REPORT

2020 Annual Groundwater Monitoring and Corrective Action Report

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

Submitted to:

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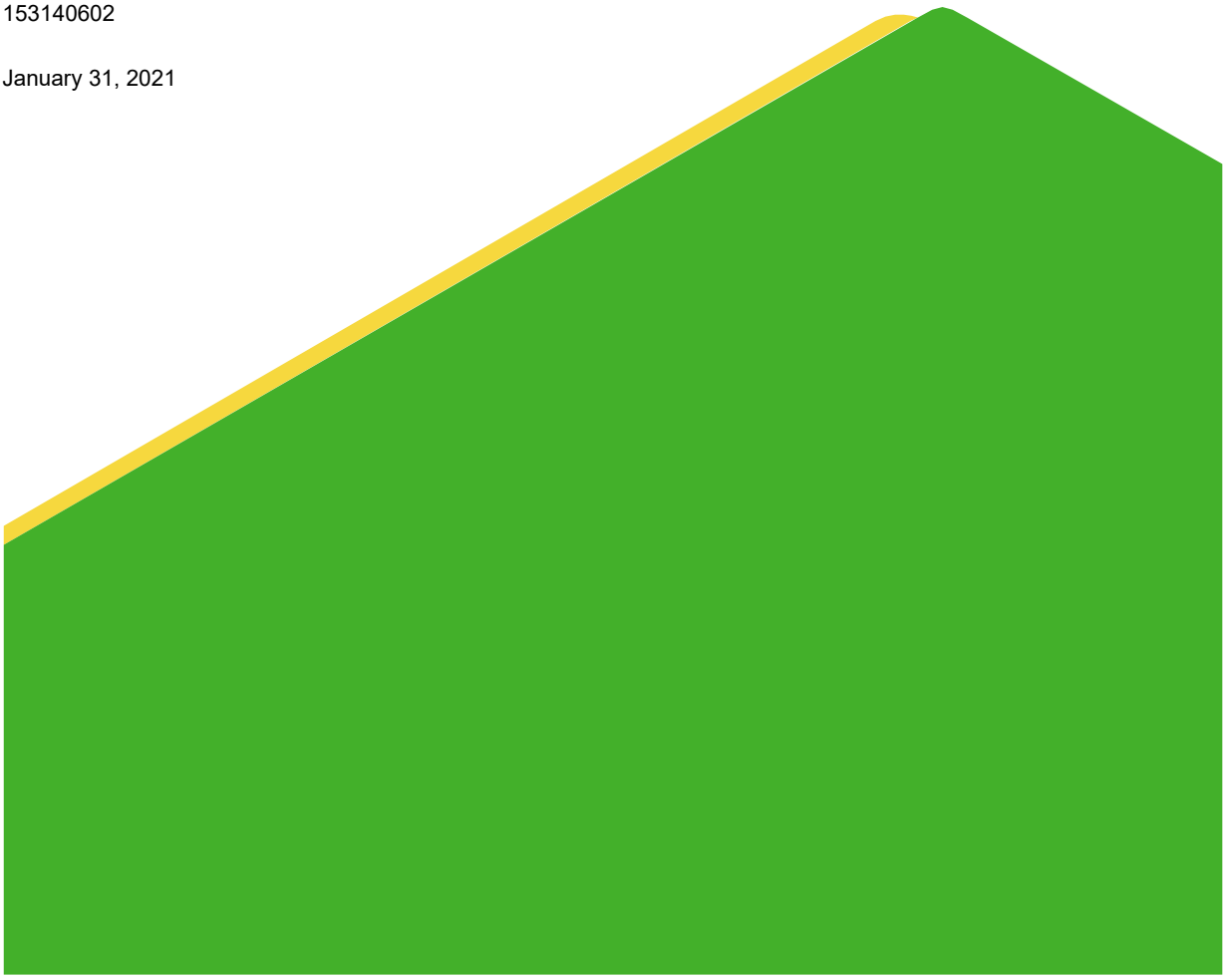

1.0 EXECUTIVE SUMMARY AND STATUS OF THE LCPA GROUNDWATER MONITORING PROGRAM

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) is subject to the requirements of the CCR Rule. This Annual Report for the LCPA describes CCR Rule groundwater monitoring activities from January 1, 2020 through December 31, 2020, including verification results related to late 2019 sampling.

