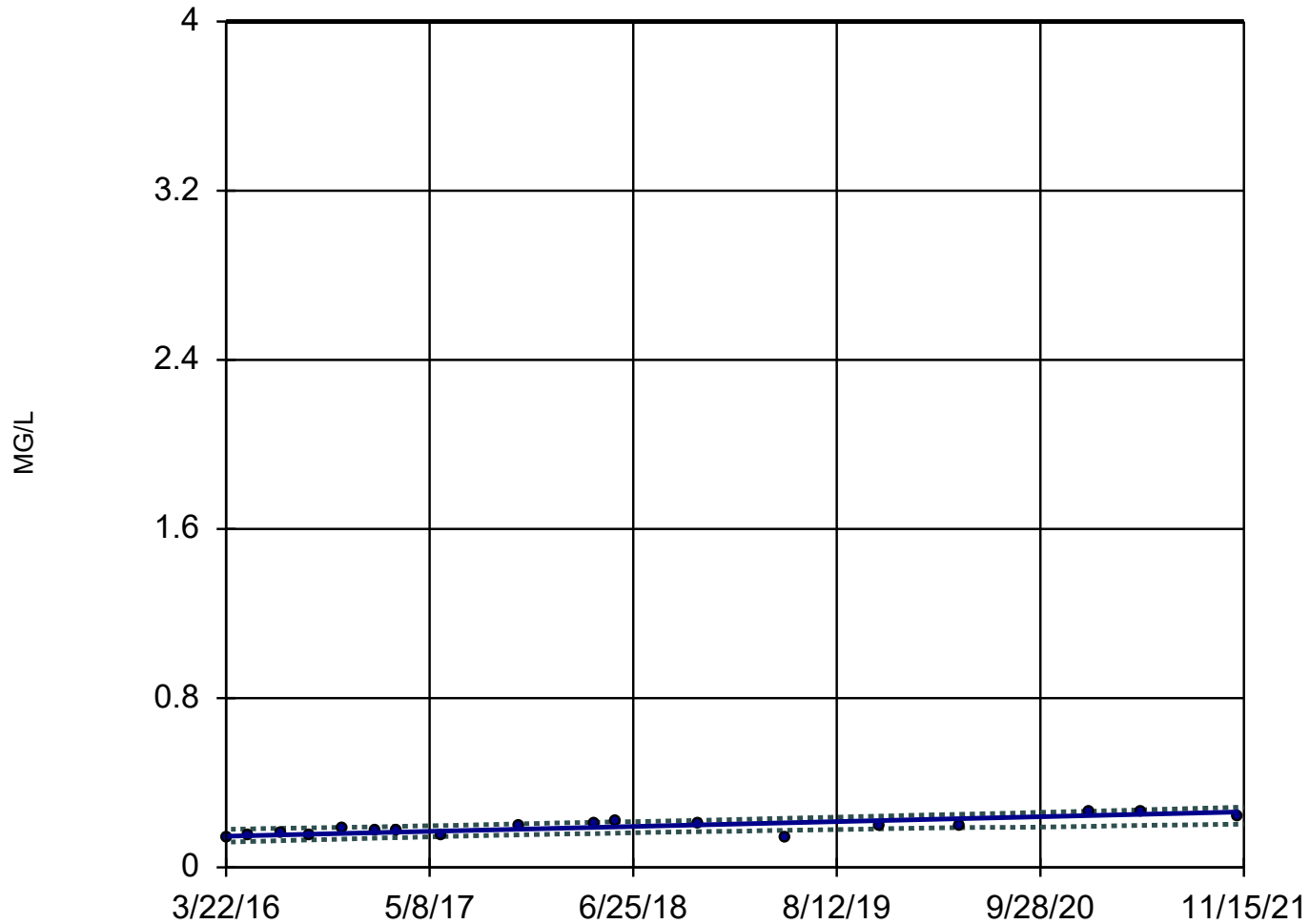
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 4.

Constituent: FLUORIDE, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 18

Slope = 0.02029
units per year.

Mann-Kendall
statistic = 89
critical = 63

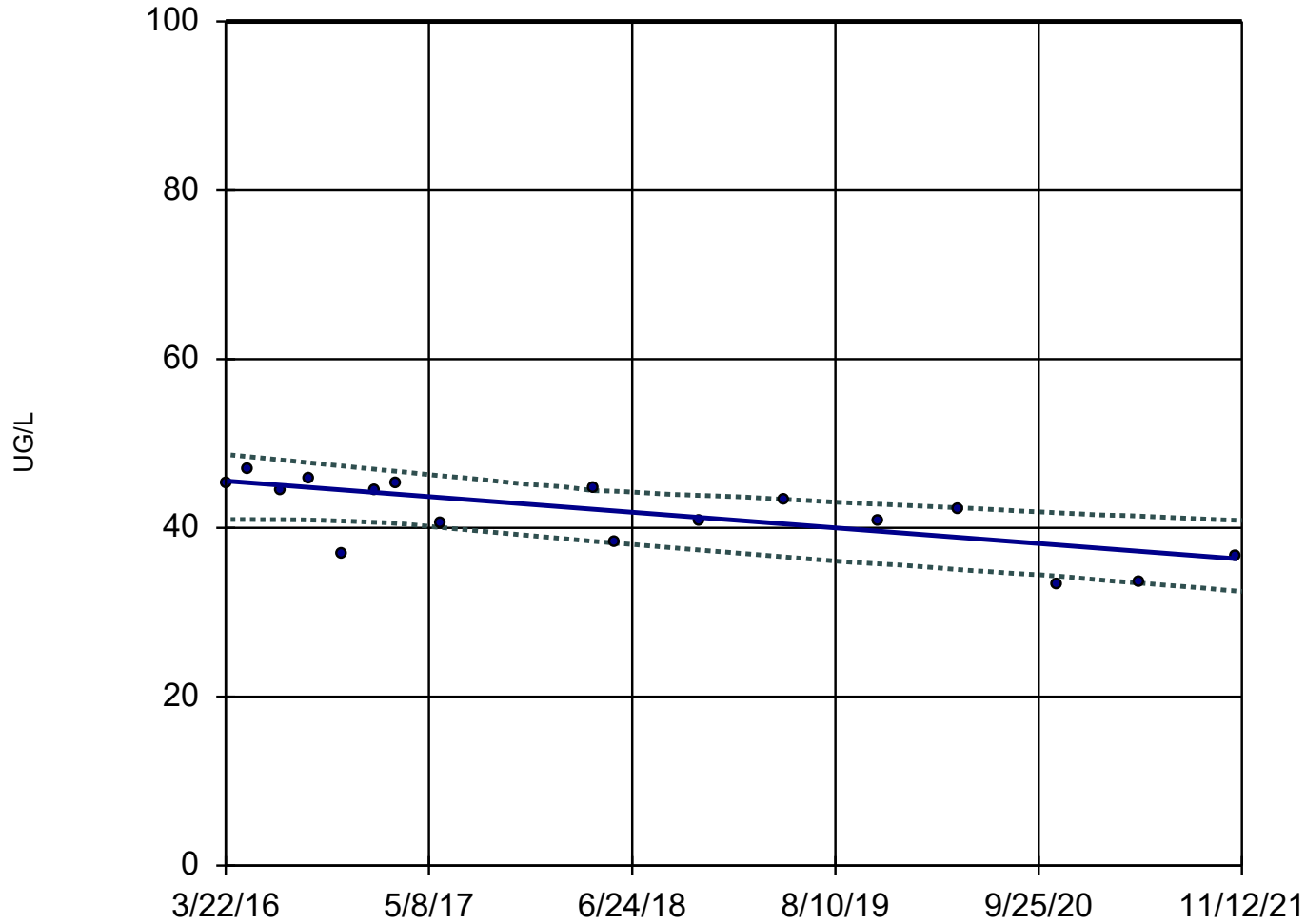
Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 4.

Constituent: FLUORIDE, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 17

Slope = -1.64
units per year.

Mann-Kendall
statistic = -70
critical = -58

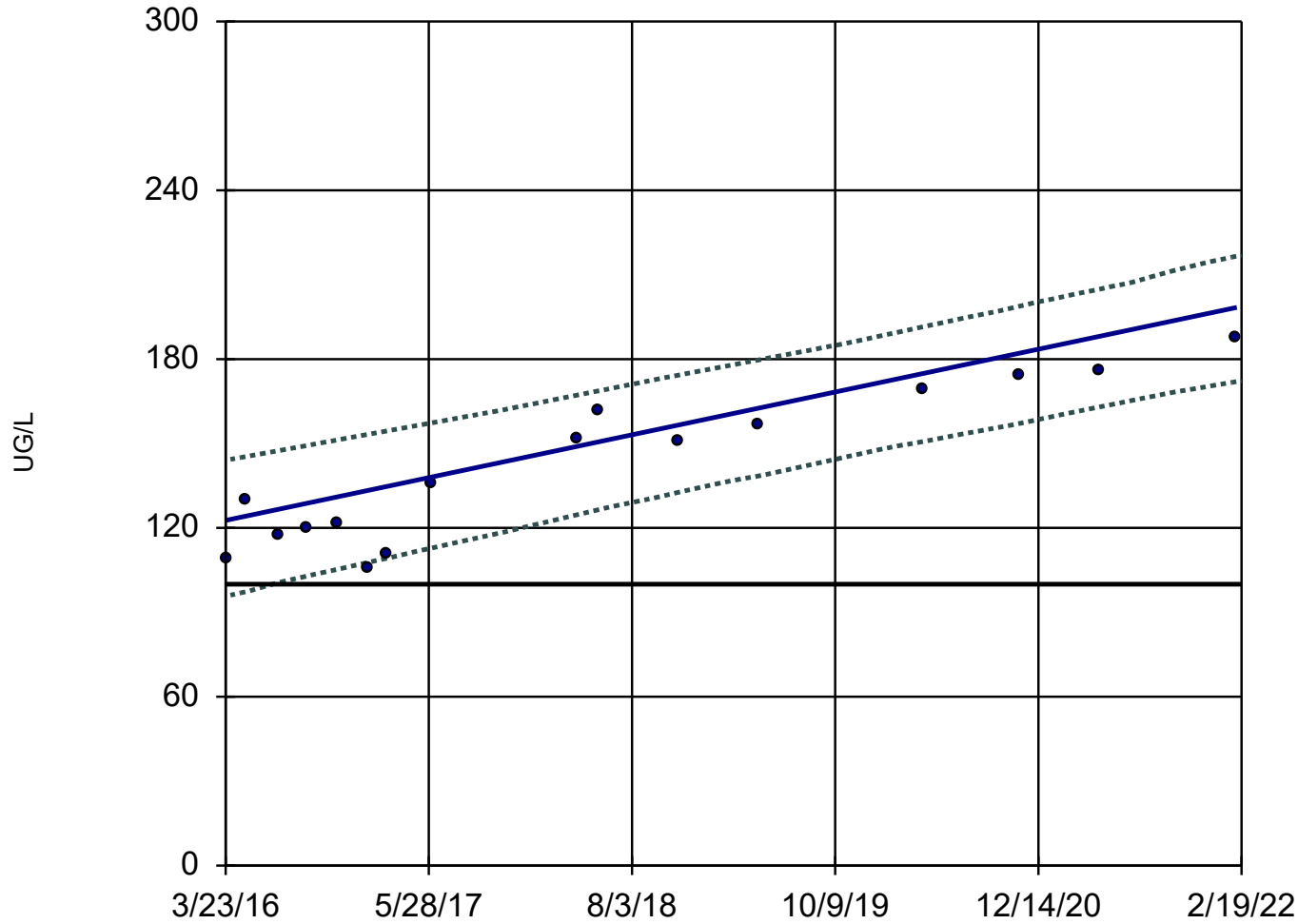
Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 100.

Constituent: MOLYBDENUM, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 16

Slope = 12.85
units per year.

Mann-Kendall
statistic = 90
critical = 53

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

GWPS = 100.

Constituent: MOLYBDENUM, TOTAL Analysis Run 3/14/2022 3:52 PM View: Assessment Monitoring

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 3/14/2022, 4:21 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0.000...	23	39	No	13	84.62	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0.003237	23	39	No	13	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.003222	17	44	No	14	85.71	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.002349	16	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.000...	7	39	No	13	53.85	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0	10	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0.003278	23	39	No	13	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0.003239	23	39	No	13	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0.003793	37	39	No	13	92.31	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-1D	4.672	84	58	Yes	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-2D	-0.145	-49	-58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-3D	0.4643	40	53	No	16	6.25	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.001129	8	58	No	17	23.53	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-5D	-0.8876	-32	-58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-6D	1.797	40	53	No	16	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-7D	1.763	69	58	Yes	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-8D	-0.2516	-25	-58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-9D	-0.04571	-6	-58	No	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-1D	26.22	82	58	Yes	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-2D	-1.086	-10	-58	No	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-3D	-2.105	-11	-63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-4D	5.223	67	58	Yes	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-5D	-0.7413	-16	-58	No	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-6D	-3.225	-34	-58	No	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-7D	-14.85	-63	-58	Yes	17	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-8D	-12.9	-67	-53	Yes	16	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-9D	-2.996	-24	-58	No	17	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0	-5	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0	6	35	No	12	91.67	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0	-2	-35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0	12	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0	12	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.003801	26	39	No	13	69.23	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0	8	35	No	12	91.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0	6	35	No	12	83.33	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.003647	19	35	No	12	66.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0	8	35	No	12	83.33	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0	12	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0	12	35	No	12	100	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.00962	14	39	No	13	53.85	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	-0.01446	-14	-44	No	14	71.43	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0	2	48	No	15	73.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	-0.01544	-25	-39	No	13	69.23	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	-0.01578	-17	-44	No	14	71.43	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 3/14/2022, 4:21 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	-0.04683	-17	-44	No	14	57.14	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	-0.01579	-11	-44	No	14	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	-0.02364	-24	-44	No	14	64.29	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	-0.01594	-17	-44	No	14	71.43	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-1D	0.02203	46	35	Yes	12	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-2D	0.02202	46	35	Yes	12	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-3D	0.02364	55	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-4D	0.02204	46	35	Yes	12	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-5D	0.02204	46	35	Yes	12	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-6D	0.02204	46	35	Yes	12	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-7D	0.02203	46	35	Yes	12	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-8D	0.01811	31	35	No	12	91.67	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-9D	0.02203	46	35	Yes	12	100	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.009826	60	73	No	20	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0	18	68	No	19	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.00954	31	78	No	21	23.81	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.007885	30	78	No	21	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.02026	83	68	Yes	19	15.79	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0.000199	8	63	No	18	16.67	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0	-7	-73	No	20	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.02005	88	68	Yes	19	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.02029	89	63	Yes	18	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-1D	0	4	35	No	12	66.67	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-2D	0.2446	23	35	No	12	75	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-3D	0.1707	29	39	No	13	76.92	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-4D	0.1302	24	35	No	12	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-5D	0.1116	9	35	No	12	83.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-6D	0.1116	9	35	No	12	83.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-7D	0.1794	27	35	No	12	75	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-8D	0.1933	28	35	No	12	75	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-9D	0.1791	8	35	No	12	50	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-1D	0.5163	33	58	No	17	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-2D	-0.8025	-42	-58	No	17	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-3D	-0.1896	-12	-63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-4D	-0.6616	-33	-58	No	17	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-5D	-0.2814	-4	-58	No	17	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-6D	0.5803	24	58	No	17	5.882	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-7D	0.668	22	58	No	17	5.882	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-8D	0.3203	14	58	No	17	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-9D	-0.3851	-50	-58	No	17	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-1D	0.002463	23	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-2D	0.002467	23	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.002715	30	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-4D	0.002468	23	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-5D	0.002469	23	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-6D	0.002468	23	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-7D	0.002462	23	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-8D	0.002463	23	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-9D	0.002463	23	35	No	12	100	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	0.4314	47	58	No	17	23.53	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 3/14/2022, 4:21 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	-1.64	-70	-58	Yes	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	-1.004	-6	-63	No	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	-8.023	-41	-58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-5D	12.85	90	53	Yes	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	-15.25	-37	-58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-7D	7.134	36	58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	1.027	52	58	No	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	-3.8e-8	-9	-58	No	17	47.06	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-1D	0.04605	21	53	No	16	12.5	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-2D	0.04184	6	58	No	17	35.29	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-3D	0.01207	5	63	No	18	72.22	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.03404	28	58	No	17	76.47	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-5D	-0.00...	-4	-58	No	17	88.24	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-6D	-0.00116	-2	-58	No	17	52.94	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-7D	0.03543	14	58	No	17	70.59	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-8D	-0.07276	-26	-58	No	17	41.18	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-9D	-0.01241	-12	-58	No	17	88.24	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0	-1	-44	No	14	92.86	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0	-1	-44	No	14	92.86	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0	-16	-48	No	15	60	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0	-11	-44	No	14	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0	23	44	No	14	64.29	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0	-2	-44	No	14	21.43	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0	-3	-44	No	14	78.57	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0	-9	-44	No	14	92.86	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0	-11	-44	No	14	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-1D	-0.04492	-35	-35	No	12	83.33	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-2D	-0.04328	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-3D	-0.04333	-33	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-4D	-0.04332	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-5D	-0.04324	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-6D	-0.04487	-34	-35	No	12	91.67	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-7D	-0.04341	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-8D	-0.04332	-28	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-9D	-0.04328	-28	-35	No	12	100	n/a	n/a	0.02	NP

APPENDIX C

**April 2022 Assessment Monitoring
Statistical Evaluation**

TECHNICAL MEMORANDUM

DATE September 2, 2022

Project No. GL153140604

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Mark Haddock

EMAIL Jeffrey.Ingram@wsp.com

ASSESSMENT MONITORING STATISTICAL EVALUATION LCPA SURFACE IMPOUNDMENT LABADIE ENERGY CENTER, FRANKLIN COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the April 2022 sampling event at the LCPA Surface Impoundment at the Labadie Energy Center located in Franklin County, Missouri. Included in this memorandum is a brief summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A** and **Appendix B**).

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Groundwater Monitoring Plan's (GMP) Statistical Analysis Plan (SAP). The following outliers were removed prior to the calculation of confidence limits.

- Arsenic
 - UMW-1D at 14.8 micrograms per liter ($\mu\text{g/L}$) on 5/4/2016. The result is statistically lower than other results at the same well. The low results have not been confirmed during subsequent sampling events and is an outlier.
- Molybdenum
 - UMW-8D at 77.6 and 64.8 $\mu\text{g/L}$ on 11/5/2021 and 2/10/2022 respectively. The result is statistically higher than other results at the same well. The high results have not been confirmed during subsequent sampling events and are outliers.
- Radium 226 & 228
 - UMW-5D at 2.01 and 4.861 picocuries per liter (pCi/L) on 9/9/2016 and 11/2/2021. The results are statistically higher than other results at the same well. The high results have not been confirmed in subsequent sampling events and are outliers.

An analysis of the outliers removed to-date was completed and one statistical outlier that was previously removed was added back into the dataset prior to the calculation of confidence limits.

- Barium
 - UMW-8D at 191 µg/L on 4/19/2021. Was removed in April 2021 as an outlier because the result was statistically lower than other values at the same well. However, the result has been confirmed by subsequent sampling events and the result is no longer an outlier.

No new SSLs were identified in the April 2022 sampling event. The SSLs reported for the April 2022 monitoring event are as follows:

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

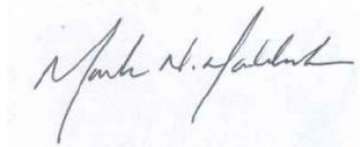
Golder appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please call our office at (314) 984-8800.

Sincerely,

Golder Associates USA Inc.



Jeffrey Ingram
Senior Consultant, Geologist



Mark Haddock
Principal, Practice Leader

JSI/MNH

Attachments: Table 1 – LCPA Groundwater Protection Standards
Appendix A – Sanitas Confidence Interval Statistical Output
Appendix B – Sanitas Trending Confidence Bands Statistical Output

**Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center**

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring ⁷
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	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	0.3163
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) Drinking Water Standards and Health Advisories.
<http://water.epa.gov/drink/contaminants/index.cfm>.

5. Health Based Groundwater Protection Standards (GWPS) were adopted for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at <https://www.epa.gov/coalash/coal-ash-rule>.

6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.

7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.

8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.

9. GWPS and background values calculated using results collected through February 2021 from monitoring wells BMW-1D and BMW-2D.

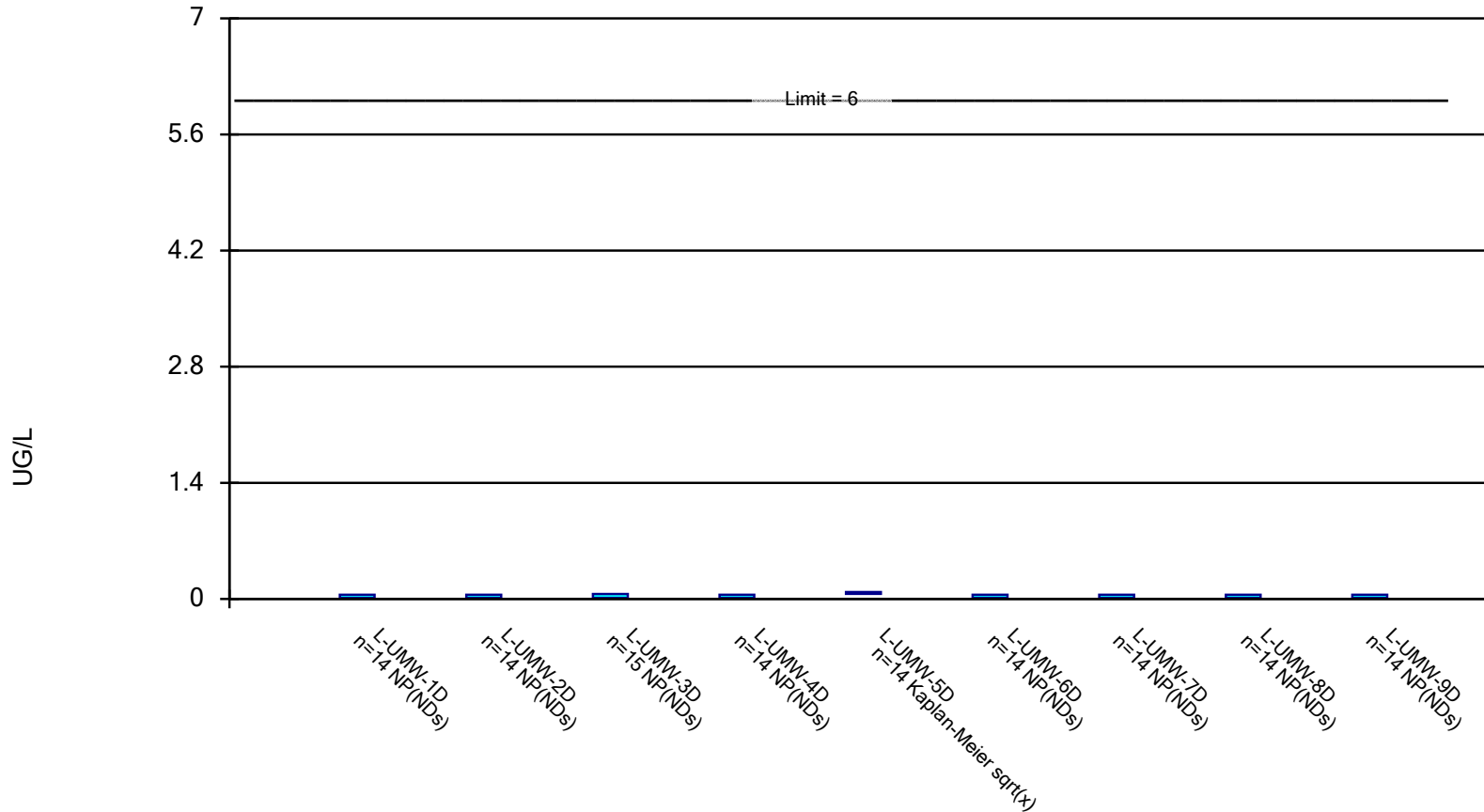
Prepared by: JSI
Checked by: EMS
Reviewed by: MNH

APPENDIX A

**Sanitas Confidence Interval
Statistical Output**

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

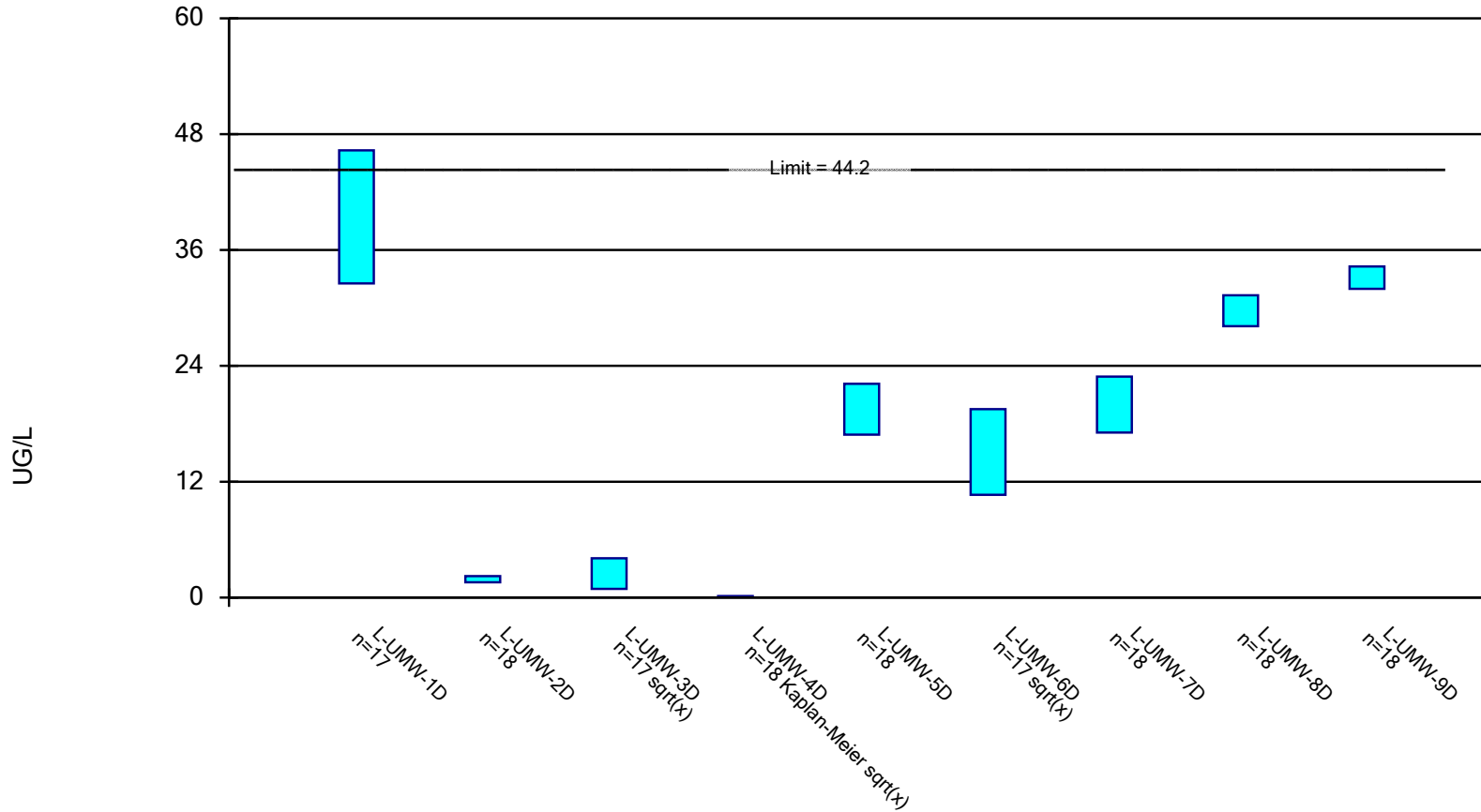


Constituent: ANTIMONY, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

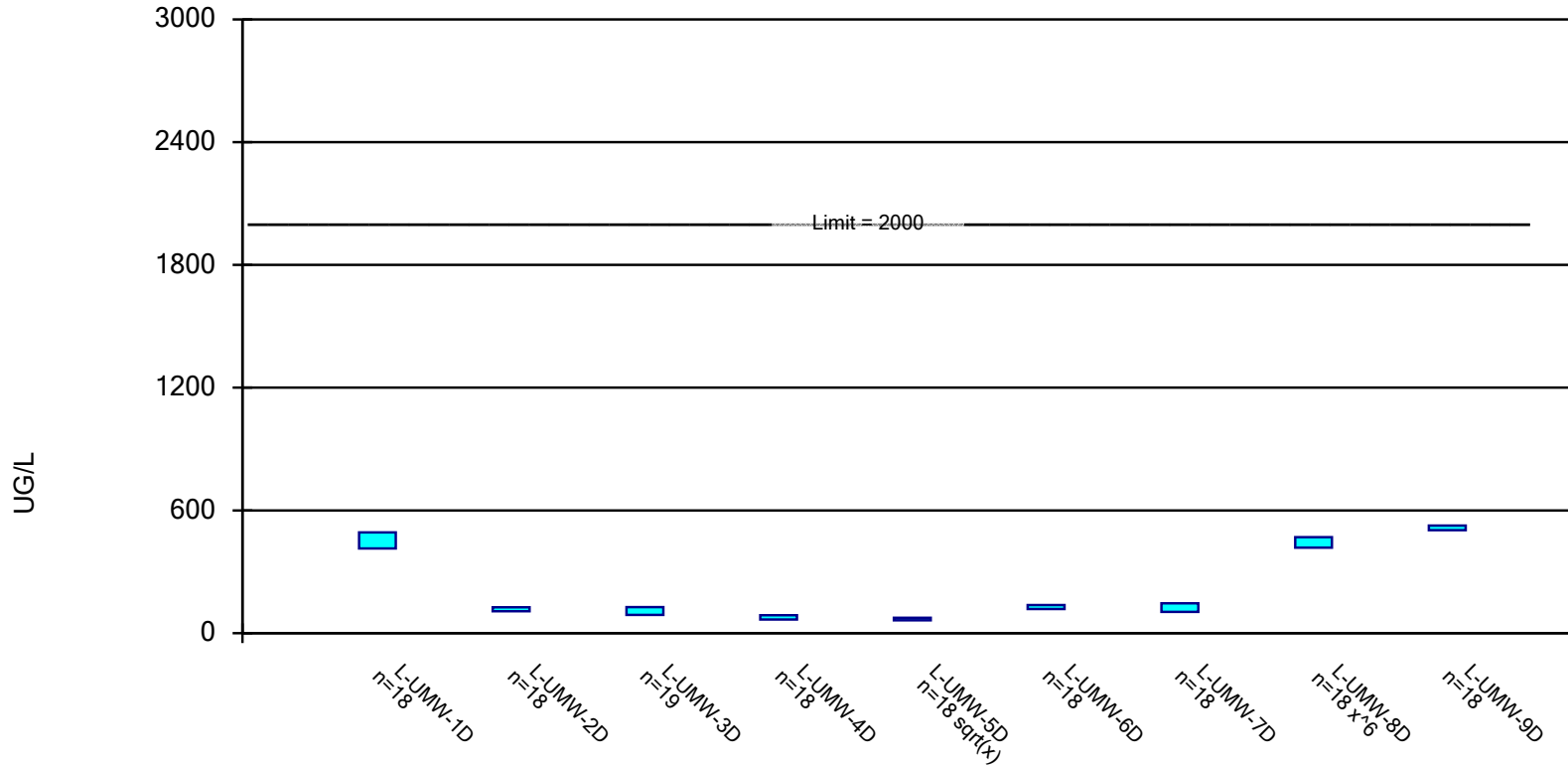


Constituent: ARSENIC, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

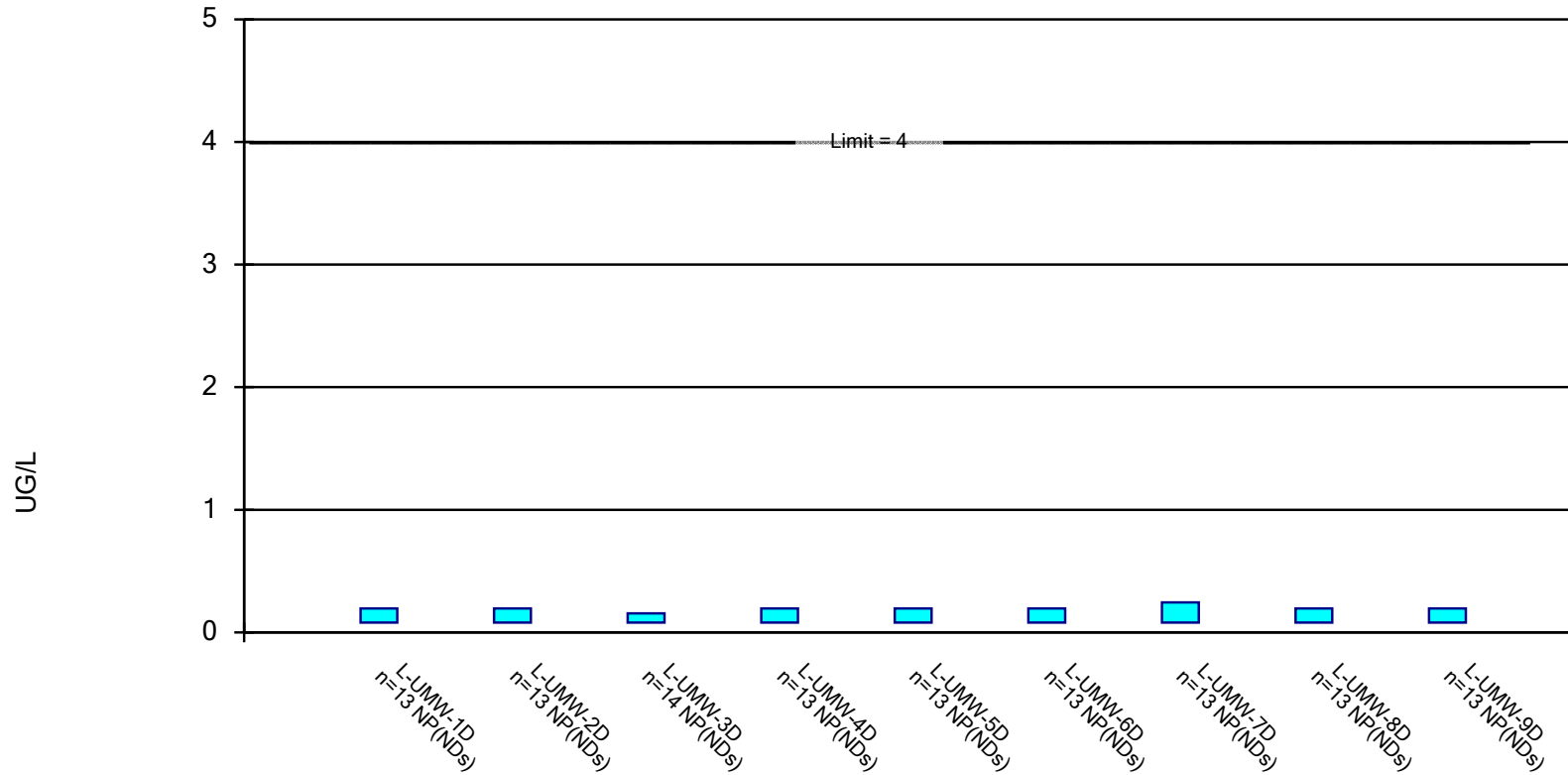


Constituent: BARIUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

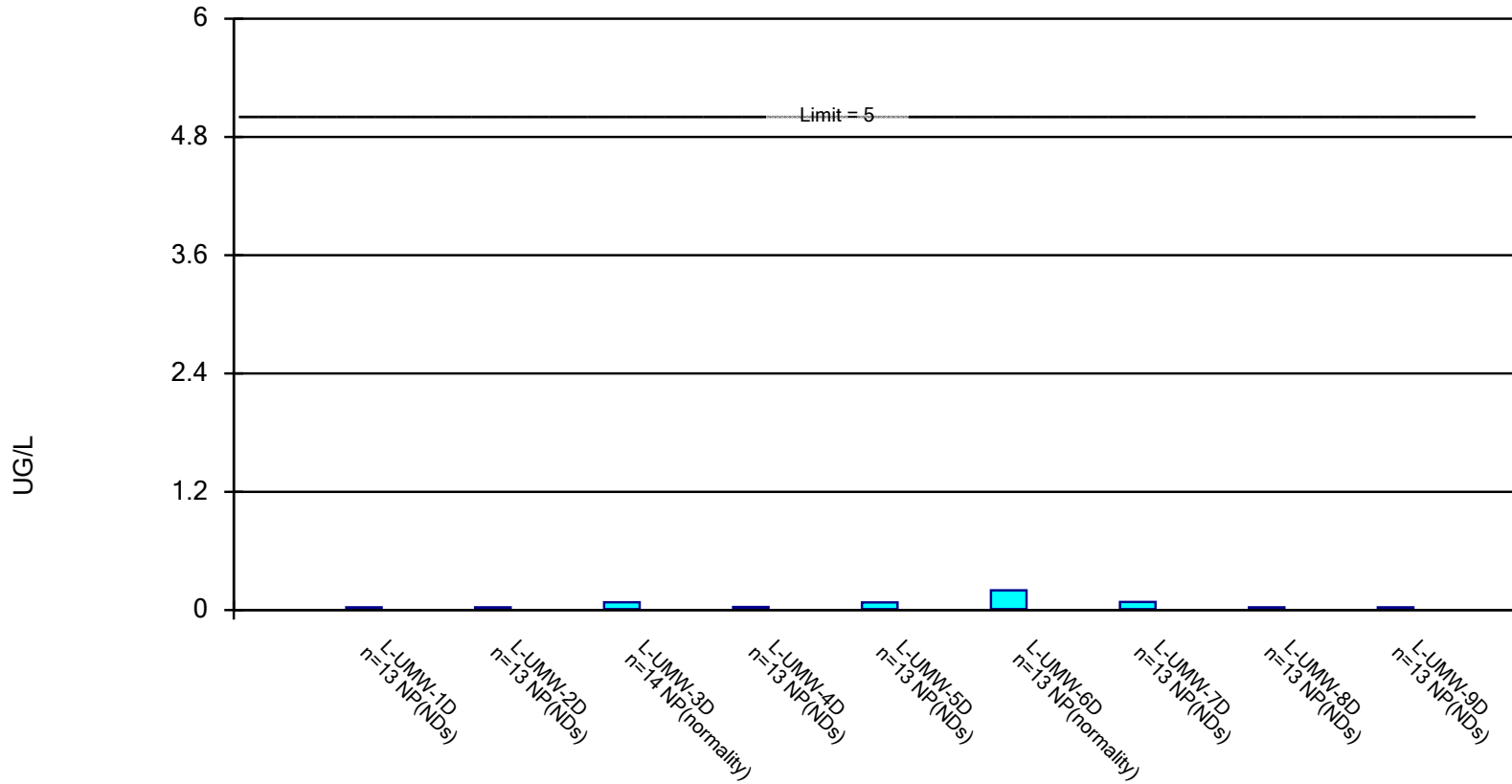


Constituent: BERYLLIUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

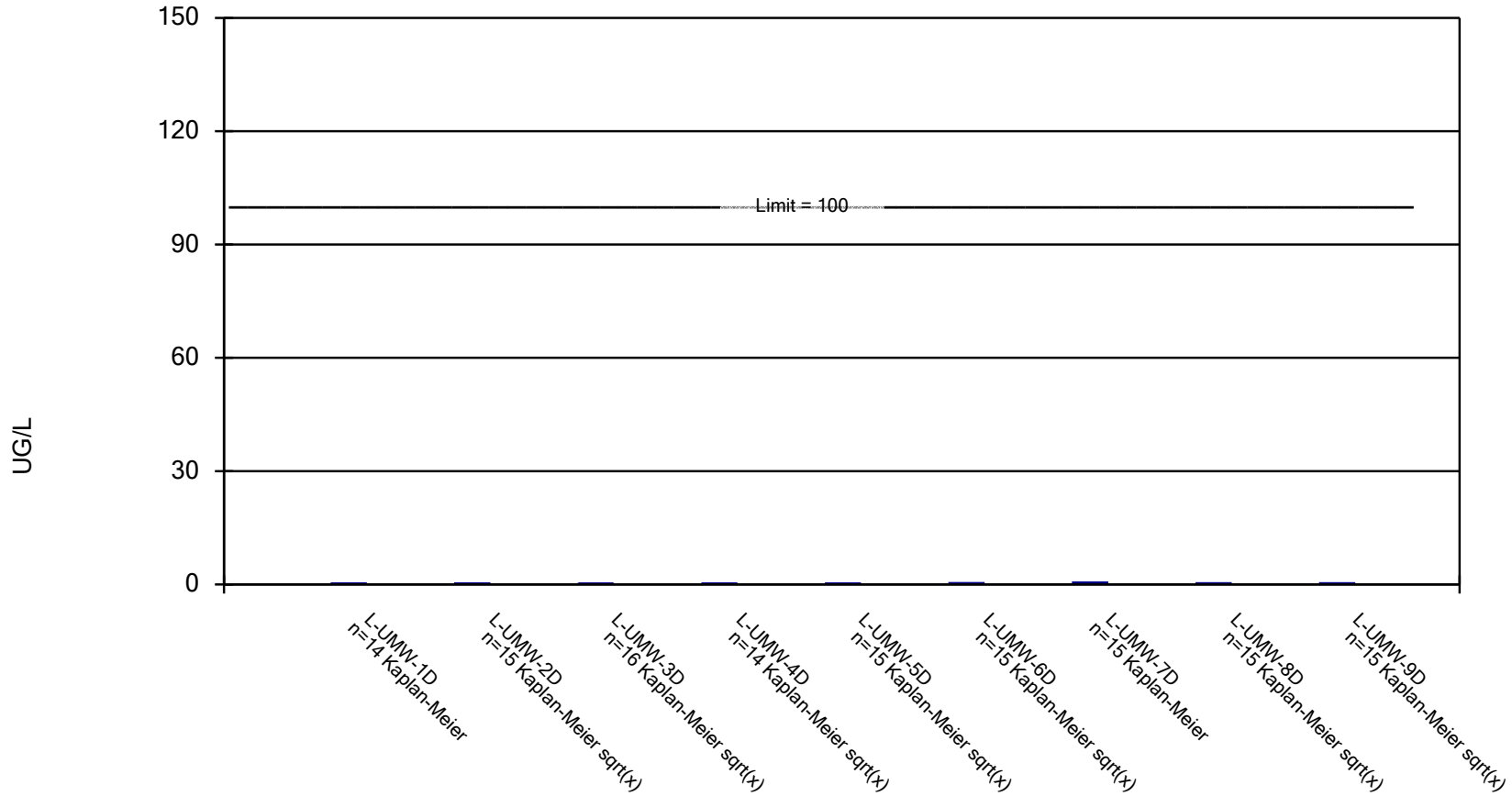


Constituent: CADMIUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

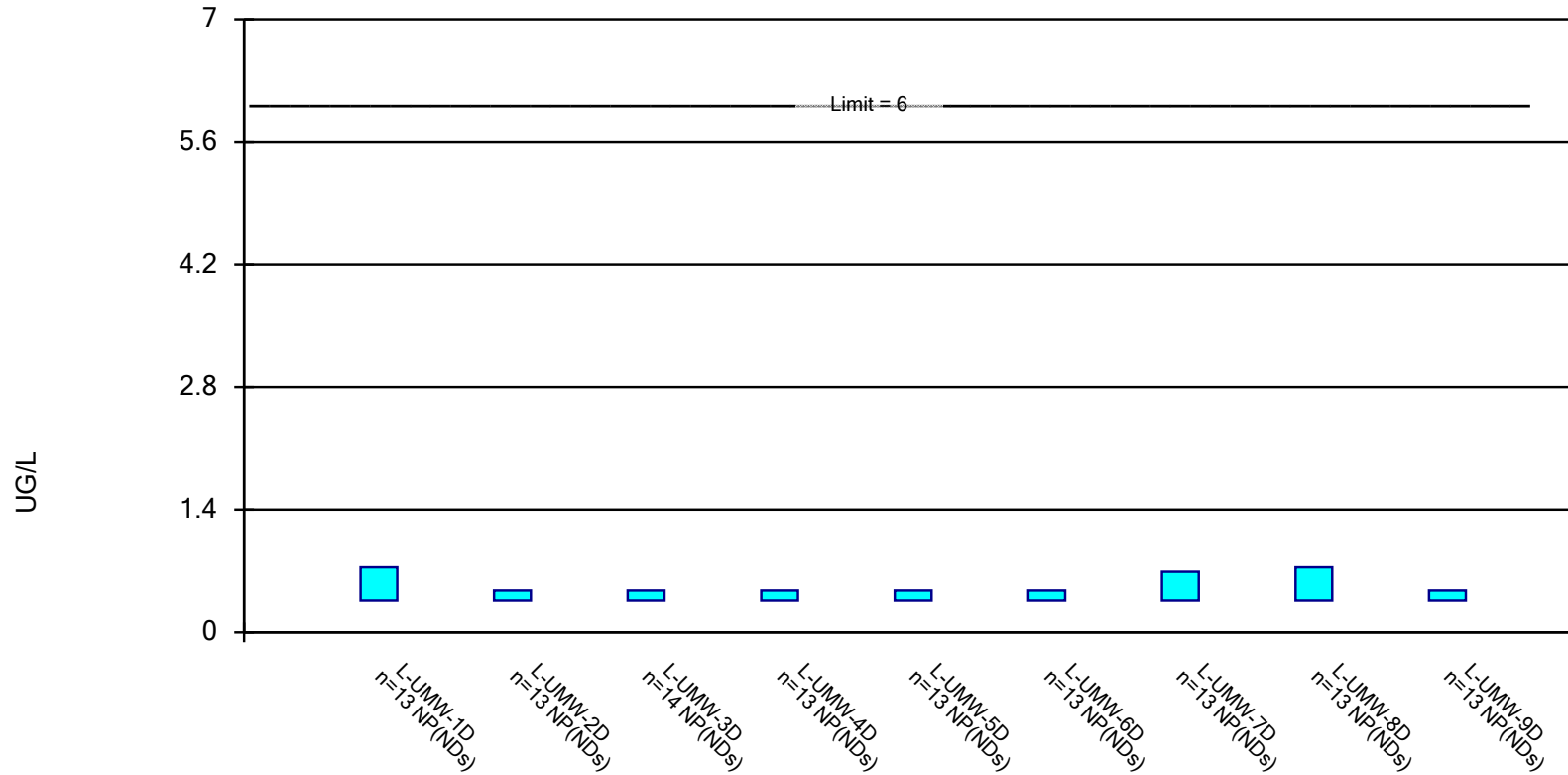


Constituent: CHROMIUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

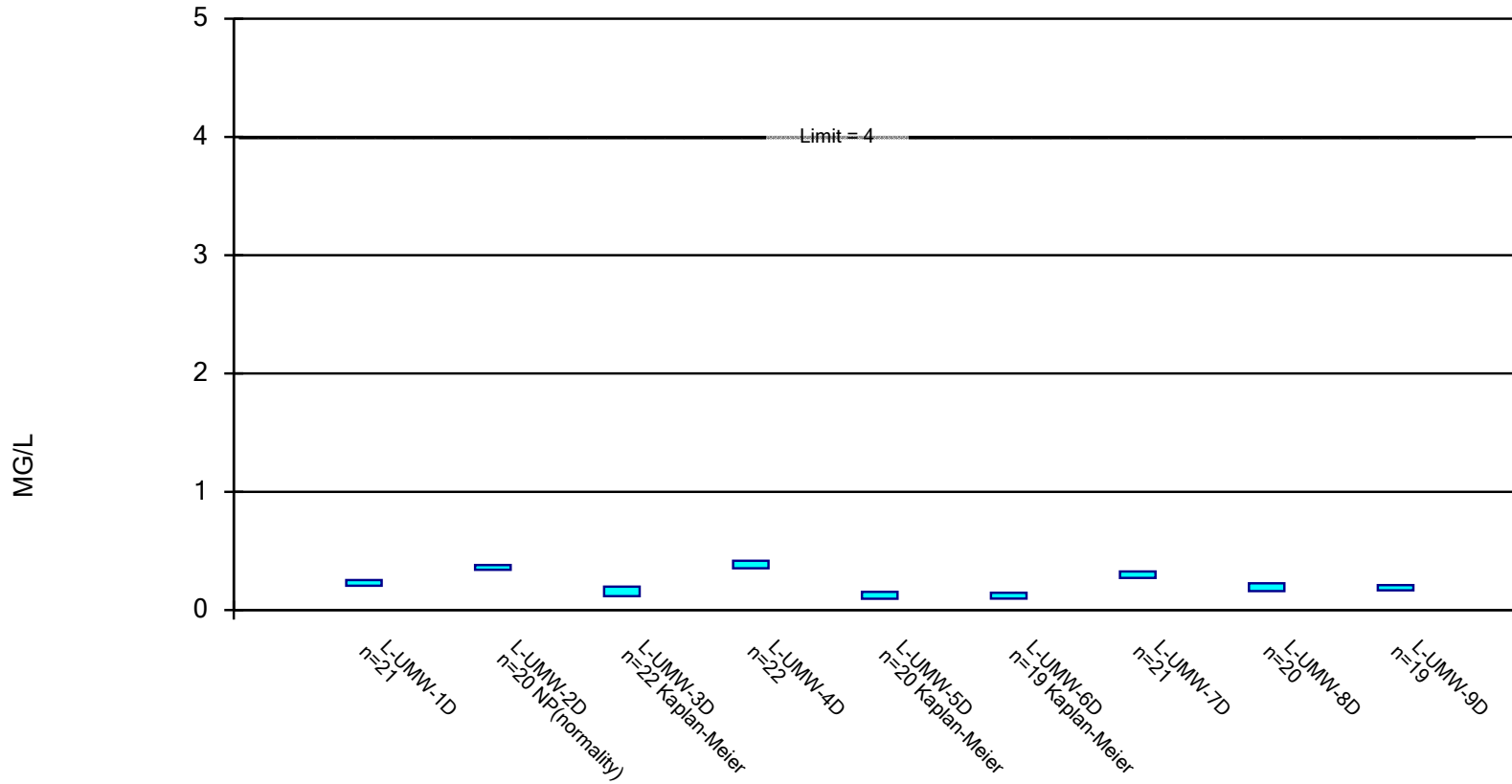


Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

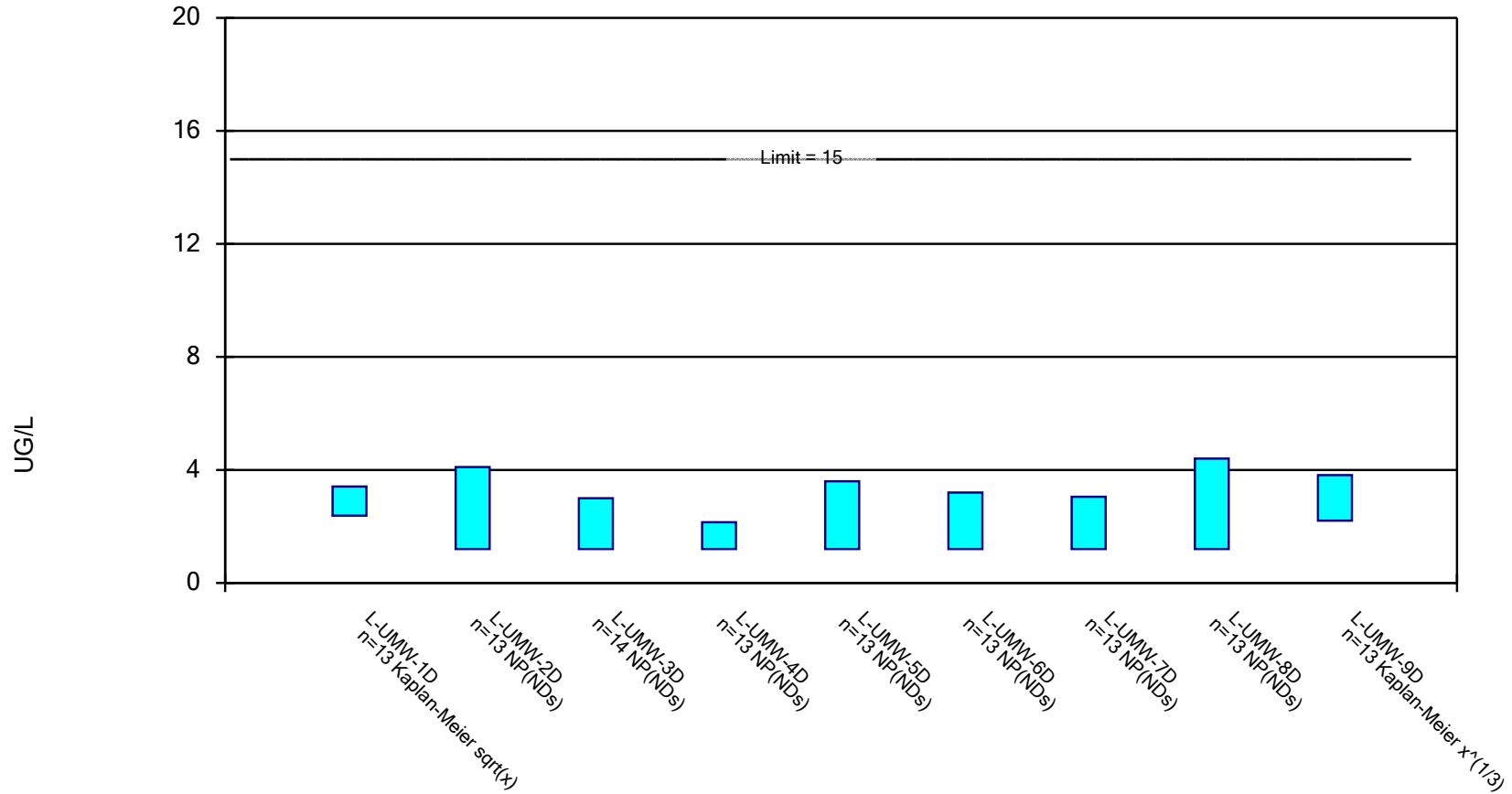


Constituent: FLUORIDE, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

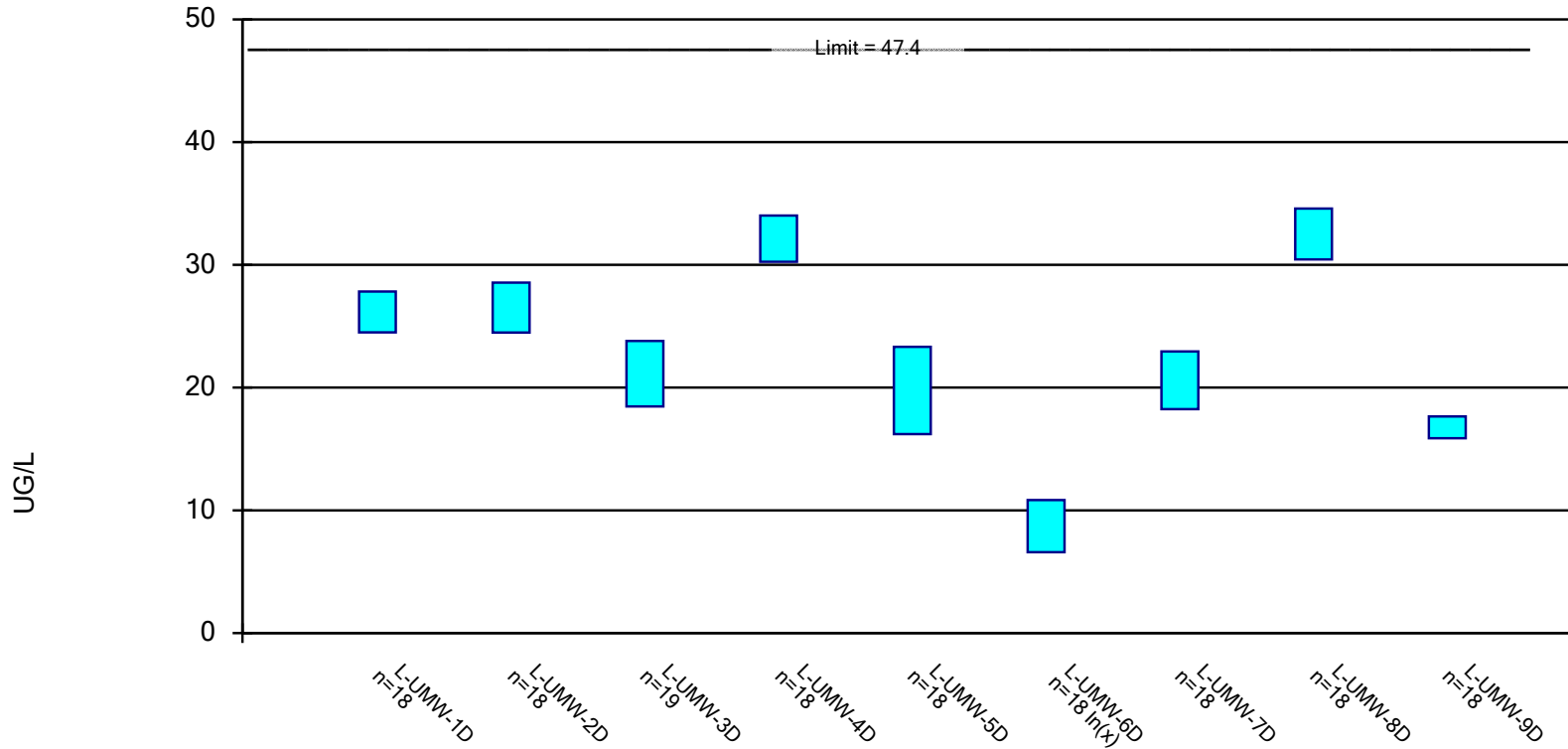


Constituent: LEAD, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

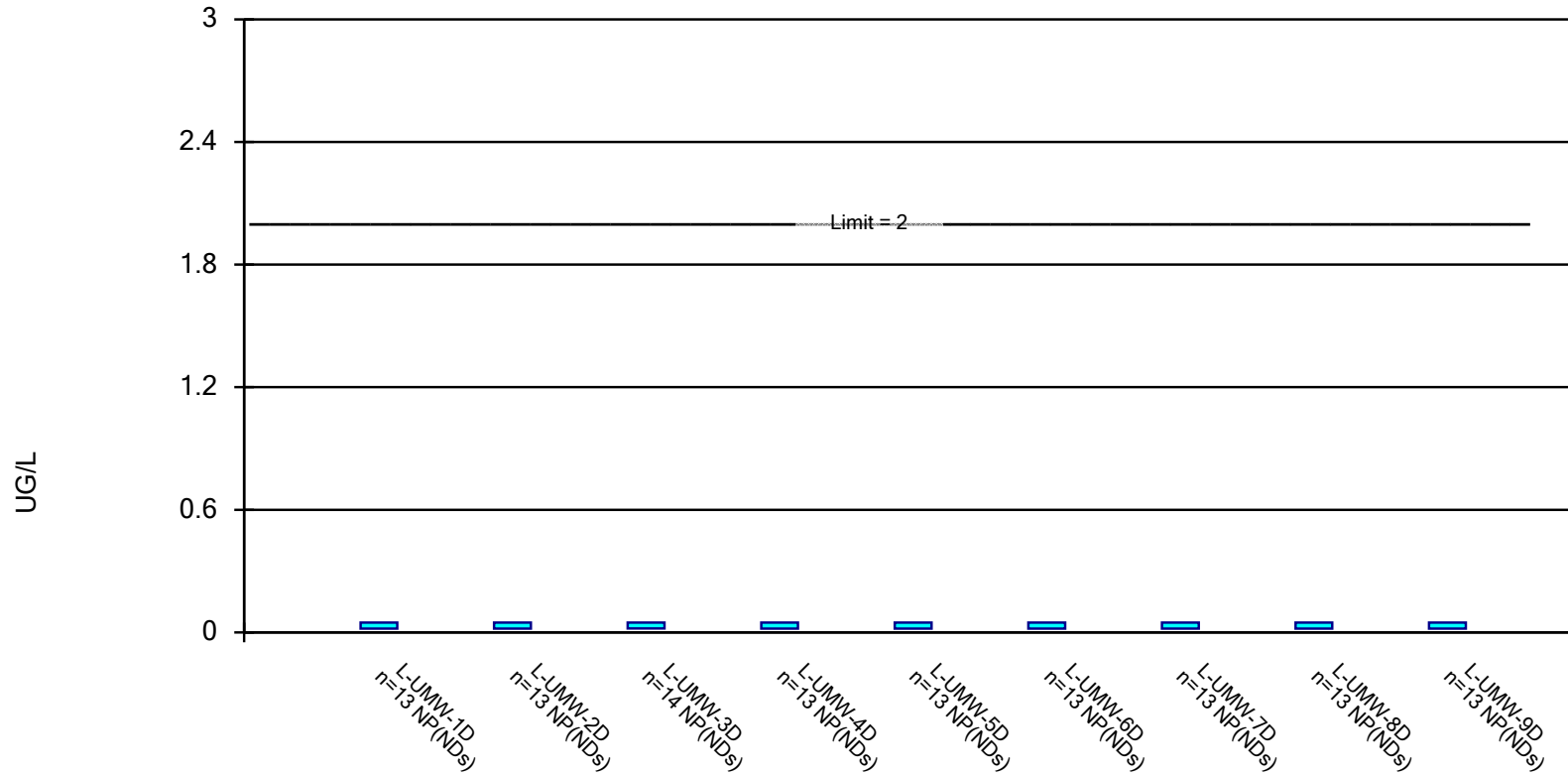


Constituent: LITHIUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

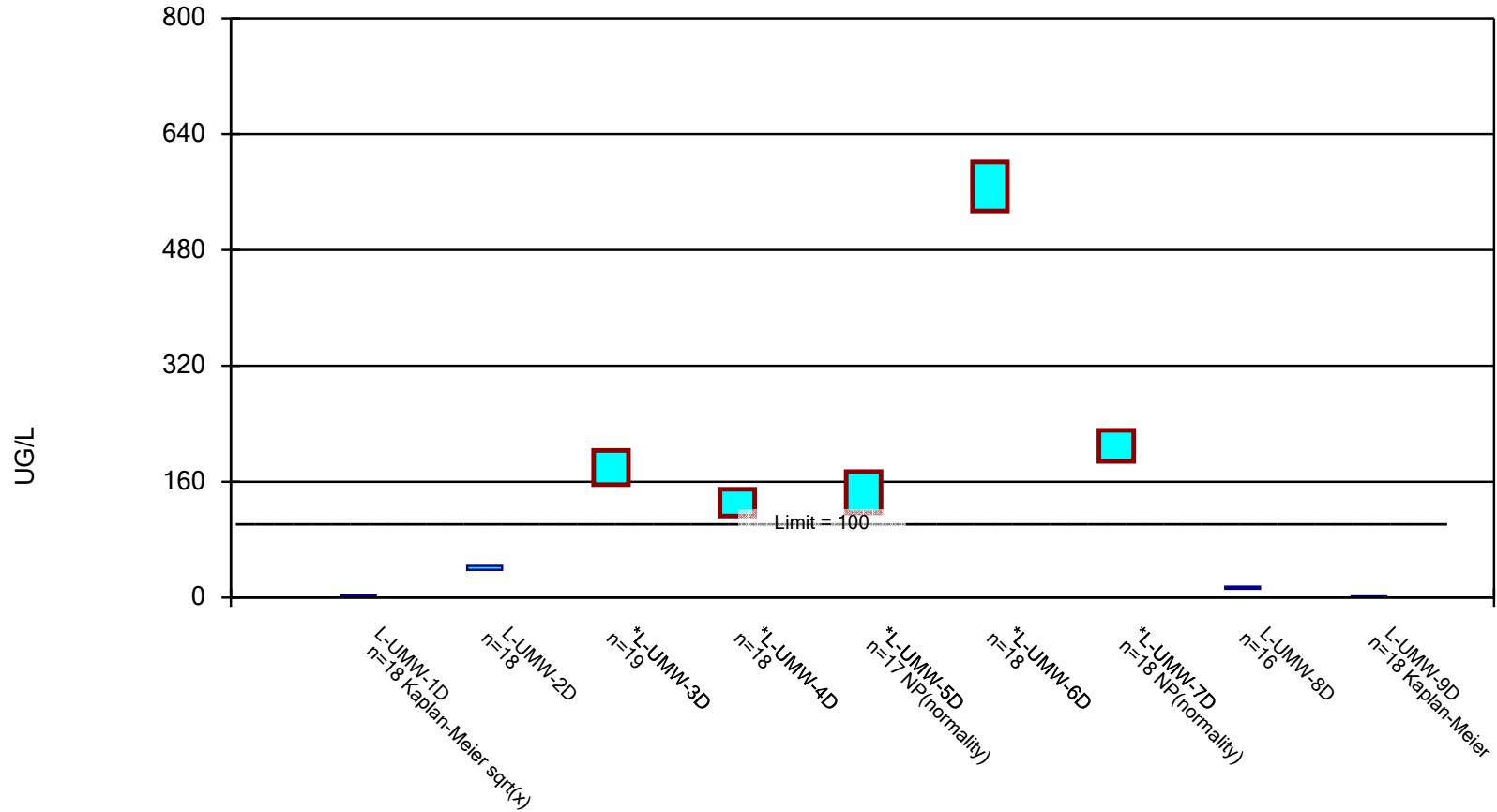


Constituent: MERCURY, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

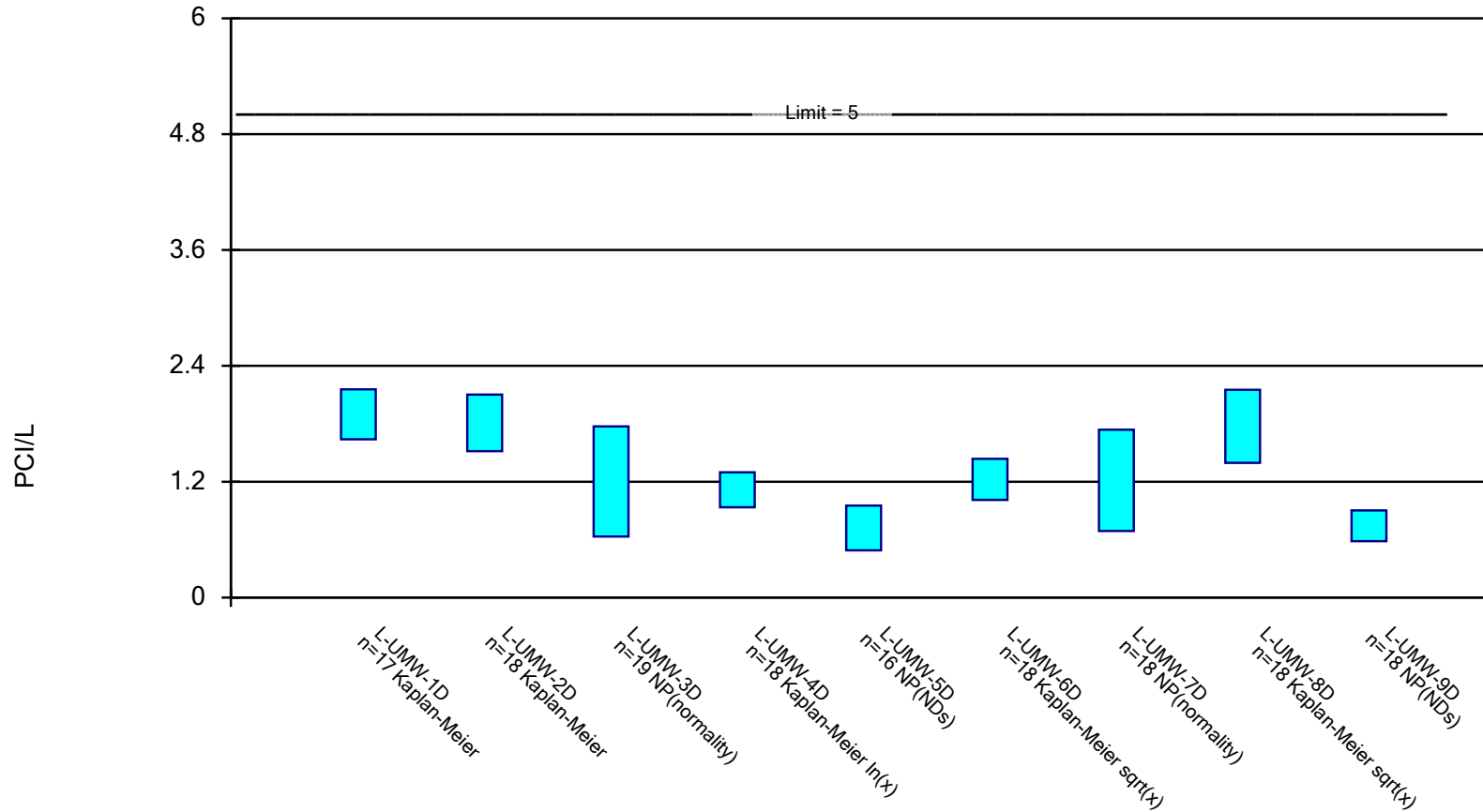


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

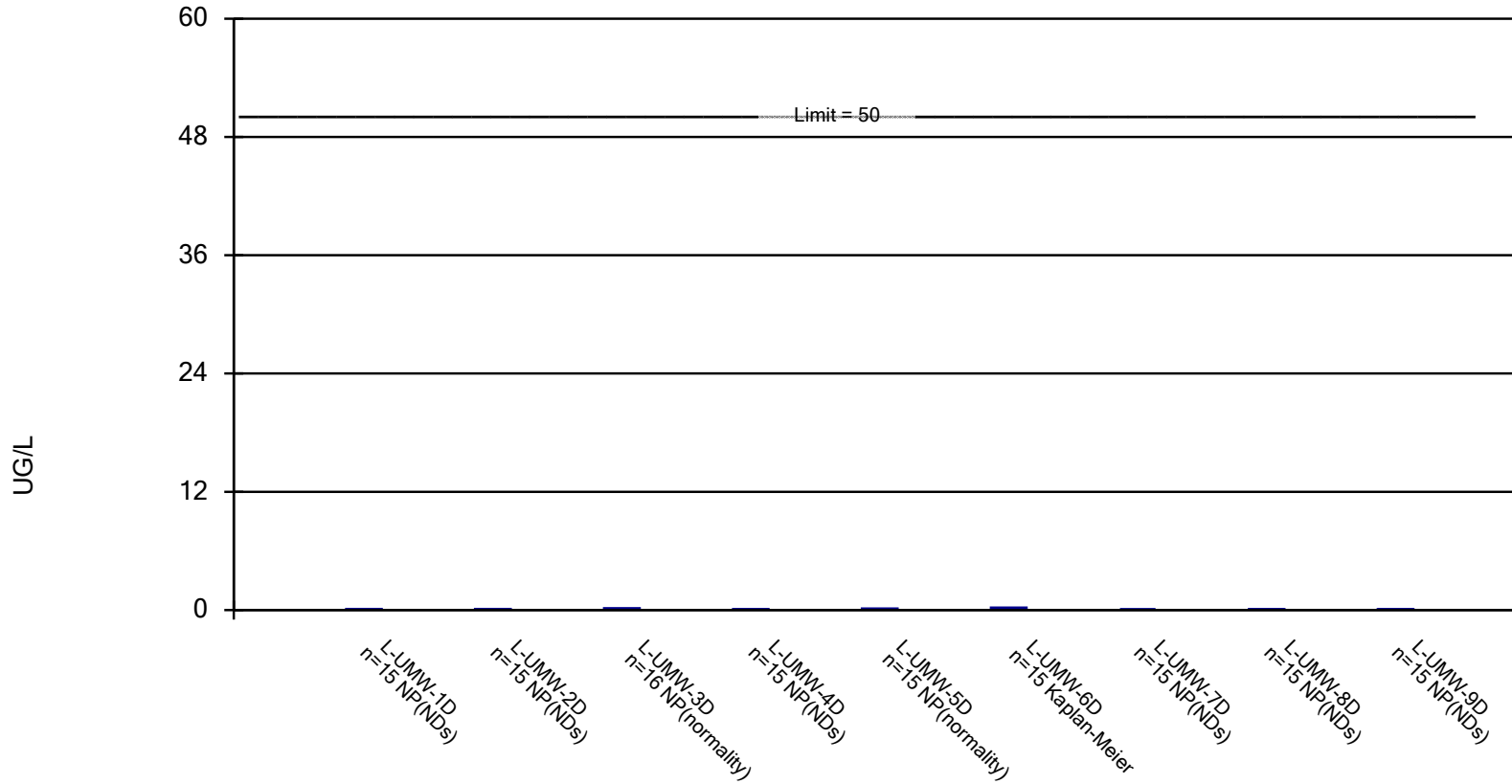


Constituent: Radium [226 + 228] Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

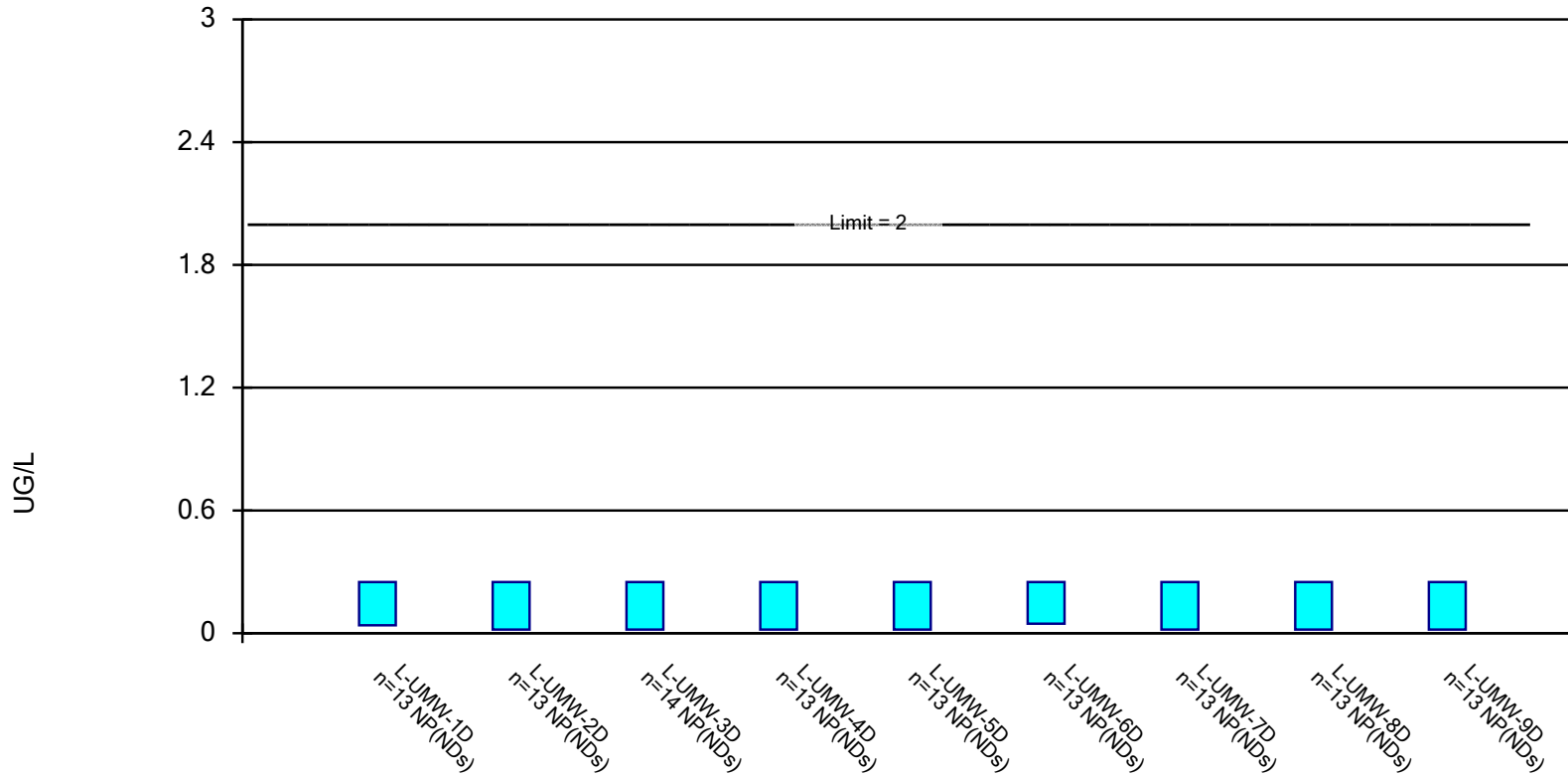


Constituent: SELENIUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: THALLIUM, TOTAL Analysis Run 7/20/2022 4:49 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/20/2022, 4:50 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0.05	0.013	6	No	14	85.71	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0.05	0.013	6	No	14	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.06	0.013	6	No	15	86.67	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.05	0.013	6	No	14	92.86	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.08305	0.06083	6	No	14	57.14	sqrt(x)	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.05	0.013	6	No	14	92.86	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0.05	0.013	6	No	14	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0.05	0.013	6	No	14	100	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0.05	0.013	6	No	14	92.86	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	L-UMW-1D	46.32	32.54	44.2	No	17	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-2D	2.212	1.588	44.2	No	18	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-3D	0.067	0.9011	44.2	No	17	5.882	sqrt(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.1546	0.09869	44.2	No	18	27.78	sqrt(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-5D	22.14	16.87	44.2	No	18	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-6D	19.51	10.64	44.2	No	17	0	sqrt(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-7D	22.88	17.08	44.2	No	18	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-8D	31.32	28.11	44.2	No	18	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-9D	34.29	31.98	44.2	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-1D	492.2	413.6	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-2D	126.4	107	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-3D	127.3	88.83	2000	No	19	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-4D	87.41	66.32	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-5D	75	62.6	2000	No	18	0	sqrt(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-6D	137.2	118.1	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-7D	146.2	103.9	2000	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-8D	469	417.5	2000	No	18	0	x^6	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-9D	526.2	503.7	2000	No	18	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0.155	0.08	4	No	14	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0.245	0.08	4	No	13	92.31	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.079	0.009	5	No	14	64.29	No	0.01	NP (normality)
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0.031	0.009	5	No	13	92.31	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0.078	0.009	5	No	13	76.92	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.2	0.009	5	No	13	61.54	No	0.01	NP (normality)
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0.082	0.009	5	No	13	84.62	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.251	0.08045	100	No	14	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0.2581	0.05645	100	No	15	73.33	sqrt(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0.1928	0.05143	100	No	16	75	sqrt(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	0.2402	0.05402	100	No	14	71.43	sqrt(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0.2364	0.05022	100	No	15	73.33	sqrt(x)	0.01	Param.

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/20/2022, 4:50 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	0.3352	0.0744	100	No	15	60	sqrt(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	0.5036	0.1401	100	No	15	46.67	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	0.3063	0.04823	100	No	15	66.67	sqrt(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0.2938	0.04233	100	No	15	73.33	sqrt(x)	0.01	Param.
COBALT, TOTAL (UG/L)	L-UMW-1D	0.75	0.36	6	No	13	92.31	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-2D	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-3D	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-4D	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-5D	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-6D	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-7D	0.7	0.36	6	No	13	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-8D	0.75	0.36	6	No	13	92.31	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-9D	0.475	0.36	6	No	13	100	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.2532	0.2058	4	No	21	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0.38	0.34	4	No	20	5	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.1976	0.1176	4	No	22	22.73	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.4165	0.3526	4	No	22	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.1544	0.09616	4	No	20	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0.1456	0.09703	4	No	19	21.05	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0.3257	0.2714	4	No	21	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.2263	0.1597	4	No	20	5	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.2111	0.1668	4	No	19	0	No	0.01	Param.
LEAD, TOTAL (UG/L)	L-UMW-1D	3.413	2.383	15	No	13	69.23	sqrt(x)	0.01	Param.
LEAD, TOTAL (UG/L)	L-UMW-2D	4.1	1.2	15	No	13	76.92	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-3D	3	1.2	15	No	14	78.57	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-4D	2.15	1.2	15	No	13	100	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-5D	3.6	1.2	15	No	13	84.62	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-6D	3.2	1.2	15	No	13	84.62	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-7D	3.05	1.2	15	No	13	76.92	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-8D	4.4	1.2	15	No	13	76.92	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-9D	3.816	2.207	15	No	13	53.85	x^(1/3)	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-1D	27.83	24.5	47.4	No	18	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-2D	28.55	24.48	47.4	No	18	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-3D	23.8	18.47	47.4	No	19	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-4D	34.02	30.24	47.4	No	18	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-5D	23.32	16.21	47.4	No	18	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-6D	10.84	6.593	47.4	No	18	5.556	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-7D	22.95	18.24	47.4	No	18	5.556	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-8D	34.58	30.44	47.4	No	18	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-9D	17.65	15.88	47.4	No	18	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	L-UMW-1D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-2D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.048	0.0195	2	No	14	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-4D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-5D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-6D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-7D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-8D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-9D	0.048	0.0185	2	No	13	100	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	2.661	0.9017	100	No	18	27.78	sqrt(x)	0.01	Param.

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/20/2022, 4:50 PM

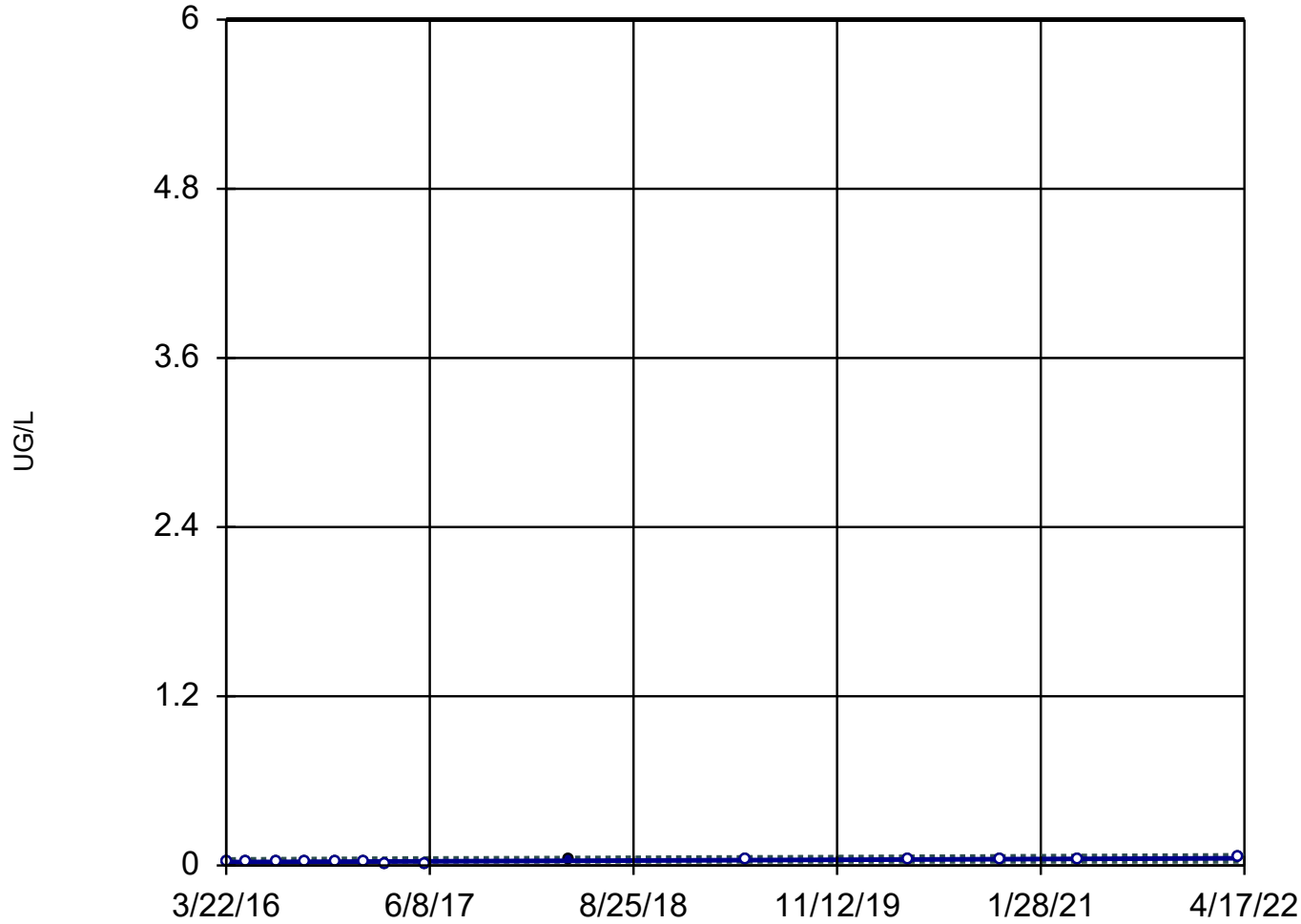
<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	43.69	38.26	100	No	18	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	203.2	156	100	Yes	19	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	149.6	112.6	100	Yes	18	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-5D	174	117	100	Yes	17	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	601.4	533.8	100	Yes	18	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-7D	231	188	100	Yes	18	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	15.14	12.08	100	No	16	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	1.552	0.7619	100	No	18	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-1D	2.157	1.64	5	No	17	17.65	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-2D	2.102	1.516	5	No	18	33.33	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-3D	1.772	0.632	5	No	19	73.68	No	0.01	NP (normality)
Radium [226 + 228] (PCI/L)	L-UMW-4D	1.297	0.9353	5	No	18	72.22	ln(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.952	0.4895	5	No	16	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-6D	1.438	1.011	5	No	18	50	sqrt(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-7D	1.738	0.689	5	No	18	72.22	No	0.01	NP (normality)
Radium [226 + 228] (PCI/L)	L-UMW-8D	2.151	1.395	5	No	18	44.44	sqrt(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-9D	0.9025	0.5835	5	No	18	88.89	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0.11	0.043	50	No	15	93.33	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0.11	0.043	50	No	15	93.33	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0.19	0.09	50	No	16	56.25	No	0.01	NP (normality)
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0.09	0.043	50	No	15	100	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0.15	0.09	50	No	15	60	No	0.01	NP (normality)
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0.2443	0.1848	50	No	15	26.67	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0.091	0.089	50	No	15	80	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0.09	0.043	50	No	15	93.33	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0.09	0.043	50	No	15	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-1D	0.25	0.039	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-2D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-3D	0.25	0.018	2	No	14	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-4D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-5D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-6D	0.25	0.0465	2	No	13	92.31	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-7D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-8D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-9D	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)

APPENDIX B

**Sanitas Trending Confidence
Bands Statistical Output**

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 14

Slope = 0.004332
units per year.

Mann-Kendall
statistic = 50
critical = 44

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

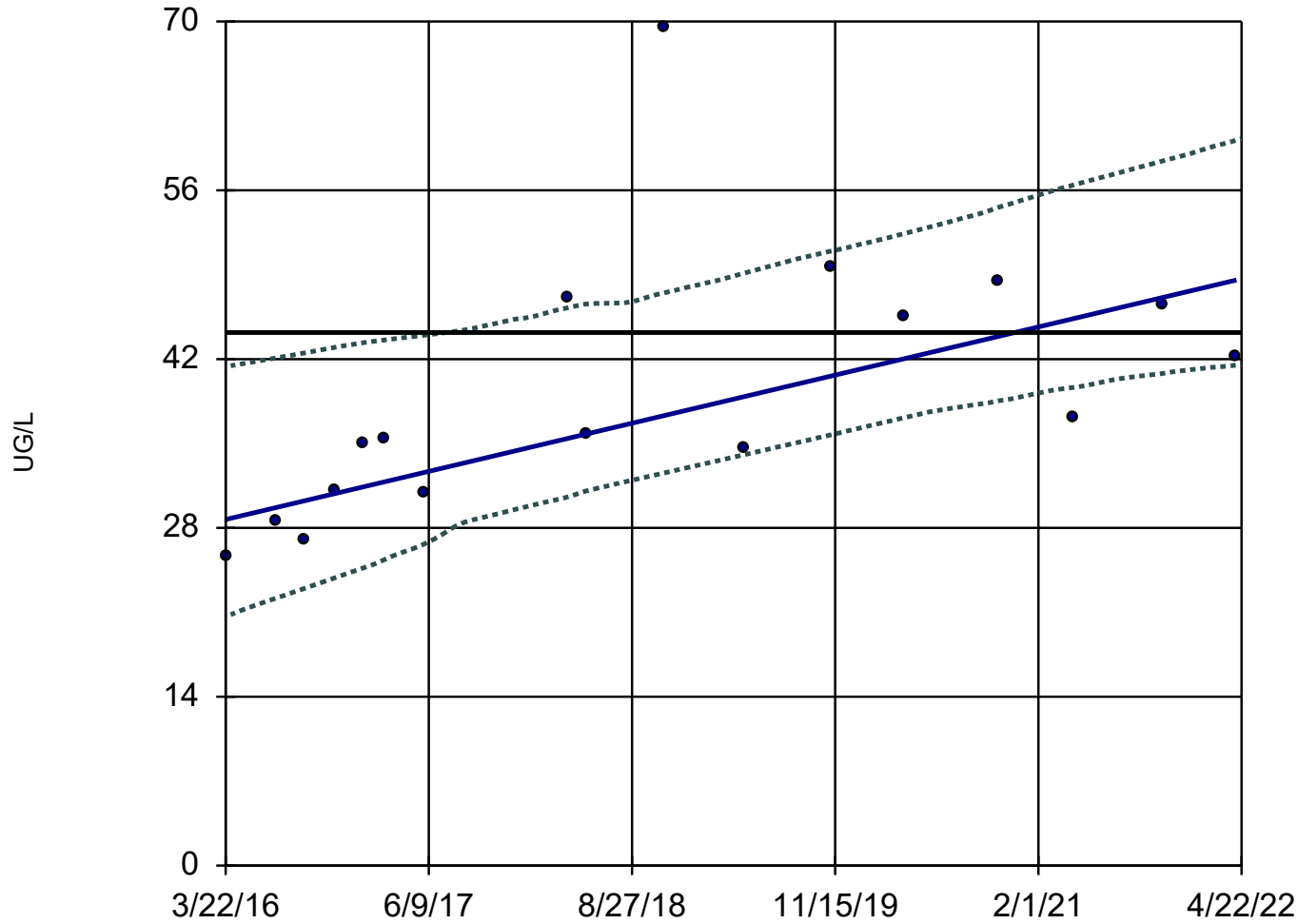
Confidence band is
below GWPS (6).

Constituent: ANTIMONY, TOTAL Analysis Run 7/20/2022 4:50 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 17

Slope = 3.279
units per year.

Mann-Kendall
statistic = 74
critical = 58

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

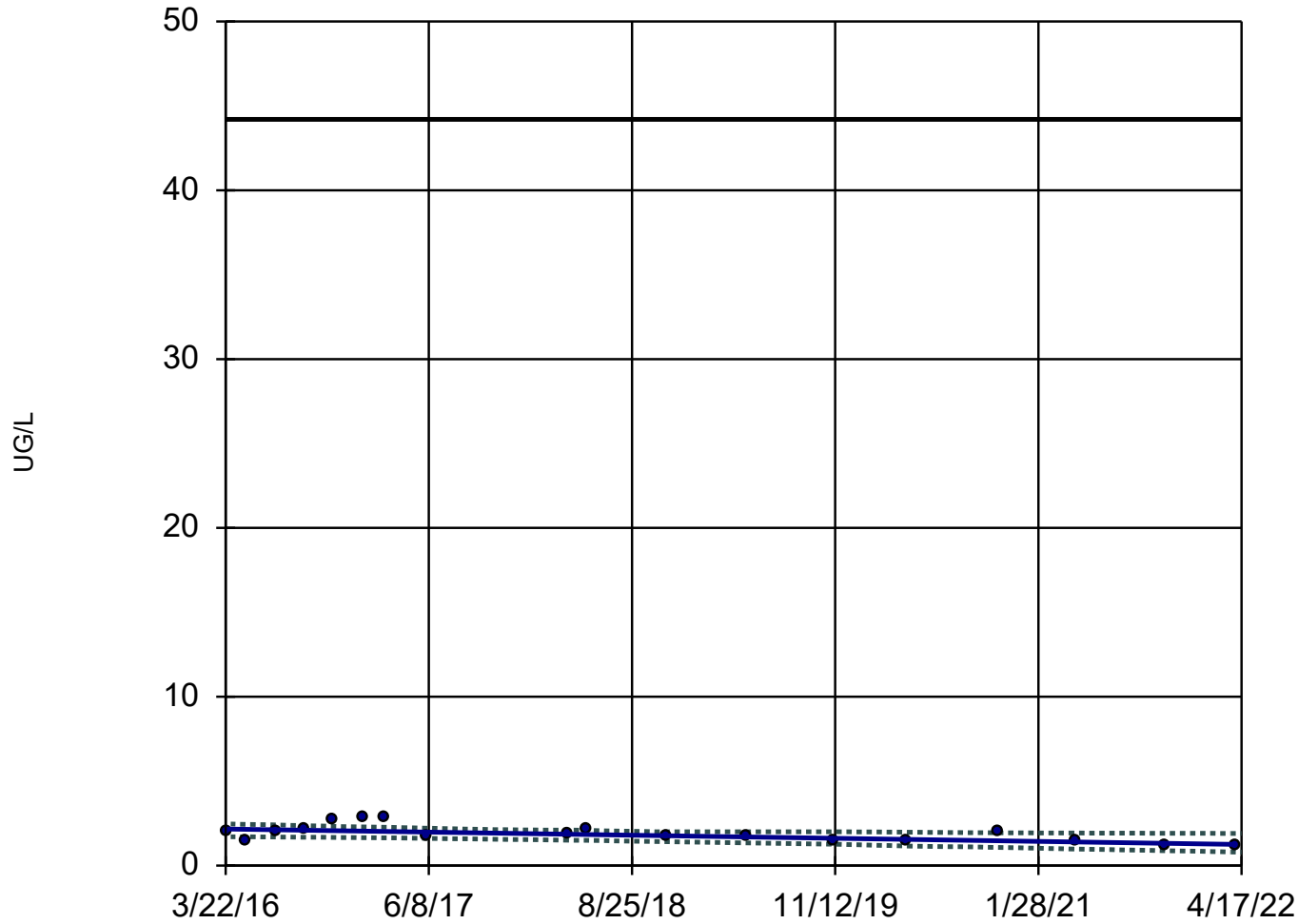
Confidence band intersects
GWPS (44.2) on 08/01/17.

Constituent: ARSENIC, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 18

Slope = -0.1505
units per year.

Mann-Kendall
statistic = -65
critical = -63

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

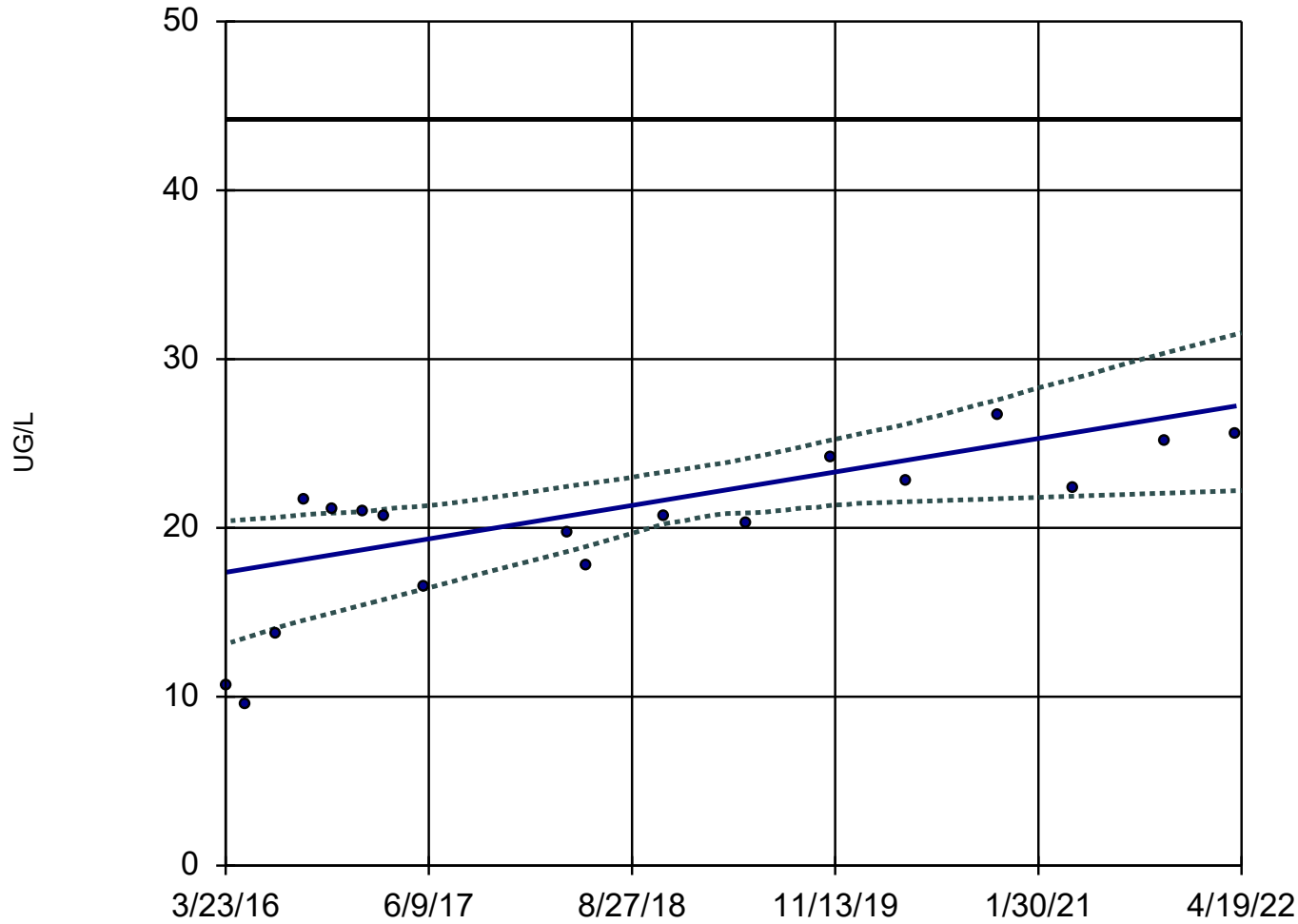
Confidence band is
below GWPS (44.2).

Constituent: ARSENIC, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 18

Slope = 1.629
units per year.

Mann-Kendall
statistic = 84
critical = 63

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

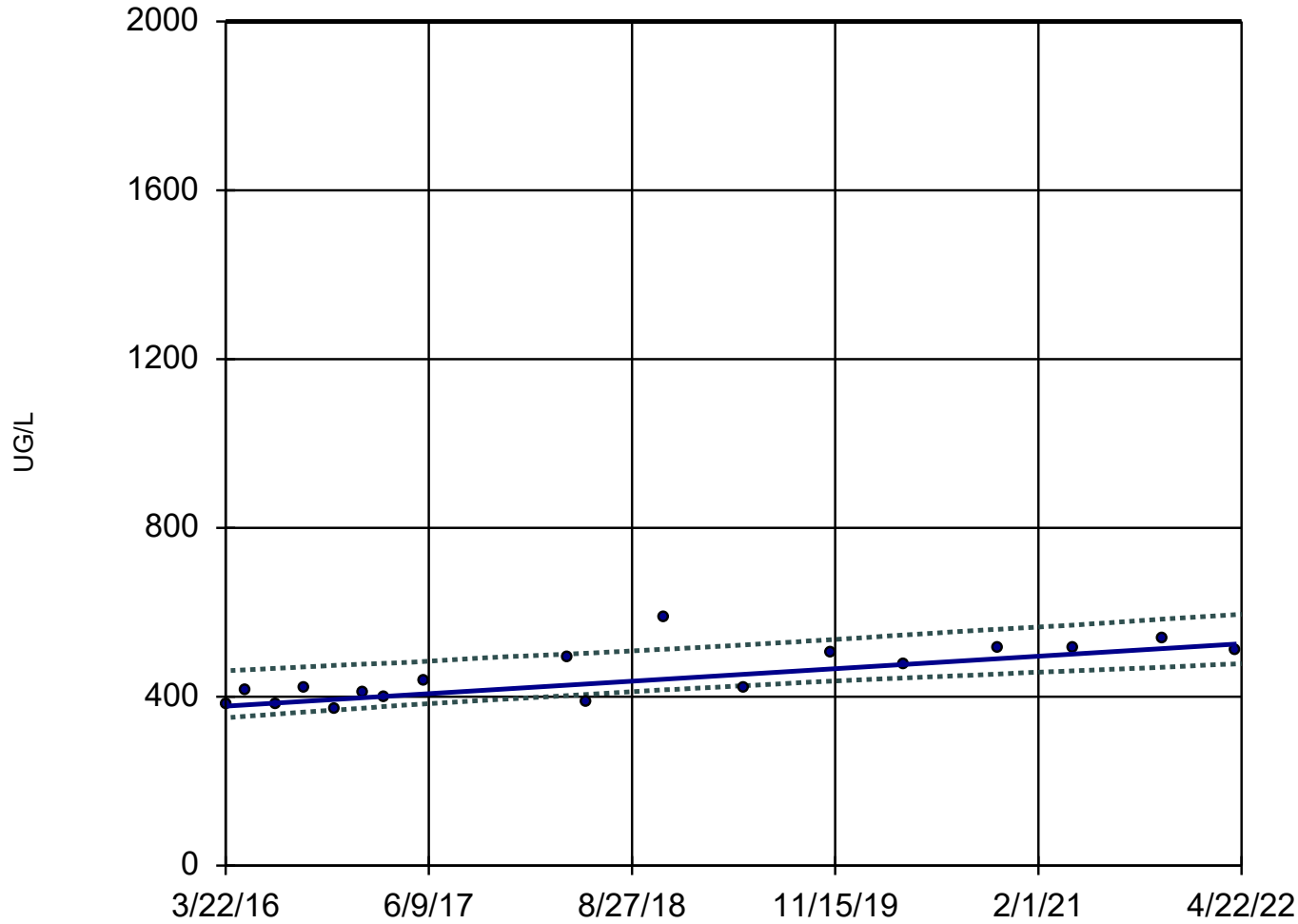
Confidence band is
below GWPS (44.2).