Throughout 2020, 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. 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 2020 LCPA Sampling Events, Previous Year Verification, and Statistical Evaluations

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSLs	SSI & SSL Determination Date
November 2019 Sampling Event	Detection & Assessment Monitoring, November 5-7, 2019	December 9, 2019	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions	**pH:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, AM-1D **Boron:** UMW-1D, UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D, AM-1S, AM-1D **Calcium:** UMW-7D, AM-1S **Chloride:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-9D, AM-1D **Fluoride:** UMW-2D, AM-1D **Sulfate:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D, AM-1D **TDS:** UMW-1D, UMW-3D(R), UMW-4D, UMW-6D, UMW-7D, UMW-8D, AM-1S, AM-1D	**Molybdenum:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D, AM-1D	March 2, 2020
	Verification Sampling, January 6-7, 2020	January 15 & 22, 2020	Detected Appendix III parameters (See Note 2)			
April 2020 Sampling Event	Detection & Assessment Monitoring, April 14-16, 2020	May 12, 2020	Appendix III, Appendix IV, & Major Cations and Anions	**pH:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D **Boron:** UMW-1D, UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D **Calcium:** UMW-7D, UMW-8D **Chloride:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-9D **Fluoride:** UMW-2D, UMW-4D, UMW-7D **Sulfate:** UMW-2D, UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D, UMW-8D **TDS:** UMW-1D, UMW-3D(R), UMW-4D, UMW-6D, UMW-7D, UMW-8D	**Molybdenum:** UMW-3D(R), UMW-4D, UMW-5D, UMW-6D, UMW-7D	August 10, 2020
	Verification Sampling, May 27-29, 2020	June 11, 2020	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
November 2020 Sampling Event	Detection & Assessment Monitoring, November 2-5, 2020	December 4, 2020	Appendix III, Detected Appendix IV (See Note 3), & Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2021.		

Notes:
1) Testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the April-October 2019 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 2020 sampling event.
4) SSI – Statistically Significant Increase.
5) SSL – Statistically Significant Level.
6) TDS – Total Dissolved Solids.

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

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

2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. MNA occurs due to naturally occurring processes within the aquifer.[1]

On September 28, 2019, Ameren commenced Phase 1 by initiating closure at the LCPA. Closure of the LCPA is currently substantially completed with the completion of the liner cover system on December 30, 2020. Once closure is fully completed (anticipated Q2, 2021), the LCPA will transition 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 section §257.95 (Assessment Monitoring Program). Phase 2 of the corrective measures remedial plan as outlined in the Remedy Selection Report will commence in 2021, with the first MNA sampling event and associated statistical analysis planned for the second quarter of 2021.

In addition to the Remedy Selection Report, the CCR Rule outlines that, at a minimum, Corrective Action Monitoring must meet the requirements of an Assessment Monitoring program under §257.95 (Assessment

[1] Ameren is installing a groundwater treatment system at its Rush Island Energy Center that is designed to accelerate the timeframe for attaining compliance with applicable groundwater standards as required by an underground injection permit to be issued by Missouri Department of Natural Resources (MDNR). Assuming such system is successful at Rush Island Energy Center, Ameren intends to employ similar technology at Labadie and design efforts for such system are underway.

Monitoring Program). Therefore, to comply with the requirements of the CCR Rule, three (3) baseline sampling events were completed in 2020 for the Corrective Action Monitoring Well Network.