Constituent: ARSENIC, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 18

Slope = 24.32
units per year.

Mann-Kendall
statistic = 91
critical = 63

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

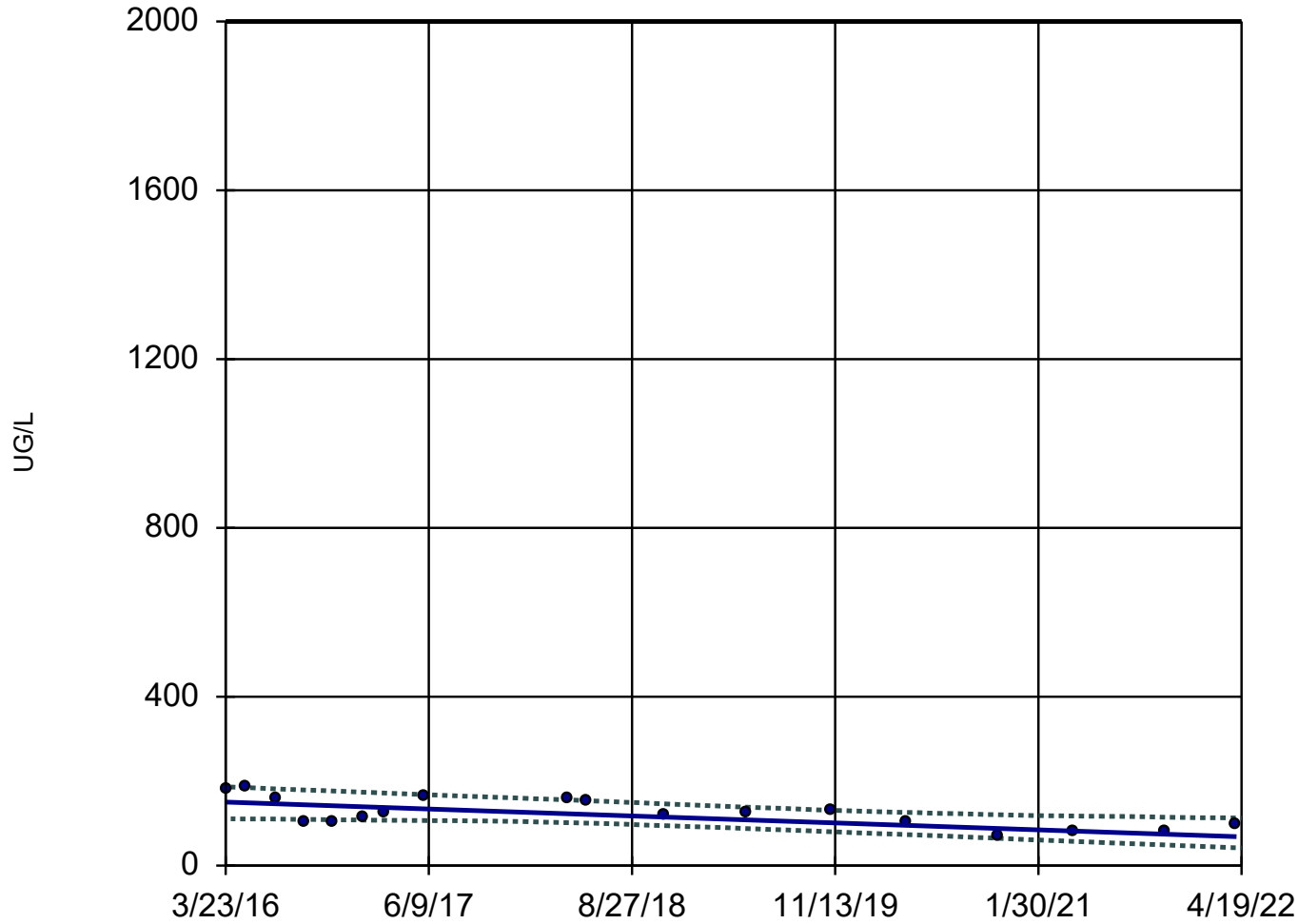
Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 18

Slope = -13.56
units per year.

Mann-Kendall
statistic = -74
critical = -63

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

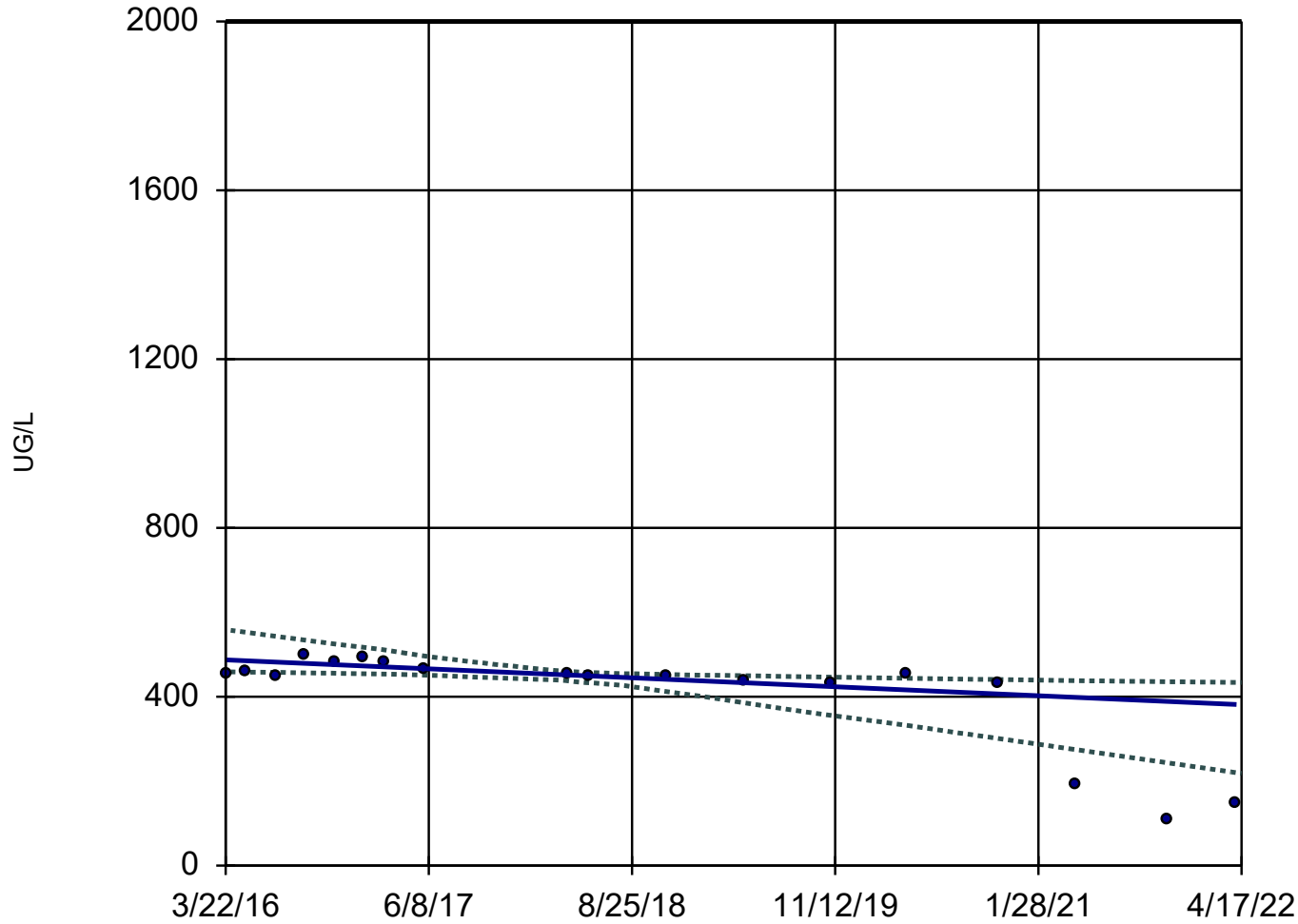
Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 18

Slope = -17.5
units per year.

Mann-Kendall
statistic = -98
critical = -63

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

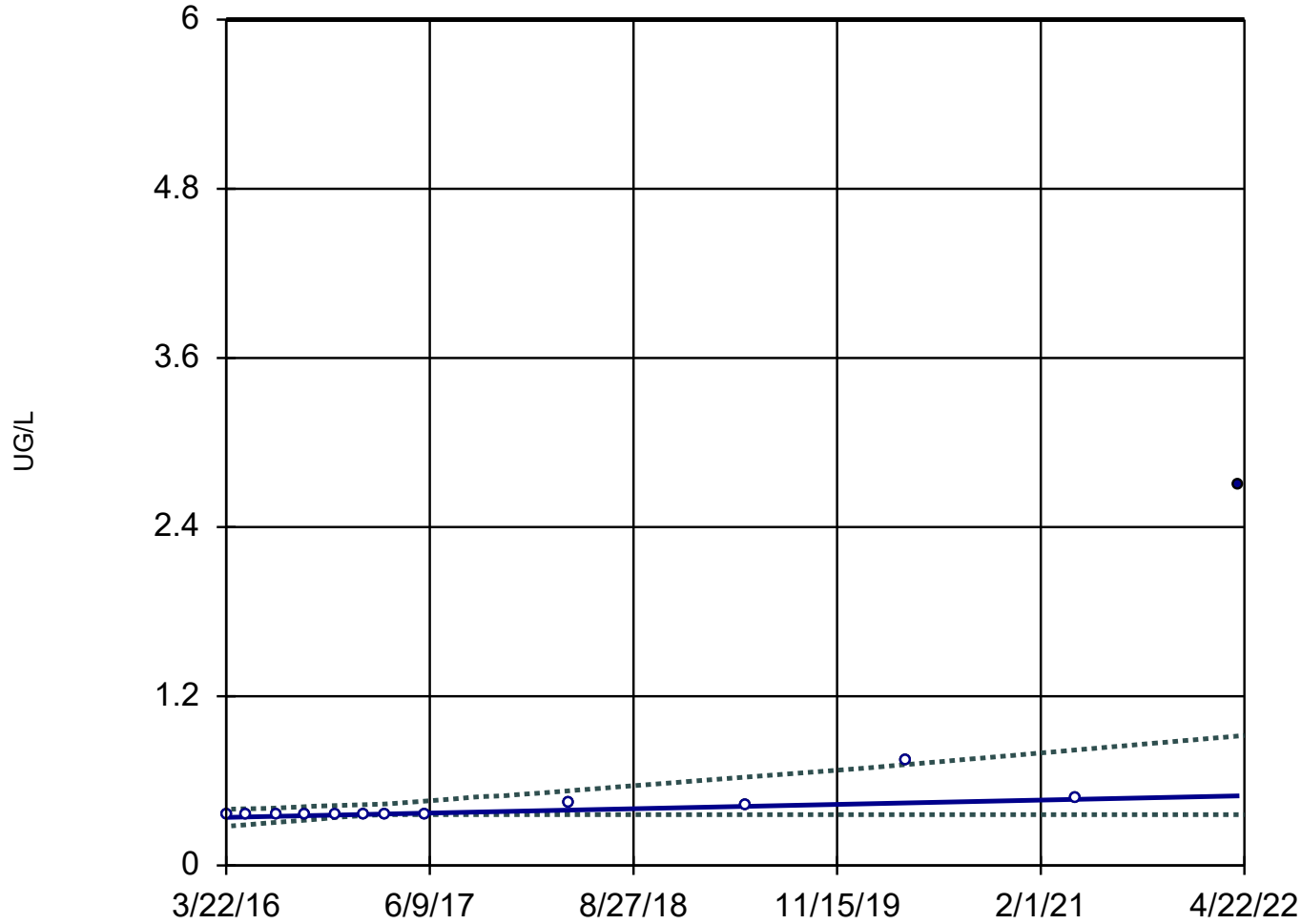
Confidence band is
below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 13

Slope = 0.02519
units per year.

Mann-Kendall
statistic = 58
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

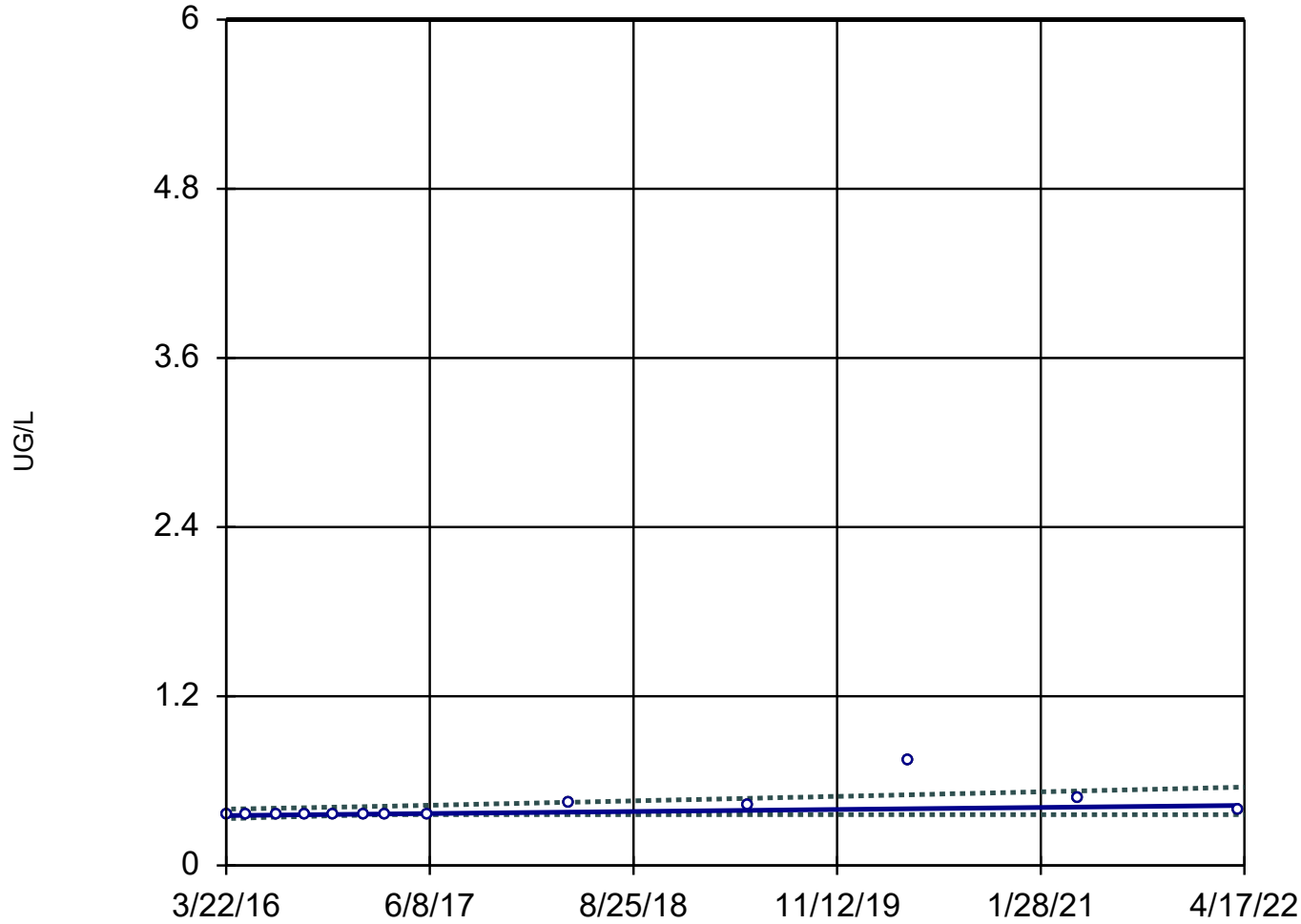
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 13

Slope = 0.01185
units per year.

Mann-Kendall
statistic = 50
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

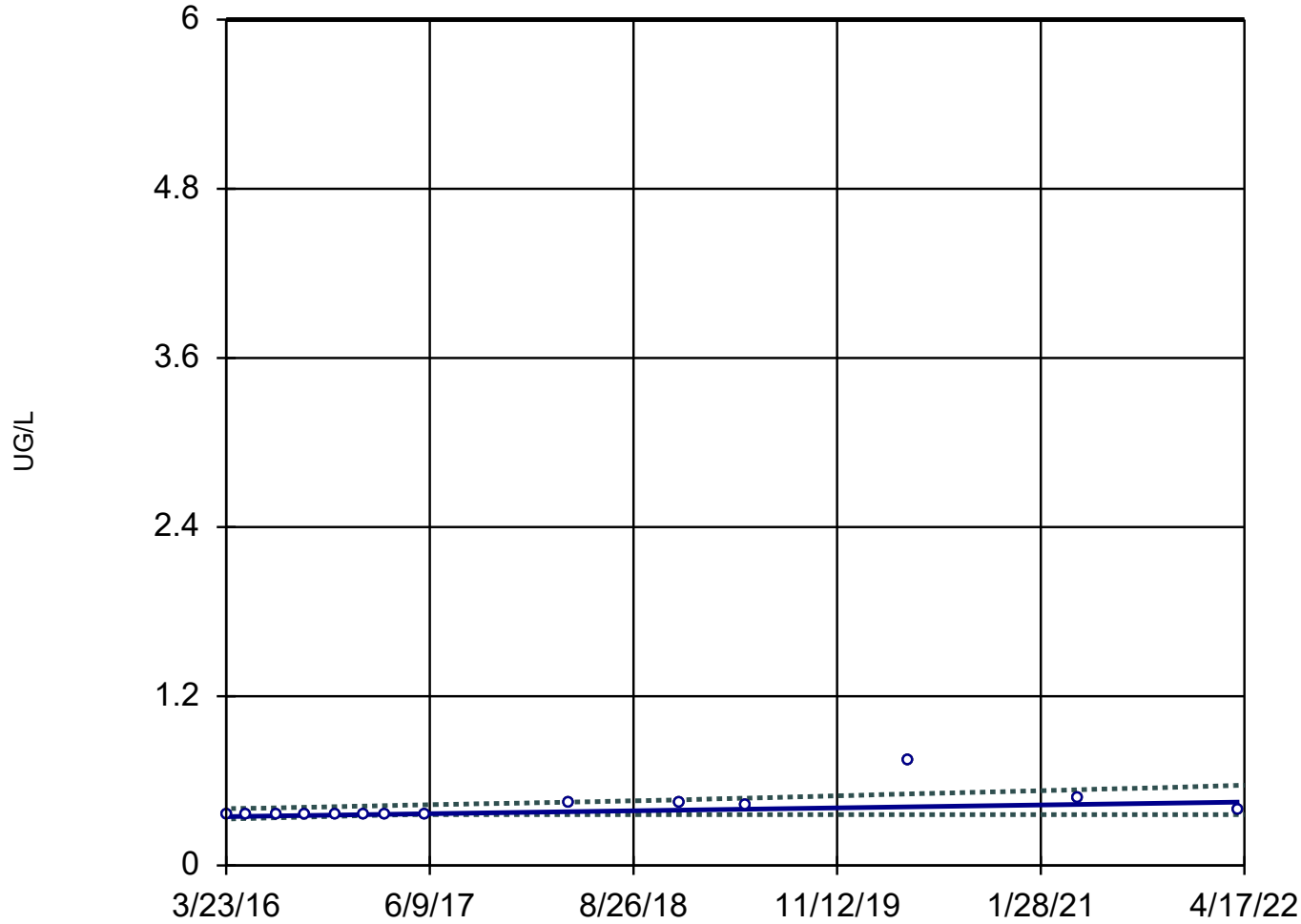
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-3D



n = 14

Slope = 0.0169
units per year.

Mann-Kendall
statistic = 58
critical = 44

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

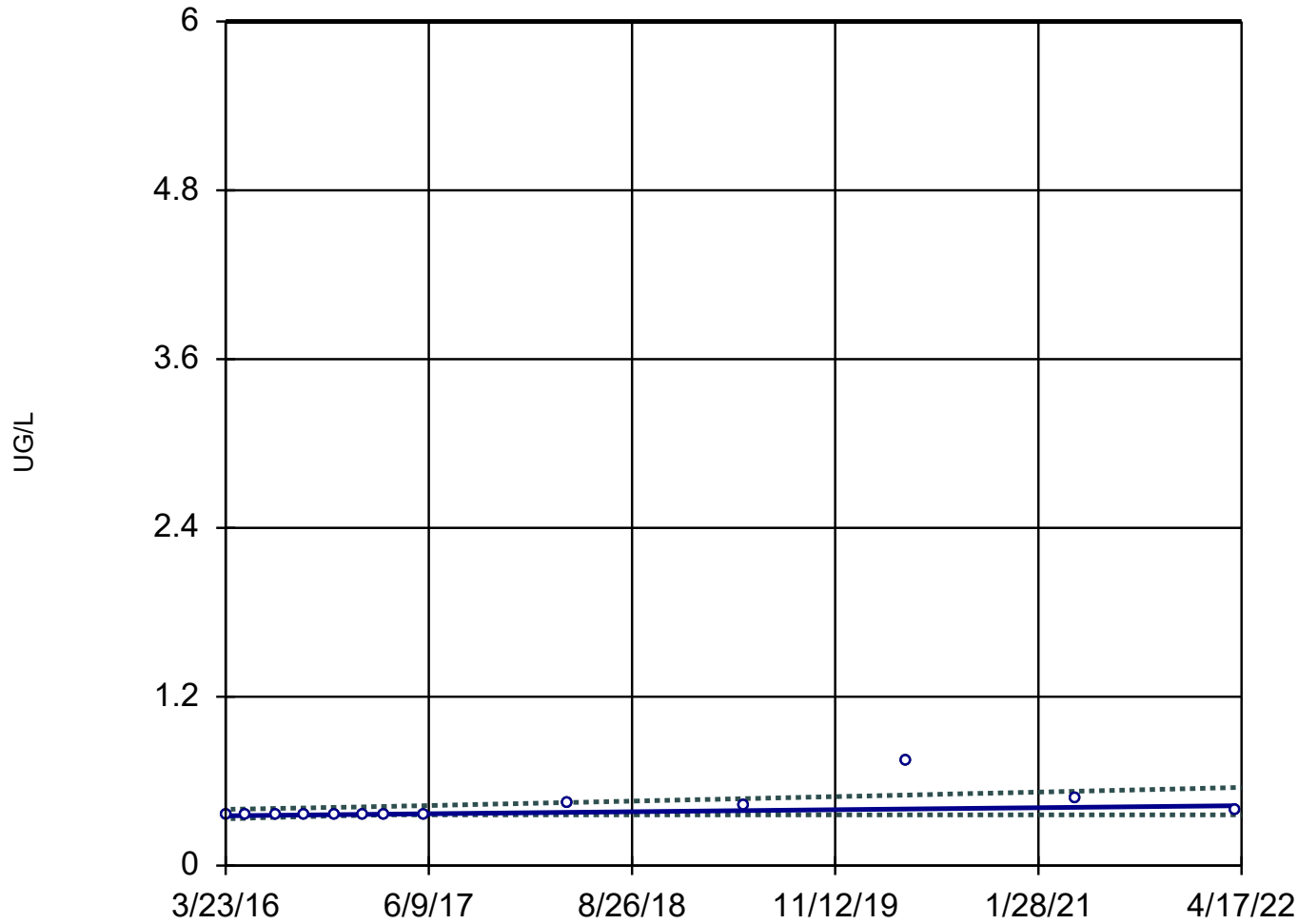
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 13

Slope = 0.01193
units per year.

Mann-Kendall
statistic = 50
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

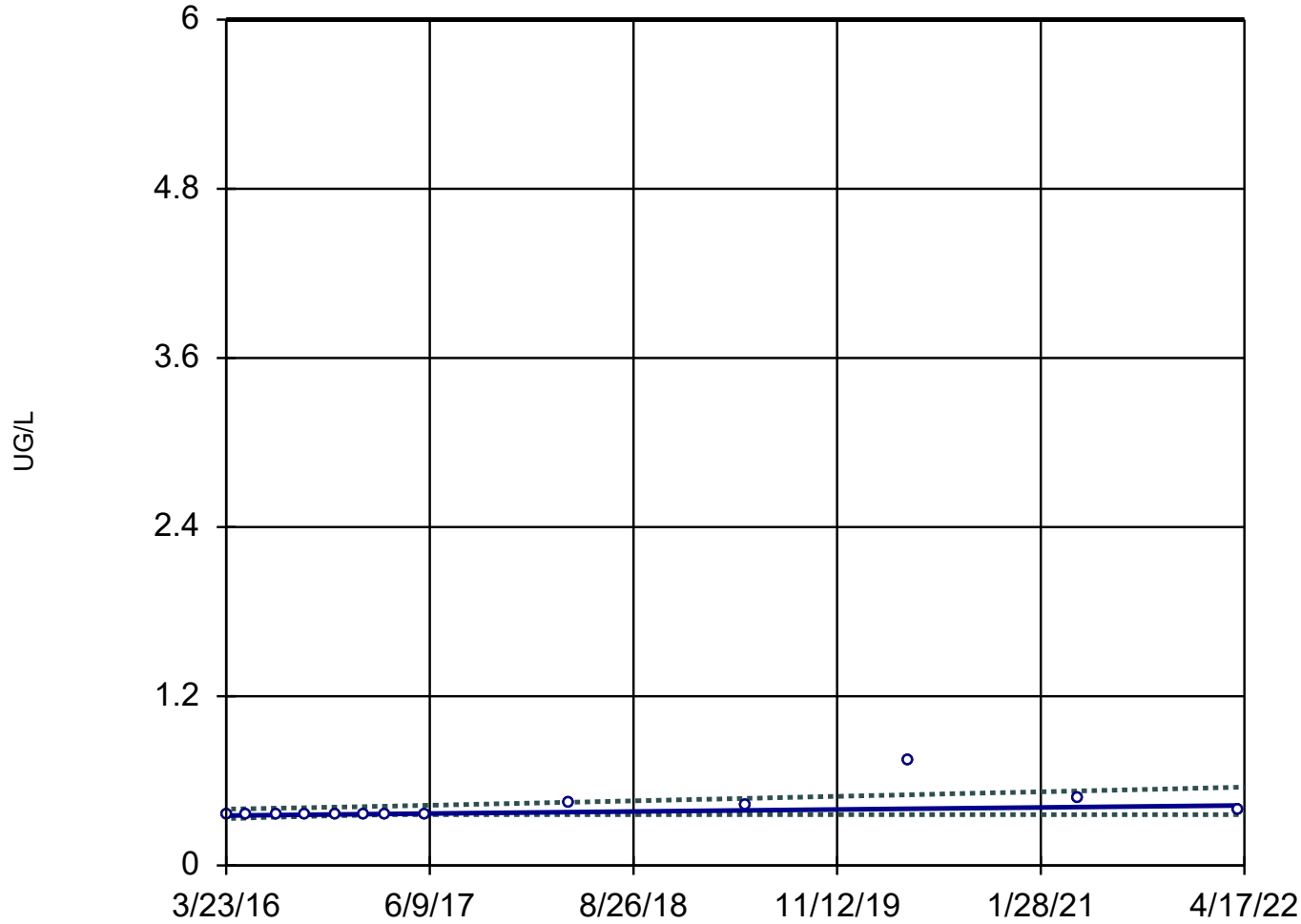
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 13

Slope = 0.01183
units per year.

Mann-Kendall
statistic = 50
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

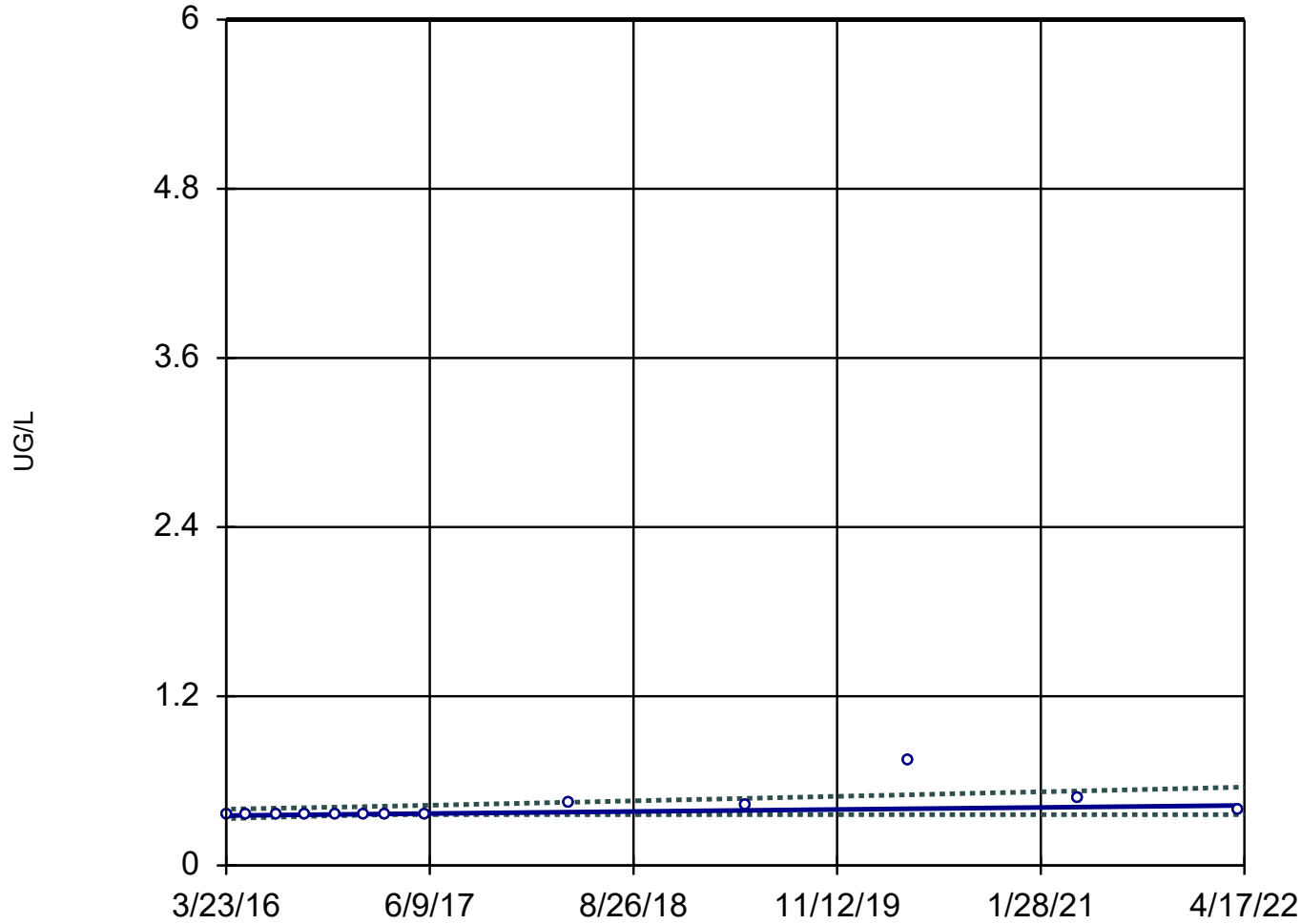
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 13

Slope = 0.01183
units per year.

Mann-Kendall
statistic = 50
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

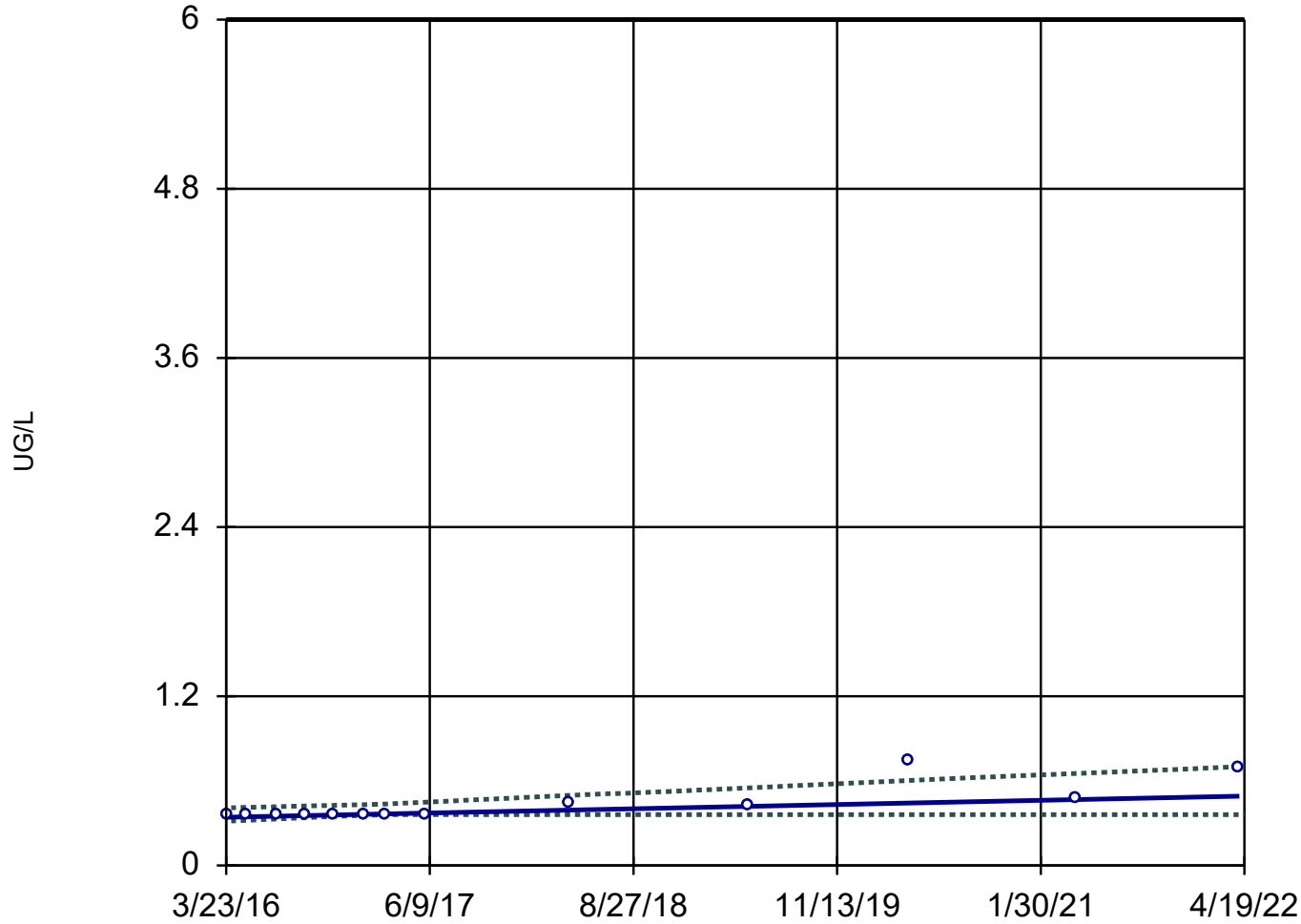
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 13

Slope = 0.0247
units per year.

Mann-Kendall
statistic = 56
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

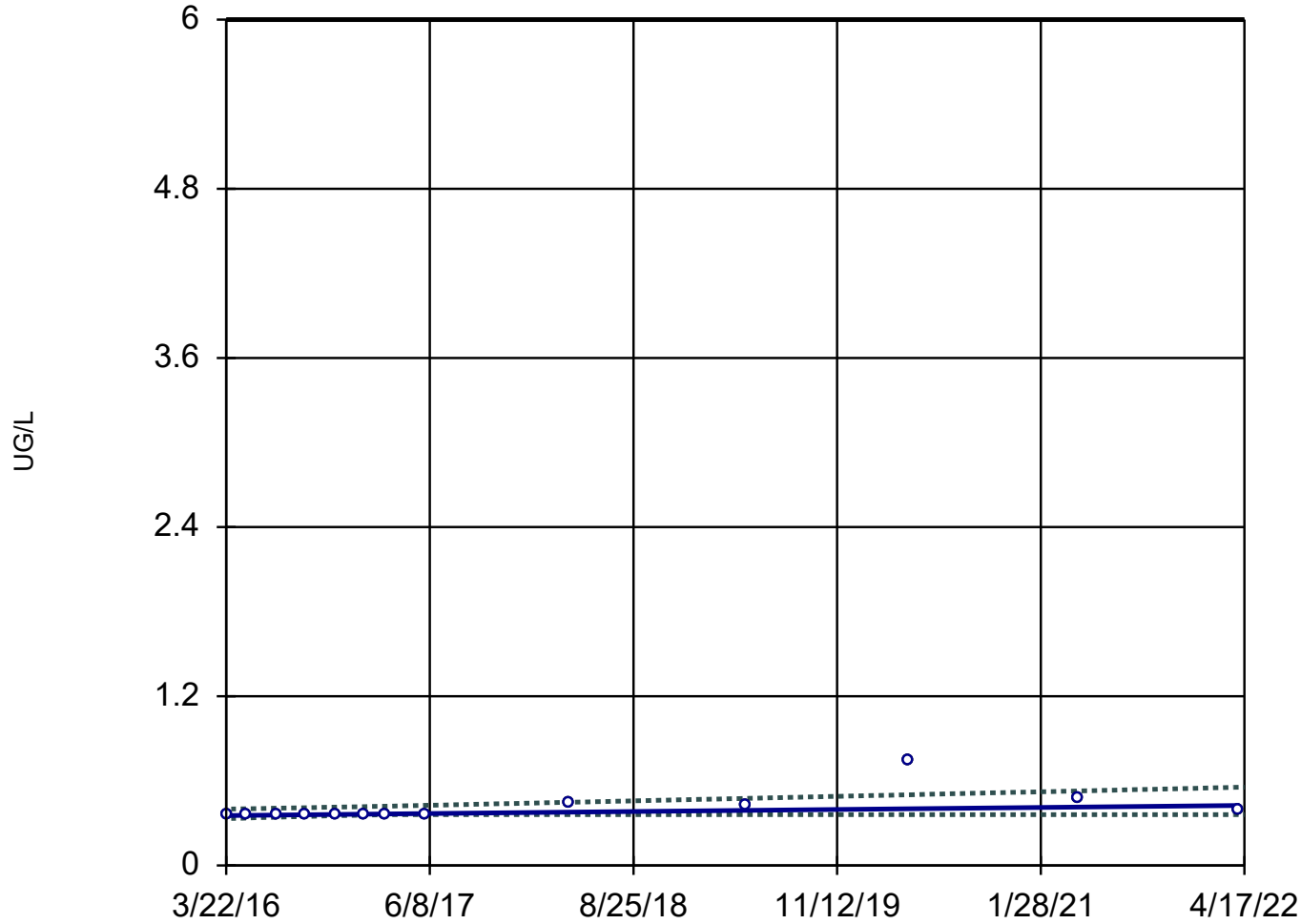
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 13

Slope = 0.01184
units per year.

Mann-Kendall
statistic = 50
critical = 39

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

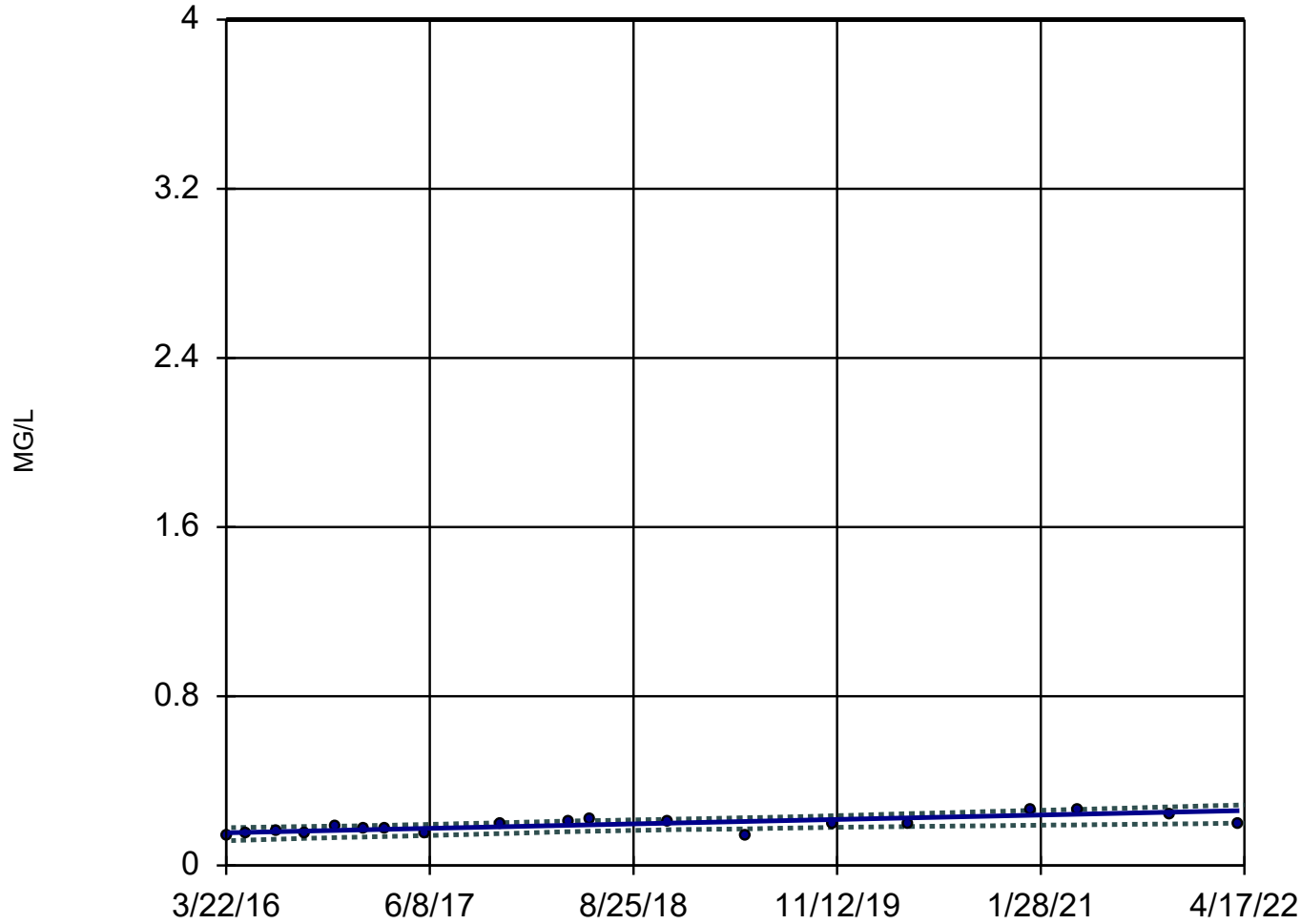
Confidence band is
below GWPS (6).

Constituent: COBALT, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 19

Slope = 0.01736
units per year.

Mann-Kendall
statistic = 90
critical = 68

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

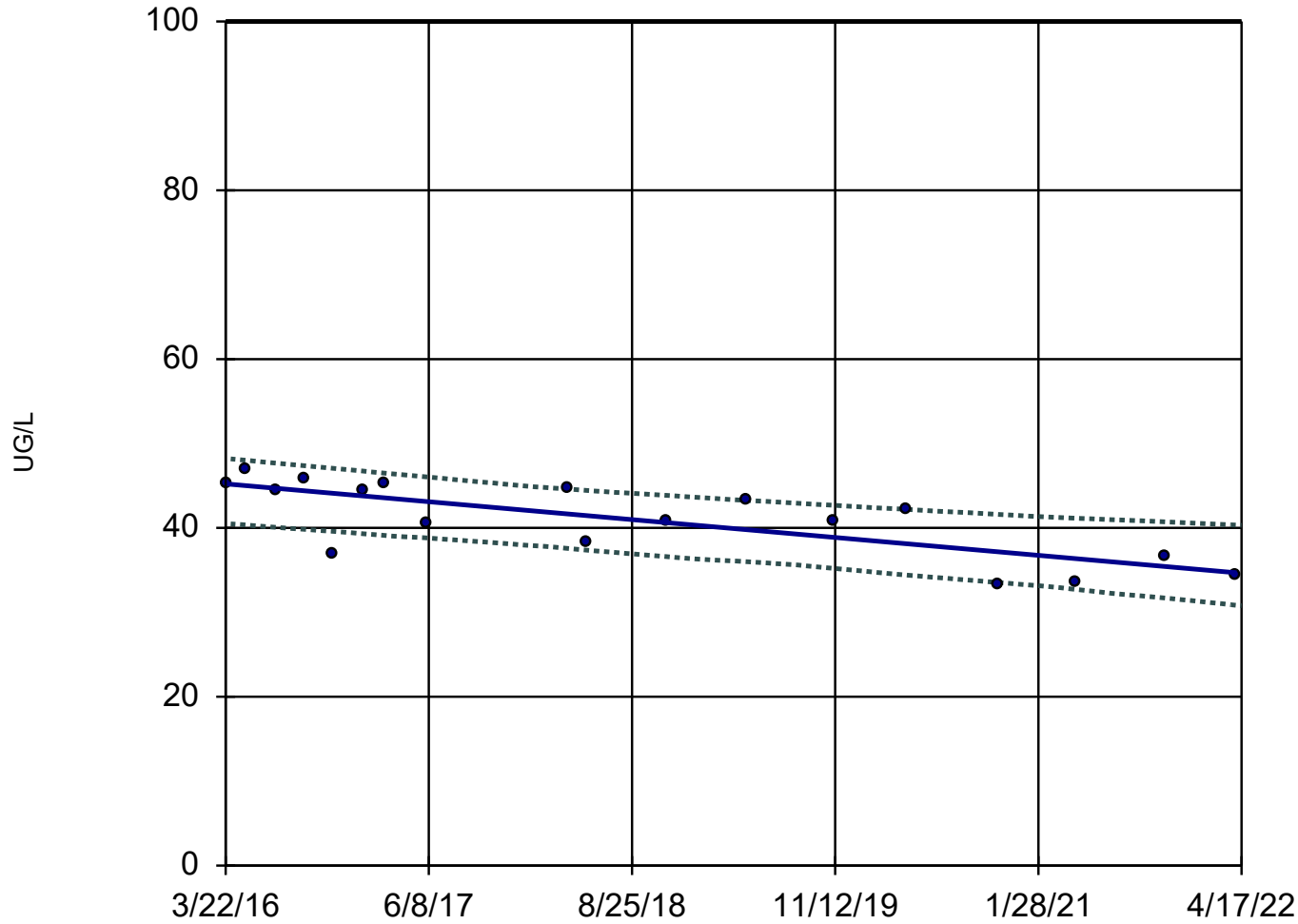
Confidence band is
below GWPS (4).

Constituent: FLUORIDE, TOTAL Analysis Run 7/20/2022 4:51 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 18

Slope = -1.743
units per year.

Mann-Kendall
statistic = -83
critical = -63

Decreasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

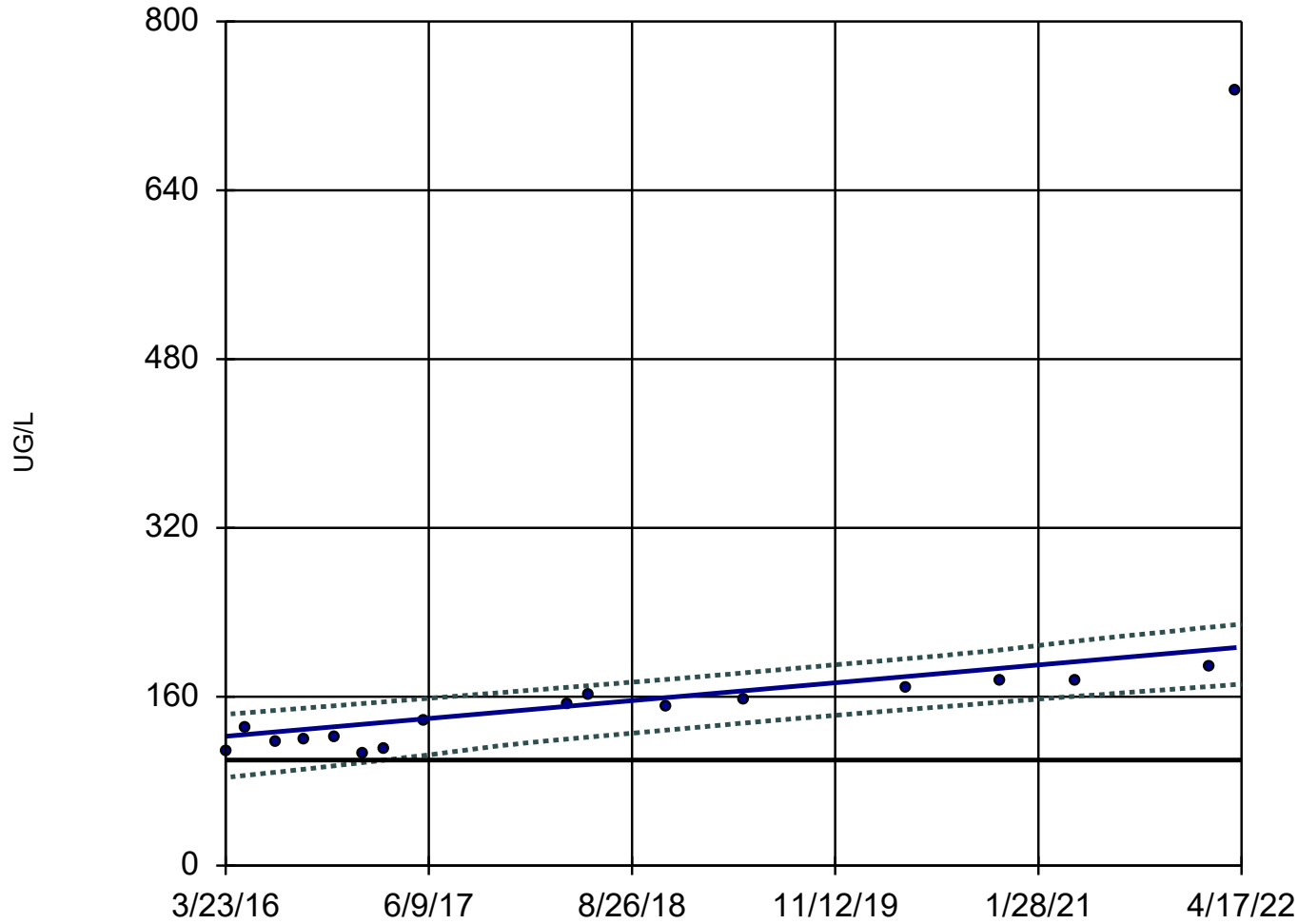
Confidence band is
below GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 7/20/2022 4:52 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 17

Slope = 13.93
units per year.

Mann-Kendall
statistic = 106
critical = 58

Increasing trend
significant at 98%
confidence level
($\alpha = 0.01$ per
tail).

Confidence band intersects
GWPS (100) on 03/21/17.

Constituent: MOLYBDENUM, TOTAL Analysis Run 7/20/2022 4:52 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/20/2022, 4:53 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0.004327	34	44	No	14	85.71	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0.004222	36	44	No	14	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.004137	27	48	No	15	86.67	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.004134	27	44	No	14	92.86	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.001472	8	44	No	14	57.14	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.003575	21	44	No	14	92.86	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0.004217	36	44	No	14	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0.004222	36	44	No	14	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0.004332	50	44	Yes	14	92.86	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-1D	3.279	74	58	Yes	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-2D	-0.1505	-65	-63	Yes	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-3D	0.8219	54	58	No	17	5.882	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0	-3	-63	No	18	27.78	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-5D	-0.5703	-27	-63	No	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-6D	1.118	28	58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-7D	1.629	84	63	Yes	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-8D	-0.1599	-14	-63	No	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-9D	-0.2709	-23	-63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-1D	24.32	91	63	Yes	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-2D	0.7449	5	63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-3D	-4.208	-29	-68	No	19	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-4D	4.393	62	63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-5D	0	1	63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-6D	-3.564	-49	-63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-7D	-13.56	-74	-63	Yes	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-8D	-17.5	-98	-63	Yes	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-9D	-3.013	-37	-63	No	18	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0	-8	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0	6	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0	4	44	No	14	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0	6	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0	6	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0	6	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0	0	39	No	13	92.31	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0	6	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0	6	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.000...	20	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.000...	20	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.01049	35	44	No	14	64.29	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0	14	39	No	13	92.31	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0.001623	18	39	No	13	76.92	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.009812	27	39	No	13	61.54	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0	14	39	No	13	84.62	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.000...	20	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.000...	20	39	No	13	100	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.01578	21	44	No	14	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0	-3	-48	No	15	73.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0	15	53	No	16	75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	-0.0107	-14	-44	No	14	71.43	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0	-8	-48	No	15	73.33	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/20/2022, 4:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	-0.03782	-21	-48	No	15	60	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	0	-3	-48	No	15	46.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	-0.01594	-24	-48	No	15	66.67	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0	-8	-48	No	15	73.33	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-1D	0.02519	58	39	Yes	13	92.31	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-2D	0.01185	50	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-3D	0.0169	58	44	Yes	14	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-4D	0.01193	50	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-5D	0.01183	50	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-6D	0.01183	50	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-7D	0.0247	56	39	Yes	13	100	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-8D	0.007412	33	39	No	13	92.31	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	L-UMW-9D	0.01184	50	39	Yes	13	100	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.01091	74	78	No	21	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0	-1	-73	No	20	5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.01008	44	84	No	22	22.73	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.007143	25	84	No	22	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.01703	66	73	No	20	20	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0	-6	-68	No	19	21.05	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0	-6	-78	No	21	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.01577	69	73	No	20	5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.01736	90	68	Yes	19	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-1D	0.1147	10	39	No	13	69.23	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-2D	0.164	27	39	No	13	76.92	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-3D	0.1607	34	44	No	14	78.57	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-4D	0.1443	34	39	No	13	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-5D	0.1339	15	39	No	13	84.62	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-6D	0.1339	15	39	No	13	84.62	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-7D	0.2313	37	39	No	13	76.92	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-8D	0.1612	32	39	No	13	76.92	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-9D	0.1469	6	39	No	13	53.85	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-1D	0.5222	44	63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-2D	-0.4968	-25	-63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-3D	-0.2528	-24	-68	No	19	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-4D	-0.7143	-48	-63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-5D	-0.3126	-7	-63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-6D	0.4843	31	63	No	18	5.556	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-7D	0.7938	34	63	No	18	5.556	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-8D	0.09288	6	63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-9D	-0.2758	-39	-63	No	18	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-1D	0.003849	35	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-2D	0.003844	35	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.004499	43	44	No	14	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-4D	0.003855	35	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-5D	0.003855	35	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-6D	0.003855	35	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-7D	0.00384	35	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-8D	0.003855	35	39	No	13	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-9D	0.003855	35	39	No	13	100	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	0.2446	36	63	No	18	27.78	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/20/2022, 4:54 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	-1.743	-83	-63	Yes	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	2.786	12	68	No	19	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	-6.841	-40	-63	No	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-5D	13.93	106	58	Yes	17	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	-14.39	-42	-63	No	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-7D	2.839	19	63	No	18	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	0.5361	30	53	No	16	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	-0.066	-20	-63	No	18	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-1D	0.004665	5	58	No	17	17.65	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-2D	0.04476	13	63	No	18	33.33	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-3D	-0.01158	-11	-68	No	19	73.68	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.04294	41	63	No	18	72.22	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-5D	-0.02864	-22	-53	No	16	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-6D	-0.01239	-7	-63	No	18	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-7D	0.025	19	63	No	18	72.22	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-8D	-0.08287	-39	-63	No	18	44.44	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-9D	-0.01164	-17	-63	No	18	88.89	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0	1	48	No	15	93.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0	1	48	No	15	93.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0	-1	-53	No	16	56.25	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0	-7	-48	No	15	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0.006419	37	48	No	15	60	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-6D	-0.00...	-13	-48	No	15	26.67	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0	-1	-48	No	15	80	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0	-5	-48	No	15	93.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0	-7	-48	No	15	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-1D	-0.03183	-36	-39	No	13	84.62	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-2D	-0.03095	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-3D	-0.0305	-32	-44	No	14	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-4D	-0.03098	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-5D	-0.03095	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-6D	-0.03191	-36	-39	No	13	92.31	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-7D	-0.03093	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-8D	-0.03097	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-9D	-0.03095	-28	-39	No	13	100	n/a	n/a	0.02	NP

APPENDIX D

**November 2021 Corrective Action
Statistical Evaluation**

TECHNICAL MEMORANDUM

DATE March 21, 2022

Project No. 153140603

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock

EMAIL Jeffrey_Ingram@golder.com

CORRECTIVE ACTION STATISTICAL EVALUATION LCPA SURFACE IMPOUNDMENT LABADIE ENERGY CENTER, FRANKLIN COUNTY, MISSOURI

This Technical Memorandum provides the results of the Corrective Action Monitoring statistical analyses from the November 2021 sampling event for the LCPA Surface Impoundment at the Labadie Energy Center located in Franklin County, Missouri. As outlined in the remedy selection report for the LCPA, Corrective Action at the LCPA consists of two phases:

- 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 substantially completed on December 30, 2020, with the installation of the 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**).

The initial Corrective Action sampling event was completed in April 2020, and five (5) 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 GWPS exceedances, as data collected prior to this time were collected during active conditions at the LCPA, prior to cessation of CCR materials being added to the LCPA and are thus not representative of groundwater conditions since the initiation of closure.

Several constituents were reported at concentrations below the practical quantitation limit (PQL) during the April 2020 sampling event including beryllium, cadmium, cobalt, lead, mercury, and thallium. Because these constituents were not detected during the initial Corrective Action sampling event, they were not re-sampled during the subsequent 2020 semi-annual sampling events in May and November 2020. Only two results are available for each of the constituents, and therefore, confidence intervals could not be calculated because Corrective Action statistical analyses cannot be completed until a minimum of four (4) sampling events have been completed during the Corrective Action monitoring period. Thus, beryllium, cadmium, cobalt, lead, mercury, and thallium are not evaluated in this 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 Plans (CAGMP) Statistical Analysis Plan (SAP). An outlier analysis was completed as the first step of the statistical evaluation. The outlier analysis included results collected as a part of the Corrective Action monitoring program. The following outliers were removed prior to the calculation of confidence limits.

- Barium

- TP-2D at 158 micrograms per liter ($\mu\text{g/L}$) on 4/20/2021. The result is statistically higher than other values at the same well. The high result is not consistent with previous sampling event results and will be further evaluated during subsequent sampling events.

- Lithium

- LMW-1S, LMW-4S, LMW-7S, LMW-8S, MW-26, AM-1D, AM-1S, TP-1D, TP-3D, TP-4D, MW-24, and MW-35D at Non-Detect (ND) in November 2021. Analysis of the November 2021 sampling event data revealed that laboratory dilution was required for analysis of the samples. The sample dilutions caused the Method Detection Limit (MDL) to be greater than the Groundwater Protection Standard (GWPS). The samples were re-analyzed on 2/9/2022 and the resultant data is consistent with historical results. The diluted results from November 2021 are outliers.
- TP-1D at 17.7 $\mu\text{g/L}$ on 4/19/2021. The result is statistically lower than other values at the same well. The low result is not consistent with previous sampling event results and will be further evaluated during subsequent sampling events.
- L-S-1 at ND on 11/2/2021. Value is statistically higher than other values at the same well. Analysis of the November 2021 sampling event data revealed that laboratory dilution was required for analysis of the sample. This sample dilution caused the MDL to be greater than the GWPS. A verification sample was collected on 2/10/2022 and the resultant data is representative of the historical data trend at the well. The diluted result from 11/2/2021 is considered an outlier.

- Radium 226 & 228

- AMW-8 at 1.824 picocuries per liter (pCi/L) on 4/20/2021. The result is statistically higher than other values at the same well. The high result is not consistent with previous sampling event results and will be further evaluated during subsequent sampling events.

An analysis of the outliers removed to-date was completed and one statistical outlier that was previously removed was added back into the dataset prior to the calculation of confidence limits.

- Fluoride

- MW-26 at 0.29 milligrams per liter (mg/L) on 4/16/2021. Was removed in April 2021 as an outlier because the result was statistically higher than other values at the same well. However, the result has been confirmed by subsequent sampling events and 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 GWPS¹. As stated above, the confidence intervals shown in Appendix A are calculated based on results since April 2020. Lithium at LMW-4S, which was identified as a statistical

¹ The GWPS is the same limit that was used during Assessment Monitoring period, which was the groundwater monitoring phase immediately prior to Corrective Action.

exceedance of the GWPS in the April 2021 sampling event is no longer an exceedance. The remaining exceedances are the same as those reported for the April 2021 sampling event. A summary of constituents exceeding the GWPS at corresponding well(s) is as follows:

- Arsenic at LMW-2S
- 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], MW-35[D]
- Radium 226 & 228 at TP-1D

Typically, following the calculation of confidence intervals, trend tests would be completed using the Sen's Slope / Mann Kendall analysis as outlined in the statistical analysis plan. However, Sen's Slope / Mann Kendall analysis require 8 independent sampling results to complete as outlined in the USEPA Unified Guidance. Since only 5 sampling events have occurred since the cessation of CCR disposal into the LCPA, the Sen's Slope / Mann Kendall test cannot be completed. Therefore, no constituent well pairs were determined to have a significant trend and no trend charts are included with this Technical Memorandum.

While the corrective action statistical methods report exceedances of the GWPS for Arsenic, Lithium, Molybdenum and Radium 226 + 228, 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 preliminary results are expected to decrease over time after closure, as stabilization occurs and supplemental corrective measures are put into service.

Golder appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please call our office at (314) 984-8800.



Jeffrey Ingram
Senior Consultant, Geologist



Sean Paulsen
Senior Lead Consultant, Geologist

JSI/SCP/MNH

Attachments: Table 1 – LCPA Groundwater Protection Standards
Appendix A – Sanitas Confidence Interval Statistical Output

**Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center**

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring ⁷
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	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	0.3163
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) Drinking Water Standards and Health Advisories.
<http://water.epa.gov/drink/contaminants/index.cfm>.

5. Health Based Groundwater Protection Standards (GWPS) were adopted for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at <https://www.epa.gov/coalash/coal-ash-rule>.

6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.

7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.

(calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.

9. GWPS and background values calculated using results collected through February 2021 from monitoring wells BMW-1D and BMW-2D.

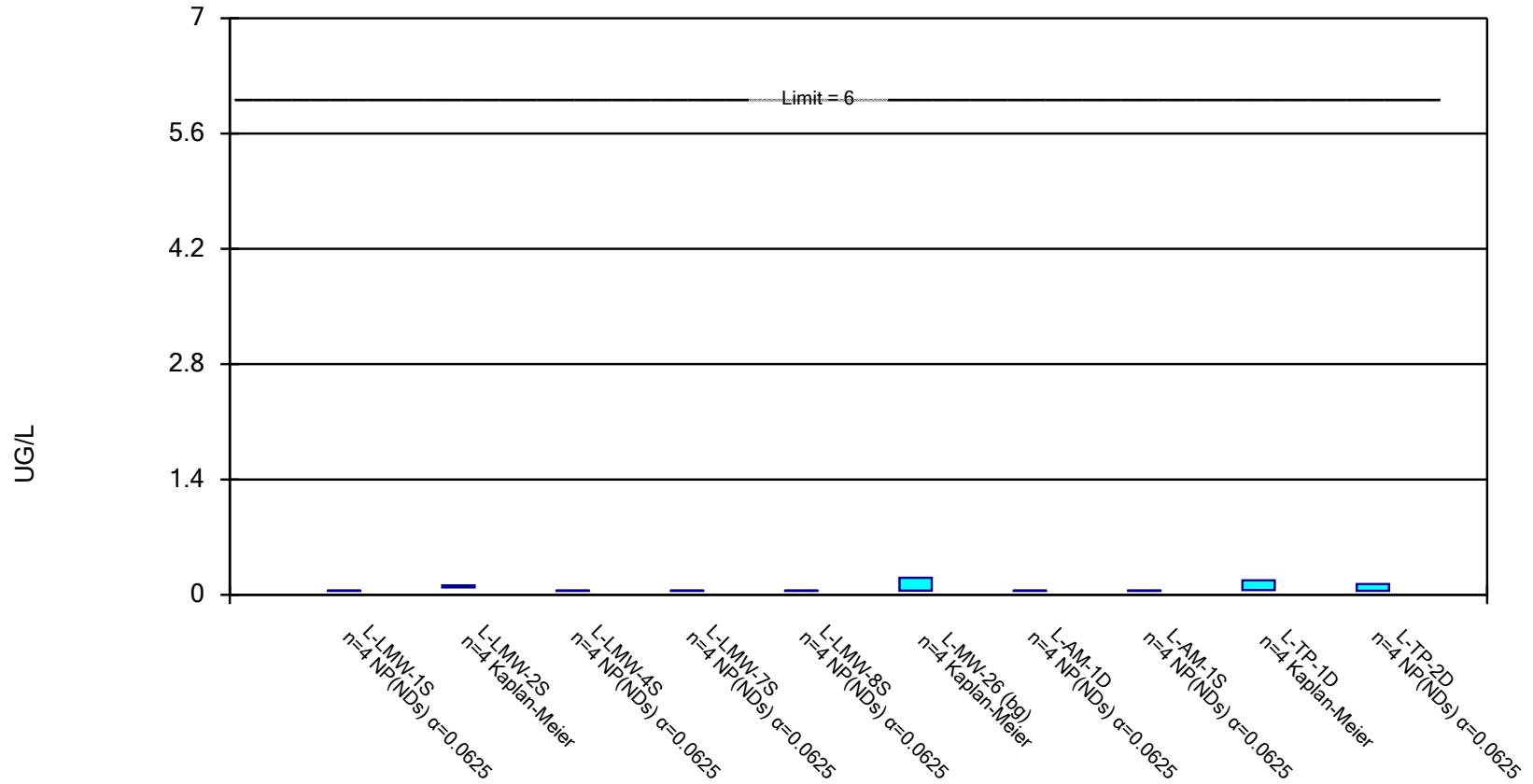
Prepared by: JSI
Checked by: EMS
Reviewed by: SCP

APPENDIX A

**Sanitas Confidence Interval
Statistical Output**

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

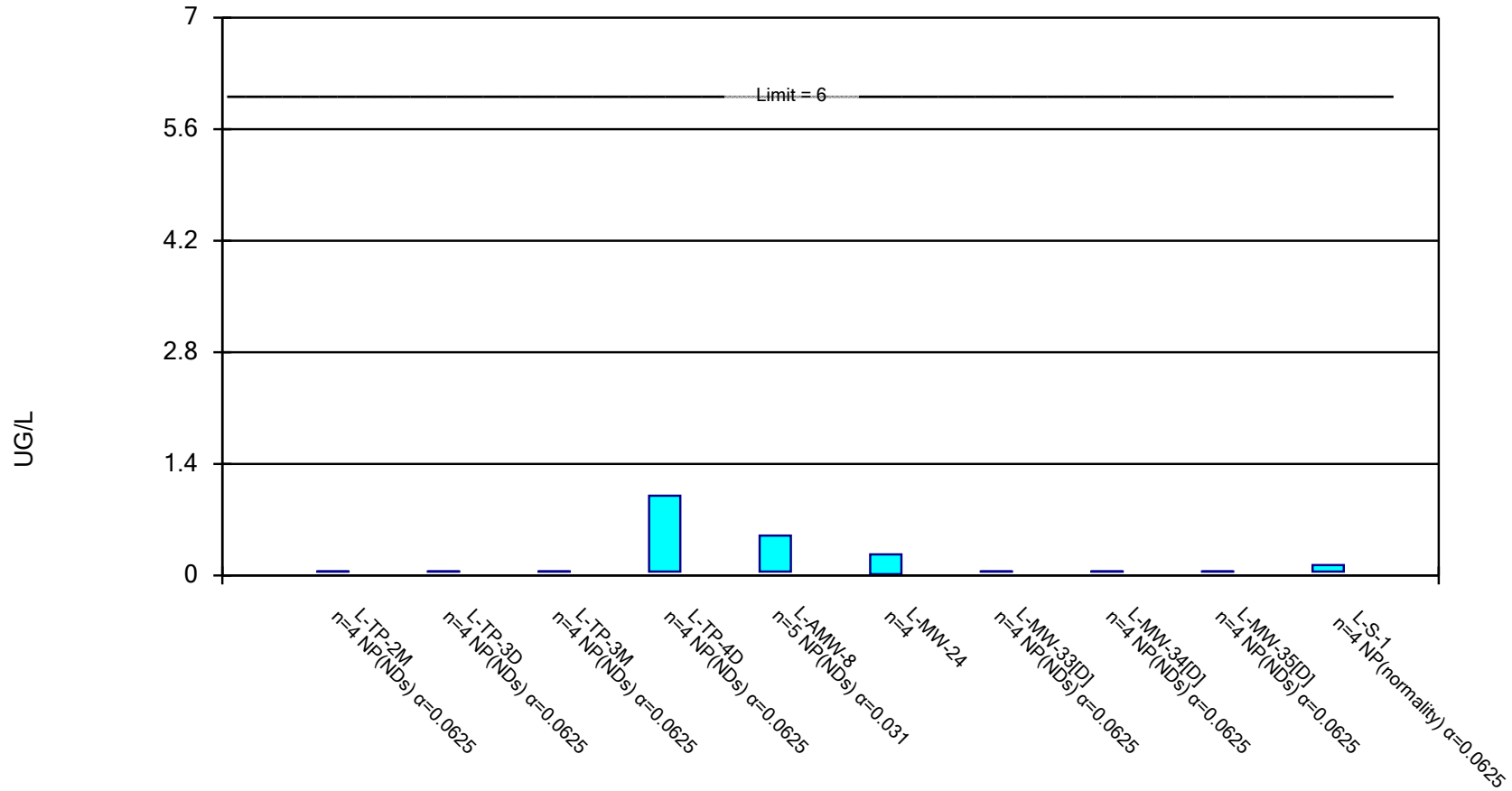
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ANTIMONY, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

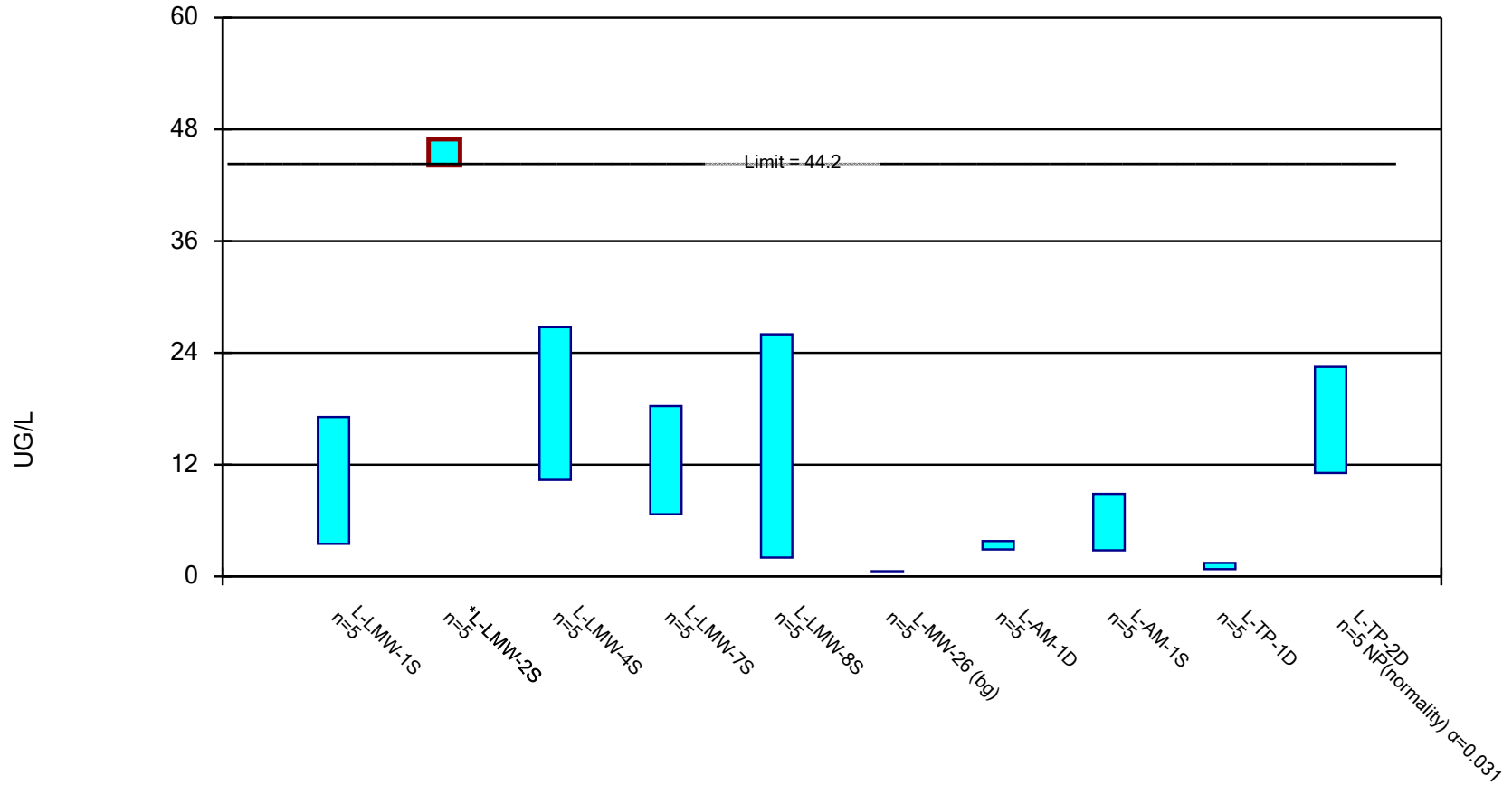
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ANTIMONY, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

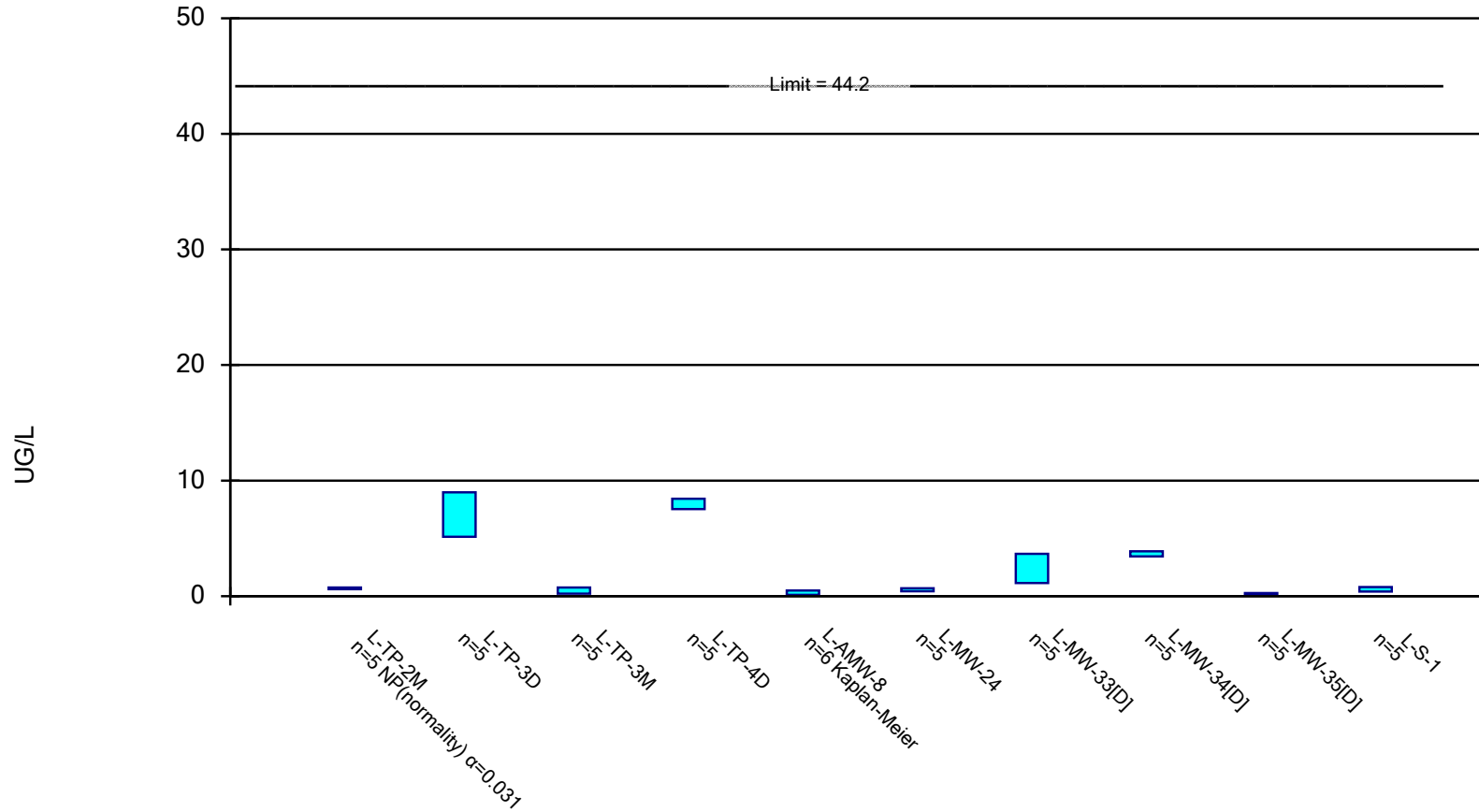
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ARSENIC, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

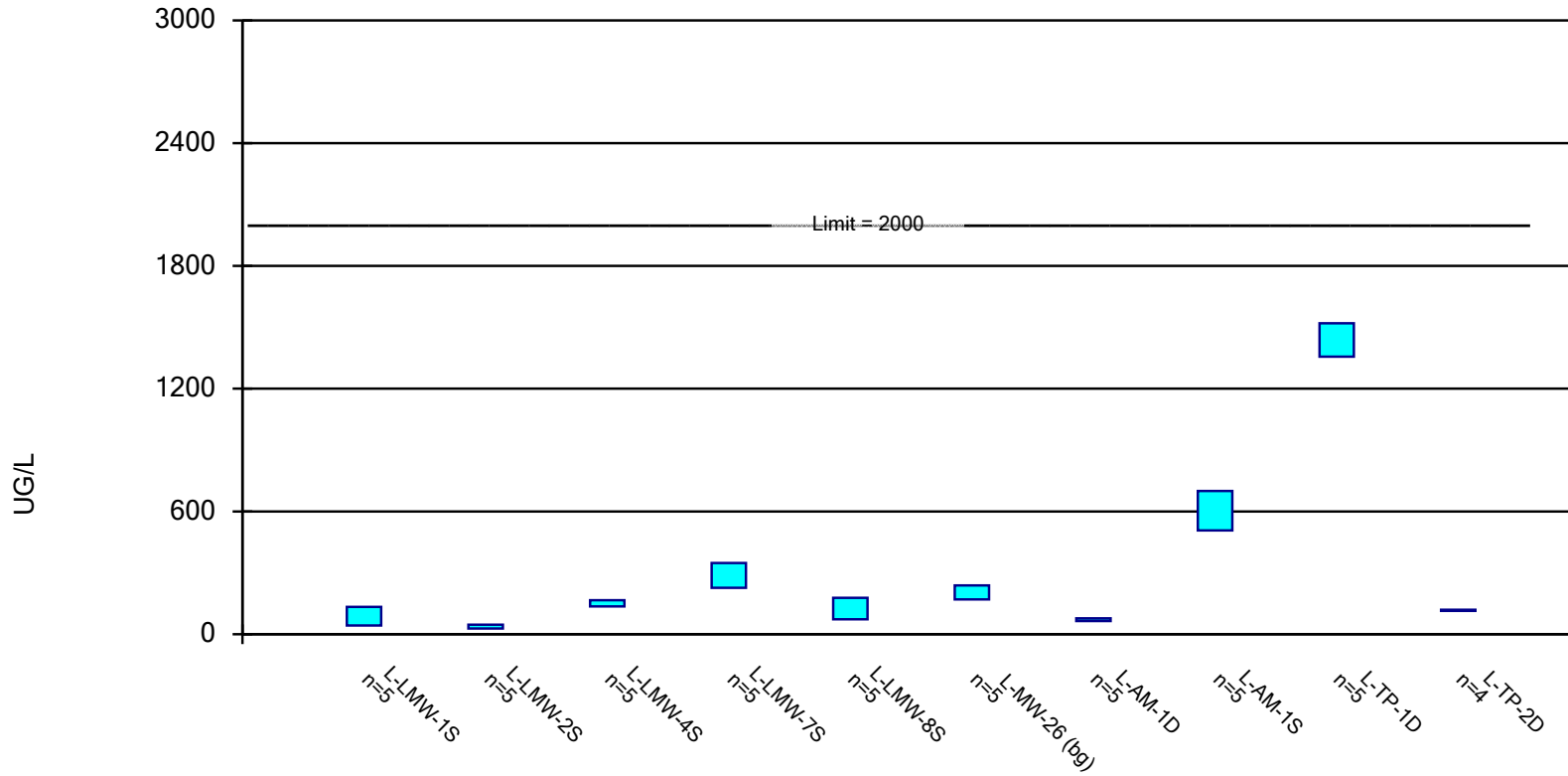
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: ARSENIC, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

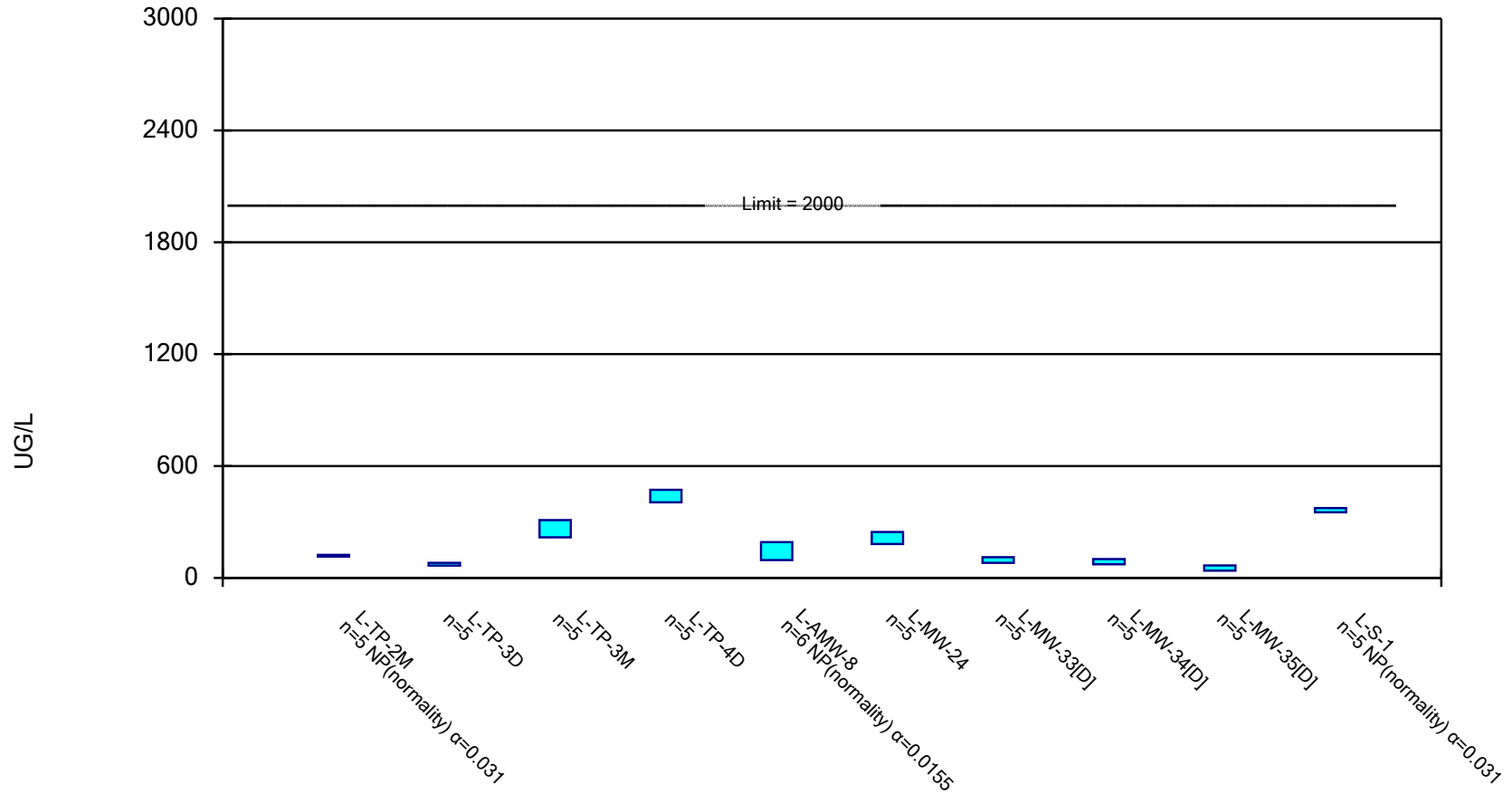
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: BARIUM, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

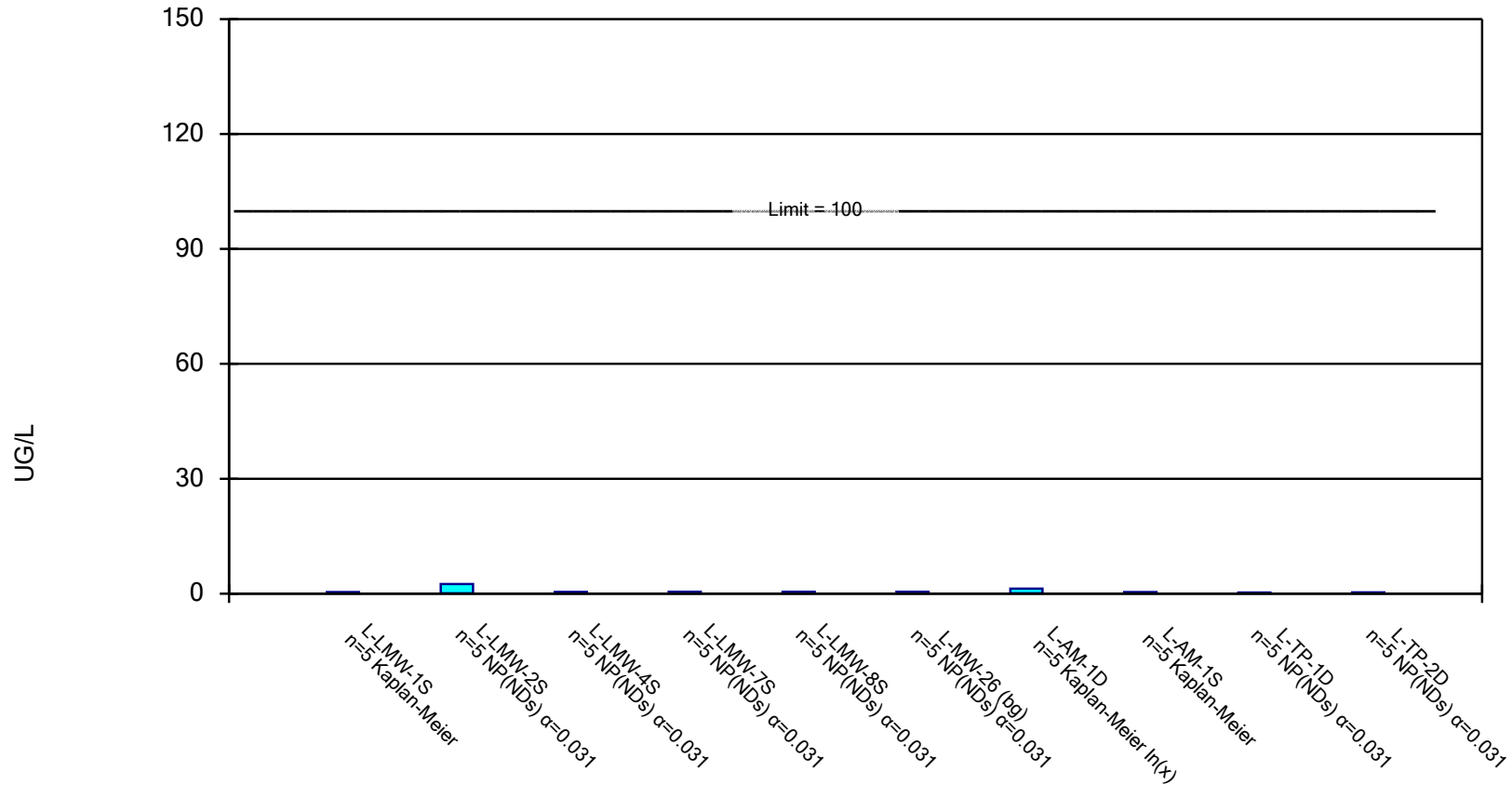
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: BARIUM, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

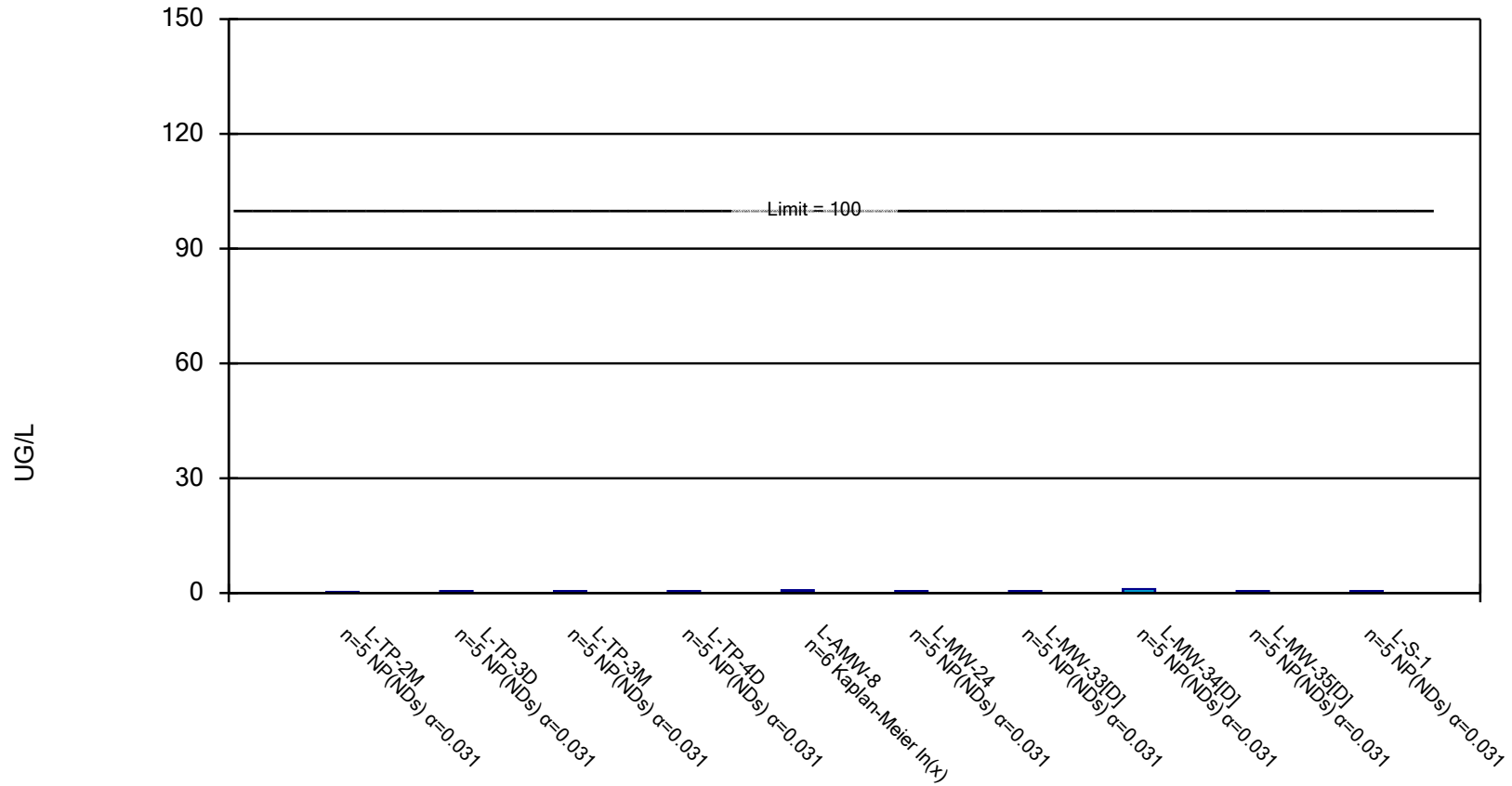
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: CHROMIUM, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

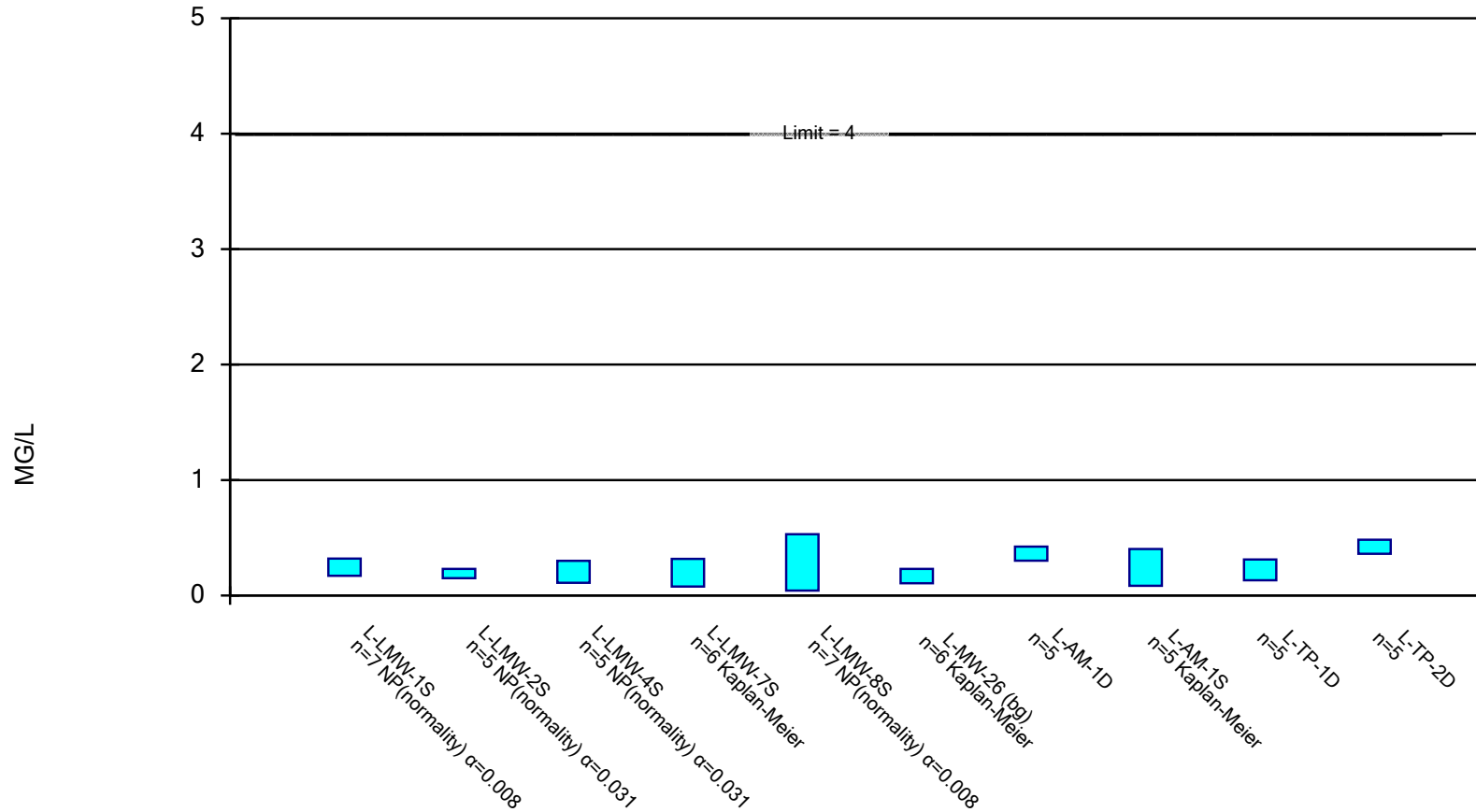


Constituent: CHROMIUM, TOTAL Analysis Run 3/14/2022 1:36 PM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

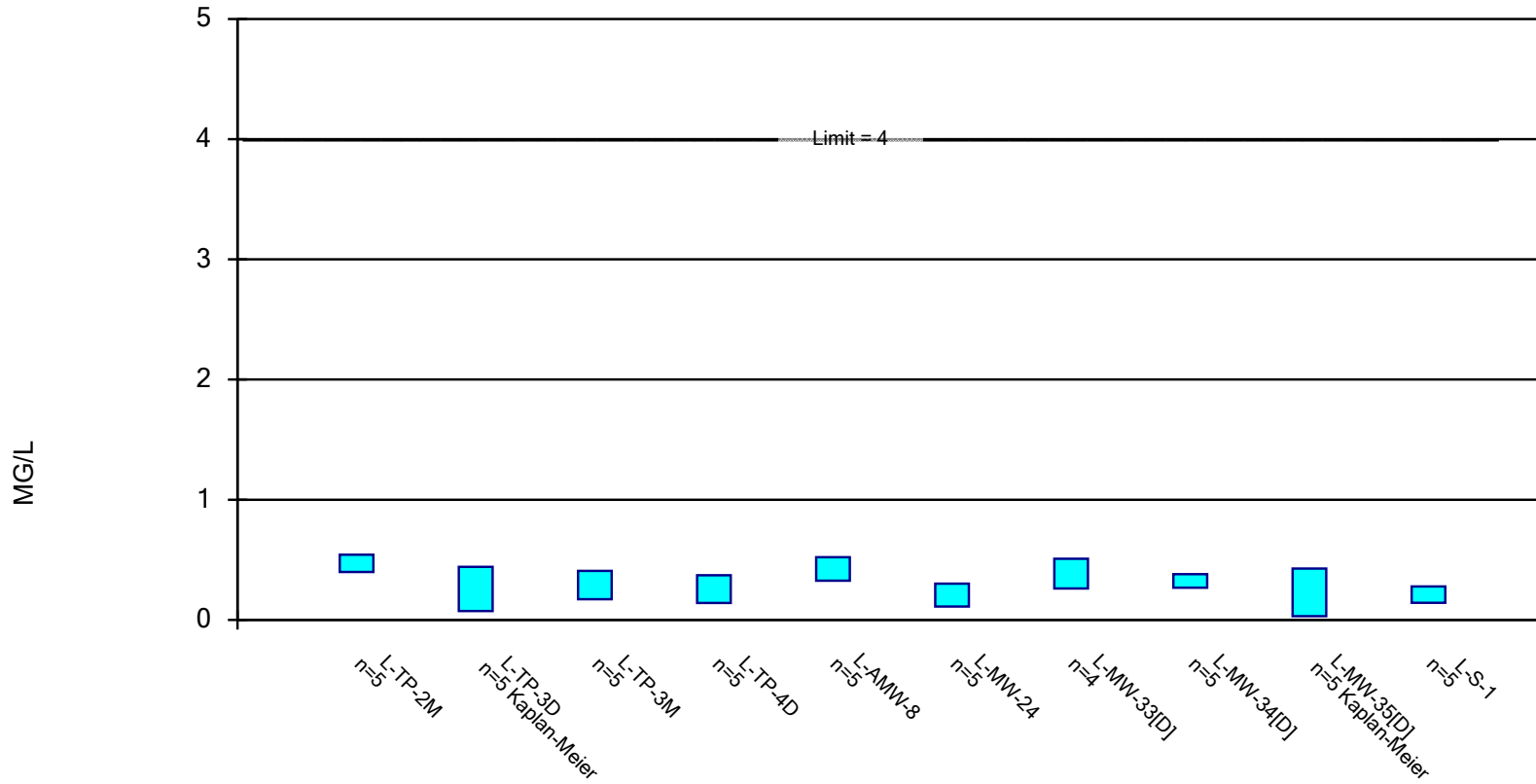
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: FLUORIDE, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

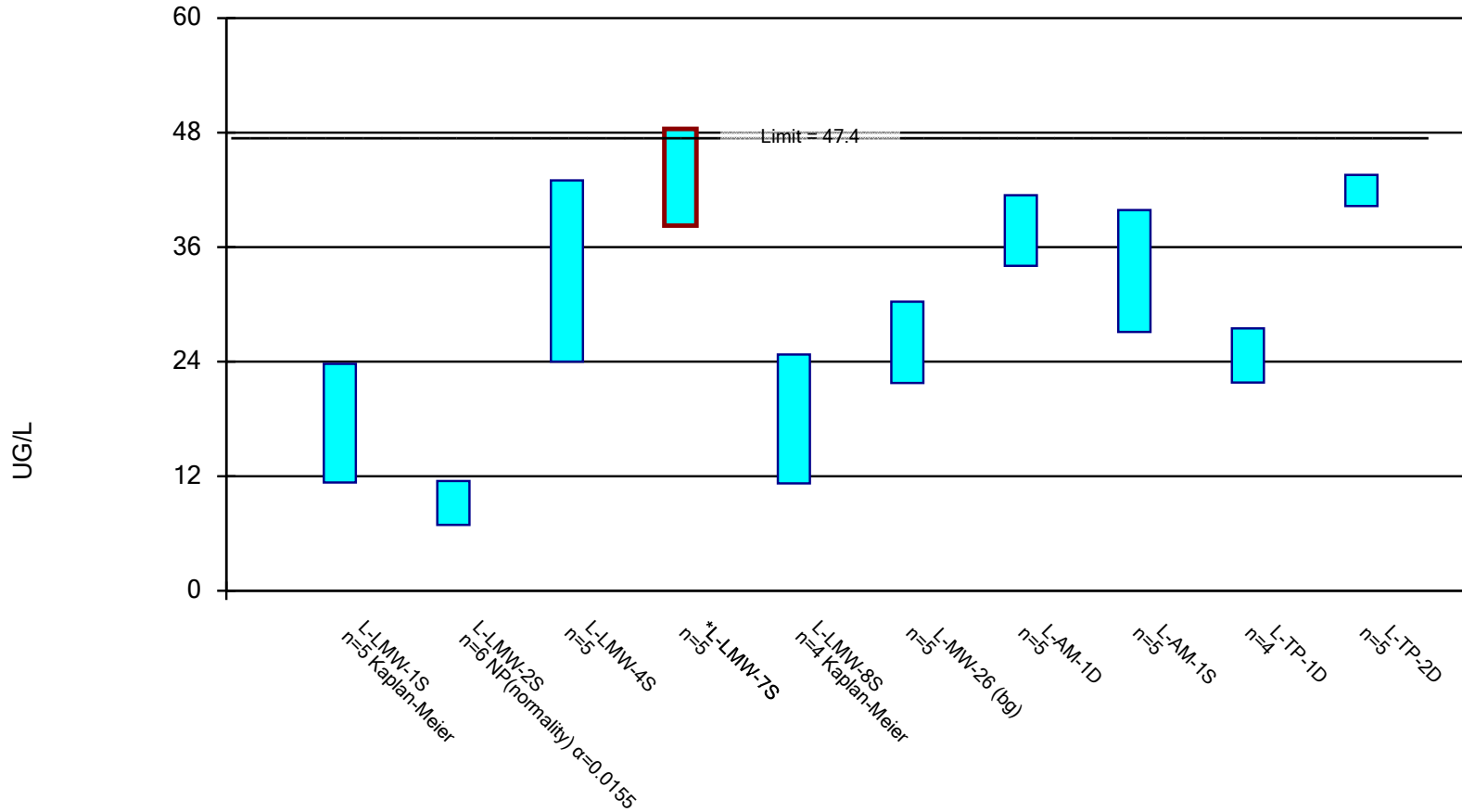
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: FLUORIDE, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