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2.0 INSTALLATION OR DECOMMISSIONING OF MONITORING WELLS

There are currently two (2) different networks used for monitoring the LCPA, the monitoring well network established under §257.91 for Detection and Assessment Monitoring and the network established under §257.98 for Corrective Action Monitoring, see **Figure 1**. No new wells were installed or decommissioned in 2020, however, based on further evaluations of the site, AM-1D (UMW-10D) and AM-1S (UMW-10S) were removed from the Detection and Assessment Groundwater Monitoring Network after the November 2019 sampling event and added to the Corrective Action Monitoring Well network prior to the April 2020 sampling event. A summary of the well construction details for monitoring wells in both networks is provided in **Table 2**. Further details including well construction diagrams for these wells are provided in previous annual reports for the LCPA.

3.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections review the sampling events completed for the LCPA CCR Unit in 2020. **Tables 3** and **4** provide a summary of the groundwater samples collected in 2020 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.

3.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 5-7, 2019. Verification sampling and the statistical analysis to evaluate for SSIs for the November 2019 event were not completed until 2020 and are therefore included in this report. Detections of Appendix III analytes triggered a Verification sampling event, which was completed on January 6-7, 2020 and verified SSIs. **Table 5** summarizes the results and the statistical analysis of the November 2019 Detection Monitoring event.

Detection Monitoring samples were collected April 14-16, 2020, and testing was completed for all Appendix III analytes, as well as major cations and anions. As discussed above, prior to this event, AM-1S (UMW-10S) and AM-1D (UMW-10D) were removed from the Detection and Assessment Monitoring Well Networks and added to the Corrective Action Monitoring Well Network. Statistical analysis of the data determined SSIs. Detections of Appendix III analytes triggered Verification sampling, which was completed May 27-29, 2020 and the testing results verified SSIs. **Table 6** summarizes the results and the statistical analysis of the April 2020 Detection Monitoring event.

A Detection Monitoring sampling event was completed November 2-5, 2020 and testing was performed for all Appendix III analytes, as well as major cations and anions. Statistical analyses to evaluate for SSIs in the November 2020 data were not completed in 2020 and will be included in the 2021 Annual Report. **Table 7** summarizes the results of the November 2020 Detection Monitoring event.

3.2 Assessment Monitoring Program

An Assessment Monitoring sampling event was completed November 5-7, 2019 and testing was completed for Appendix IV parameters detected during the April-May 2019 sampling event. The statistical evaluation for this event was completed in 2020 and is included in this report. **Table 8** summarizes the results of the November 2019 Assessment Monitoring event. Based on the analysis, one new SSL was identified in the November 2019 sampling event for Molybdenum at monitoring well AM-1D (UMW-10D). The results from this analysis and a table that displays the site-specific GWPS are provided in **Appendix B**. The SSLs for the LCPA for the November 2019 sampling event are:

- Molybdenum at UMW-3D, UMW-4D, UMW-5D, UMW-6D, UMW-7D, and AM-1D (UMW-10D)

An Assessment Monitoring sampling event was completed April 14-16, 2020 and testing was completed for all Appendix IV analytes. As discussed above, prior to this event, AM-1S (UMW-10S) and AM-1D (UMW-10D)

were removed from the Detection and Assessment Monitoring Well Network and added to the Corrective Action Monitoring Well Network. Statistical analysis of the data is provided in **Appendix C** and determined there were no new SSLs. **Table 9** summarizes the results of the April 2020 Assessment Monitoring event. The SSLs for the LCPA for the April 2020 sampling event are as follows:

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

An Assessment Monitoring sampling event was completed November 2-5, 2020 and testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the April 2020 sampling event from either the Detection and Assessment or Corrective Action Groundwater Monitoring Well Networks. **Table 10** summarizes the results of the November 2020 Assessment Monitoring event; however, statistical analyses to evaluate SSLs were not completed in 2020. Results of the statistical evaluation will be included in the 2021 Annual Report.

3.3 Corrective Action Monitoring Program

The initial baseline Corrective Action sampling event was completed April 14-20, 2020 and testing was completed for all Appendix IV analytes, as well as other selected MNA parameters and major cations and anions. A summary of the April 2020 Corrective Action sampling event results is provided in **Table 11**. A Corrective Action sampling event was completed May 26-29, 2020 and testing was completed for all Appendix III analytes, detected Appendix IV analytes (above the PQL) from the April 2020 sampling event from either the Detection and Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. The results of the May 2020 Corrective Action sampling event are provided in **Table 12**.

A Corrective Action sampling event was completed November 2-5, 2020 and testing was completed for Appendix III analytes, detected Appendix IV parameters from the April 2020 sampling event, as well as major cations and anions. **Table 13** summarizes the results of the November 2020 Corrective Action sampling event.

Supplemental Corrective Action sampling events were also completed in 2020 for statistical data collection. These supplemental events were completed because a minimum of four (4) values are required, and eight (8) are recommended by the Unified Guidance (USEPA, 2009), for statistical analysis. Therefore, prior to the initiation of Phase 2 of the corrective action remedial plan as outlined in the Remedy Selection Report, a minimum of eight (8) sample results were collected for parameters present at an SSL (Molybdenum) for all monitoring wells within the Corrective Action Groundwater Monitoring Well Network. Results from this sampling are provided in **Table 14**.

3.4 Groundwater Elevation, Flow Rate and Direction

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

Groundwater elevations were used to generate potentiometric surface maps included in **Appendix D**. As shown on the potentiometric surface maps, groundwater flow direction within the uppermost aquifer is dynamic and influenced by seasonal changes in water level of 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 (bluffs area) to the north (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 monitoring wells at the LEC using commercially available software. Results from this assessment indicate that while groundwater flow direction is variable, the overall net groundwater flow at the LCPA is from the bluffs toward the river. Horizontal gradients calculated by the program range from 0.0001 to 0.0007 feet/foot with an estimated net annual groundwater movement of approximately 18 feet in the prevailing downgradient direction.

3.5 Sampling Issues

As discussed in the 2019 Annual Report, in August 2019, the riser pipe and protective cover at UMW-6D were modified due to construction requirements associated with the closures of the LCPA and LCPB CCR Units. That modification was temporary until the final grading associated with the closure was completed. On October 15, 2020, the final modification of the riser pipe and protective cover for UMW-6D was completed. **Appendix E** provides the Missouri Department of Natural Resources (MDNR) Reconstruction Registration Report and updated well construction diagram associated with this final modification.

No other notable sampling issues were encountered at the LCPA in 2020.

4.0 ACTIVITIES PLANNED FOR 2021

Detection and Assessment Monitoring are scheduled to continue on a semi-annual basis in the second and fourth quarters of 2021. Statistical analysis of the November 2020 Detection and Assessment Monitoring data will be completed in 2021 and will be included in the 2021 Annual Report.

The first Corrective Action sampling event associated with Phase 2 of the corrective measures remedial plan is scheduled to be completed in the second quarter of 2021. This event will be followed by a second semi-annual event scheduled for the fourth quarter of 2021. Monitoring and statistical evaluation of MNA will be completed in accordance with the corrective measures remedial plan discussed in the Remedy Selection Report.

Tables

Table 2
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 3
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				
	January 2020 Verification Sampling	April 2020 Assessment/ Detection Monitoring	May 2020 Verification Sampling	November 2020 Assessment/ Detection Monitoring	Total Number of Samples
CCR Rule Compliance Monitoring Well Network					
BMW-1D	-	4/14/2020	-	11/2/2020	2
BMW-2D	-	4/14/2020	-	11/2/2020	2
UMW-1D	1/6/2020	4/16/2020	-	11/4/2020	3
UMW-2D	1/6/2020	4/14/2020	-	11/2/2020	3
UMW-3D(R)	-	4/14/2020	-	11/4/2020	2
UMW-4D	1/7/2020	4/14/2020	5/27/2020	11/4/2020	4
UMW-5D	1/7/2020	4/14/2020	-	11/5/2020	3
UMW-6D	-	4/14/2020	-	11/4/2020	2
UMW-7D	1/6/2020	4/16/2020	5/27/2020	11/5/2020	4
UMW-8D	1/6/2020	4/16/2020	5/29/2020	11/2/2020	4
UMW-9D	1/6/2020	4/16/2020	-	11/2/2020	3
AM-1D (UMW-10D)	1/7/2020	-	-	-	1
AM-1S (UMW-10S)	1/7/2020	-	-	-	1
Detection or Assessment Monitoring	Detection	Assessment/ Detection	Detection	Assessment/ Detection	NA