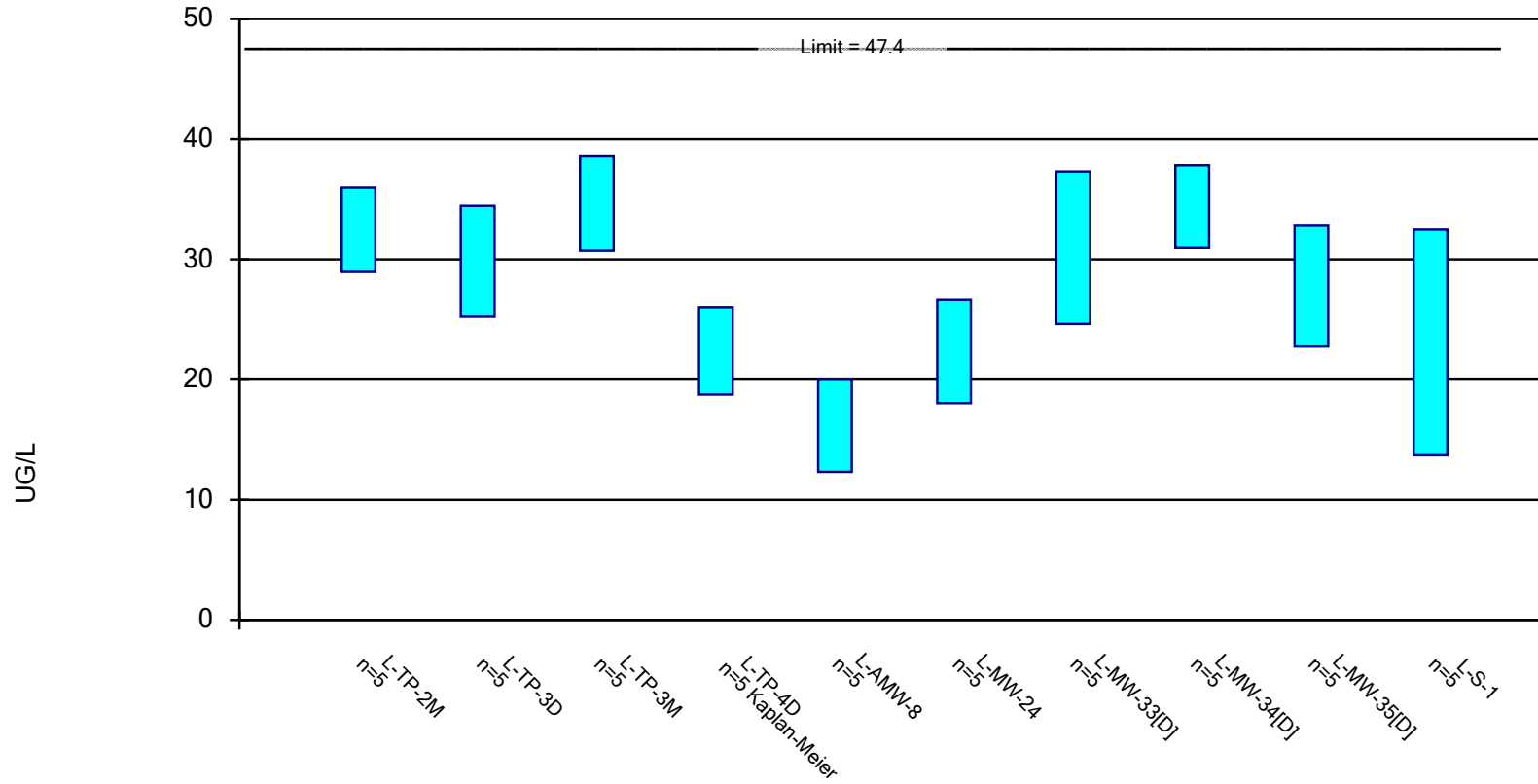
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: LITHIUM, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action
 Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

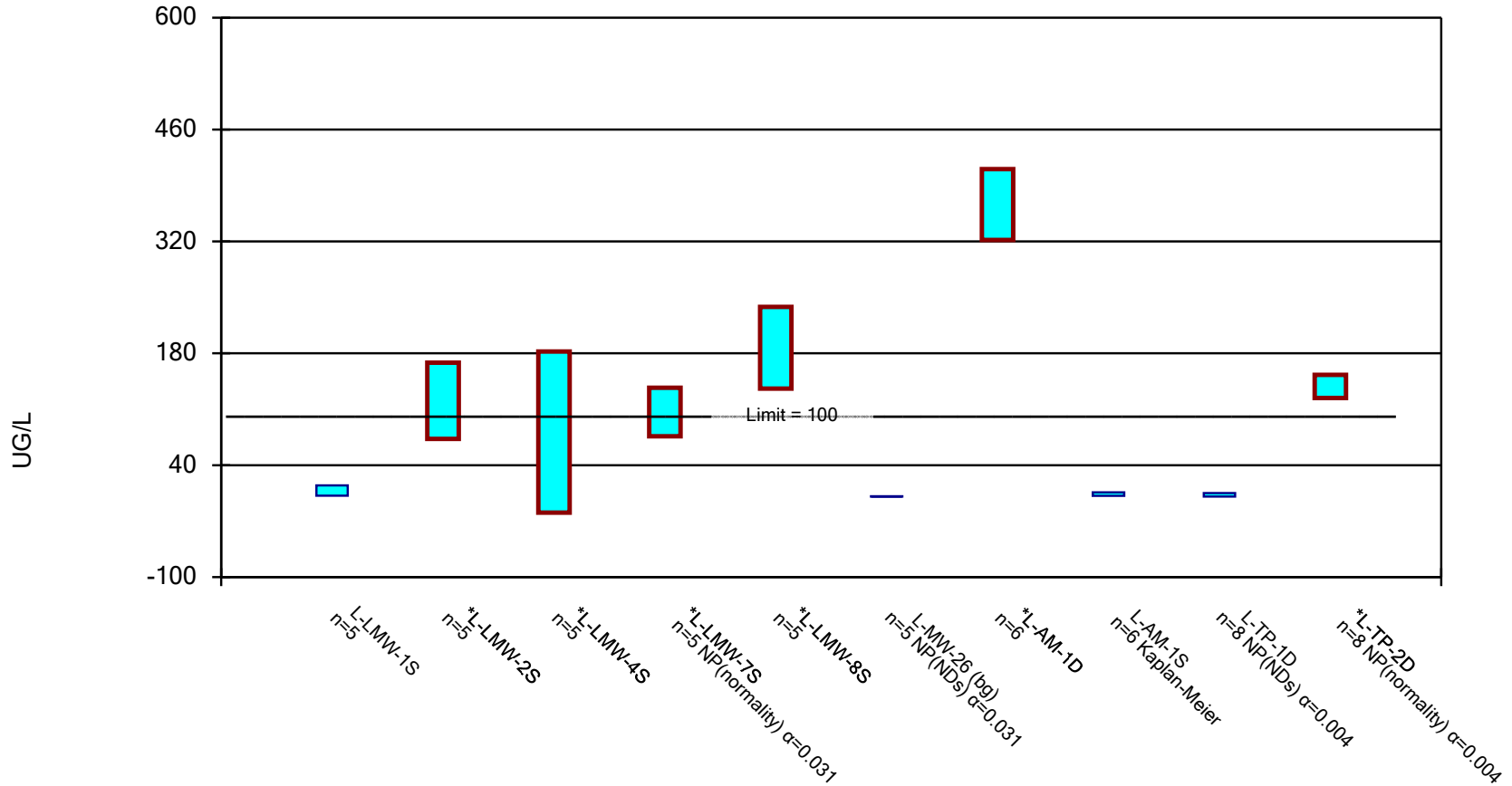
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: LITHIUM, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

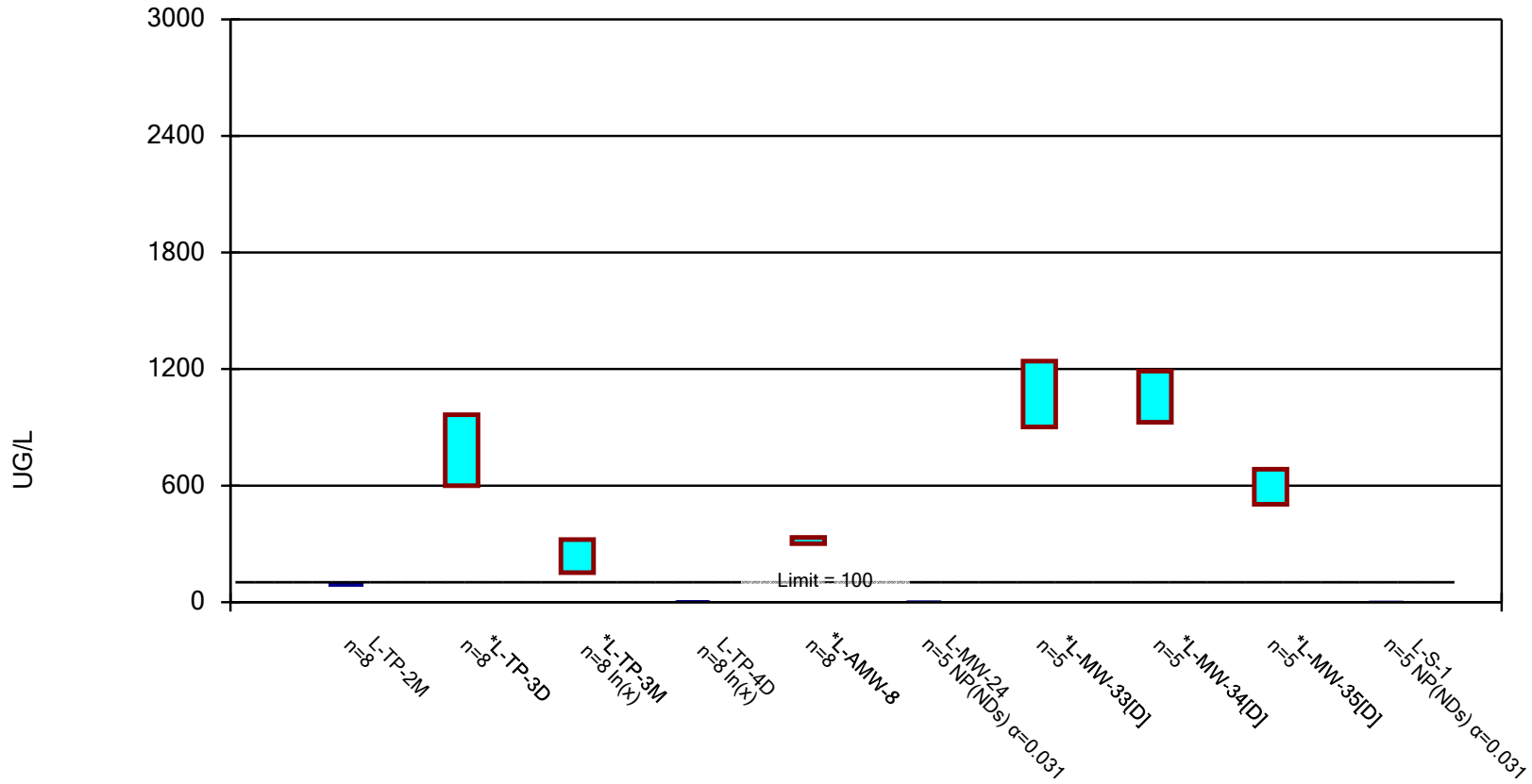
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: MOLYBDENUM, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action
 Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

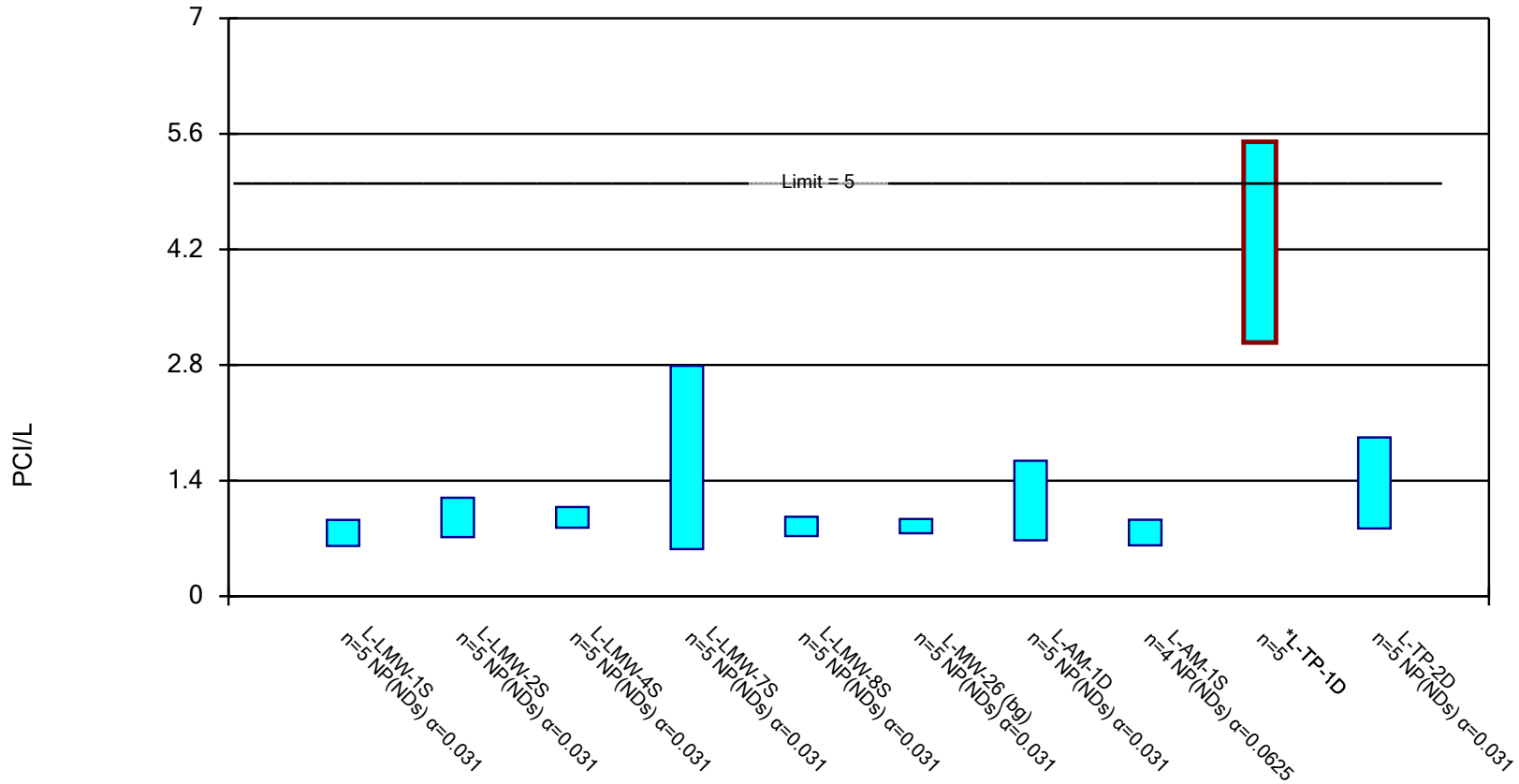
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: MOLYBDENUM, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action
 Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

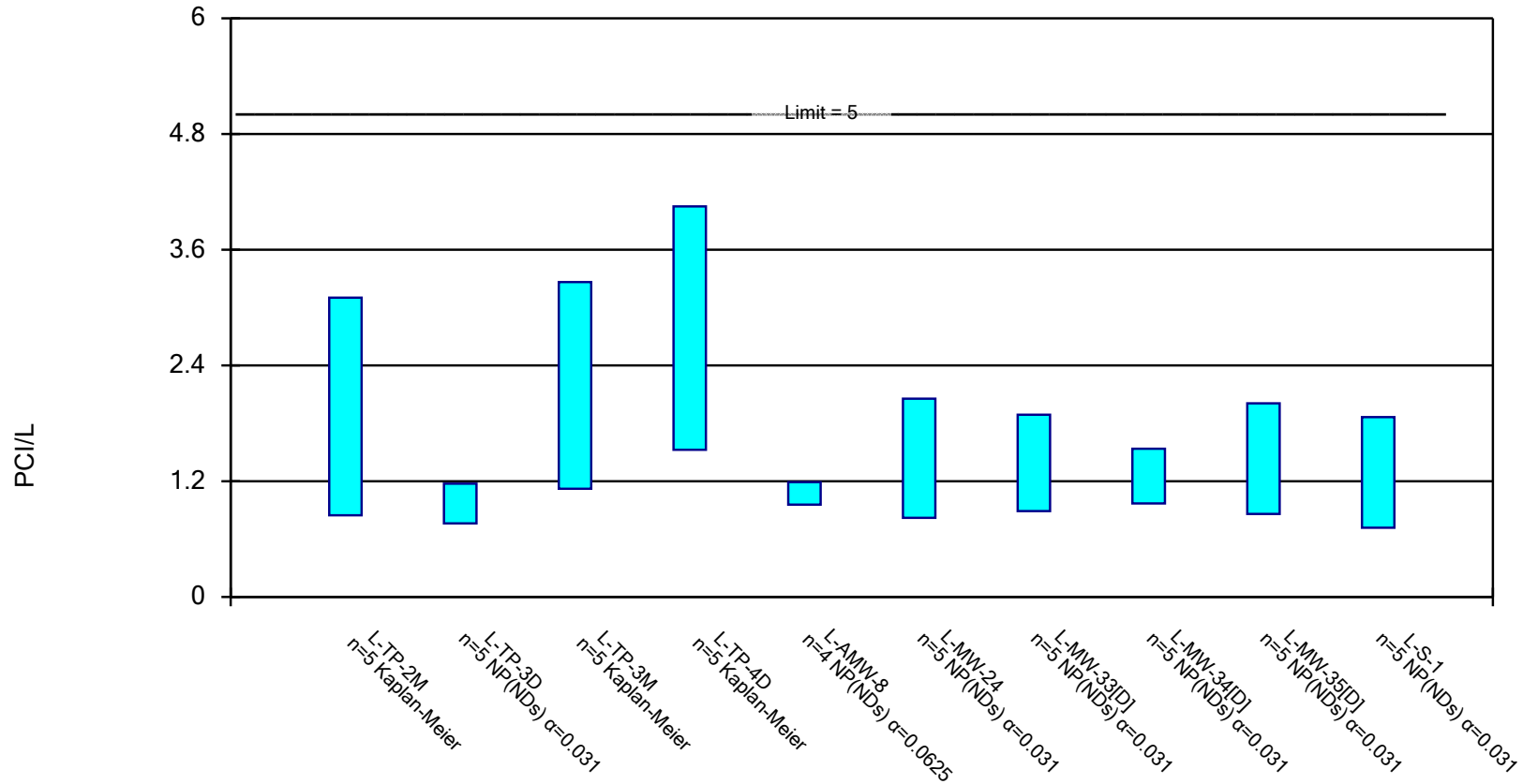


Constituent: Radium [226 + 228] Analysis Run 3/14/2022 1:37 PM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

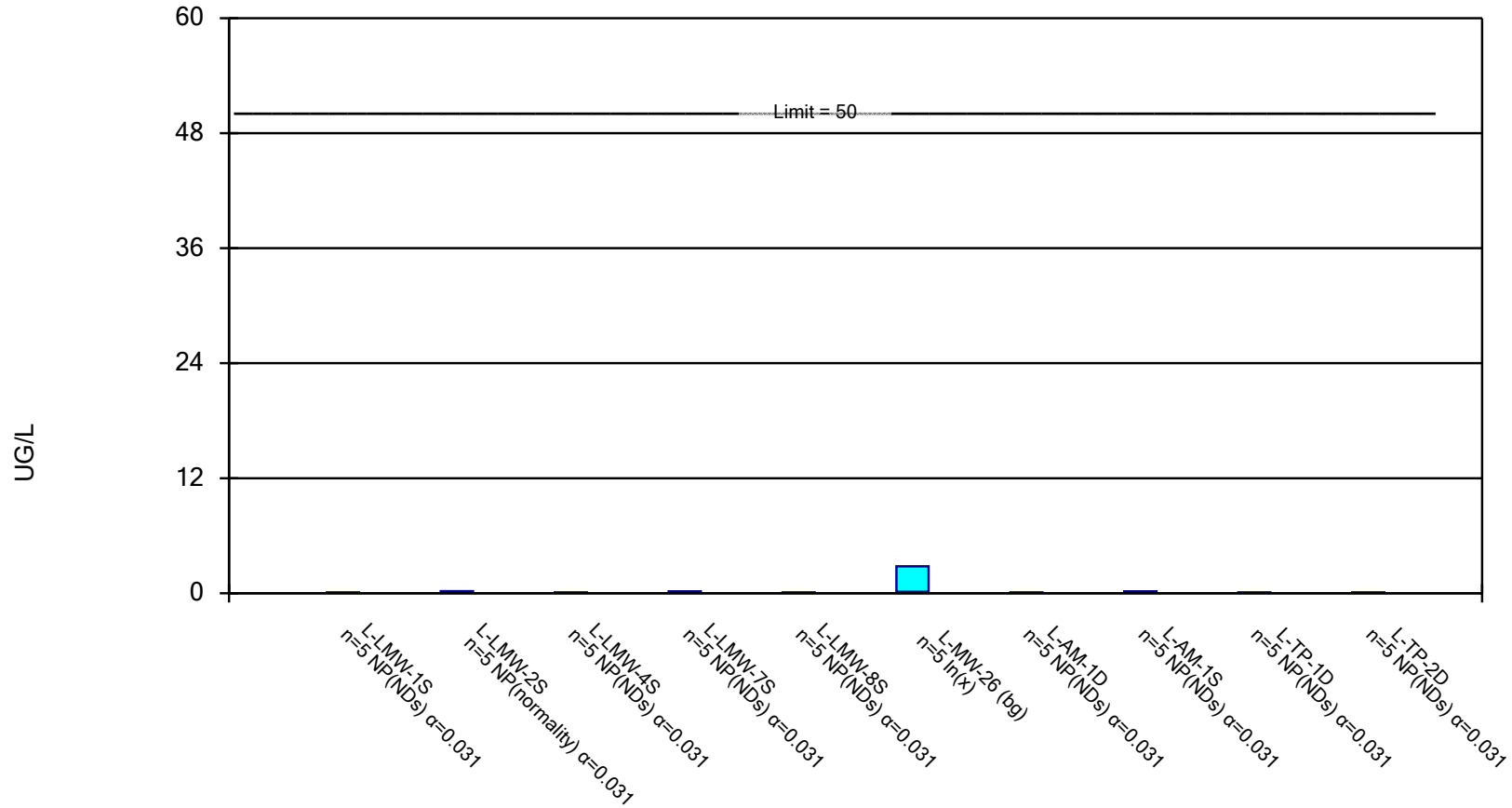


Constituent: Radium [226 + 228] Analysis Run 3/14/2022 1:37 PM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric and Non-Parametric (NP) Confidence Interval, Corrective Action Mode

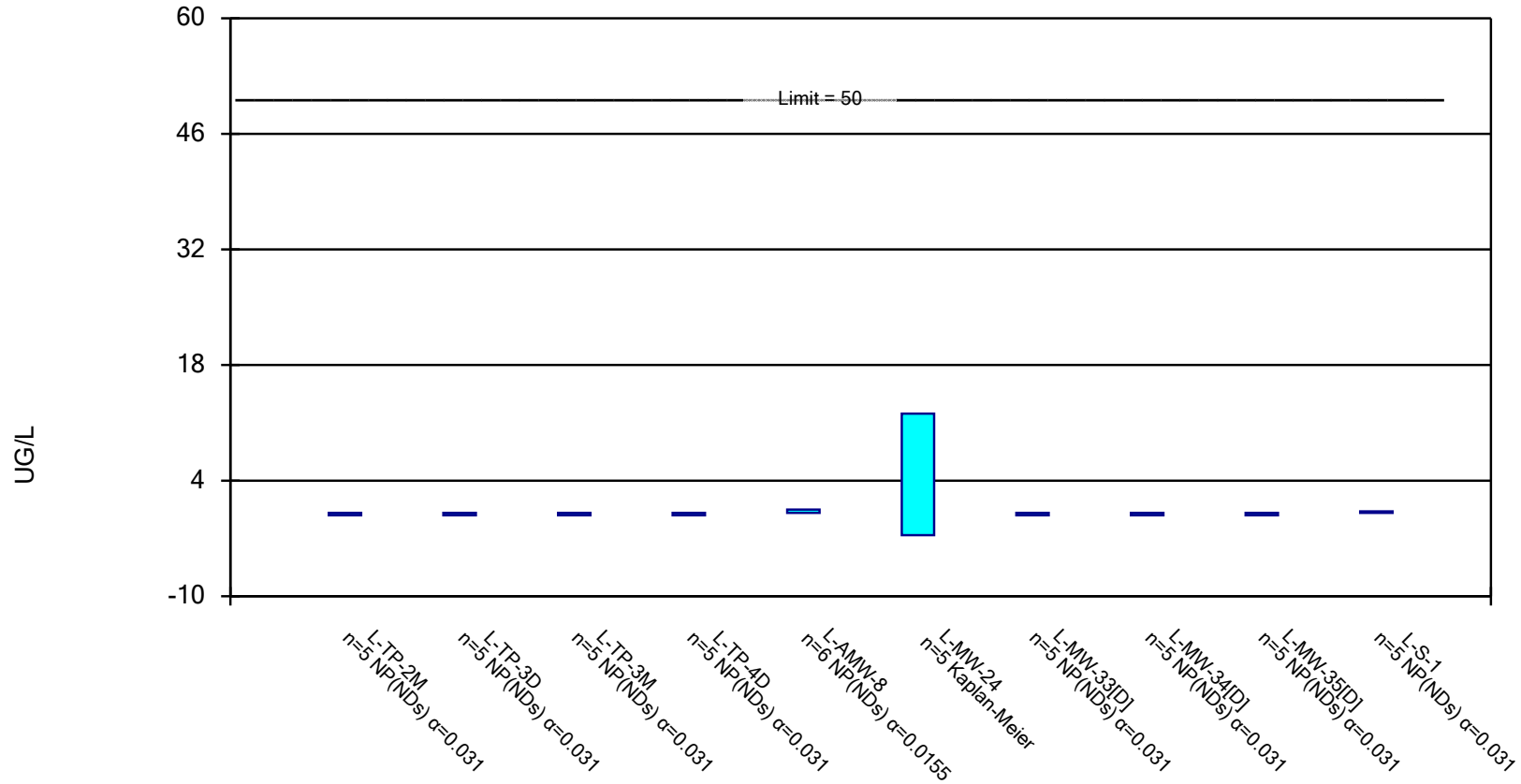
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: SELENIUM, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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: SELENIUM, TOTAL Analysis Run 3/14/2022 1:37 PM View: Corrective Action

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 3/14/2022, 1:38 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-LMW-1S	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-2S	0.1131	0.08969	6	No	4	50	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-LMW-4S	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-7S	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-8S	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-26 (bg)	0.2069	0.05011	6	No	4	50	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-AM-1D	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AM-1S	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-1D	0.1749	0.05708	6	No	4	50	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-TP-2D	0.13	0.0485	6	No	4	75	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-2M	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3D	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3M	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-4D	1	0.0485	6	No	4	75	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AMW-8	0.5	0.0485	6	No	5	80	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-24	0.2644	0.01565	6	No	4	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-MW-33[D]	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-34[D]	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-35[D]	0.05	0.0485	6	No	4	100	No	0.0625	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-S-1	0.13	0.0485	6	No	4	50	No	0.0625	NP (normality)
ARSENIC, TOTAL (UG/L)	L-LMW-1S	17.11	3.493	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-2S	46.93	44.15	44.2	Yes	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-4S	26.75	10.37	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-7S	18.29	6.669	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-8S	25.99	2.009	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-26 (bg)	0.5557	0.4563	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1D	3.793	2.887	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1S	8.849	2.791	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-1D	1.449	0.7794	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-2D	22.5	11.1	44.2	No	5	0	No	0.031	NP (normality)
ARSENIC, TOTAL (UG/L)	L-TP-2M	0.75	0.6	44.2	No	5	0	No	0.031	NP (normality)
ARSENIC, TOTAL (UG/L)	L-TP-3D	8.98	5.14	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-3M	0.7428	0.2132	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-4D	8.43	7.53	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AMW-8	0.488	0.108	44.2	No	6	16.67	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-24	0.6847	0.4193	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-33[D]	3.66	1.14	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-34[D]	3.885	3.435	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-35[D]	0.2642	0.1118	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-S-1	0.7861	0.3979	44.2	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-1S	133.7	42.52	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-2S	46.16	27.64	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-4S	165.9	135.7	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-7S	347.9	226.5	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-8S	177.7	72.8	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-26 (bg)	238.5	169.9	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1D	77.89	64.67	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1S	700.2	507	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-1D	1520	1356	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-2D	119.6	113.9	2000	No	4	0	No	0.01	Param.

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
BARIUM, TOTAL (UG/L)	L-TP-2M	123	114	2000	No	5	0	No	0.031	NP (normality)
BARIUM, TOTAL (UG/L)	L-TP-3D	80.35	65.93	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-3M	310.2	217	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-4D	472.2	405.8	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AMW-8	192	95.2	2000	No	6	0	No	0.0155	NP (normality)
BARIUM, TOTAL (UG/L)	L-MW-24	246.4	182	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-33[D]	111.2	80.45	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-34[D]	101.1	72.71	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-35[D]	66.41	38.35	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-S-1	374	352	2000	No	5	0	No	0.031	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-LMW-1S	0.4084	0.1796	100	No	5	40	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-LMW-2S	2.5	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-4S	0.45	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-7S	0.5	0.11	100	No	5	80	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-8S	0.5	0.11	100	No	5	80	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-26 (bg)	0.5	0.11	100	No	5	80	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AM-1D	1.3	0.1063	100	No	5	20	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-AM-1S	0.4028	0.1652	100	No	5	40	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-1D	0.32	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-TP-2D	0.34	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-TP-2M	0.27	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-TP-3D	0.5	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-TP-3M	0.5	0.11	100	No	5	80	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-TP-4D	0.5	0.11	100	No	5	80	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AMW-8	0.7167	0.1969	100	No	6	50	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-MW-24	0.5	0.11	100	No	5	80	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-33[D]	0.5	0.11	100	No	5	100	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-34[D]	0.99	0.11	100	No	5	60	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-35[D]	0.5	0.11	100	No	5	100	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-S-1	0.5	0.11	100	No	5	60	No	0.031	NP (NDs)
FLUORIDE, TOTAL (MG/L)	L-LMW-1S	0.32	0.17	4	No	7	0	No	0.008	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-2S	0.23	0.15	4	No	5	0	No	0.031	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-4S	0.3	0.11	4	No	5	0	No	0.031	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-7S	0.3165	0.07745	4	No	6	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-8S	0.53	0.043	4	No	7	28.57	No	0.008	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-MW-26 (bg)	0.2303	0.1052	4	No	6	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AM-1D	0.4229	0.3011	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AM-1S	0.4021	0.08429	4	No	5	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-1D	0.3118	0.1322	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-2D	0.4829	0.3611	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-2M	0.5421	0.3979	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-3D	0.4408	0.07358	4	No	5	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-3M	0.4079	0.1721	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-4D	0.3712	0.1408	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AMW-8	0.5221	0.3259	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-24	0.3012	0.1108	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-33[D]	0.5087	0.2613	4	No	4	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-34[D]	0.3803	0.2677	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-35[D]	0.4271	0.03131	4	No	5	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-S-1	0.2781	0.1419	4	No	5	0	No	0.01	Param.

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
LITHIUM, TOTAL (UG/L)	L-LMW-1S	23.77	11.34	47.4	No	5	20	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-2S	11.5	6.9	47.4	No	6	0	No	0.0155	NP (normality)
LITHIUM, TOTAL (UG/L)	L-LMW-4S	42.99	24.01	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-7S	48.38	38.26	47.4	Yes	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-8S	24.75	11.25	47.4	No	4	25	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-26 (bg)	30.28	21.76	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1D	41.44	34.04	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1S	39.88	27.12	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-1D	27.49	21.81	47.4	No	4	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-2D	43.57	40.31	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-2M	36	28.96	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3D	34.44	25.24	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3M	38.63	30.73	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-4D	25.97	18.77	47.4	No	5	20	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AMW-8	19.99	12.33	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-24	26.67	18.05	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-33[D]	37.28	24.64	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-34[D]	37.8	30.96	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-35[D]	32.85	22.75	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-S-1	32.53	13.71	47.4	No	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-1S	14.74	1.819	100	No	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-2S	168.3	72.87	100	Yes	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-4S	182.3	-19.4	100	Yes	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-7S	137	76.1	100	Yes	5	0	No	0.031	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	L-LMW-8S	238.2	135.8	100	Yes	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-26 (bg)	1.1	0.85	100	No	5	100	No	0.031	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-AM-1D	410.6	321.8	100	Yes	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	5.979	1.621	100	No	6	16.67	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-1D	5.1	0.85	100	No	8	87.5	No	0.004	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-TP-2D	153	124	100	Yes	8	0	No	0.004	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	L-TP-2M	95.97	85.51	100	No	8	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-3D	964.6	599.9	100	Yes	8	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-3M	322.4	152.2	100	Yes	8	0	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-4D	3.276	2.168	100	No	8	0	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-AMW-8	333.1	301.2	100	Yes	8	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-24	2.9	0.85	100	No	5	80	No	0.031	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-MW-33[D]	1241	902.2	100	Yes	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-34[D]	1190	926.4	100	Yes	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-35[D]	684	504.4	100	Yes	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-S-1	1.7	0.85	100	No	5	80	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-1S	0.925	0.608	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-2S	1.193	0.7165	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-4S	1.08	0.83	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-7S	2.789	0.57	5	No	5	80	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-8S	0.9615	0.728	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-26 (bg)	0.9355	0.7625	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1D	1.641	0.677	5	No	5	80	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1S	0.9265	0.6165	5	No	4	100	No	0.0625	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-1D	5.503	3.073	5	Yes	5	0	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-2D	1.923	0.8205	5	No	5	60	No	0.031	NP (NDs)

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<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Radium [226 + 228] (PCI/L)	L-TP-2M	3.103	0.8459	5	No	5	40	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-3D	1.175	0.762	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-3M	3.264	1.122	5	No	5	20	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-4D	4.049	1.526	5	No	5	20	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-AMW-8	1.19	0.9565	5	No	4	100	No	0.0625	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-24	2.056	0.82	5	No	5	60	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-33[D]	1.89	0.89	5	No	5	60	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-34[D]	1.537	0.969	5	No	5	60	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-35[D]	2.007	0.8605	5	No	5	60	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-S-1	1.865	0.7175	5	No	5	80	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-1S	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-2S	0.21	0.09	50	No	5	40	No	0.031	NP (normality)
SELENIUM, TOTAL (UG/L)	L-LMW-4S	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-7S	0.2	0.09	50	No	5	80	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-8S	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-26 (bg)	2.811	0.1547	50	No	5	0	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-AM-1D	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AM-1S	0.2	0.09	50	No	5	80	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-1D	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2D	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2M	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3D	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3M	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-4D	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AMW-8	0.5	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-24	12.12	-2.615	50	No	5	40	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-MW-33[D]	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-34[D]	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-35[D]	0.09	0.09	50	No	5	100	No	0.031	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-S-1	0.27	0.09	50	No	5	60	No	0.031	NP (NDs)

APPENDIX E

**April 2022 Corrective Action
Statistical Evaluation**

TECHNICAL MEMORANDUM

DATE September 2, 2022

Project No. 153140604

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram, Mark Haddock

EMAIL Jeffrey.Ingram@wsp.com

CORRECTIVE ACTION STATISTICAL EVALUATION LCPA SURFACE IMPOUNDMENT LABADIE ENERGY CENTER, FRANKLIN COUNTY, MISSOURI

This Technical Memorandum provides the results of the Corrective Action Monitoring statistical analyses from the April 2022 sampling event for the LCPA Surface Impoundment at the Labadie Energy Center located in Franklin County, Missouri. As outlined in the remedy selection report for the LCPA, Corrective Action at the LCPA consists of two phases:

- 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 the 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**).

The initial Corrective Action sampling event was completed in April 2020, and six (6) 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 is thus not representative of groundwater conditions since the initiation of closure. Several constituents were reported at concentrations below the practical quantitation limit (PQL) during the April 2020 sampling event including beryllium, cadmium, cobalt, lead, mercury, and thallium. Because these constituents were not detected during the initial Corrective Action sampling event, they were not re-sampled during the subsequent 2020 semi-annual sampling events in May and November 2020. Like the April 2020 sampling event, the samples collected during the April 2021 event were analyzed for all Appendix IV parameters, and antimony, beryllium, cadmium, cobalt, lead, mercury, and thallium were not detected above the PQL. Therefore, these analytes were not tested for during the subsequent November 2021 sampling event.

Only three results are available for beryllium, cadmium, cobalt, lead, mercury, and thallium; thus, confidence intervals could not be calculated because Corrective Action statistical analyses require a minimum of four (4) sampling events. Each of the three results collected during the Corrective Action monitoring period for beryllium, cadmium, cobalt, lead, mercury, and thallium are below the PQL. Thus, beryllium, cadmium, cobalt, lead, mercury, and thallium are not evaluated in this 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 Plans (CAGMP) Statistical Analysis Plan (SAP). An outlier analysis was completed as the first step of the statistical evaluation. The outlier analysis included results collected as a part of the Corrective Action monitoring program. The following outliers were removed prior to the calculation of confidence limits.

- Arsenic
 - LMW-7S at 6.8 micrograms per liter ($\mu\text{g/L}$) on 11/5/2021. The result is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events and is an outlier.
 - TP-2D at 22.5 $\mu\text{g/L}$ on 4/20/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
 - TP-3D at 5.1 $\mu\text{g/L}$ on 4/15/2020. The result is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events and is an outlier.
- Barium
 - LMW-8S at 73.2 $\mu\text{g/L}$ on 11/5/2020. The result is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events and is an outlier.
 - AMW-8 at 192 $\mu\text{g/L}$ on 11/3/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
- Chromium
 - LMW-2S at 2.5 $\mu\text{g/L}$ on 4/14/2020. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
 - AM-1D at 1.6 $\mu\text{g/L}$ on 4/20/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
 - AMW-8 at Non-Detect (ND) on 5/5/2020. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
- Fluoride
 - LMW-7S at ND on 4/15/2021. The result is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events and is an outlier.
- Lithium

- TP-4D at ND on 11/3/2021. The result is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events and is an outlier.
- Molybdenum
 - BMW-1S at 2.3 J µg/L on 11/1/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
 - LMW-7S at 137 µg/L on 4/15/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
 - TP-1D at 5.1 µg/L on 11/4/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
 - TP-4D at 4.0 µg/L on 11/3/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
 - MW-24 at 2.9 J µg/L on 11/4/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.
- Radium 226 & 228
 - LMW-7S at 2.789 picocuries per liter (pCi/L) on 11/5/2021. The result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events and is an outlier.

An analysis of the outliers removed to-date was completed and all previously removed outliers are still considered outliers.

Following the identification and exclusion of outliers from the intrawell data sets, the second step in the statistical analysis was to calculate confidence intervals and compare those to the GWPS¹. As stated above, the confidence intervals shown in Appendix A are calculated based on results since April 2020. Lithium and Molybdenum at LMW-7S, which were identified as statistical exceedances of the GWPS based on the April 2021 sampling event, are no longer exceedances. The remaining exceedances are the same as those reported for the November 2021 sampling event. A summary of constituents exceeding the GWPS at corresponding well(s) is as follows:

- Arsenic at LMW-2S
- Molybdenum at LMW-2S, LMW-4S, LMW-8S, AM-1D², TP-2D, TP-3D², TP-3M, AMW-8², MW-33[D]², MW-34[D]², MW-35[D]
- Radium 226 & 228 at TP-1D²

Typically, following the calculation of confidence intervals, trend tests would be completed using the Sen's Slope / Mann Kendall analysis as outlined in the statistical analysis plan. However, Sen's Slope / Mann Kendall analysis require 8 independent sampling results to complete as outlined in the USEPA Unified Guidance. Since only 6 sampling events have occurred since the cessation of CCR disposal into the LCPA, the Sen's Slope /

¹ The GWPS is the same limit that was used during Assessment Monitoring period, which was the groundwater monitoring phase immediately prior to Corrective Action.

² Based on visual (qualitative) review of the data, these data sets are showing an overall downward trend since April 2020.

Mann Kendall test cannot be completed. Therefore, no constituent well pairs were determined to have a significant trend and no trend charts are included with this Technical Memorandum. However, a visual/qualitative review of the existing data was performed and those well/constituent combinations showing downward trends were identified (see summary above). The remaining well/constituent combinations are showing no specific trend or possibly slight upward trends. Based on the current sampling schedule, it is anticipated that eight sampling events will be available following the Spring 2023 sampling event, and trend analyses will be completed at that time.

Using corrective action statistical methods, GWPS exceedances are reported for Arsenic, Molybdenum and Radium 226 + 228. However, 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 preliminary results are expected to decrease over time as stabilization occurs over time following the December 2020 closure.

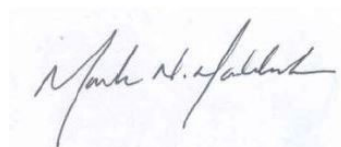
Golder appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please call our office at (314) 984-8800.

Sincerely,



Jeffrey Ingram
Senior Consultant, Geologist

JSI/MNH



Mark Haddock
Principal, Practice Leader

Attachments: Table 1 – LCPA Groundwater Protection Standards
Appendix A – Sanitas Confidence Interval Statistical Output

**Table 1 - LCPA Groundwater Protection Standards
LCPA Surface Impoundment
Labadie Energy Center**

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring ⁷
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	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	0.3163
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) Drinking Water Standards and Health Advisories. <http://water.epa.gov/drink/contaminants/index.cfm>.

5. Health Based Groundwater Protection Standards (GWPS) were adopted for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at <https://www.epa.gov/coalash/coal-ash-rule>.

6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.

7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.

8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.

9. GWPS and background values calculated using results collected through February 2021 from monitoring wells BMW-1D and BMW-2D.

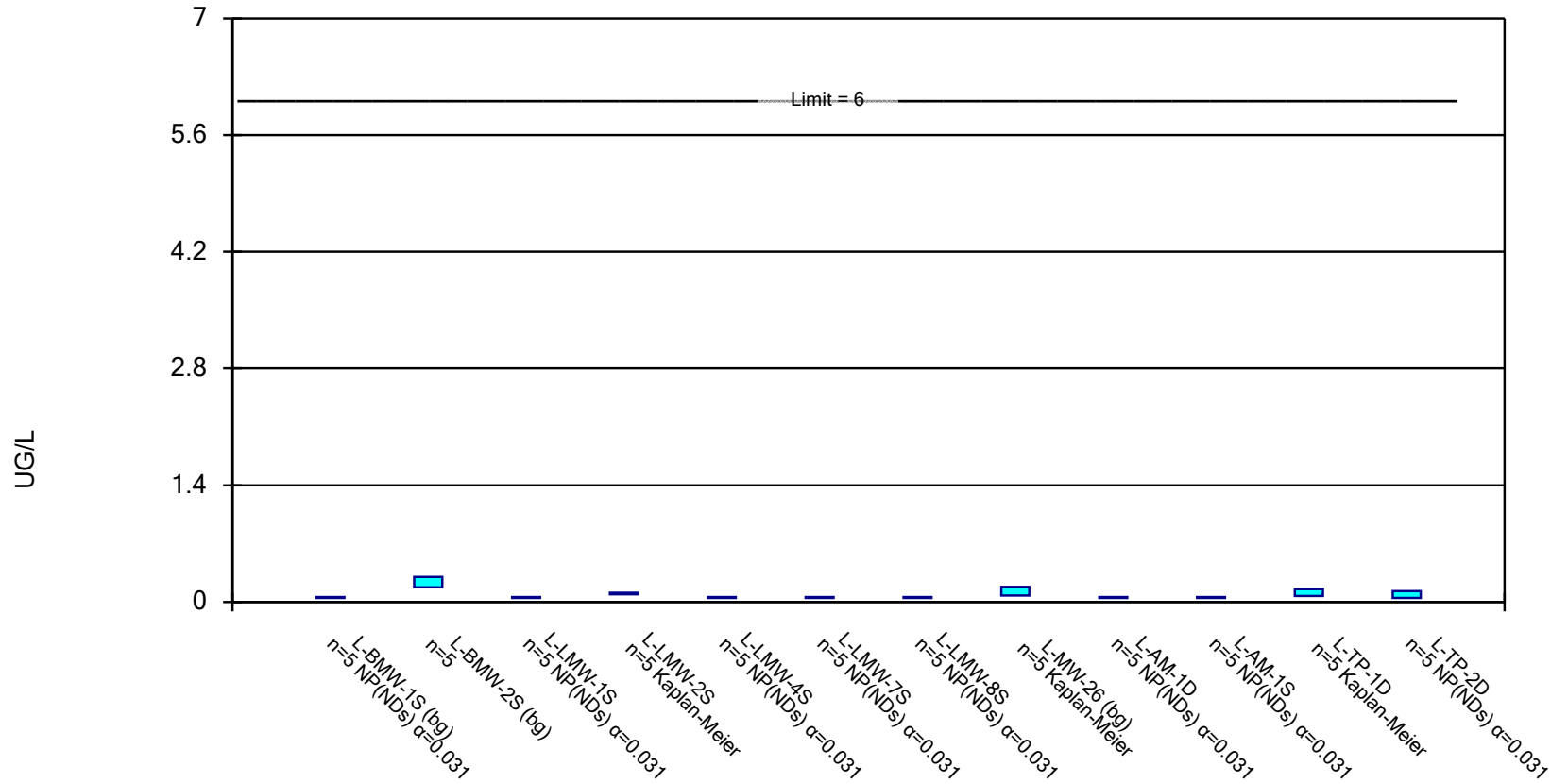
Prepared by: JSI
Checked by: EMS
Reviewed by: MNH

APPENDIX A

**Sanitas Confidence Interval
Statistical Output**

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.