Notes:

1.) Detection Monitoring results provided in Tables 5-7.

2.) Verification Sampling results provided in Tables 5-6.

3.) Assessment Monitoring results provided in Tables 8-10.

4.) "-" No sample collected for Detection or Assessment Monitoring programs.

5.) NA - Not Applicable.

Prepared by: BTT
Checked by: EMS
Reviewed by: MNH

Table 4
Summary of Corrective Action Groundwater Network Sampling Dates
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

Groundwater Monitoring Wells	Date of Sample Collection							
	April 2020 Sampling Event	May 2020 Sampling Event	June 2020 Sampling Event	July 2020 Sampling Event	August 2020 Sampling Event	September 2020 Sampling Event	November 2020 Sampling Event	Total Number of Samples
Corrective Action Monitoring Well Network								
BMW-1S	4/14/2020	5/29/2020	-	-	-	-	11/2/2020	3
BMW-2S	4/14/2020	5/29/2020	-	-	-	-	11/2/2020	3
LMW-1S	4/16/2020	5/27/2020	-	-	-	-	11/5/2020	3
LMW-2S	4/14/2020	5/27/2020	-	-	-	-	11/5/2020	3
LMW-4S	4/20/2020	5/26/2020	-	-	-	-	11/4/2020	3
LMW-7S	4/16/2020	5/27/2020	-	-	-	-	11/5/2020	3
LMW-8S	4/16/2020	5/26/2020	-	-	-	-	11/5/2020	3
MW-24	4/15/2020	5/28/2020	-	-	-	-	11/2/2020	3
MW-26	4/20/2020	5/27/2020	-	-	-	-	11/2/2020	3
S-1	4/15/2020	5/27/2020	-	-	-	-	11/2/2020	3
TP-1D	4/15/2020	5/27/2020	-	7/21/2020	8/24/2020	9/30/2020	11/2/2020	6
TP-2M	4/20/2020	5/28/2020	-	7/21/2020	8/25/2020	9/30/2020	11/3/2020	6
TP-2D	4/20/2020	5/28/2020	-	7/21/2020	8/25/2020	9/30/2020	11/3/2020	6
TP-3M	4/15/2020	5/29/2020	-	7/20/2020	8/24/2020	9/30/2020	11/4/2020	6
TP-3D	4/15/2020	5/29/2020	-	7/20/2020	8/24/2020	9/30/2020	11/4/2020	6
TP-4D	4/15/2020	5/29/2020	-	7/20/2020	8/24/2020	9/30/2020	11/4/2020	6
MW-33(D)	4/15/2020	5/28/2020	-	-	-	-	11/4/2020	3
MW-34(D)	4/15/2020	5/28/2020	-	-	-	-	11/4/2020	3
MW-35(D)	4/15/2020	5/28/2020	-	-	-	-	11/2/2020	3
AMW-8	4/20/2020	5/27/2020	6/23/2020	7/21/2020	-	-	11/3/2020	5
AM-1D (UMW-10D)	4/20/2020	5/28/2020	-	-	8/25/2020	-	11/3/2020	4
AM-1S (UMW-10S)	4/20/2020	5/28/2020	-	-	8/25/2020	-	11/3/2020	4
Event Type	Corrective Action	Corrective Action	Corrective Action	Corrective Action	Corrective Action	Corrective Action	Corrective Action	NA

Notes:

1.) Corrective Action sampling results provided in Tables 11-13.