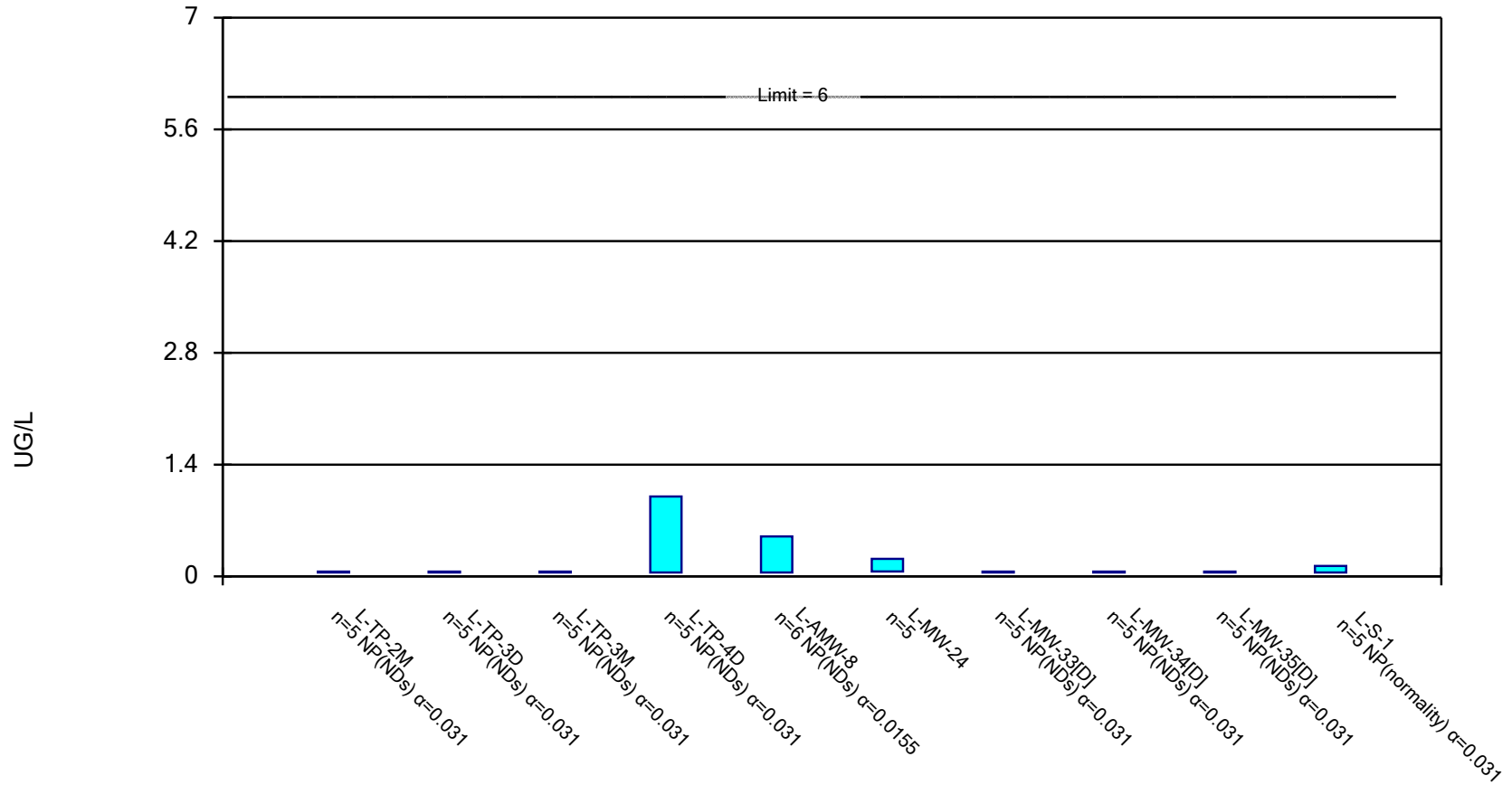


Constituent: ANTIMONY, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

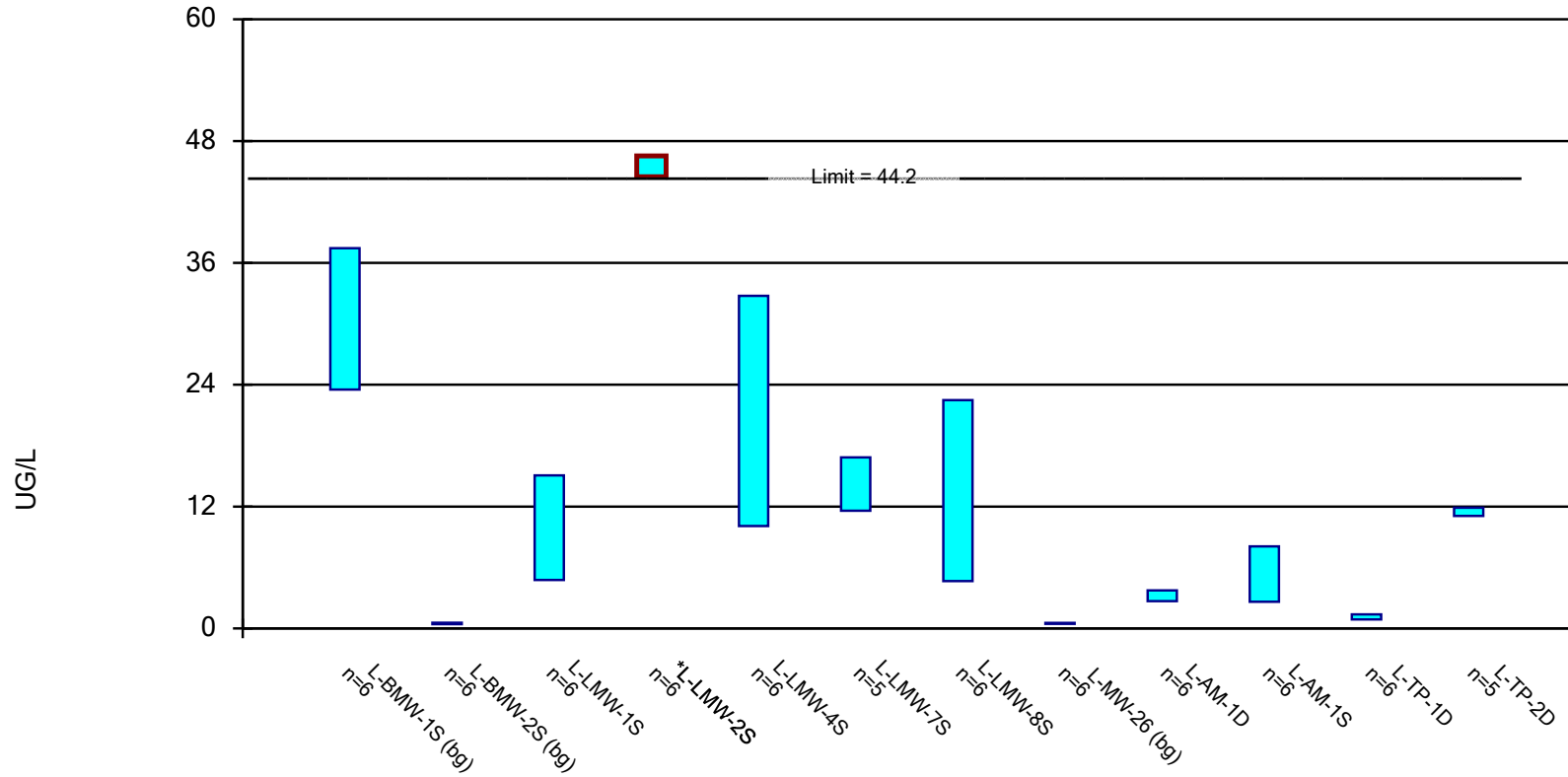


Constituent: ANTIMONY, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

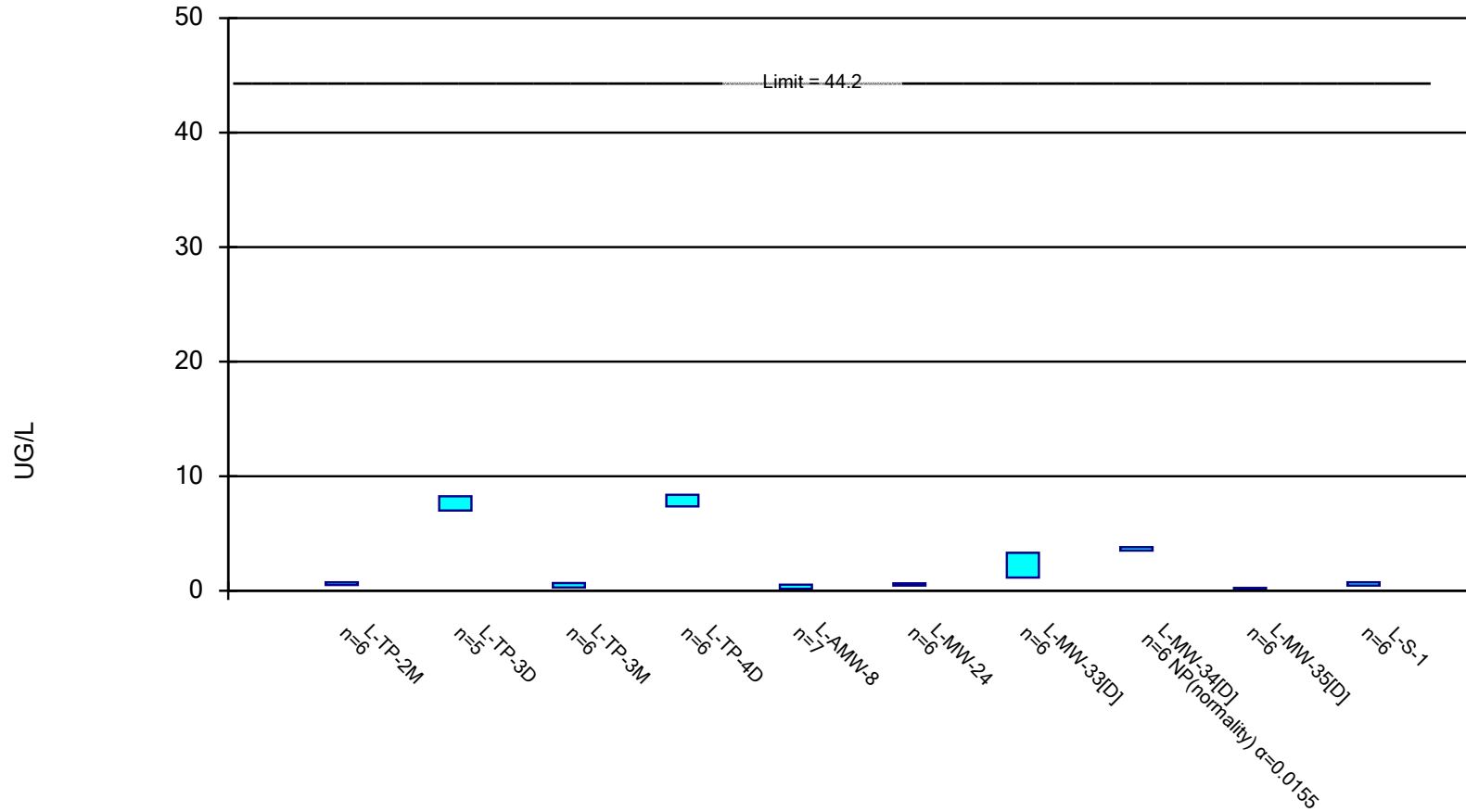


Constituent: ARSENIC, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

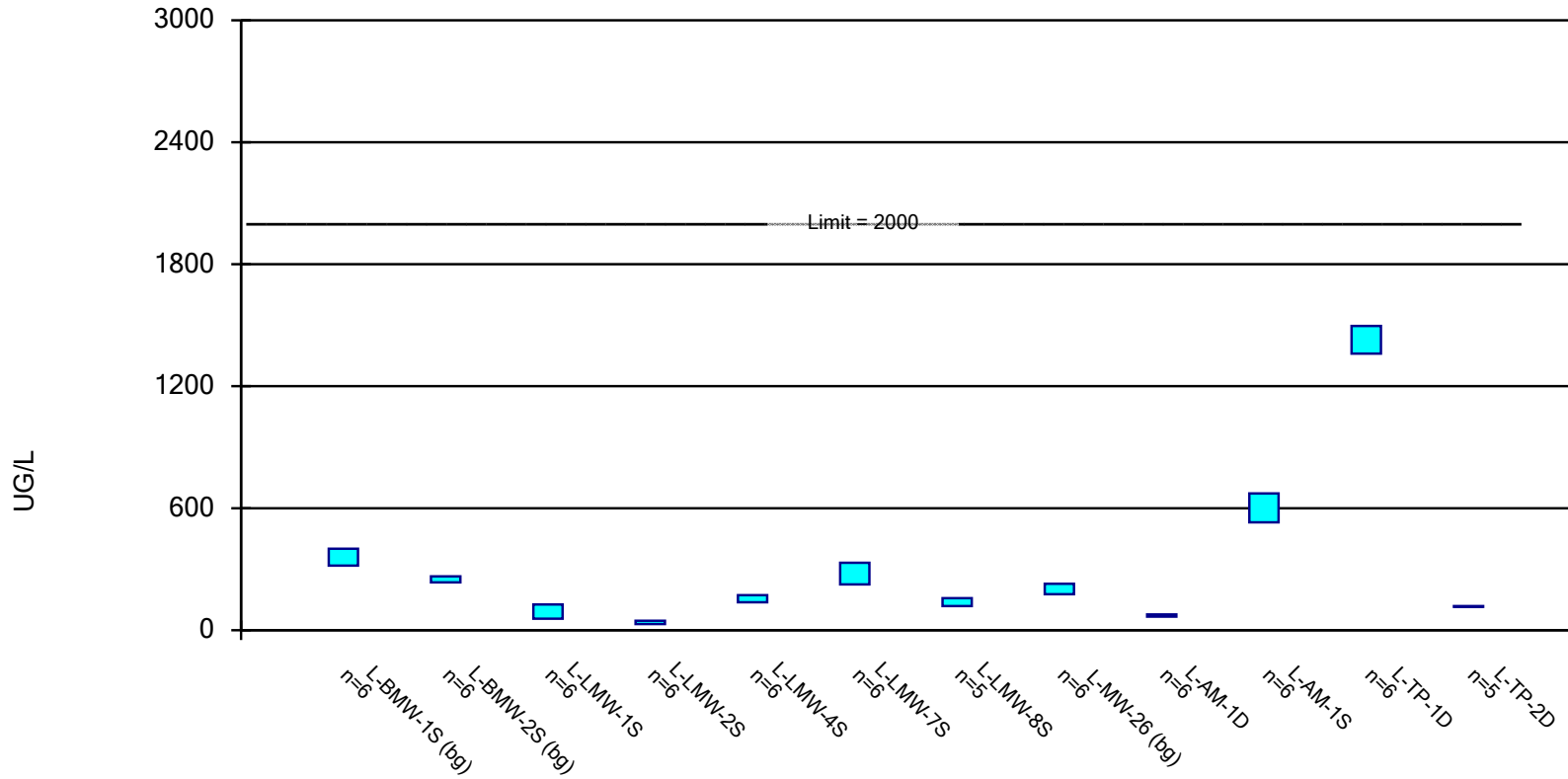


Constituent: ARSENIC, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

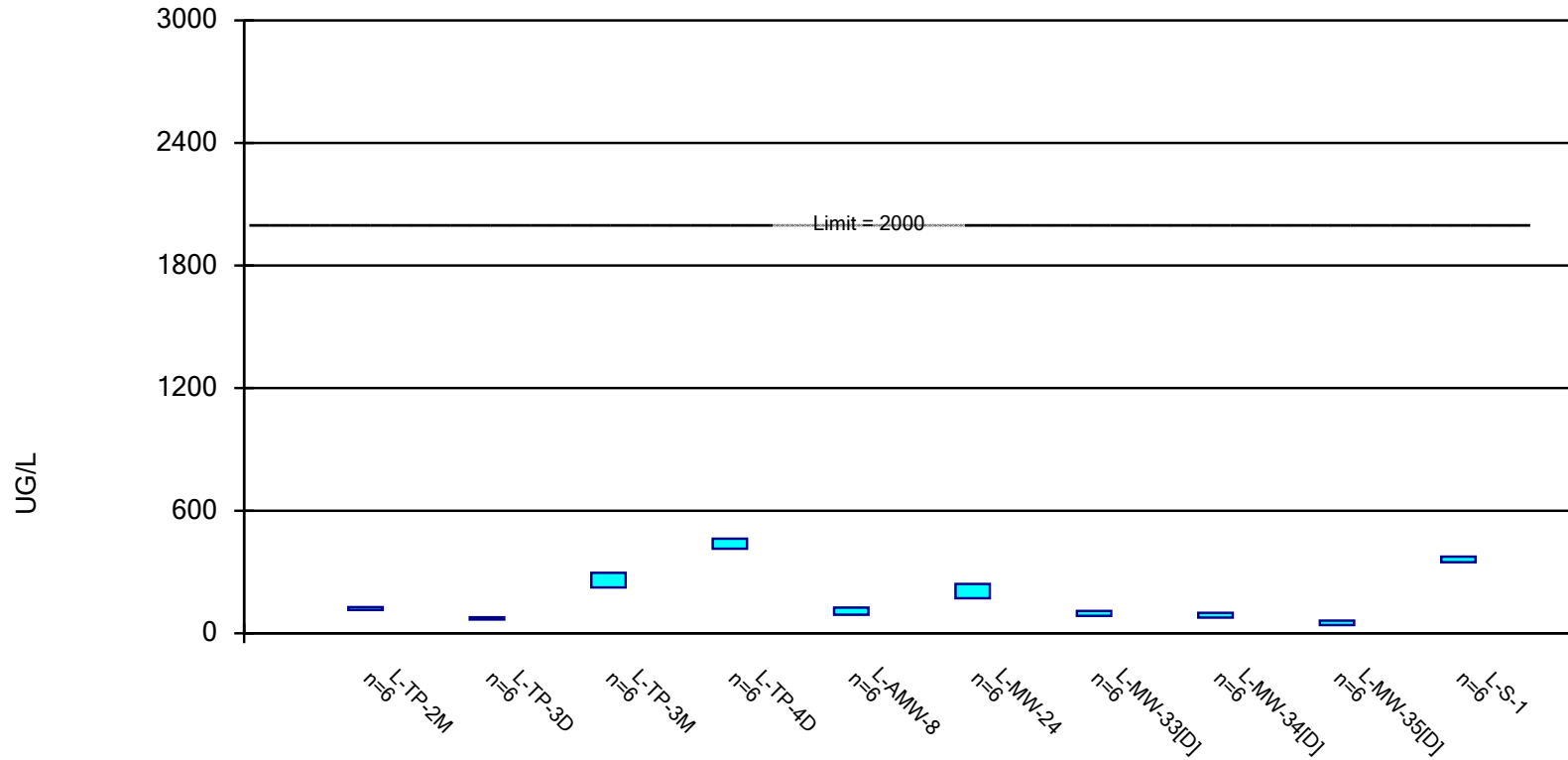


Constituent: BARIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

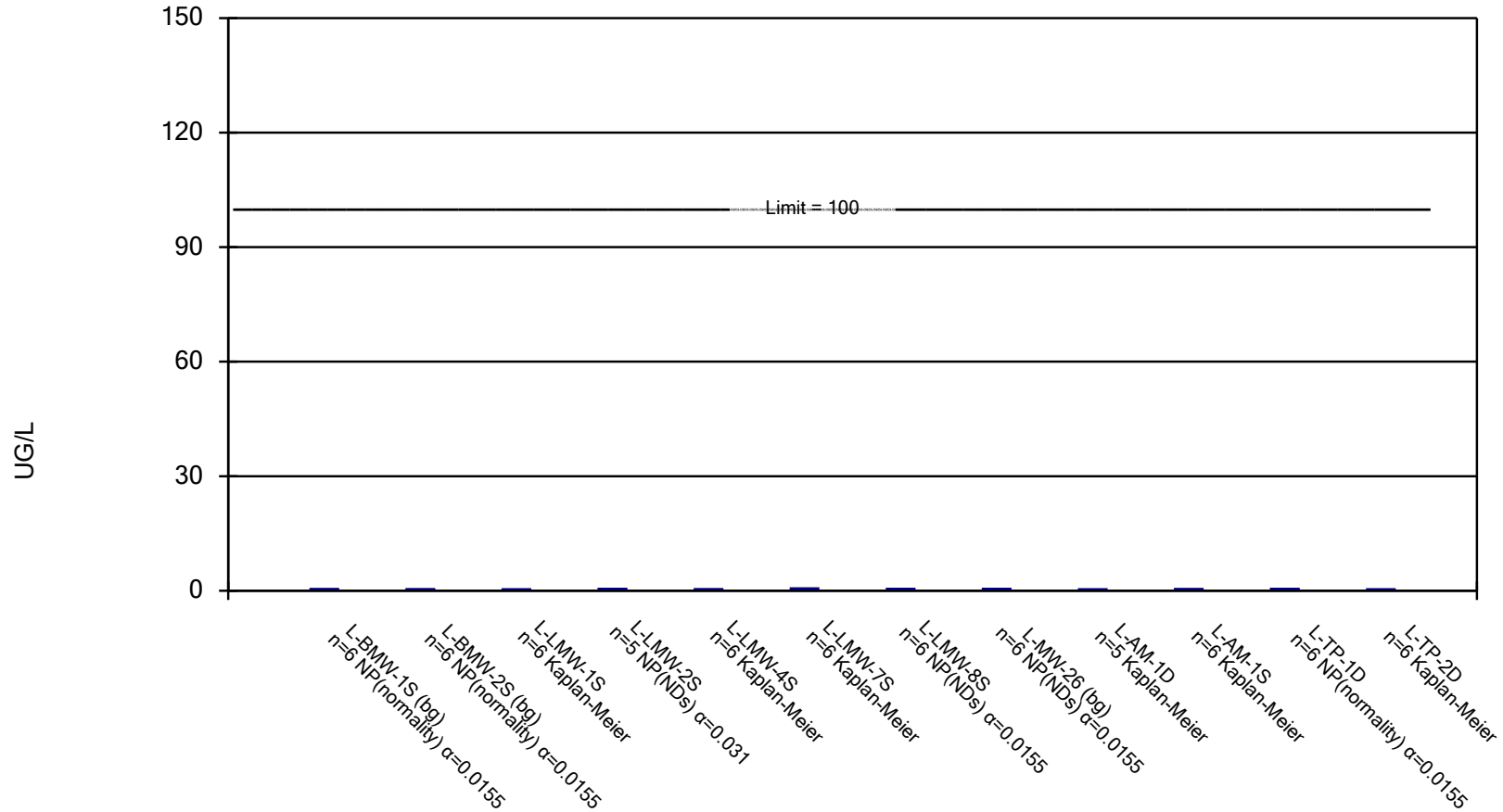


Constituent: BARIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

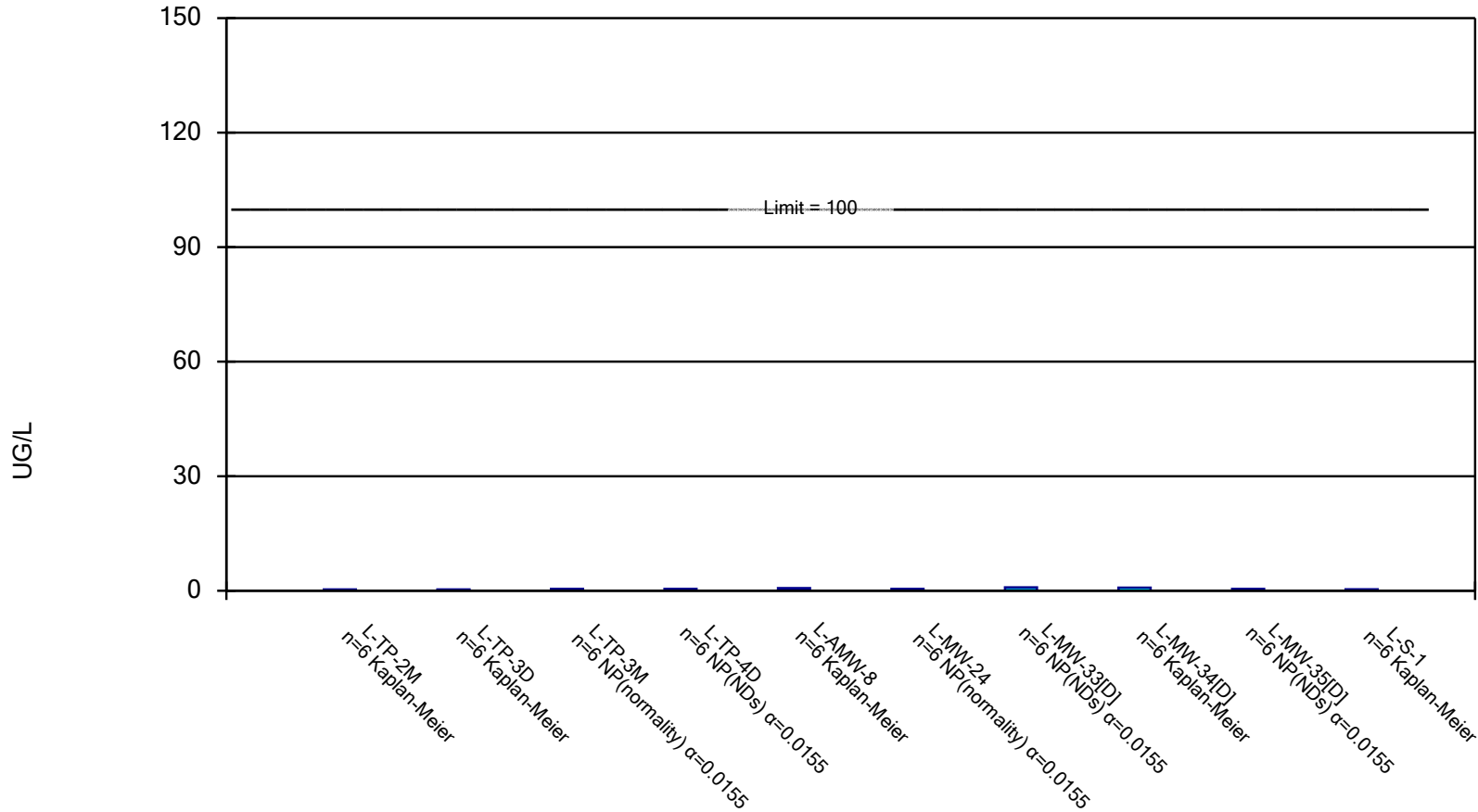


Constituent: CHROMIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

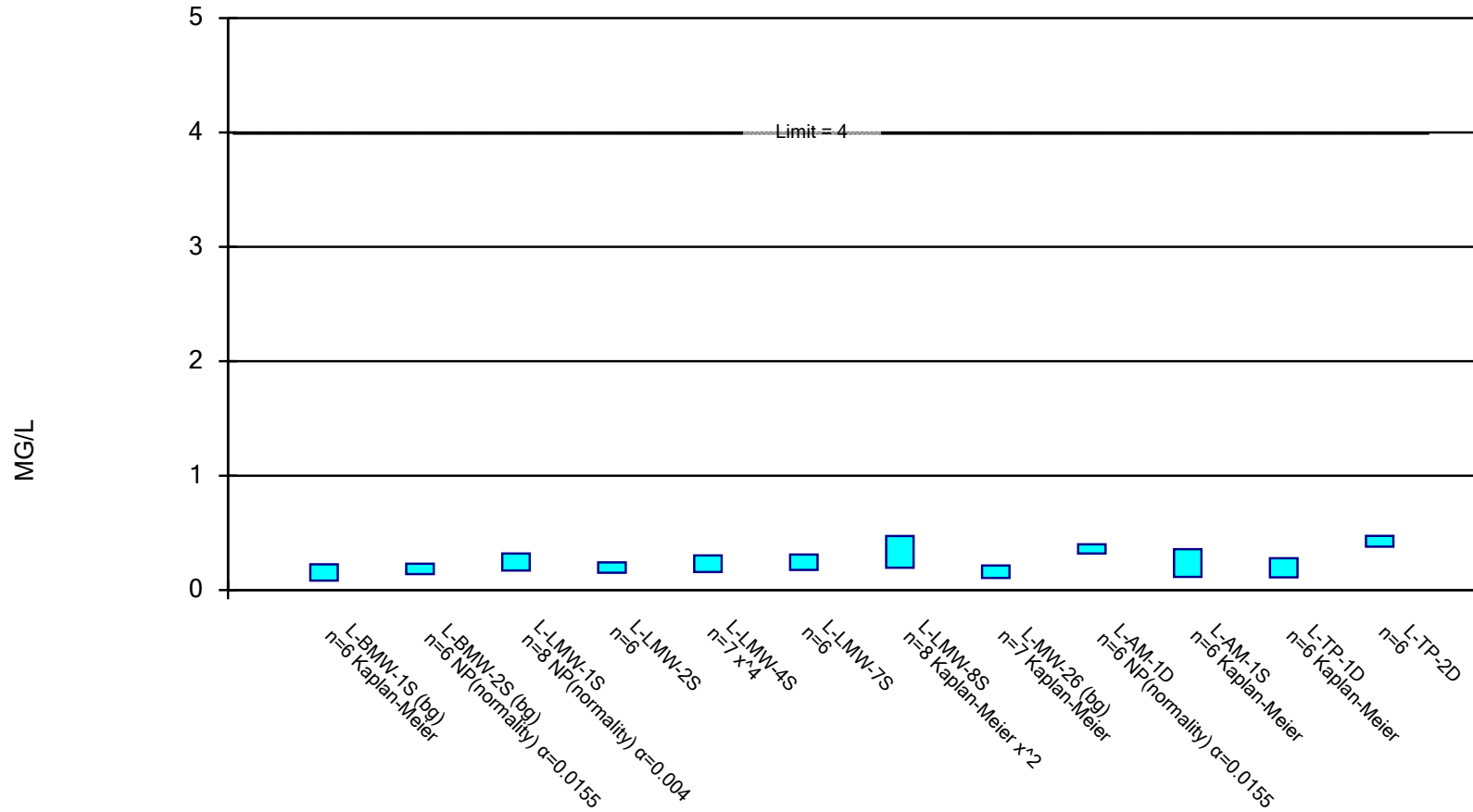


Constituent: CHROMIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

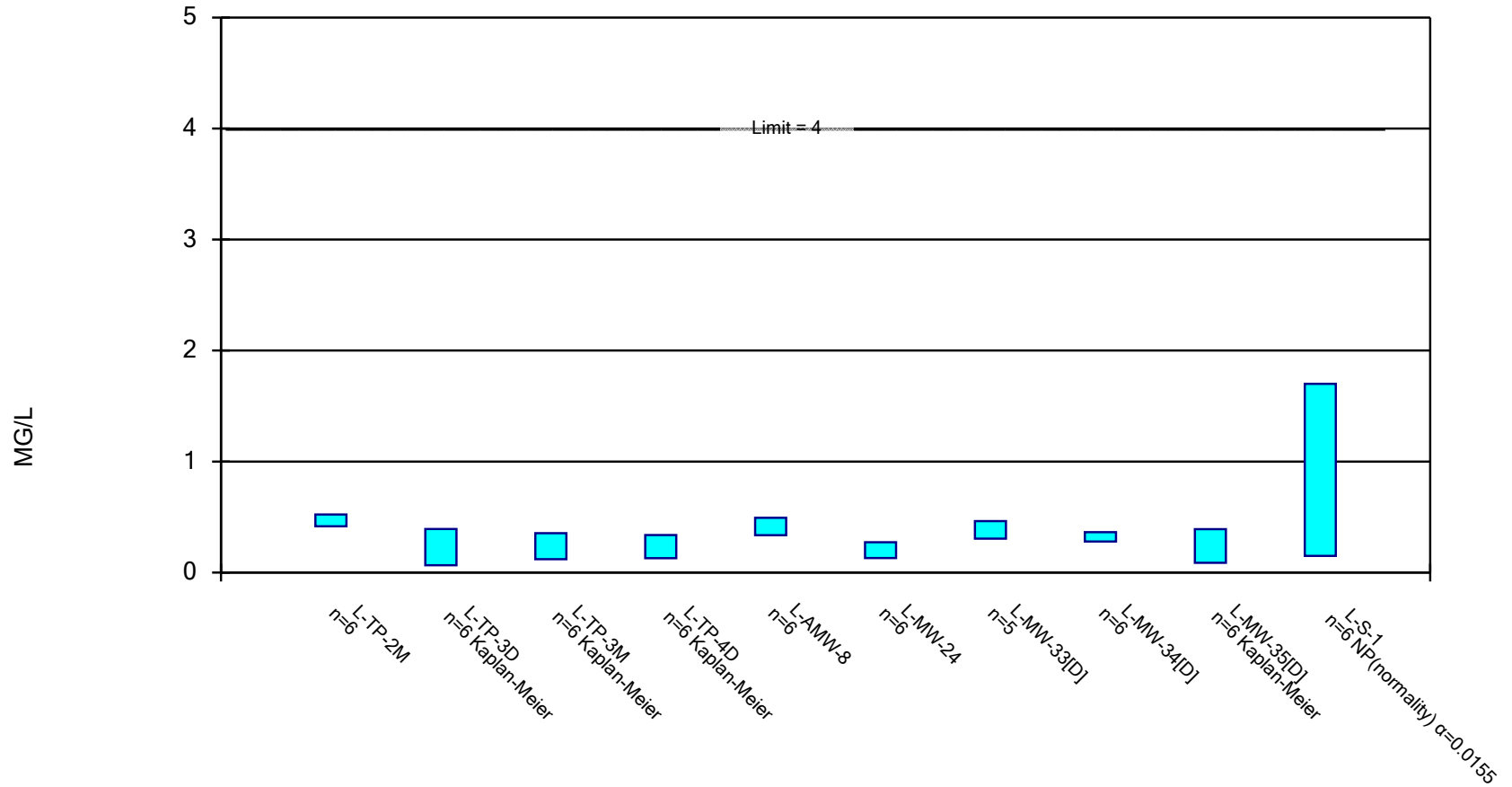


Constituent: FLUORIDE, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

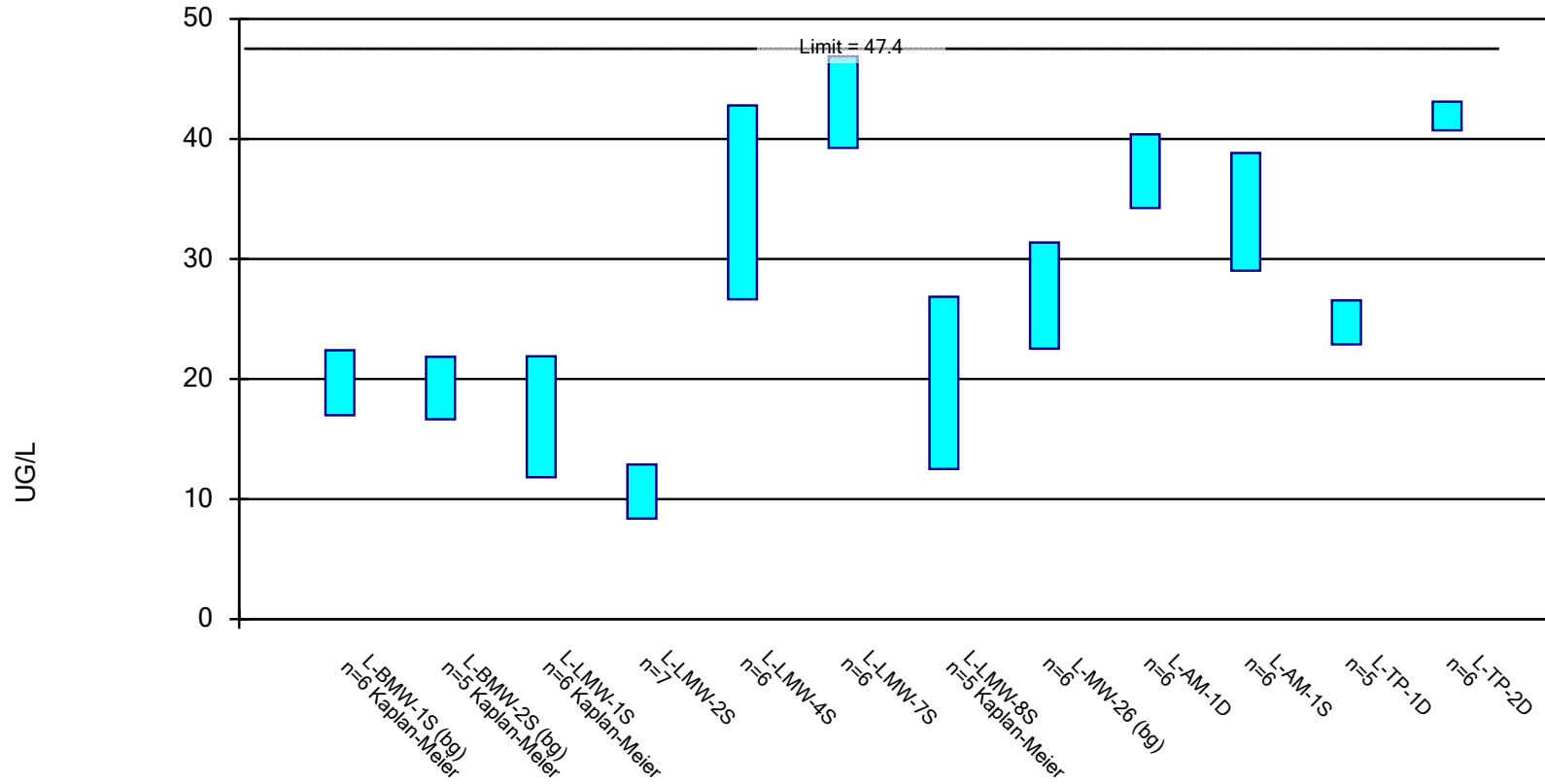


Constituent: FLUORIDE, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

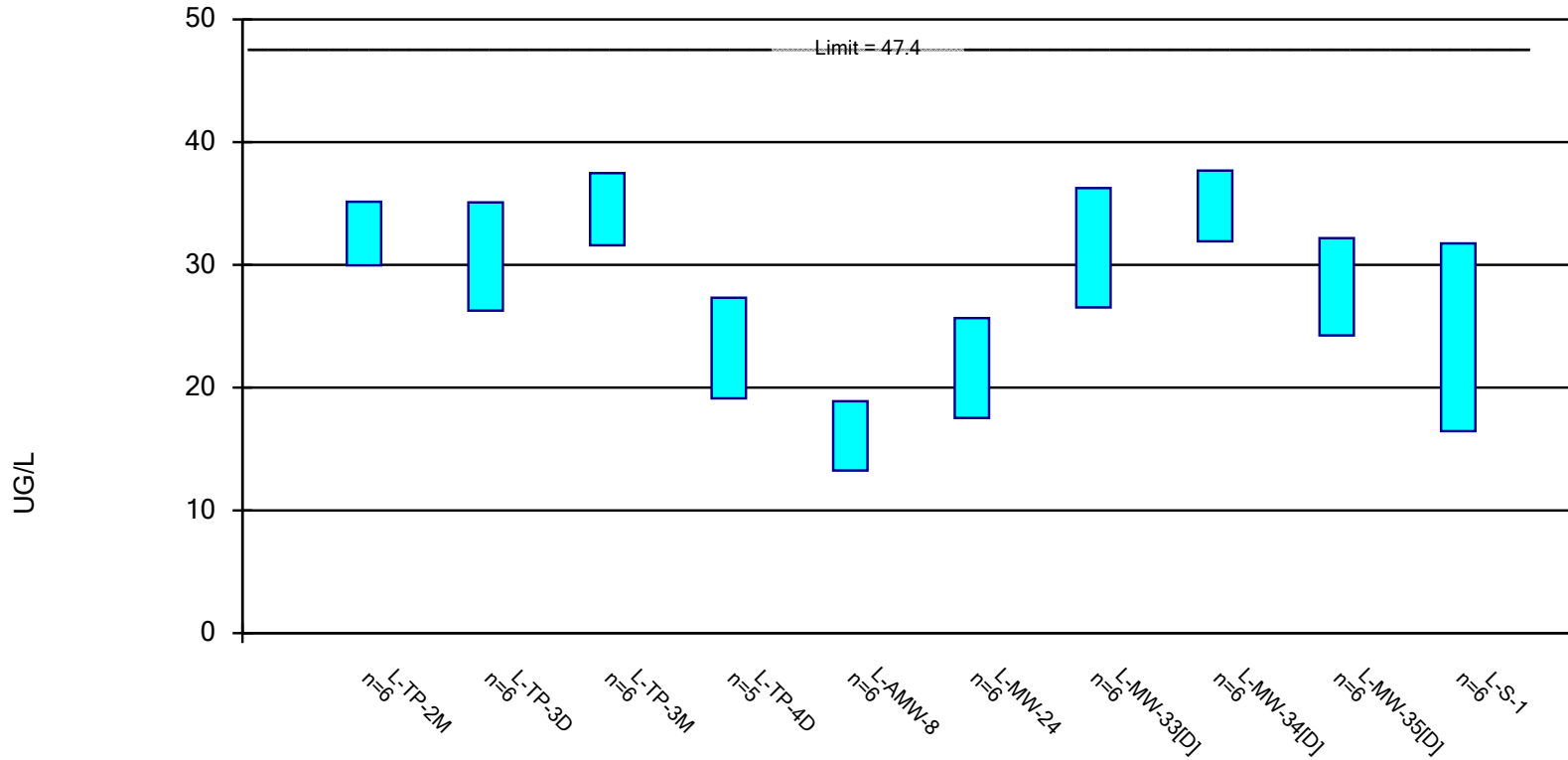


Constituent: LITHIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Parametric Confidence Interval, Corrective Action Mode

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

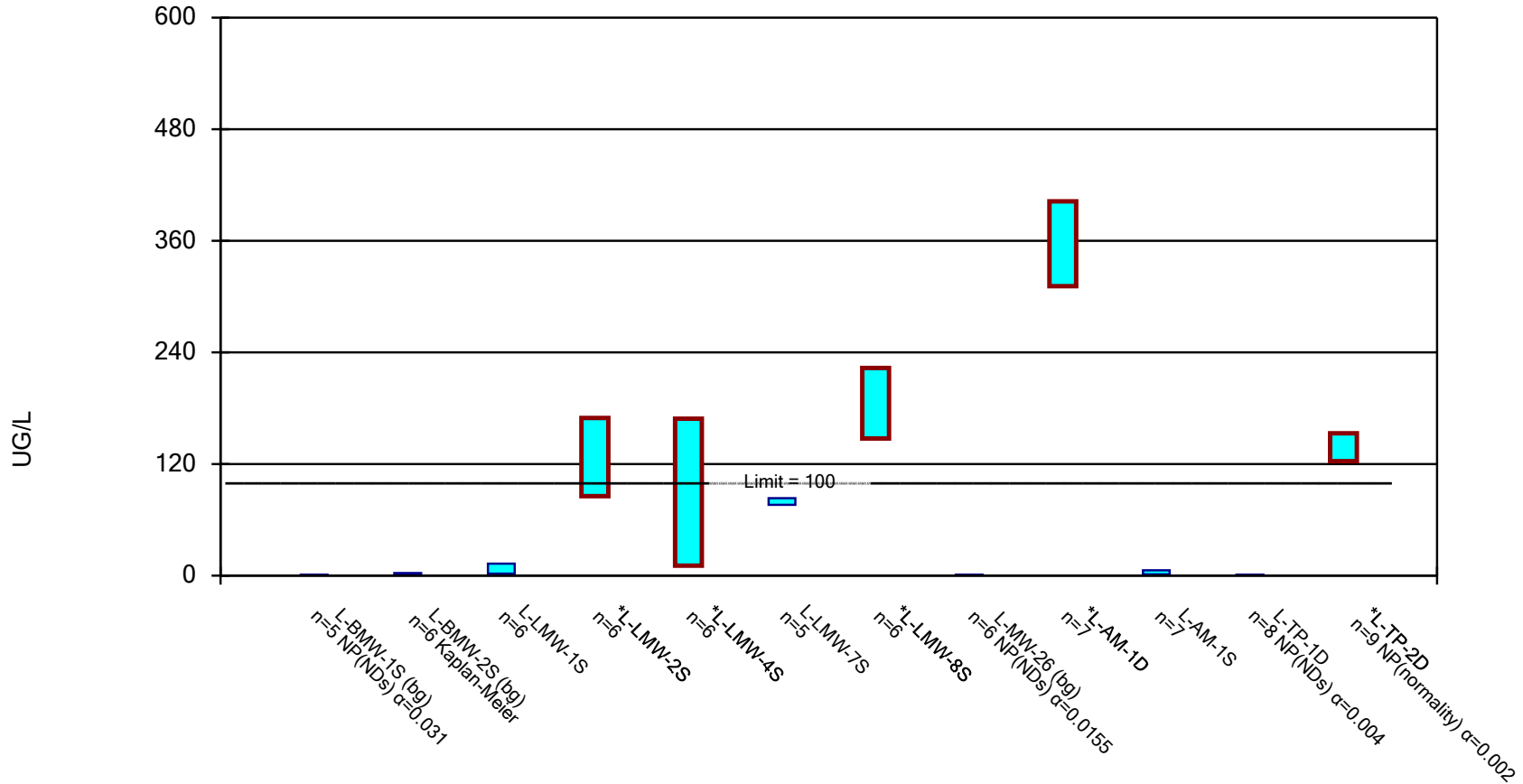


Constituent: LITHIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

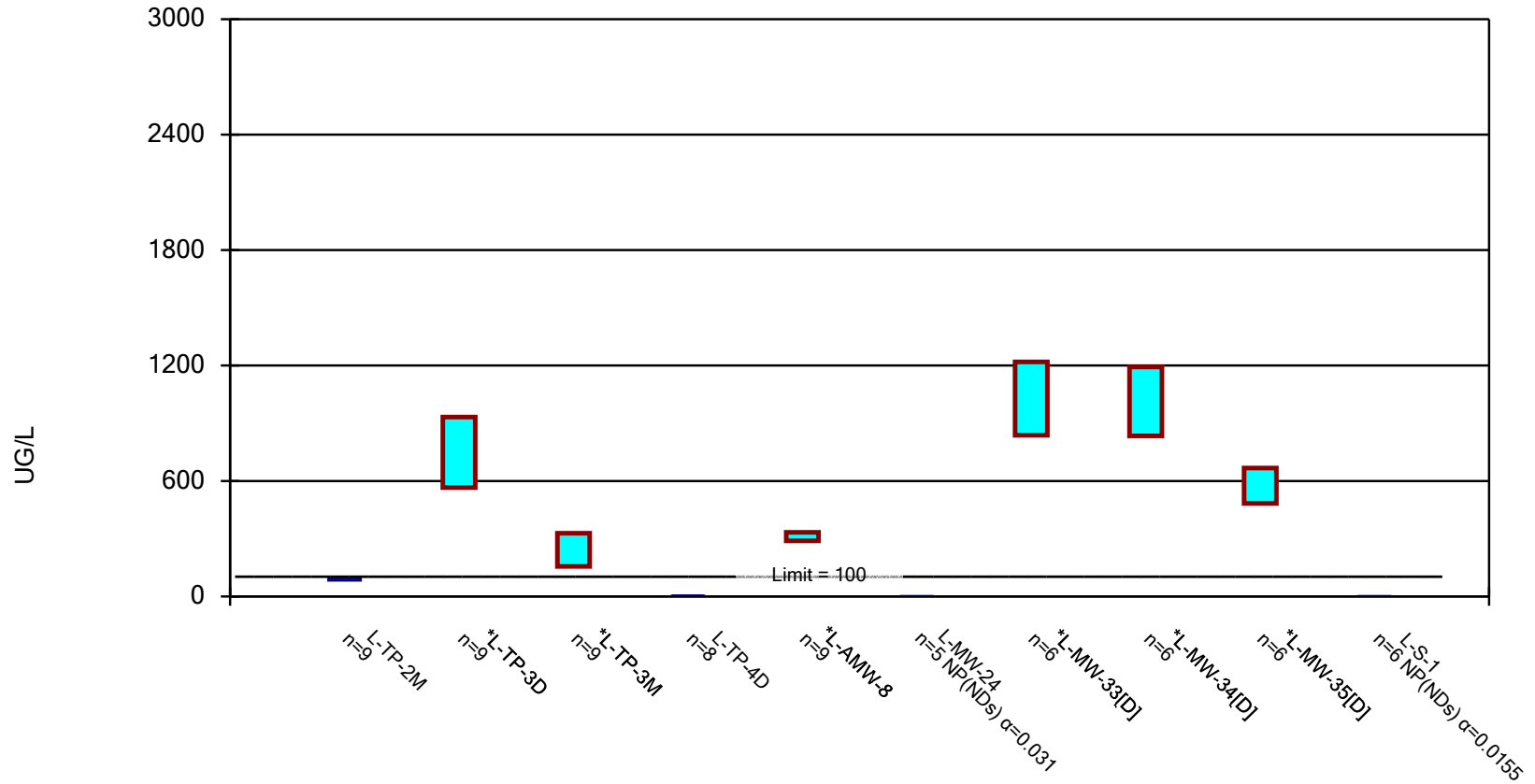


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

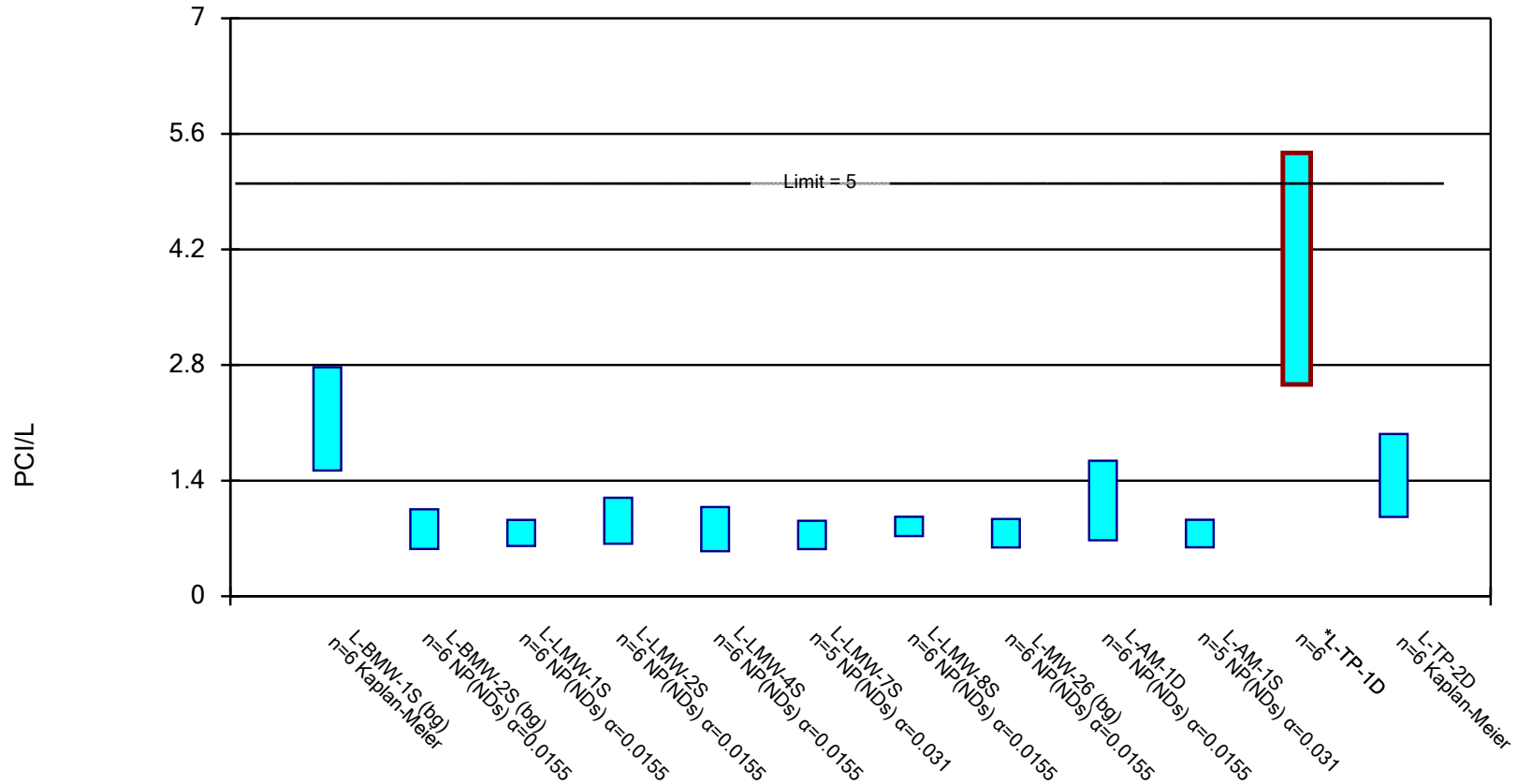


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

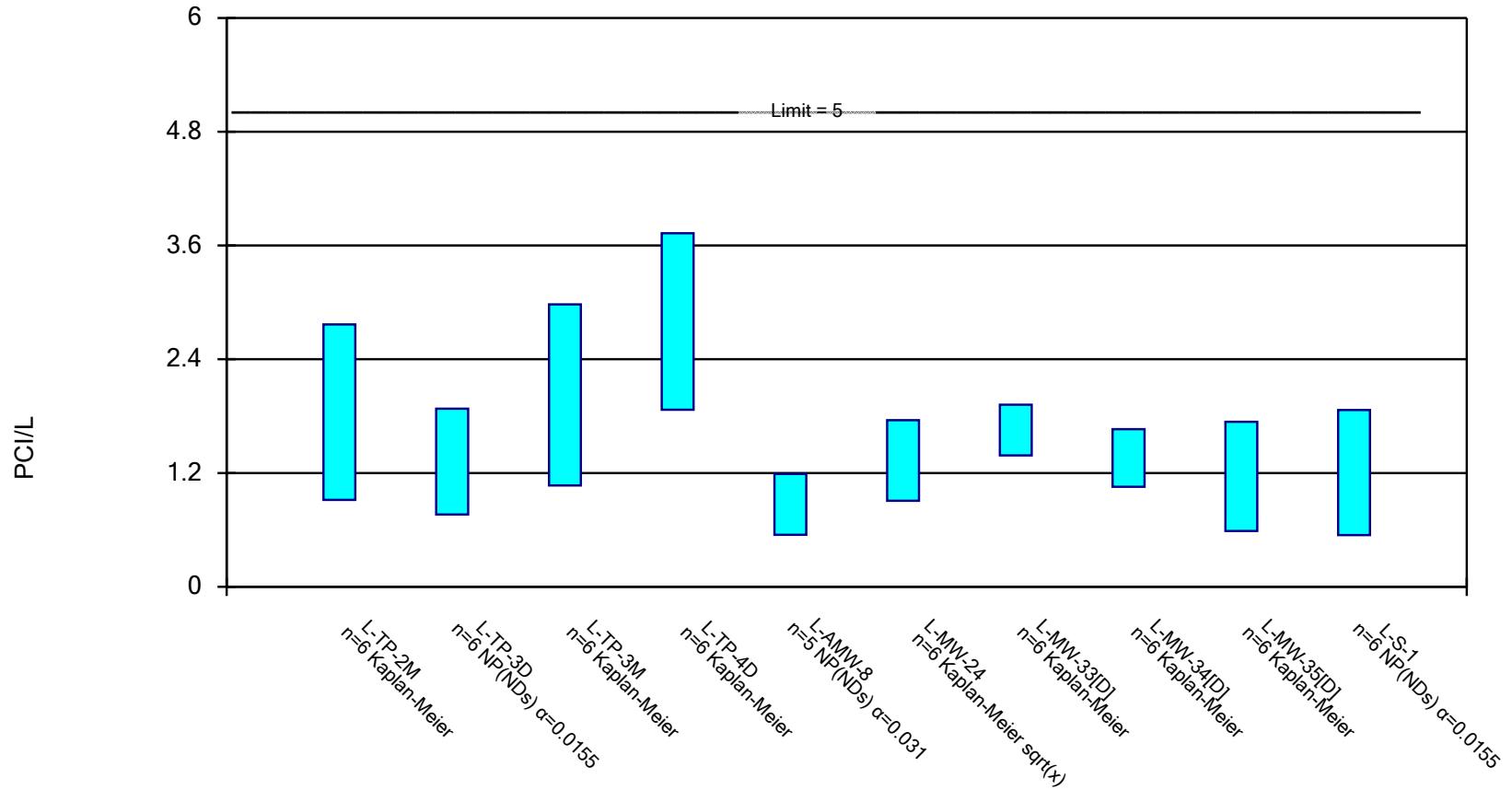


Constituent: Radium [226 + 228] Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

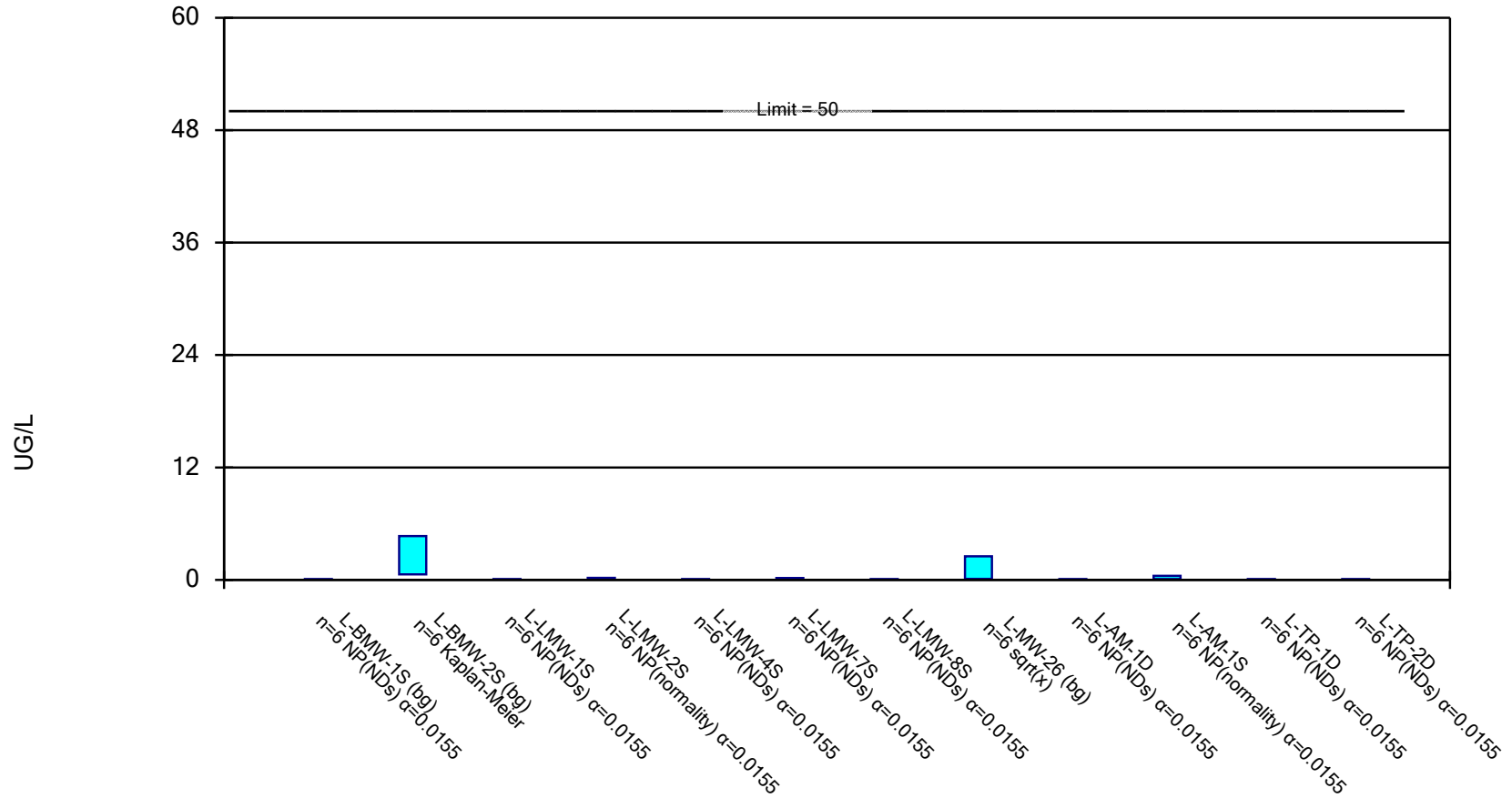


Constituent: Radium [226 + 228] Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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.

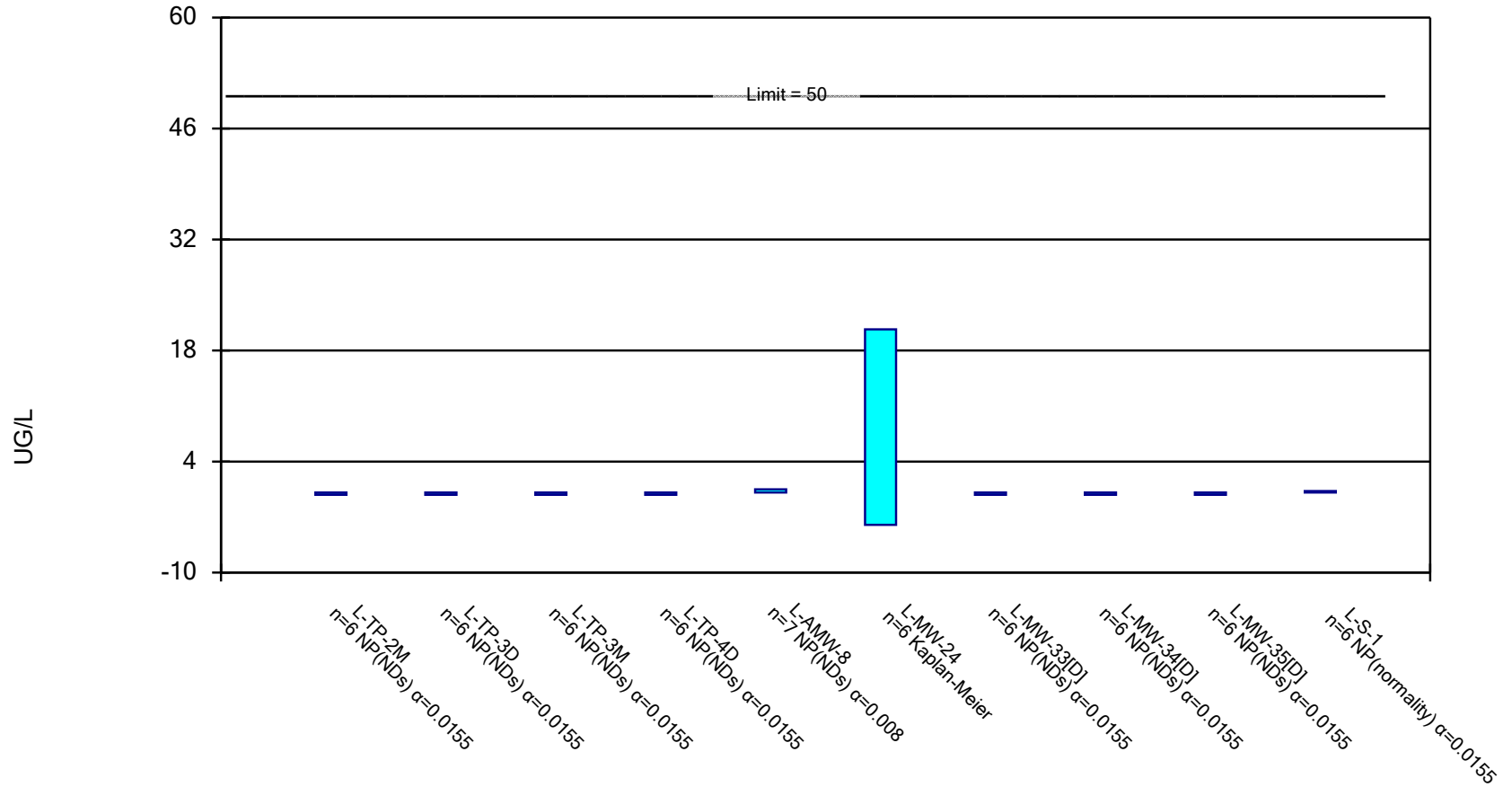


Constituent: SELENIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

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: SELENIUM, TOTAL Analysis Run 7/21/2022 2:12 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/21/2022, 2:13 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
ANTIMONY, TOTAL (UG/L)	L-BMW-1S ...	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-BMW-2S ...	0.3	0.176	6	No	5	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-LMW-1S	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-2S	0.11	0.09275	6	No	5	60	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-LMW-4S	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-7S	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-LMW-8S	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-26 (bg)	0.1806	0.07704	6	No	5	40	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-AM-1D	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AM-1S	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-1D	0.1534	0.07269	6	No	5	60	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-TP-2D	0.13	0.0485	6	No	5	80	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-2M	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3D	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-3M	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-TP-4D	1	0.0485	6	No	5	80	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-AMW-8	0.5	0.0485	6	No	6	83.33	No	0.0155	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-24	0.2195	0.06052	6	No	5	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	L-MW-33[D]	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-34[D]	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-MW-35[D]	0.06	0.0485	6	No	5	100	No	0.031	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-S-1	0.13	0.0485	6	No	5	60	No	0.031	NP (normality)
ARSENIC, TOTAL (UG/L)	L-BMW-1S ...	37.44	23.53	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-BMW-2S ...	0.5619	0.4214	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-1S	15.07	4.762	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-2S	46.54	44.49	44.2	Yes	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-4S	32.75	10.08	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-7S	16.85	11.59	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-LMW-8S	22.48	4.654	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-26 (bg)	0.5469	0.4431	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1D	3.748	2.685	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1S	8.076	2.624	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-1D	1.378	0.8783	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-2D	11.88	11.08	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-2M	0.7305	0.5028	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-3D	8.24	7	44.2	No	5	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-3M	0.6681	0.2785	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-TP-4D	8.371	7.363	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AMW-8	0.5311	0.166	44.2	No	7	14.29	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-24	0.6475	0.4525	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-33[D]	3.314	1.153	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-MW-34[D]	3.8	3.5	44.2	No	6	0	No	0.0155	NP (normality)
ARSENIC, TOTAL (UG/L)	L-MW-35[D]	0.242	0.118	44.2	No	6	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-S-1	0.7357	0.4509	44.2	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-BMW-1S ...	400.7	317.6	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-BMW-2S ...	264.7	235.6	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-1S	126.7	56.18	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-2S	46.37	30.09	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-4S	172.3	137.3	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-LMW-7S	331.9	224.8	2000	No	6	0	No	0.01	Param.

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<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
BARIUM, TOTAL (UG/L)	L-LMW-8S	157.4	118.6	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-26 (bg)	228.3	177	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1D	77.77	66.5	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1S	672.8	530.5	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-1D	1496	1360	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-2D	118.6	115	2000	No	5	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-2M	127.9	113.8	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-3D	78.34	67.76	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-3M	296.2	224.4	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-TP-4D	462.9	414.1	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AMW-8	125.6	90.83	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-24	241.6	171.4	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-33[D]	109	85.05	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-34[D]	100.1	76.81	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-MW-35[D]	62.21	40.56	2000	No	6	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-S-1	375.4	347.9	2000	No	6	0	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-BMW-1S ...	0.47	0.11	100	No	6	66.67	No	0.0155	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-BMW-2S ...	0.41	0.11	100	No	6	50	No	0.0155	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-LMW-1S	0.3876	0.2124	100	No	6	33.33	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-LMW-2S	0.5	0.11	100	No	5	80	No	0.031	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-LMW-4S	0.4146	0.1721	100	No	6	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-LMW-7S	0.6309	0.08513	100	No	6	66.67	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-LMW-8S	0.5	0.11	100	No	6	83.33	No	0.0155	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-26 (bg)	0.5	0.11	100	No	6	83.33	No	0.0155	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AM-1D	0.3625	0.1895	100	No	5	20	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-AM-1S	0.4507	0.1826	100	No	6	33.33	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-1D	0.51	0.11	100	No	6	50	No	0.0155	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-TP-2D	0.3951	0.1683	100	No	6	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-2M	0.337	0.1797	100	No	6	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-3D	0.3285	0.1982	100	No	6	66.67	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-TP-3M	0.5	0.11	100	No	6	66.67	No	0.0155	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-TP-4D	0.5	0.11	100	No	6	83.33	No	0.0155	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-AMW-8	0.6734	0.1626	100	No	6	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-MW-24	0.5	0.11	100	No	6	66.67	No	0.0155	NP (normality)
CHROMIUM, TOTAL (UG/L)	L-MW-33[D]	0.87	0.11	100	No	6	83.33	No	0.0155	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-MW-34[D]	0.8133	0.0107	100	No	6	50	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-MW-35[D]	0.5	0.11	100	No	6	100	No	0.0155	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-S-1	0.3657	0.1863	100	No	6	50	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-BMW-1S ...	0.2246	0.0827	4	No	6	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-BMW-2S ...	0.23	0.14	4	No	6	0	No	0.0155	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-1S	0.32	0.17	4	No	8	0	No	0.004	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-LMW-2S	0.2424	0.151	4	No	6	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-4S	0.3027	0.1573	4	No	7	14.29	x^4	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-7S	0.3104	0.1762	4	No	6	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-LMW-8S	0.4724	0.1949	4	No	8	25	x^2	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-26 (bg)	0.2146	0.1061	4	No	7	28.57	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AM-1D	0.4	0.32	4	No	6	0	No	0.0155	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-AM-1S	0.357	0.115	4	No	6	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-1D	0.2786	0.1114	4	No	6	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-2D	0.474	0.3793	4	No	6	0	No	0.01	Param.

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
FLUORIDE, TOTAL (MG/L)	L-TP-2M	0.5228	0.4172	4	No	6	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-3D	0.3917	0.06568	4	No	6	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-3M	0.3548	0.1197	4	No	6	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-TP-4D	0.3372	0.1294	4	No	6	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AMW-8	0.4931	0.3369	4	No	6	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-24	0.273	0.1303	4	No	6	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-33[D]	0.4631	0.3049	4	No	5	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-34[D]	0.3637	0.2796	4	No	6	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-MW-35[D]	0.3907	0.088	4	No	6	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-S-1	1.7	0.15	4	No	6	0	No	0.0155	NP (normality)
LITHIUM, TOTAL (UG/L)	L-BMW-1S ...	22.4	16.99	47.4	No	6	16.67	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-BMW-2S ...	21.85	16.65	47.4	No	5	20	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-1S	21.9	11.82	47.4	No	6	16.67	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-2S	12.88	8.376	47.4	No	7	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-4S	42.79	26.64	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-7S	46.87	39.26	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-LMW-8S	26.86	12.5	47.4	No	5	20	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-26 (bg)	31.37	22.53	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1D	40.38	34.25	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1S	38.84	29.03	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-1D	26.55	22.89	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-2D	43.11	40.72	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-2M	35.14	29.96	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3D	35.09	26.28	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-3M	37.47	31.6	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-TP-4D	27.32	19.12	47.4	No	5	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AMW-8	18.89	13.24	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-24	25.67	17.53	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-33[D]	36.26	26.54	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-34[D]	37.68	31.92	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-MW-35[D]	32.18	24.25	47.4	No	6	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-S-1	31.75	16.45	47.4	No	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-BMW-1S ...	1.1	0.7	100	No	5	100	No	0.031	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-BMW-2S ...	2.706	1.538	100	No	6	16.67	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-1S	12.89	2.213	100	No	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-2S	169.5	85.5	100	Yes	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-4S	168.7	10.72	100	Yes	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-7S	83.21	76.07	100	No	5	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-LMW-8S	223.3	147.4	100	Yes	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-26 (bg)	1.1	0.7	100	No	6	100	No	0.0155	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-AM-1D	402.5	311.2	100	Yes	7	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	5.706	1.394	100	No	7	14.29	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-1D	1.1	0.85	100	No	8	100	No	0.004	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-TP-2D	153	123	100	Yes	9	0	No	0.002	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	L-TP-2M	95.48	82.97	100	No	9	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-3D	931.9	565.6	100	Yes	9	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-3M	328.7	155.8	100	Yes	9	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-TP-4D	2.85	2.25	100	No	8	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-AMW-8	333.4	288.6	100	Yes	9	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-24	1.1	0.7	100	No	5	100	No	0.031	NP (NDs)

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	L-MW-33[D]	1219	837.5	100	Yes	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-34[D]	1192	834.1	100	Yes	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-MW-35[D]	667	483.3	100	Yes	6	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-S-1	1.7	0.85	100	No	6	83.33	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-BMW-1S ...	2.773	1.523	5	No	6	33.33	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-BMW-2S ...	1.054	0.573	5	No	6	100	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-1S	0.925	0.608	5	No	6	100	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-2S	1.193	0.6365	5	No	6	100	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-4S	1.08	0.5448	5	No	6	100	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-7S	0.9135	0.57	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-LMW-8S	0.9615	0.728	5	No	6	100	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-26 (bg)	0.9355	0.59	5	No	6	100	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1D	1.641	0.677	5	No	6	83.33	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1S	0.9265	0.5925	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-1D	5.368	2.566	5	Yes	6	0	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-2D	1.966	0.96	5	No	6	66.67	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-2M	2.768	0.916	5	No	6	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-3D	1.878	0.762	5	No	6	83.33	No	0.0155	NP (NDs)
Radium [226 + 228] (PCI/L)	L-TP-3M	2.979	1.069	5	No	6	33.33	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-TP-4D	3.729	1.868	5	No	6	16.67	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-AMW-8	1.19	0.5478	5	No	5	100	No	0.031	NP (NDs)
Radium [226 + 228] (PCI/L)	L-MW-24	1.757	0.9074	5	No	6	66.67	sqrt(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	L-MW-33[D]	1.921	1.385	5	No	6	66.67	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-MW-34[D]	1.662	1.055	5	No	6	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-MW-35[D]	1.74	0.5879	5	No	6	66.67	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-S-1	1.865	0.5455	5	No	6	83.33	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-BMW-1S ...	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-BMW-2S ...	4.668	0.5916	50	No	6	16.67	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-LMW-1S	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-2S	0.21	0.09	50	No	6	50	No	0.0155	NP (normality)
SELENIUM, TOTAL (UG/L)	L-LMW-4S	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-7S	0.2	0.09	50	No	6	83.33	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-LMW-8S	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-26 (bg)	2.52	0.1118	50	No	6	0	sqrt(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-AM-1D	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AM-1S	0.43	0.09	50	No	6	66.67	No	0.0155	NP (normality)
SELENIUM, TOTAL (UG/L)	L-TP-1D	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2D	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-2M	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3D	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-3M	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-TP-4D	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-AMW-8	0.5	0.09	50	No	7	100	No	0.008	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-24	20.68	-3.989	50	No	6	33.33	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-MW-33[D]	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-34[D]	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-MW-35[D]	0.09	0.09	50	No	6	100	No	0.0155	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-S-1	0.27	0.09	50	No	6	66.67	No	0.0155	NP (normality)

APPENDIX F

**Alternative Source Demonstration -
November 2021 Corrective Action
Sampling Event**

TECHNICAL MEMORANDUM

DATE June 16, 2022

Project No. 153140604

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

CC

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

EMAIL Jeffrey.Ingram@wsp.com

LCPA-CA – ALTERNATIVE SOURCE DEMONSTRATION – NOVEMBER 2021 SAMPLING EVENT

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), Golder Associates USA Inc. ("Golder") has prepared this Technical Memorandum to 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 the requirements of the Assessment Monitoring Program under 257.95 (AMP). The AMP 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 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 1×10^{-7} centimeters per second (cm/sec) versus 1×10^{-5} cm/sec required by the CCR Rule).
- 2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. Natural attenuation occurs due to naturally occurring processes within the aquifer.

As required by the CCR Rule, the following was 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, 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-4S, LMW-7S
- Molybdenum – LMW-2S, LMW-4S, LMW-7S, LMW-8S, AM-1D, TP-2D, TP-2M, TP-3D, TP-3M, AMW-8, MW-33D, MW-34D, MW-35D
- Radium 226 + 228 (Radium) – TP-1D

An initial ASD for radium 226 + 228 (radium) at TP-1D was completed in November 2021 for the February/April 2021 sampling event. This evaluation determined that the statistical exceedance of radium at TP-1D was not caused by impacts from the LCPA, but rather a result of naturally occurring geochemical variability within the alluvial aquifer. This conclusion was supported by several factors including: (1) absence of key CCR indicators (boron, sulfate, and molybdenum) in monitoring well TP-1D, (2) a stable geochemical fingerprint in TP-1D, which closely resembles that of background wells BMW-1D and BMW-2D, which are located approximately 1.5 miles upgradient of the LCPA, (3) apparent lack of radium in monitoring wells immediately adjacent to the LCPA, (4) similarity in radium concentrations between TP-1D and background monitoring well BMW-1D, (5) radium is a naturally occurring element in soils and alluvial aquifer sediments that are derived from igneous rocks within the Missouri River watershed, and (6) the Ozark Aquifer, which discharges into the Missouri River Alluvium, is known to have elevated radium concentrations. A copy of the ASD report for the February/April 2021 sampling event is provided in Appendix E of the 2021 LCPA Annual Groundwater Monitoring and Corrective Action Report.

3.0 NOVEMBER 2021 SAMPLING EVENT

There have been no significant changes in the six (6) lines of evidence (LOE) presented in the February/April 2021 sampling event ASD as summarized in Section 2.0 for radium at TP-1D. As displayed in **Figure 1**, TP-1D is located approximately 10,000 feet to the northeast of the LCPA and is not impacted by the LCPA. TP-1D was installed in June 2018 as a part of the nature and extent evaluation completed under Assessment Monitoring and is used as a Corrective Action Monitoring Well. The following reviews each of the LOEs demonstrating the statistical exceedance from radium is still the result of an alternative source, incorporating the data from the November 2021 sampling event.

- **LOE 1 - A lack of key CCR indicators (boron, sulfate, and molybdenum) in monitoring well TP-1D when compared to background monitoring wells and those adjacent to the LCPA.**

A review of key CCR indicators including boron, sulfate, and molybdenum at TP-1D display that concentrations collected from TP-1D are within the same range of concentrations reported for background monitoring wells

BMW-1D and BMW-2D, and thus are not statistically elevated compared to background wells. Figures with updated timeseries plots including data through the November 2021 sampling event are provided in **Figure 2-4** for these key constituents.

- **LOE 2 - A stable geochemical fingerprint in TP-1D, which closely resembles that of background wells BMW-1D and BMW-2D approximately 1.5 miles upgradient of the LCPA.**

Figure 5 displays a piper diagram that demonstrates that TP-1D data continue to plot in the area of background groundwater and thus the recent statistical exceedance over the GWPS for radium is not a result of influence from the LCPA.

- **LOE 3 & 4 - Apparent lack of radium in monitoring wells immediately adjacent to the LCPA as well as similarities in radium concentrations between TP-1D and background monitoring well BMW-1D.**

Radium concentrations have been evaluated from the monitoring well network adjacent to the LCPA used for Detection and Assessment Monitoring since 2016. **Figure 6** displays a box and whisker plot of radium concentrations since the start of CCR monitoring at TP-1D (November 2018) for background monitoring wells (BMW-1D and BMW-2D), TP-1D, and the LCPA Detection/Assessment Monitoring Well Network. As shown in **Figure 6** and **Figure 7**, radium concentrations at TP-1D are most similar to background well BMW-1D and are higher than the concentrations in monitoring wells located immediately adjacent to the LCPA. Additionally, it should be noted that radium has not been identified as an SSL in the Assessment Monitoring Well Network. If elevated impacts for radium were caused by the LCPA, it would be expected that the wells immediately adjacent to the LCPA would show elevated concentrations, like those reported for boron, sulfate, and molybdenum.

- **LOE 5 & 6 - Radium is a naturally occurring element in soils and alluvial aquifer sediments that are derived from igneous rocks within the Missouri River watershed and the Ozark Aquifer, which discharges into the Missouri River Alluvium and is known for higher radium concentrations.**

No new information is available since the February/April 2021 sampling events ASD was prepared. As discussed in the ASD, radium is a natural breakdown product of the radioactive decay of uranium, and both radium and uranium are known to naturally occur within the Missouri River Alluvial Aquifer from the igneous source rocks that comprise the sediments from upgradient locations along the Missouri River and from discharges from the Ozark Aquifer into the alluvial deposits¹.

The Ozark Aquifer is a regional aquifer that is present south of the Missouri River and West of the Mississippi River in the southern parts of Missouri, eastern Kansas, and northern Arkansas. The aquifer is made up of mostly of carbonate rocks that are Cambrian through Mississippian in age. The discharges for the Ozark Aquifer in Missouri are the Missouri River to the north and the Mississippi River to the east. In 2012, the United States Geological Survey completed a nationwide study on radium within groundwater aquifers and found that the Mid-Continent and the Ozark Aquifers had the highest average radium concentrations², with more than 20% of the samples included in the study had radium concentrations above the MCL of 5 pCi/L. TP-1D is in the deep zone

¹ Gregory, B., Herrmann, A.D., Ireland, T. and Clift, P.D., 2022. Testing the applicability of zircon U-Pb dating as a provenance method in a highly altered river system, Mississippi-Missouri River, USA. *Basin Research*, 34(1), pp.251-273.

Imes, J.L. and Emmett, L.F., 1994. *Geohydrology of the Ozark Plateaus aquifer system in parts of Missouri, Arkansas, Oklahoma, and Kansas* (No. 1414-D).

Kleeschulte, M.J., 1993. *Water-quality data for the Missouri River and Missouri River alluvium near Weldon Spring, St. Charles County, Missouri, 1991--92* (No. DOE/OR/21990--93-109). Geological Survey.

USGS, 2014. *Background Groundwater Quality, review of 2012-14 groundwater data, and Potential Origin of Radium at the West Lake Landfill Site, St. Louis County, Missouri.*

² Szabo, Z., Fischer, J.M. and Hancock, T.C., 2012. *Principal aquifers can contribute radium to sources of drinking water under certain geochemical conditions.* US Department of the Interior, US Geological Survey.

of the alluvial aquifer, and is situated such that discharges from the Ozark Aquifer may be contributing to the increased radium 226 + 228 at this location.

Additionally, the Missouri River Alluvial Aquifer is comprised of alluvial deposits from the Missouri River basin, which encompasses a vast area of the United States including parts of Missouri, Iowa, Kansas, Nebraska, South Dakota, North Dakota, Montana, Wyoming, and Colorado. The sediments in the Missouri River Alluvial Aquifer at the site are made up of a mixture of sediments from all reaches of the Missouri River Basin. Uranium deposits and many igneous rocks containing uranium occur at numerous locations within the Missouri River Basin. Therefore, the alluvial aquifer sediments in the vicinity of TP-1D (as well as background well BMW-1D) likely include naturally occurring uranium-containing deposits which are likely resulting in the elevated radium concentrations measured at these locations.

In summary, based on the information presented in this ASD, the statistical exceedance for radium at TP-1D is not a result of impacts from the LCPA, but appears to be the result of natural geochemical variability within the alluvial aquifer.

CERTIFICATION STATEMENT

This *LCPA Corrective Action – Alternative Source Demonstration, 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 Golder Associates Inc.

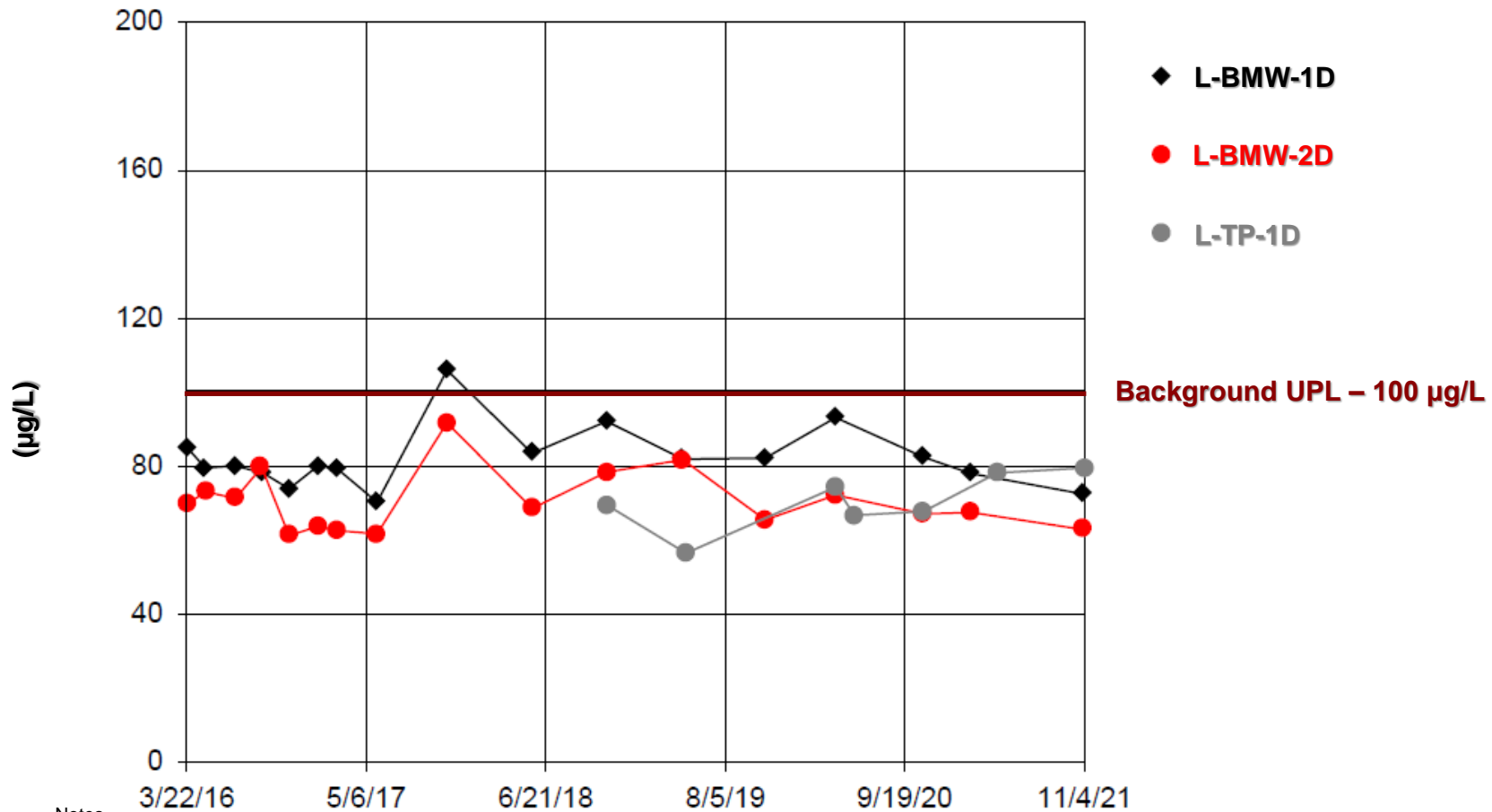
I hereby certify that this *LCPA Corrective Action – Alternative Source Demonstration, Labadie Energy Center, Franklin County, Missouri, USA* located at 226 Labadie Power Plant Road, Labadie Missouri 63055 has been prepared to meet the requirements of 40 CFR §257.98(a)(1)(i) and 257.95(g)(3)(ii).

Golder Associates USA Inc.



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

Attachments: **Figure 1** – Labadie Energy Center Groundwater Monitoring Programs and Monitoring Well Location Map
Figure 2 – Timeseries Plot of Boron Concentrations at TP-1D and Background Monitoring Wells
Figure 3 – Timeseries Plot of Sulfate Concentrations at TP-1D and Background Monitoring Wells
Figure 4 – Timeseries Plot of Molybdenum Concentrations at TP-1D and Background Monitoring Wells
Figure 5 – TP-1D Piper Diagram
Figure 6 – Box and Whiskers Plot of Radium 226 + 228 Concentrations at TP-1D and LCPA Monitoring Wells
Figure 7 – Timeseries Plot of Radium 226 + 228 Concentrations at TP-1D and Background Monitoring Wells



Notes

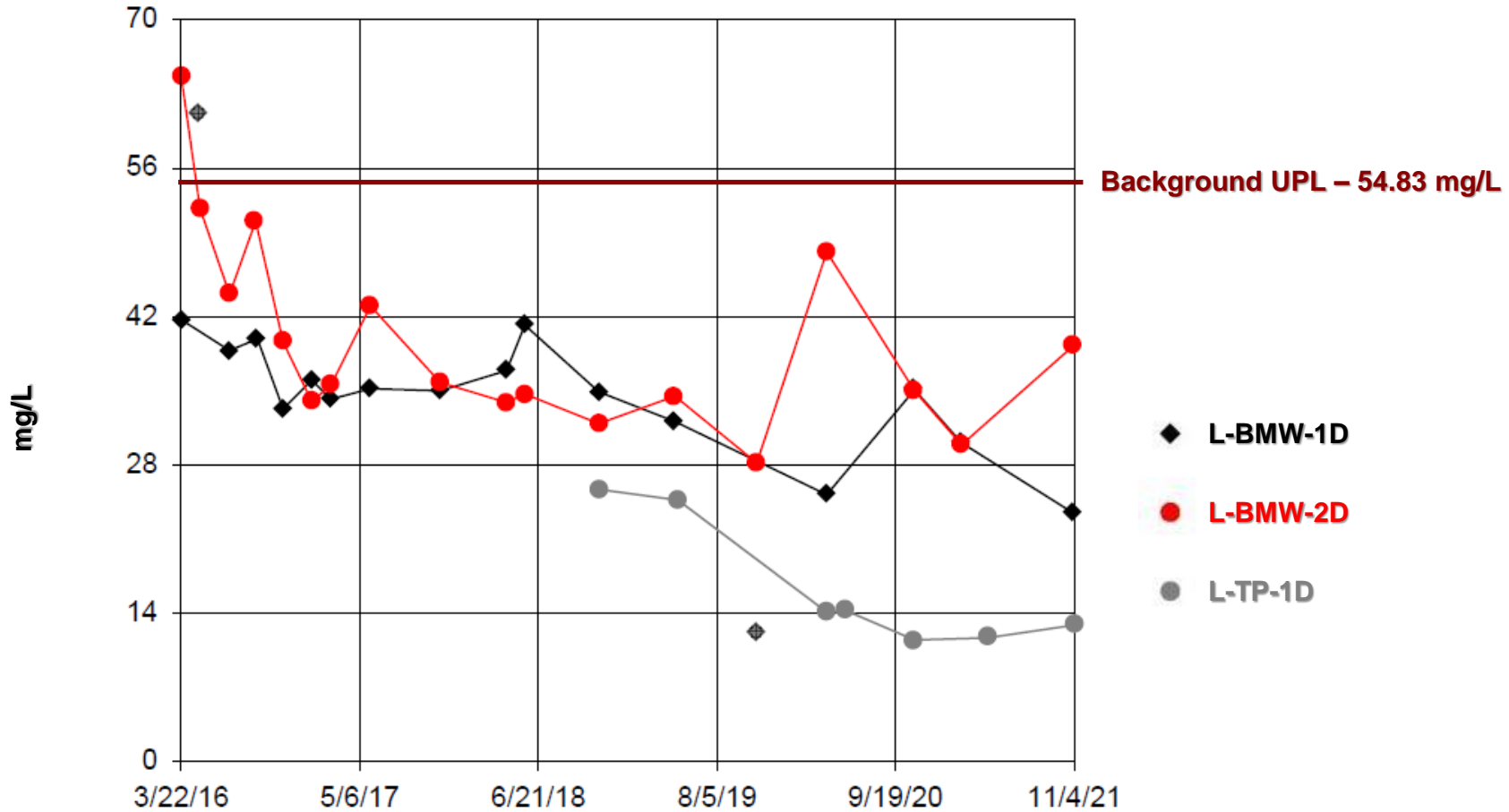
- 1) µg/L – Micrograms per liter.
- 2) UPL – Upper Prediction Limit.
- 3) The UPL for background monitoring wells BMW-1D and BMW-2D is set at the Double Quantification Rule (DQR) because the entire background dataset is reported as ND or estimated (J-flag). In this case the DQR can be numerically represented as the practical quantitation limit (PQL).
- 4) PQL – Practical Quantitation Limit is the minimum concentration of an analyte (substance) that can be measured with a high degree of confidence that the analyte is present at or above that concentration (typically 5-10x higher than the MDL). In this case, 100 µg/L is the general PQL for boron.

CLIENT/PROJECT
AMEREN MISSOURI
LABADIE ENERGY CENTER



TITLE
Timeseries Plot of Boron Concentrations
at TP-1D and Background Monitoring Wells

DRAWN BTT	CHECKED JSI	REVIEWED MNH	DATE 2022-05-17	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 2
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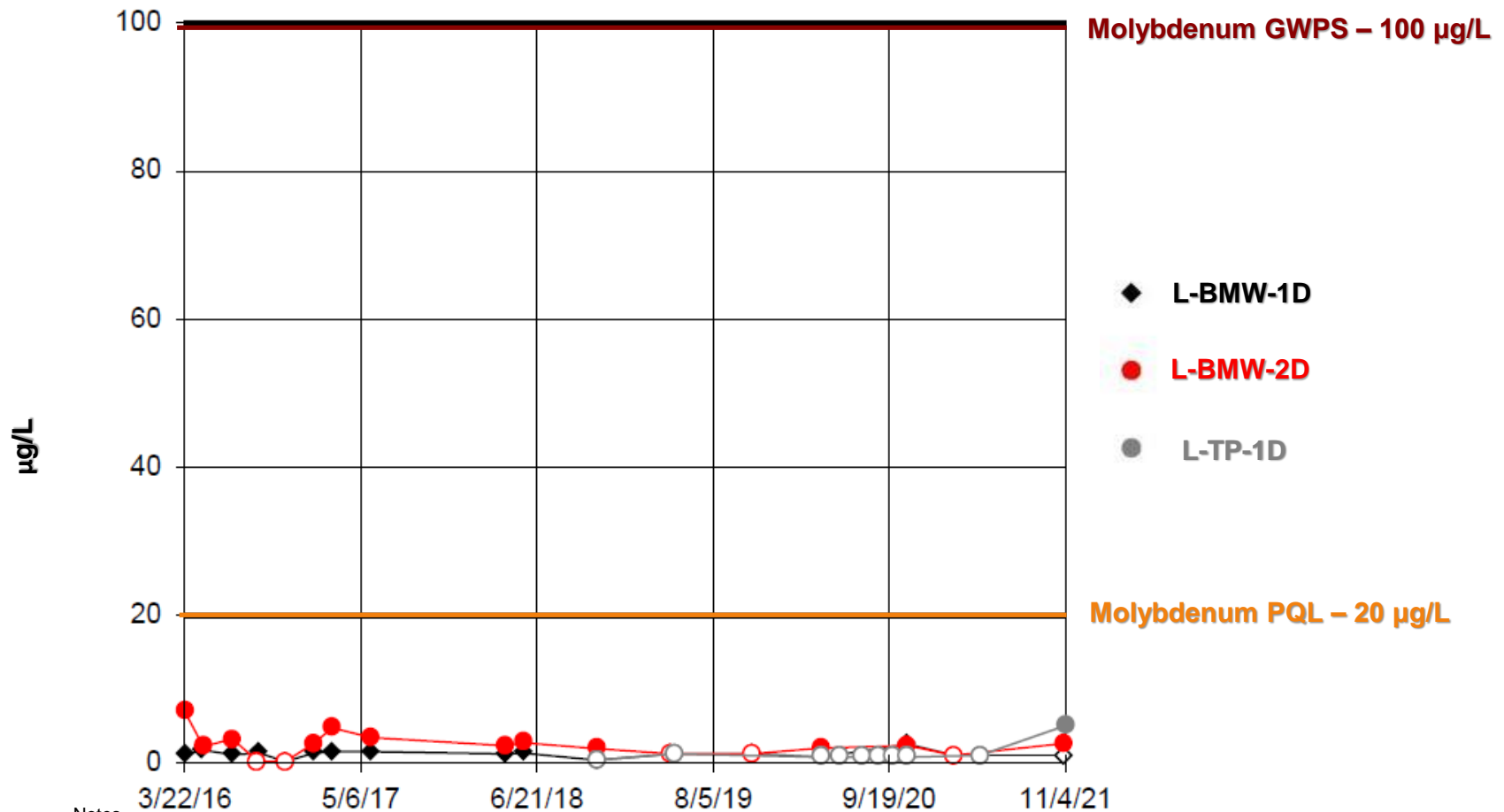
- Notes
- 1) mg/L – Milligrams per liter.
 - 2) UPL – Upper Prediction Limit.
 - 3) Data points not connected to lines are considered outliers.

CLIENT/PROJECT
 AMEREN MISSOURI
 LABADIE ENERGY CENTER



TITLE **Timeseries Plot of Sulfate Concentrations
 at TP-1D and Background Monitoring Wells**

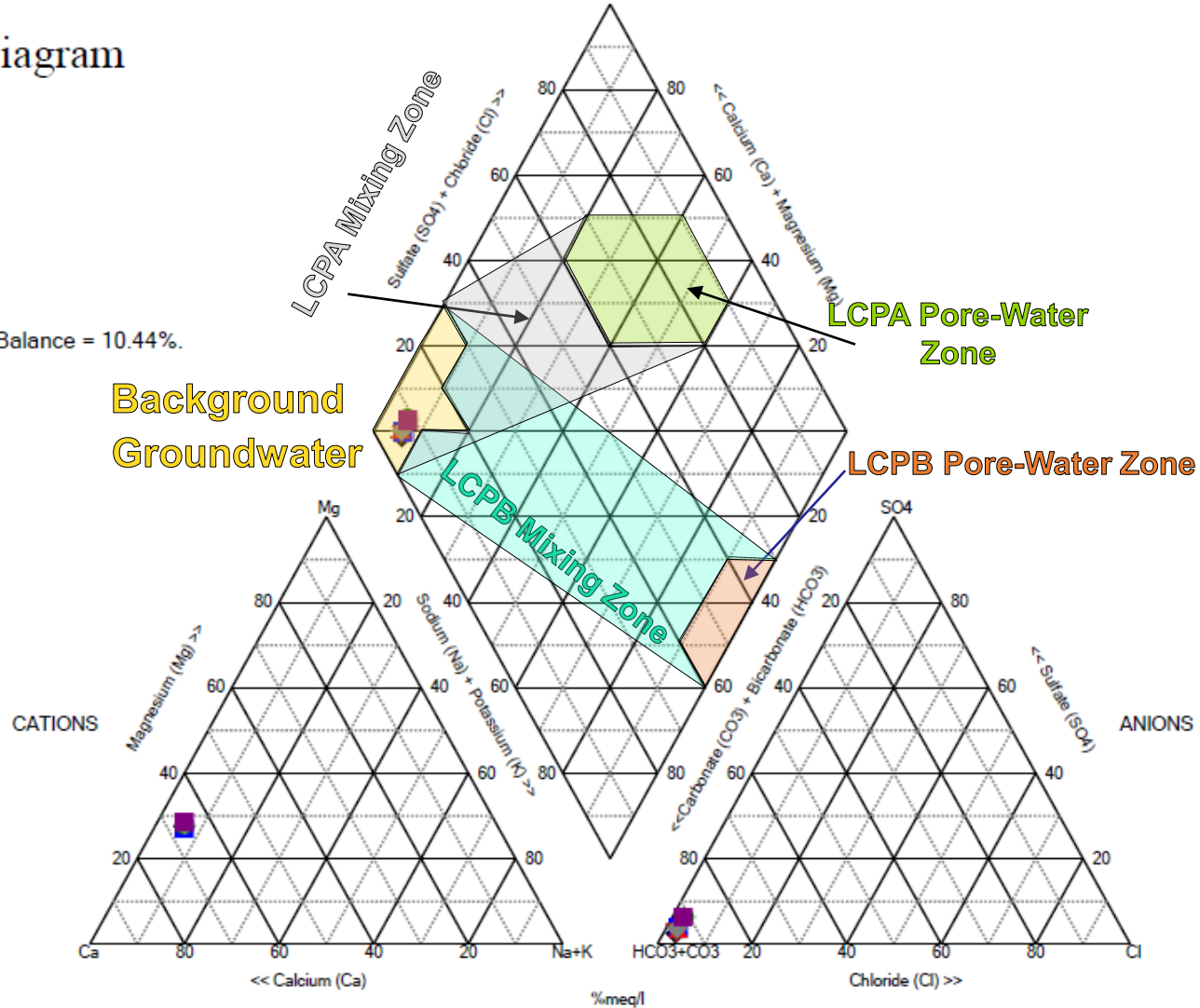
DRAWN BTT	CHECKED JSI	REVIEWED MNH	DATE 2022-05-17	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 3
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Piper Diagram

L-TP-1D

Cation-Anion Balance = 10.44%.



- ◆ 11/2/2020
- 11/4/2021
- 11/8/2018
- ▲ 4/15/2020
- ▼ 4/19/2021
- ◆ 5/27/2020
- 5/8/2019

Notes

- 1) Piper diagram generated using Sanitas Software.
- 2) Data used to calculate diagrams provided in previous Annual Reports for the LCPA.
- 3) %mEq/l – milliequivalents per liter

CLIENT/PROJECT
AMEREN MISSOURI
LABADIE ENERGY CENTER

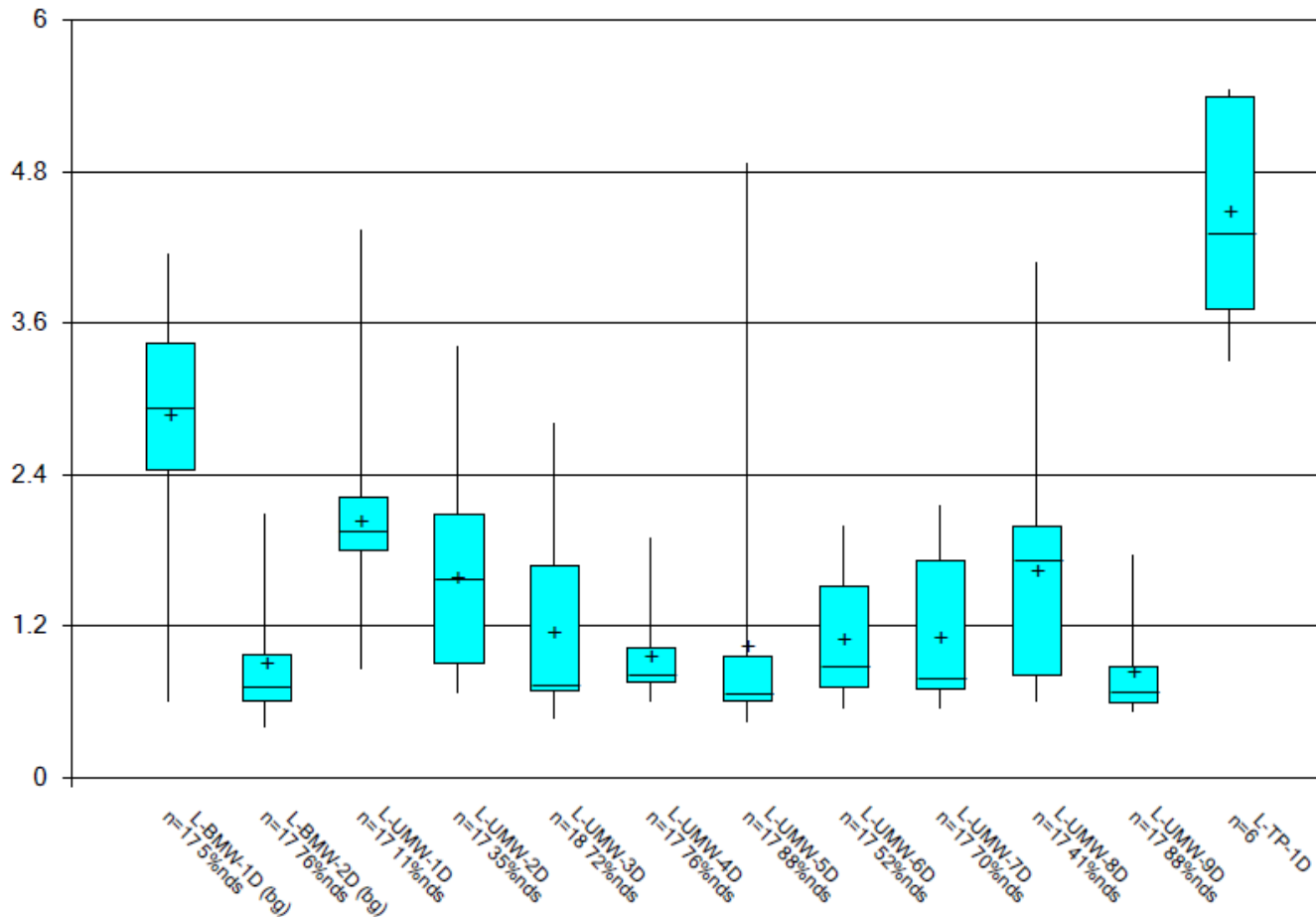


TITLE

TP-1D Piper Diagram

DRAWN BTT	CHECKED JSI	REVIEWED MNH	DATE 2022-05-17	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 5
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Radium 226+228 Concentration (pCi/L)



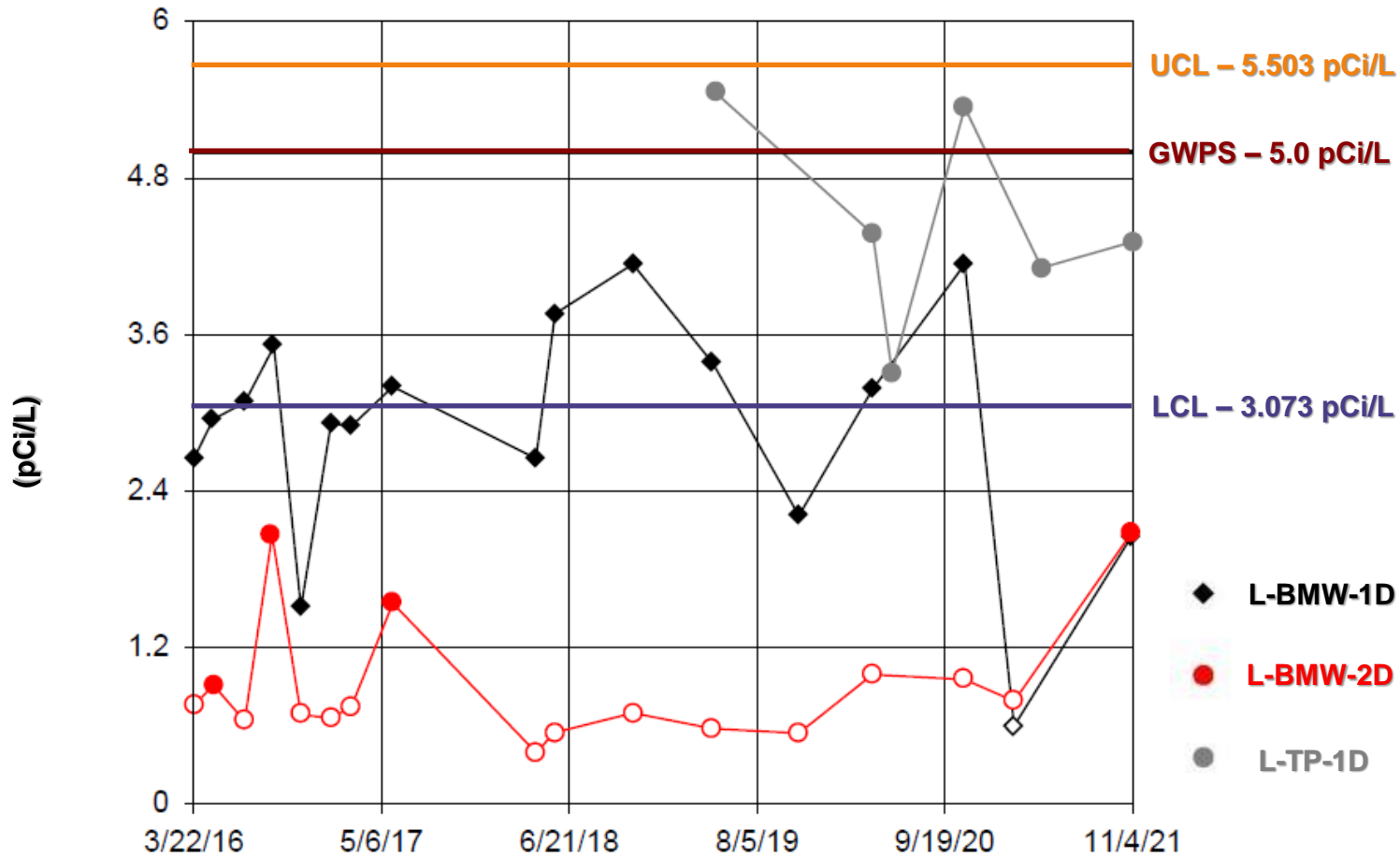
Notes
1) pCi/L – Picocuries per liter.