2.) Additional Corrective Action sampling results from June 2020 through September 2020 provided in Table 14.

3.) "-" No sample collected.

4.) NA - Not Applicable.

Prepared by: BTT
Checked by: EMS
Reviewed by: MNH

Table 5
November 2019 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS										
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D	AM-1S	AM-1D
November 2019 Detection Monitoring Event															
DATE	NA	NA	11/5/2019	11/5/2019	11/6/2019	11/7/2019	11/7/2019	11/7/2019	11/7/2019	11/7/2019	11/6/2019	11/5/2019	11/6/2019	11/7/2019	11/7/2019
pH	SU	6.33-7.50	7.15	7.31	7.28	7.58	8.76	8.20	9.31	8.90	7.30	7.10	7.31	6.81	7.73
BORON, TOTAL	µg/L	100.2	82.3 J	65.6 J	1,340	1,010	9,090	4,810	10,200	13,200	11,000	1,680	106	242	7,010
CALCIUM, TOTAL	µg/L	150,626	124,000	124,000	130,000 J	85,000	119,000	90,000	96,100	118,000	266,000 J	143,000	119,000	218,000	87,800
CHLORIDE, TOTAL	mg/L	17.72	9.4	10.1	14.1	21.8	21.5	20.0	22.1	20.0	17.4	13.6	20.7	7.9	36.9
FLUORIDE, TOTAL	mg/L	0.2919	0.23	0.25	0.24	0.34	ND	0.27	0.12 J	0.091 J	0.16 J	0.20 J	0.19 J	0.15 J	0.31
SULFATE, TOTAL	mg/L	64.6	12.2	28.2	86.0	172	298	410	292	504	992	227	ND	78.0	302
TOTAL DISSOLVED SOLIDS	mg/L	577.8	446	456	634	545	661	811	590	864	1,560	677	459	826	726
January 2020 Verification Sampling Event															
DATE	NA	NA			1/6/2020	1/6/2020		1/7/2020	1/7/2020		1/6/2020	1/6/2020	1/6/2020	1/7/2020	1/7/2020
pH	SU	6.33-7.50				7.37		8.09							7.63
BORON, TOTAL	µg/L	100.2											92.5 J		
CALCIUM, TOTAL	µg/L	150,626									292,000				
CHLORIDE, TOTAL	mg/L	17.72													
FLUORIDE, TOTAL	mg/L	0.2919													
SULFATE, TOTAL	mg/L	64.6			39.6							109		63.9	
TOTAL DISSOLVED SOLIDS	mg/L	577.8			598				468			632			

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

Prepared By: EMS
Checked By: BTT
Reviewed By: SCP

Table 6
April 2020 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
April 2020 Detection Monitoring Event													
DATE	NA	NA	4/14/2020	4/14/2020	4/16/2020	4/14/2020	4/14/2020	4/14/2020	4/14/2020	4/14/2020	4/16/2020	4/16/2020	4/16/2020
pH	SU	6.33-7.50	7.05	7.16	7.21	7.40	8.57	8.35	9.38	9.08	7.21	7.15	7.17
BORON, TOTAL	µg/L	100.2	93.2 J	72.3 J	735	1,050	9,770 J	4,140	7,010	14,900	9,750	864	100
CALCIUM, TOTAL	µg/L	150,626	122,000	143,000	146,000	91,900	124,000	76,600	69,400	143,000	281,000	156,000	123,000
CHLORIDE, TOTAL	mg/L	17.72	10.9	13.2	9.6	21.1	19.3	20.3	18.8	19.7	15.5	11.4	22.4
FLUORIDE, TOTAL	mg/L	0.2919	0.21	0.23	0.22	0.37	0.18 J	0.38	0.18 J	0.16 J	0.39 J	0.15 J	0.20
SULFATE, TOTAL	mg/L	64.6	25.2	48.1	24.7	185	369	375	229	503	906	102	ND
TOTAL DISSOLVED SOLIDS	mg/L	577.8	451	505	579	558	674	626	480	886	1,560	661	469
May 2020 Verification Sampling Event													
DATE	NA	NA						5/27/2020			5/27/2020	5/29/2020	
pH	SU	6.33-7.50											
BORON, TOTAL	µg/L	100.2											
CALCIUM, TOTAL	µg/L	150,626										153,000	
CHLORIDE, TOTAL	mg/L	17.72											
FLUORIDE, TOTAL	mg/L	0.2919						0.45			0.35		
SULFATE, TOTAL	mg/L	64.6											
TOTAL DISSOLVED SOLIDS	mg/L	577.8											

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

Prepared By: JSI
Checked By: BTT
Reviewed By: MNH

Table 7
November 2020 Detection Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
November 2020 Detection Monitoring Event												
DATE	NA	11/2/2020	11/2/2020	11/4/2020	11/2/2020	11/4/2020	11/4/2020	11/5/2020	11/4/2020	11/5/2020	11/2/2020	11/2/2020
pH	SU	7.27	7.47	6.95	7.59	7.76	7.41	9.20	8.60	7.30	7.21	7.20
BORON, TOTAL	µg/L	82.5 J	67.2 J	675	1,570	10,800	3,370	5,290	12,100	7,380	2,430	96.9 J
CALCIUM, TOTAL	µg/L	147,000	138,000	147,000	120,000	161,000	68,900	67,500	103,000	201,000	201,000	120,000 J
CHLORIDE, TOTAL	mg/L	10.3	6.0	12.5	27.4	17.0	22.3	18.6	19.4	11.0	10.1	21.9
FLUORIDE, TOTAL	mg/L	0.31	0.38	0.32 J	0.47	0.35	0.47	0.27	0.23	0.24	0.33	0.36
SULFATE, TOTAL	mg/L	35.1	35.0	53.7	138	469	351	262	455	431	130	0.29 J
TOTAL DISSOLVED SOLIDS	mg/L	586	490	601	625	847	613	510	756	1,030	996	483

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.

Prepared By: BTT
Checked By: EMS
Reviewed By: MNH

Table 8
November 2019 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS										
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D	AM-1S	AM-1D
FIELD PARAMETERS														
DATE	NA	11/5/2019	11/5/2019	11/6/2019	11/7/2019	11/7/2019	11/7/2019	11/7/2019	11/7/2019	11/6/2019	11/5/2019	11/6/2019	11/7/2019	11/7/2019
DISSOLVED OXYGEN	mg/L	0.58	0.12	0.18	0.24	1.39	0.20	0.16	0.19	0.18	0.59	0.14	0.22	0.56
pH	SU	7.15	7.31	7.28	7.58	8.76	8.20	9.31	8.90	7.30	7.10	7.31	6.81	7.73
REDOX POTENTIAL	mV	-137.0	-141.6	127.7	-188.7	-116.4	159.2	126.4	128.4	-178.3	-142.3	96.2	113.5	104.0
SPECIFIC CONDUCTIVITY	mS/cm	0.812	0.781	1.110	0.857	0.923	1.210	0.840	1.200	1.994	1.029	0.850	1.360	1.060
TURBIDITY	NTU	4.88	9.53	0.82	3.63	2.12	1.32	1.05	2.98	4.09	1.52	1.27	3.34	2.80
APPENDIX IV PARAMETERS														
ARSENIC, TOTAL	µg/L	1.9	44.2	49.7	1.5	52.1	0.14 J	11.9	29.0	24.1	30.5	35.6	3.7	4.0
BARIUM, TOTAL	µg/L	1,120	321	502	101	105	119	88.4	131	131	431	536	527	75.6
FLUORIDE, TOTAL	mg/L	0.23	0.25	0.24	0.34	ND	0.27	0.12 J	0.091 J	0.16 J	0.20 J	0.19 J	0.15 J	0.31
LITHIUM, TOTAL	µg/L	30.3	41.1	24.8	26.8	20.0	32.9	35.9	16.8	18.8	34.4	16.8	28.2	38.6
MOLYBDENUM, TOTAL	µg/L	ND	ND	6.9 J	40.7	168	120	263	535	342	29.1	ND	ND	390
RADIUM [226 + 228]	pCi/L	2.212	ND	2.197 J	ND	ND	ND	ND	1.197	ND	ND	ND	ND	1.446

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 for 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 2019 Assessment Monitoring data is provided in Appendix B.