CLIENT/PROJECT
AMEREN MISSOURI
LABADIE ENERGY CENTER



TITLE **Box and Whiskers Plot of Radium 226+228
at TP-1D & LCPA Monitoring Wells**

DRAWN BTT	CHECKED JSI	REVIEWED MNH	DATE 2022-05-17	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 6
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- Notes
- 1) pCi/L – Picocuries per liter.
 - 2) GWPS – Groundwater Protection Standard.
 - 3) UCL – Upper Confidence Limit.
 - 4) LCL – Lower Confidence Limit.
 - 5) Data points not filled in indicate a Non-Detect result.

CLIENT/PROJECT
**AMEREN MISSOURI
 LABADIE ENERGY CENTER**



TITLE **Timeseries Plot of Radium 226 + 228
 Concentrations at TP-1D and Background
 Monitoring Wells**

DRAWN BTT	CHECKED JSI	REVIEWED MNH	DATE 2022-05-20	SCALE N/A	FILE NO. N/A	JOB NO. 153140603.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 7
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APPENDIX G

Alternative Source Demonstration -
April 2022 Corrective Action
Sampling Event

TECHNICAL MEMORANDUM

DATE November 18, 2022

Project No. 153140604

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

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

EMAIL Jeffrey.Ingram@wsp.com

LCPA-CA – ALTERNATIVE SOURCE DEMONSTRATION FOR RADIUM IN WELL TP-1D – APRIL 2022 SAMPLING EVENT

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (CCR Rule or The Rule), Golder Associates USA Inc. ("Golder") has prepared this Technical Memorandum to 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 the requirements of the Assessment Monitoring Program under 257.95 (AMP). The AMP 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 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 1×10^{-7} centimeters per second (cm/sec) versus 1×10^{-5} cm/sec required by the CCR Rule).
- 2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. Natural attenuation occurs due to naturally occurring processes within the aquifer.

As required by the CCR Rule, the following was 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 September 2, 2022, 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
- Molybdenum – LMW-2S, LMW-4S, LMW-8S, AM-1D, TP-2D, TP-3D, TP-3M, AMW-8, MW-33D, MW-34D, MW-35D
- Radium 226 + 228 (Radium) – TP-1D

An initial ASD for radium 226 + 228 (radium) at TP-1D was completed in November 2021 for the February/April 2021 sampling event. This evaluation determined that the statistical exceedance of radium at TP-1D was not caused by impacts from the LCPA, but rather a result of naturally occurring geochemical variability within the alluvial aquifer. This conclusion was supported by several factors including: (1) absence of key CCR indicators (boron, sulfate, and molybdenum) in monitoring well TP-1D, (2) a stable geochemical fingerprint in TP-1D, which closely resembles that of background wells BMW-1D and BMW-2D, which are located approximately 1.5 miles upgradient of the LCPA, (3) lack of radium in monitoring wells immediately adjacent to the LCPA, (4) similarity in radium concentrations between TP-1D and background monitoring well BMW-1D, (5) radium is a naturally occurring element in soils and alluvial aquifer sediments that are derived from igneous rocks within the Missouri River watershed, and (6) the Ozark Aquifer, which discharges into the Missouri River Alluvium, is known to have elevated radium concentrations. A copy of the ASD report for the February/April 2021 sampling event is provided in Appendix E of the 2021 LCPA Annual Groundwater Monitoring and Corrective Action Report.

3.0 APRIL 2022 SAMPLING EVENT

There have been no significant changes in the six (6) lines of evidence (LOE) presented in the February/April 2021 sampling event ASD as summarized in Section 2.0 for radium at TP-1D. TP-1D was installed in June 2018 as a part of the nature and extent evaluation completed under Assessment Monitoring and is used as a Corrective Action Monitoring Well. As displayed in **Figure 1**, TP-1D is located approximately 10,000 feet to the northeast of the LCPA and is not impacted by the LCPA. The following reviews each of the LOEs demonstrating the statistical exceedance from radium is still the result of an alternative source, incorporating the data from the April 2022 sampling event.

- **LOE 1 - A lack of key CCR indicators (boron, sulfate, and molybdenum) in monitoring well TP-1D when compared to background monitoring wells and those adjacent to the LCPA.**

A review of key CCR indicators including boron, sulfate, and molybdenum at TP-1D display that concentrations at TP-1D are within the same range of concentrations reported for background monitoring wells BMW-1D and BMW-2D, and thus are not statistically elevated compared to background wells. Figures with updated timeseries plots including data through the April 2022 sampling event are provided in **Figure 2-4** for these key constituents.

- **LOE 2 - A stable geochemical fingerprint in TP-1D, which closely resembles that of background wells BMW-1D and BMW-2D approximately 1.5 miles upgradient of the LCPA.**

Figure 5 displays a piper diagram that demonstrates that TP-1D data continue to plot in the area of background groundwater and thus the recent statistical exceedance over the GWPS for radium is not a result of influence from the LCPA.

- **LOE 3 & 4 - Lack of radium in monitoring wells immediately adjacent to the LCPA as well as similarities in radium concentrations between TP-1D and background monitoring well BMW-1D.**

Radium concentrations have been evaluated from the monitoring well network adjacent to the LCPA used for Detection and Assessment Monitoring since 2016. Figure 6 displays a box and whisker plot of radium concentrations since the start of CCR monitoring at TP-1D (November 2018) for background monitoring wells (BMW-1D and BMW-2D), TP-1D, and the LCPA Detection/Assessment Monitoring Well Network. As shown in Figure 6 and Figure 7, radium concentrations at TP-1D are most similar to background well BMW-1D and are higher than the concentrations in monitoring wells located immediately adjacent to the LCPA. Additionally, it should be noted that radium has not been identified as an SSL in the Assessment Monitoring Well Network. If elevated impacts for radium were caused by the LCPA, it would be expected that the wells immediately adjacent to the LCPA would show elevated concentrations, like those reported for boron, sulfate, and molybdenum.

- **LOE 5 & 6 - Radium is a naturally occurring element in soils and alluvial aquifer sediments that are derived from igneous rocks within the Missouri River watershed and the Ozark Aquifer, which discharges into the Missouri River Alluvium and is known for higher radium concentrations.**

No new information is available since the February/April 2021 sampling event ASD was prepared. Radium is a natural breakdown product of the radioactive decay of uranium, and both radium and uranium are known to naturally occur within the Missouri River Alluvial Aquifer from the igneous source rocks that comprise the sediments from upgradient locations along the Missouri River and from discharges from the Ozark Aquifer into the alluvial deposits¹.

The Ozark Aquifer is a regional aquifer that is present south of the Missouri River and West of the Mississippi River in the southern parts of Missouri, eastern Kansas, and northern Arkansas. The aquifer is made up mostly of carbonate rocks that are Cambrian through Mississippian in age. The discharges for the Ozark Aquifer in Missouri are the Missouri River to the north and the Mississippi River to the east. In 2012, the United States Geological Survey completed a nationwide study on radium within groundwater aquifers and found that the Mid-Continent and the Ozark Aquifers had the highest average radium concentrations², with more than 20% of the samples included in the study had radium concentrations above the MCL of 5 pCi/L. TP-1D is in the deep zone of the alluvial aquifer, and is situated such that discharges from the Ozark Aquifer may be contributing to the increased radium 226 + 228 at this location.

¹ Gregory, B., Herrmann, A.D., Ireland, T. and Clift, P.D., 2022. Testing the applicability of zircon U-Pb dating as a provenance method in a highly altered river system, Mississippi-Missouri River, USA. Basin Research, 34(1), pp.251-273.

Imes, J.L. and Emmett, L.F., 1994. Geohydrology of the Ozark Plateaus aquifer system in parts of Missouri, Arkansas, Oklahoma, and Kansas (No. 1414-D).

Kleeschulte, M.J., 1993. Water-quality data for the Missouri River and Missouri River alluvium near Weldon Spring, St. Charles County, Missouri, 1991--92 (No. DOE/OR/21990--93-109). Geological Survey.

USGS, 2014. Background Groundwater Quality, review of 2012-14 groundwater data, and Potential Origin of Radium at the West Lake Landfill Site, St. Louis County, Missouri.

² Szabo, Z., Fischer, J.M. and Hancock, T.C., 2012. Principal aquifers can contribute radium to sources of drinking water under certain geochemical conditions. US Department of the Interior, US Geological Survey.

Additionally, the Missouri River Alluvial Aquifer is comprised of alluvial deposits from the Missouri River basin, which encompasses a vast area of the United States including parts of Missouri, Iowa, Kansas, Nebraska, South Dakota, North Dakota, Montana, Wyoming, and Colorado. The sediments in the Missouri River Alluvial Aquifer at the site are made up of a mixture of sediments from all reaches of the Missouri River Basin. Uranium deposits and many igneous rocks containing uranium occur at numerous locations within the Missouri River Basin. Therefore, the alluvial aquifer sediments in the vicinity of TP-1D (as well as background well BMW-1D) likely include naturally occurring uranium-containing deposits which are likely resulting in the radium concentrations measured at these locations.

In summary, based on the information presented in this ASD, the statistical exceedance for radium in TP-1D is not a result of impacts from the LCPA, but appears to be the result of natural geochemical variability within the alluvial aquifer.

CERTIFICATION STATEMENT

This *LCPA Corrective Action – Alternative Source Demonstration, 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 Golder Associates Inc.

I hereby certify that this *LCPA Corrective Action – Alternative Source Demonstration, 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).

Golder Associates USA Inc.



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

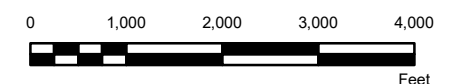
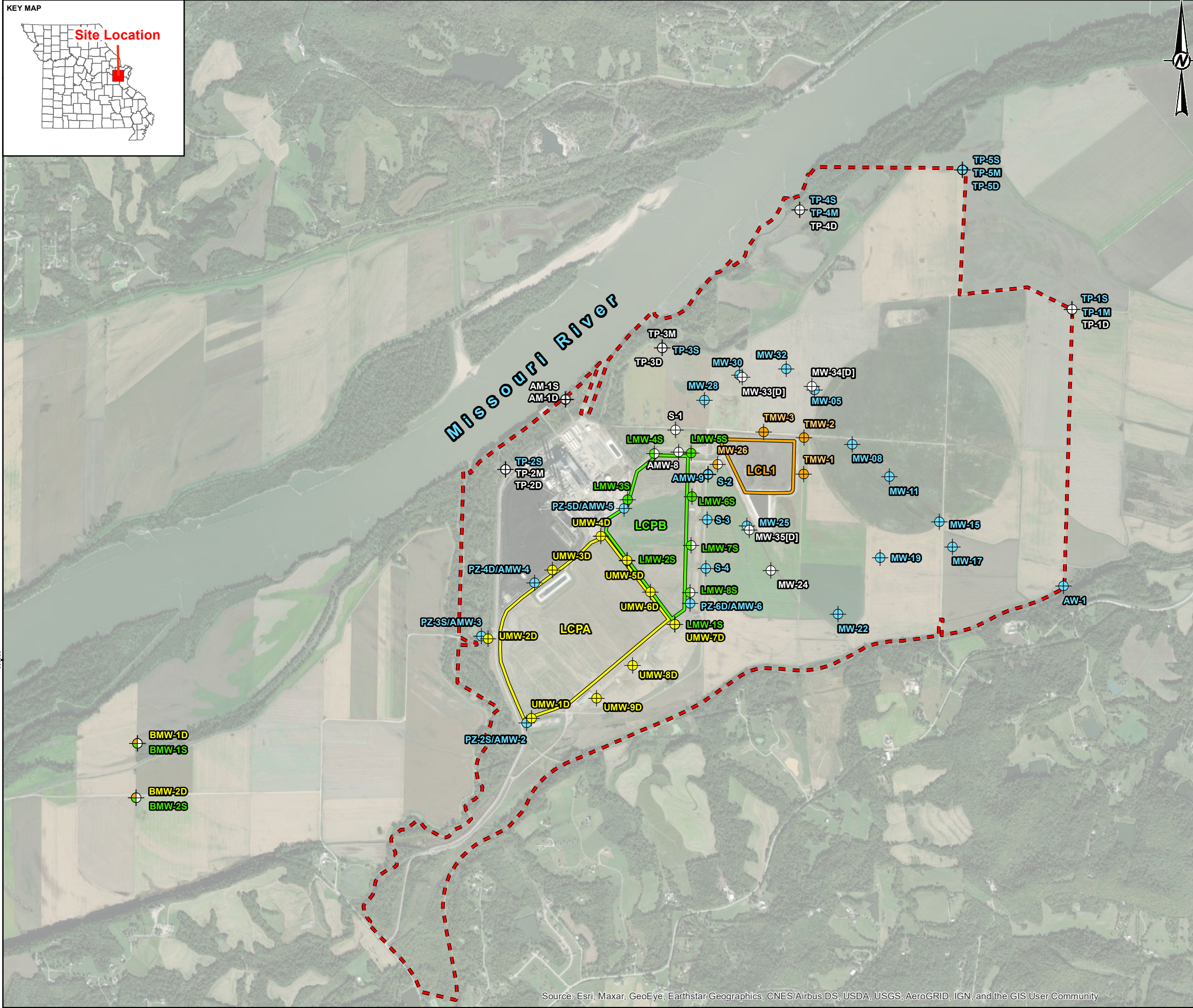
Attachments: **Figure 1** – Labadie Energy Center Groundwater Monitoring Programs and Monitoring Well Location Map
Figure 2 – Timeseries Plot of Boron Concentrations at TP-1D and Background Monitoring Wells
Figure 3 – Timeseries Plot of Sulfate Concentrations at TP-1D and Background Monitoring Wells
Figure 4 – Timeseries Plot of Molybdenum Concentrations at TP-1D and Background Monitoring Wells
Figure 5 – TP-1D Piper Diagram
Figure 6 – Box and Whiskers Plot of Radium 226 + 228 Concentrations at TP-1D and LCPA Monitoring Wells
Figure 7 – Timeseries Plot of Radium 226 + 228 Concentrations at TP-1D and Background Monitoring Wells

Figures



- 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

P:\14 - C:\Users\jgolder\Documents\153140601_02 - Ameren CCR GW Monitoring Program 2020 - APFS Technical Report\001-LECS & Figures\Drawings\PRODUCTION\Other Maps\Figures 1 - 2020 LEC-A1 Well Map.mxd PRINTED ON: 2022-01-19 AT: 5:25:56 PM



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

REFERENCE(S)
1.) ZAHNER AND ASSOCIATES, INC. 2016. LOT CONSOLIDATION PLAT OF "LABADIE ENERGY CENTER" - PREPARED FOR AMEREN MISSOURI. REVISED JUNE 15, 2016.
2.) COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2,401 FEET.

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
GROUNDWATER MONITORING PROGRAM



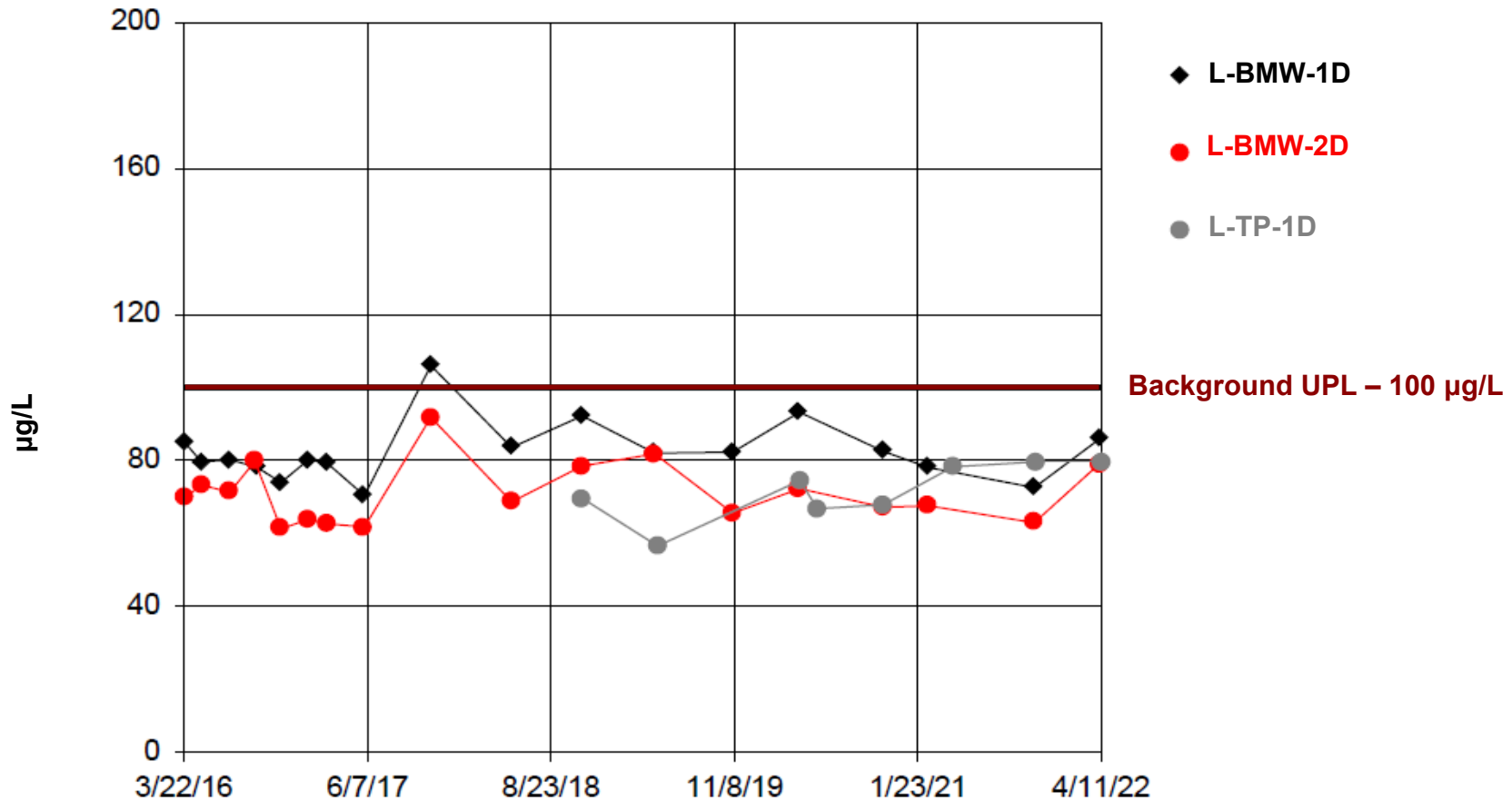
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LABADIE ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

CONSULTANT	YYYY-MM-DD	2022-01-20
DESIGNED	JSI	
PREPARED	ETF	
REVIEWED	BTT	
APPROVED	MNH	

PROJECT NO. 153140604 CONTROL 1240

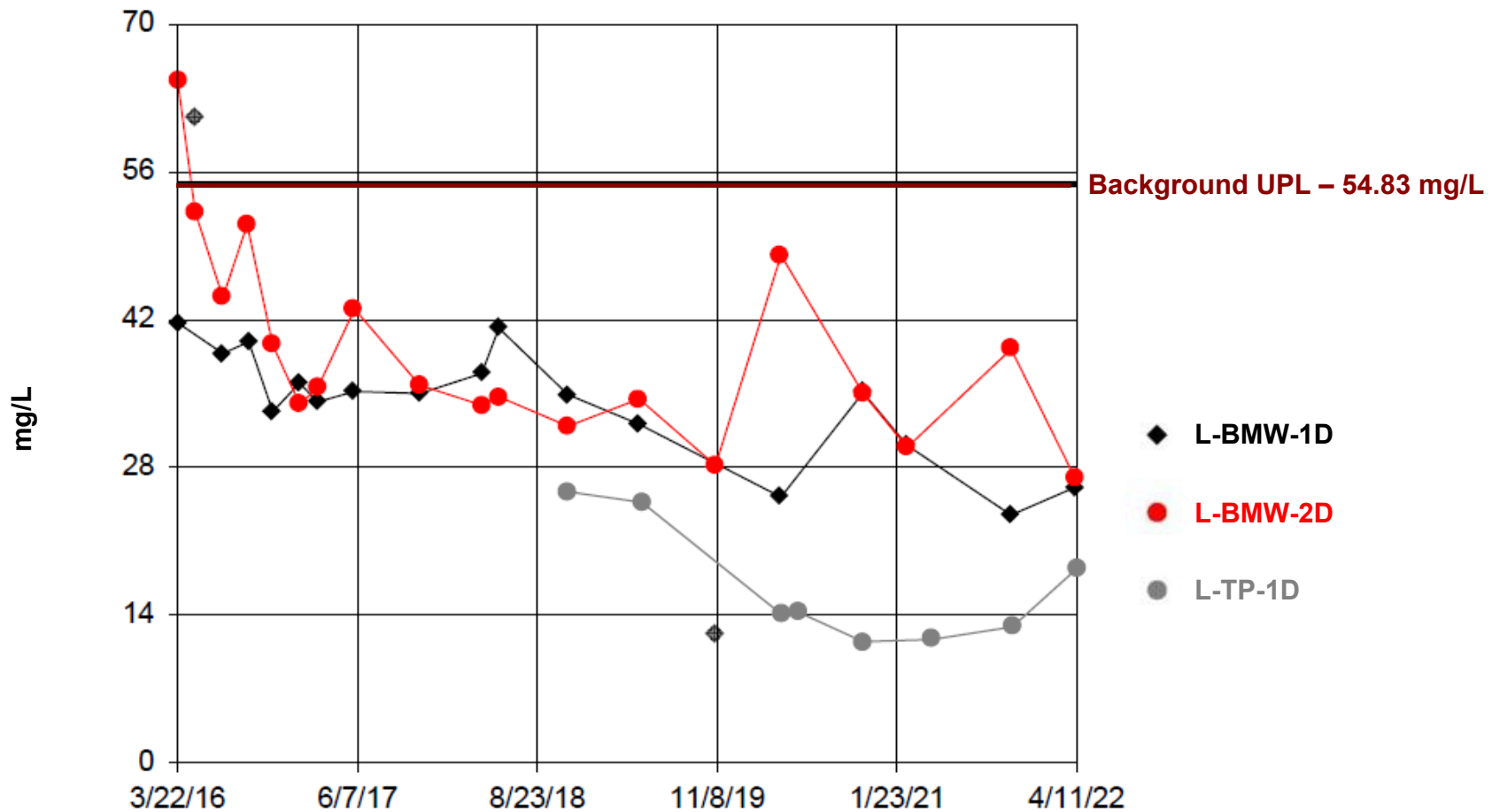
FIGURE 1

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



- Notes
- 1) µg/L – Micrograms per liter.
 - 2) UPL – Upper Prediction Limit.
 - 3) The UPL for background monitoring wells BMW-1D and BMW-2D is set at the Double Quantification Rule (DQR) because the entire background dataset is reported as ND or estimated (J-flag). In this case the DQR can be numerically represented as the practical quantitation limit (PQL).
 - 4) PQL – Practical Quantitation Limit is the minimum concentration of an analyte (substance) that can be measured with a high degree of confidence that the analyte is present at or above that concentration (typically 5-10x higher than the MDL). In this case, 100 µg/L is the general PQL for boron.

CLIENT/PROJECT AMEREN MISSOURI LABADIE ENERGY CENTER										TITLE Timeseries Plot of Boron Concentrations at TP-1D and Background Monitoring Wells			
DRAWN BTT	CHECKED EMS	REVIEWED MNH	DATE 2022-07-19	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 2			



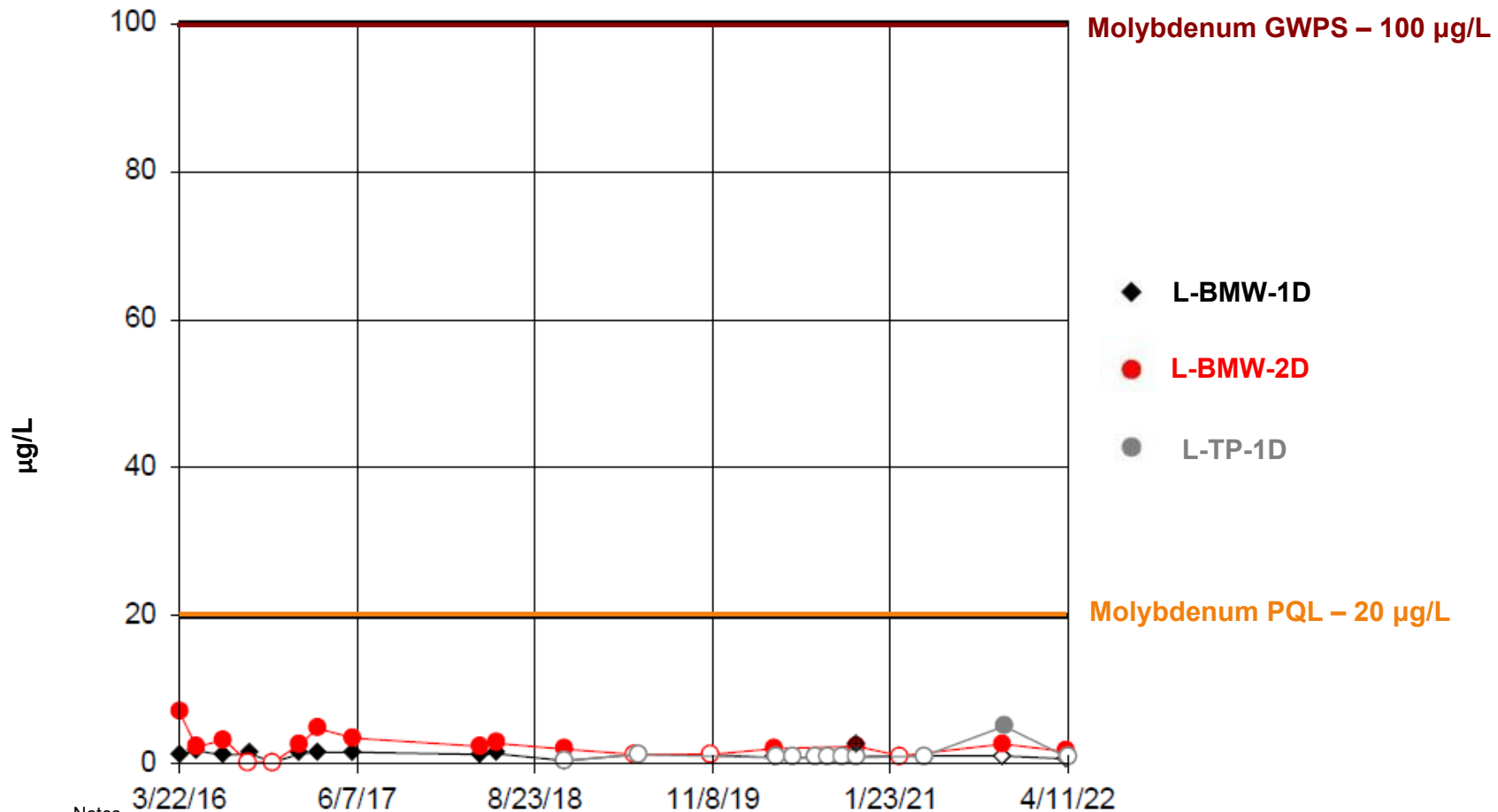
- Notes
- 1) mg/L – Milligrams per liter.
 - 2) UPL – Upper Prediction Limit.
 - 3) Data points not connected to lines are considered outliers.

CLIENT/PROJECT
AMEREN MISSOURI
LABADIE ENERGY CENTER



TITLE
Timeseries Plot of Sulfate Concentrations
at TP-1D and Background Monitoring Wells

DRAWN BTT	CHECKED EMS	REVIEWED MNH	DATE 2022-07-19	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 3
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Notes

- 1) µg/L – Micrograms per liter.
- 2) GWPS – Groundwater Protection Standard.
- 3) PQL – Practical Quantitation Limit, the minimum concentration of an analyte (substance) that can be measured with a high degree of confidence that the analyte is present at or above that concentration (typically 5-10x higher than the MDL). Generally, the PQL for molybdenum is 20 µg/L.
- 4) Data points not filled in indicate a Non-Detect result.
- 5) Data points not connected to lines are considered outliers.

CLIENT/PROJECT
**AMEREN MISSOURI
 LABADIE ENERGY CENTER**



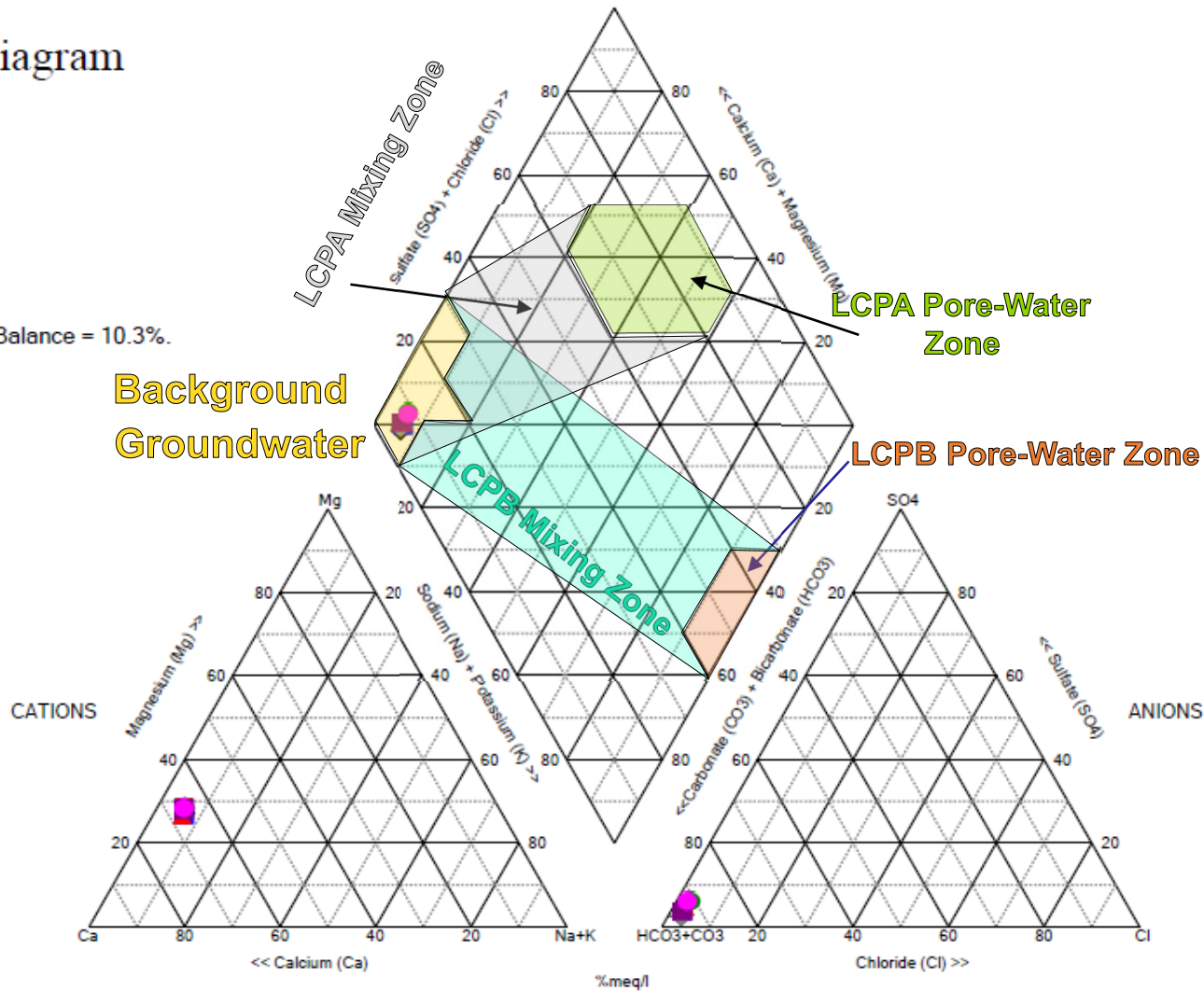
TITLE
**Timeseries Plot of Molybdenum
 Concentrations at TP-1D and Background
 Monitoring Wells**

DRAWN BTT	CHECKED EMS	REVIEWED MNH	DATE 2022-07-19	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 4
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Piper Diagram

L-TP-1D

Cation-Anion Balance = 10.3%.



- Notes
- 1) Piper diagram generated using Sanitas Software.
 - 2) Data used to calculate diagrams provided in previous Annual Reports for the LCPCB.
 - 3) %mEq/l – milliequivalents per liter.

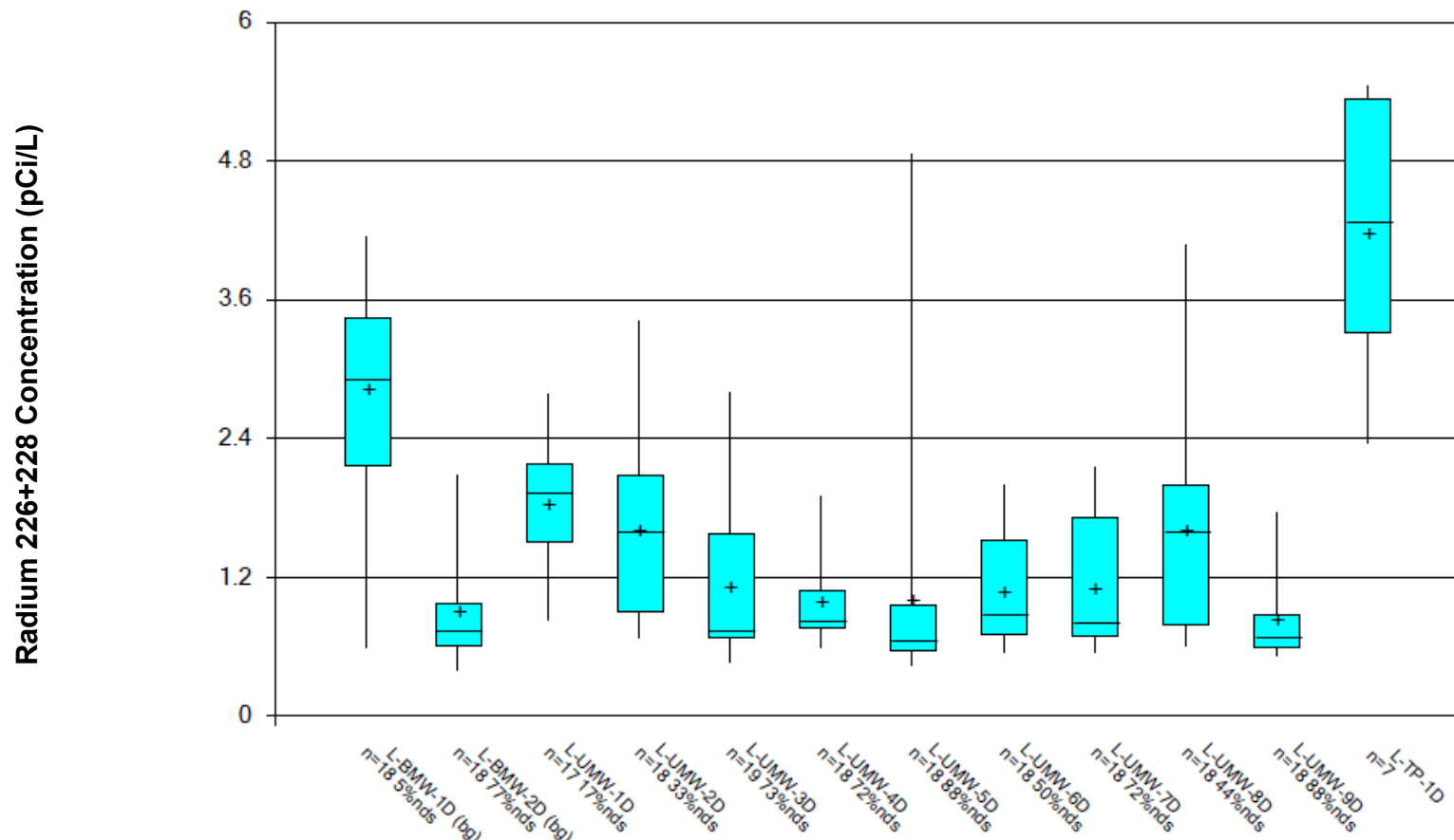
CLIENT/PROJECT
AMEREN MISSOURI
LABADIE ENERGY CENTER



TITLE
TP-1D Piper Diagram

DRAWN BTT	CHECKED GTM	REVIEWED MNH	DATE 2022-07-19	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 5
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Box & Whiskers Plot



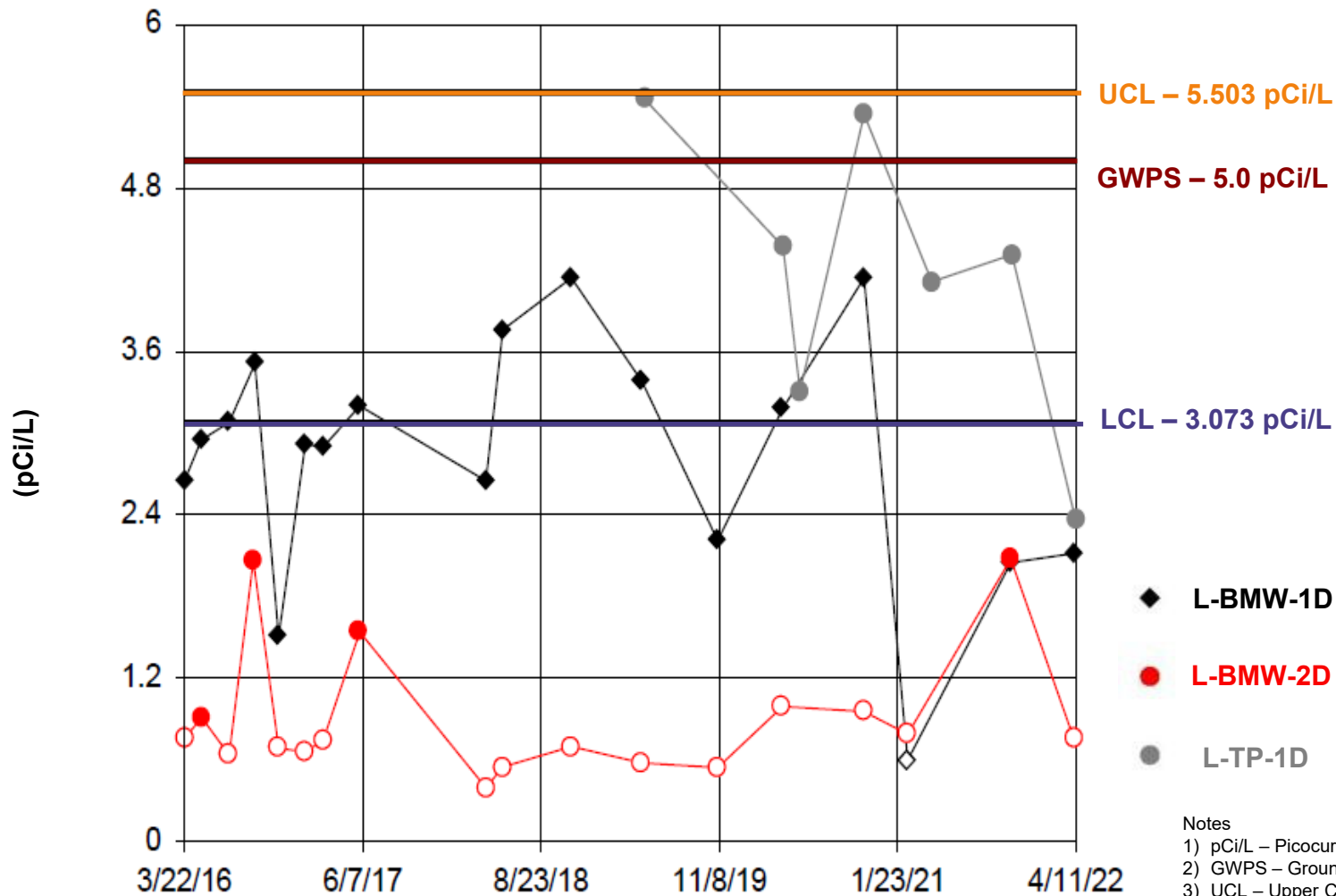
Notes
1) pCi/L – Picocuries per liter.

CLIENT/PROJECT
AMEREN MISSOURI
LABADIE ENERGY CENTER



TITLE
**Box and Whiskers Plot of Radium 226+228
at TP-1D & LCPA Monitoring Wells**

DRAWN BTT	CHECKED GTM	REVIEWED MNH	DATE 2022-07-19	SCALE N/A	FILE NO. N/A	JOB NO. 153140604.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 6
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- Notes
- 1) pCi/L – Picocuries per liter.
 - 2) GWPS – Groundwater Protection Standard.
 - 3) UCL – Upper Confidence Limit.
 - 4) LCL – Lower Confidence Limit.
 - 5) Data points not filled in indicate a Non-Detect result.

CLIENT/PROJECT
**AMEREN MISSOURI
 LABADIE ENERGY CENTER**



TITLE **Timeseries Plot of Radium 226 + 228
 Concentrations at TP-1D and Background
 Monitoring Wells**

DRAWN BTT	CHECKED GTM	REVIEWED MNH	DATE 2022-07-19	SCALE N/A	FILE NO. N/A	JOB NO. 153140603.0001	DWG NO. N/A	SUBTITLE N/A	REV. NO. N/A	FIGURE 7
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APPENDIX H

2022 Potentiometric Surface Maps



LEGEND

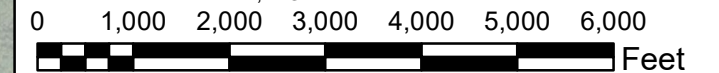
- Labadie Energy Center Property Boundary
- Utility Waste Landfill (UWL)**
- Proposed Final UWL Fence Perimeter
- LCL1 - Utility Waste Landfill Cell 1
- Surface Impoundments**
- LCPA - Bottom Ash Surface Impoundment
- LCPB - Fly Ash Surface Impoundment
- Monitoring Well or Piezometer**
- Monitoring Well 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 ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
4. MISSOURI RIVER LEVEL OBTAINED FROM USGS LABADIE GAUGE 06935550.
5. THE UWL BOUNDARIES AND DESIGNATIONS ARE BASED ON AMEREN LABADIE CONSTRUCTION PERMIT APPLICATION DRAWINGS.
6. 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. COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2,401 FEET.
3. USGS (UNITED STATES GEOLOGICAL SURVEY), NATIONAL WATER INFORMATION SYSTEM, USGS GAUGE 06935550 MISSOURI RIVER NEAR LABADIE, MO.



CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
FEBRUARY 9, 2022 POTENTIOMETRIC SURFACE MAP

CONSULTANT	YYYY-MM-DD	2022-12-05
	PREPARED	GTM
	DESIGN	JSI
	REVIEW	SSS/EMS
	APPROVED	MNH

PROJECT No. 153140604 PHASE 0001 FIGURE **H1**

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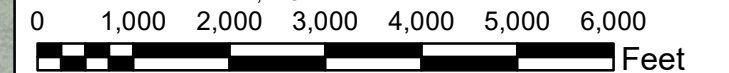
- Labadie Energy Center Property Boundary
- Utility Waste Landfill (UWL)**
- Proposed Final UWL Fence Perimeter
- LCL1 - Utility Waste Landfill Cell 1
- Surface Impoundments**
- LCPA - Bottom Ash Surface Impoundment
- LCPB - Fly Ash Surface Impoundment
- Monitoring Well or Piezometer**
- Monitoring Well or Piezometer
- Surface Water Elevation Measurement Location**
- Missouri River Gauge
- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
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NOTES

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2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
4. MISSOURI RIVER LEVEL OBTAINED FROM USGS LABADIE GAUGE 06935550.
5. THE UWL BOUNDARIES AND DESIGNATIONS ARE BASED ON AMEREN LABADIE CONSTRUCTION PERMIT APPLICATION DRAWINGS.
6. 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. COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2,401 FEET.
3. USGS (UNITED STATES GEOLOGICAL SURVEY), NATIONAL WATER INFORMATION SYSTEM, USGS GAUGE 06935550 MISSOURI RIVER NEAR LABADIE, MO.



CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER



PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
APRIL 5, 2022 POTENTIOMETRIC SURFACE MAP

CONSULTANT	YYYY-MM-DD	2023-01-05
	PREPARED	JSI
	DESIGN	JSI
	REVIEW	BTT
	APPROVED	MNH

PROJECT No.
153140604

PHASE
0001

FIGURE
H2

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

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



LEGEND

Labadie Energy Center Property Boundary

Utility Waste Landfill (UWL)

Proposed Final UWL Fence Perimeter

LCL1 - Utility Waste Landfill Cell 1

Surface Impoundments

LCPA - Bottom Ash Surface Impoundment

LCPB - Fly Ash Surface Impoundment

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)

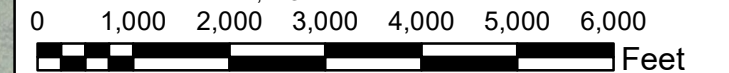
Groundwater Flow Direction

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY GOLDER.
3. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
4. MISSOURI RIVER LEVEL OBTAINED FROM USGS LABADIE GAUGE 06935550.
5. THE UWL BOUNDARIES AND DESIGNATIONS ARE BASED ON AMEREN LABADIE CONSTRUCTION PERMIT APPLICATION DRAWINGS.
6. GROUNDWATER ELEVATION COULD NOT BE COLLECTED WITHIN 24 HOURS OF OTHER ELEVATIONS DUE TO AN OBSTRUCTION AT AM-1D.

REFERENCES

1. ZAHNER AND ASSOCIATES, INC. 2016. LOT CONSOLIDATION PLAT OF "LABADIE ENERGY CENTER" - PREPARED FOR AMEREN MISSOURI. REVISED JUNE 15, 2016.
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2,401 FEET.
3. USGS (UNITED STATES GEOLOGICAL SURVEY), NATIONAL WATER INFORMATION SYSTEM, USGS GAUGE 06935550 MISSOURI RIVER NEAR LABADIE, MO.



CLIENT

AMEREN MISSOURI
LABADIE ENERGY CENTER



PROJECT

CCR GROUNDWATER MONITORING PROGRAM

TITLE

JUNE 21, 2022 POTENTIOMETRIC SURFACE MAP

CONSULTANT



YYYY-MM-DD	2023-01-05
PREPARED	ETF
DESIGN	ETF
REVIEW	GTM
APPROVED	MNH

PROJECT No.
153140604

PHASE
0001

FIGURE
H3

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,



LEGEND

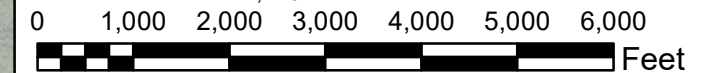
- Labadie Energy Center Property Boundary
- Utility Waste Landfill (UWL)**
- Proposed Final UWL Fence Perimeter
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- LCPA - Bottom Ash Surface Impoundment
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- Groundwater Elevation Contours**
- Groundwater Elevation Contour (FT MSL)
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3. GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
4. MISSOURI RIVER LEVEL OBTAINED FROM USGS LABADIE GAUGE 06935550.
5. THE UWL BOUNDARIES AND DESIGNATIONS ARE BASED ON AMEREN LABADIE CONSTRUCTION PERMIT APPLICATION DRAWINGS.

REFERENCES

1. ZAHNER AND ASSOCIATES, INC. 2016. LOT CONSOLIDATION PLAT OF "LABADIE ENERGY CENTER" - PREPARED FOR AMEREN MISSOURI. REVISED JUNE 15, 2016.
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI EAST FIPS 2,401 FEET.
3. USGS (UNITED STATES GEOLOGICAL SURVEY), NATIONAL WATER INFORMATION SYSTEM, USGS GAUGE 06935550 MISSOURI RIVER NEAR LABADIE, MO.



CLIENT
AMEREN MISSOURI
 LABADIE ENERGY CENTER

PROJECT
 CCR GROUNDWATER MONITORING PROGRAM

TITLE
OCTOBER 24, 2022 POTENTIOMETRIC SURFACE MAP

CONSULTANT	YYYY-MM-DD	2023-01-05
	PREPARED	ETF
	DESIGN	JSI
	REVIEW	GTM
	APPROVED	MNH

PROJECT No. 153140604 PHASE 0001 FIGURE **H4**

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics,

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