Prepared By: JSI
Checked By: EMS/RJF
Reviewed By: CMR

Table 9
April 2020 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
FIELD PARAMETERS												
DATE	NA	4/14/2020	4/14/2020	4/16/2020	4/14/2020	4/14/2020	4/14/2020	4/14/2020	4/14/2020	4/16/2020	4/16/2020	4/16/2020
DISSOLVED OXYGEN	mg/L	0.29	0.15	2.38	0.38	1.23	0.19	0.15	0.97	0.19	0.26	0.16
pH	SU	7.05	7.16	7.21	7.40	8.57	8.35	9.38	9.08	7.21	7.15	7.17
REDOX POTENTIAL	mV	-109.9	-135.4	-139.9	-130.0	95.7	108.3	43.3	115.2	75.9	-156.1	-160.4
SPECIFIC CONDUCTIVITY	mS/cm	0.809	0.856	1.025	0.847	0.929	1.022	0.624	1.196	1.980	1.079	0.896
TURBIDITY	NTU	1.81	4.67	1.72	4.30	1.48	1.19	1.09	1.75	2.18	3.69	2.92
APPENDIX IV PARAMETERS												
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	2.1	38.3	45.6	1.4	13.8	0.12 J	13.3	32.5	22.8	30.3	32.2
BARIUM, TOTAL	µg/L	989	338	478	102	106	93.8	61.4	138	102	453	503
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	0.070 J	ND	0.060 J	0.20 J	0.12 J	ND	ND
CHROMIUM, TOTAL	µg/L	0.24 J	0.88 J	0.36 J	ND	ND	ND	ND	0.27 J	0.57 J	ND	ND
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.21	0.23	0.22	0.37	0.18 J	0.38	0.18 J	0.16 J	0.39 J	0.15 J	0.20
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	29.2	43.8	26.6	23.9	18.4	29.1	24.7	20.0	26.7	39.3	16.2
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	ND	2.1 J	4.6 J	42.2	179	109	169	597	299	17.1 J	ND
RADIUM [226 + 228]	pCi/L	3.180	ND	2.239 J	ND	ND	ND	ND	1.759	ND	1.758 J	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	0.24 J	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeter, and NTU - nephelometric turbidity units.
2. J - Result is an estimated value.
3. NA - Not Applicable.
4. ND - Constituent was analyzed for 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 2020 Assessment Monitoring Data is provided in Appendix C.

Prepared By: JSI
Check By: BTT
Reviewed By: MNH

Table 10
November 2020 Assessment Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS								
ANALYTE	UNITS	BMW-1D	BMW-2D	UMW-1D	UMW-2D	UMW-3D(R)	UMW-4D	UMW-5D	UMW-6D	UMW-7D	UMW-8D	UMW-9D
FIELD PARAMETERS												
DATE	NA	11/2/2020	11/2/2020	11/4/2020	11/2/2020	11/4/2020	11/4/2020	11/5/2020	11/4/2020	11/5/2020	11/2/2020	11/2/2020
DISSOLVED OXYGEN	mg/L	2.69	0.95	6.87	0.99	0.16	6.42	6.26	0.42	0.15	0.25	0.23
pH	SU	7.27	7.47	6.95	7.59	7.76	7.41	9.20	8.60	7.30	7.21	7.20
REDOX POTENTIAL	mV	-16.0	-104.4	-44.8	-66.9	-119.3	-8.1	-135.2	-32.3	-52.8	-124.0	-116.6
SPECIFIC CONDUCTIVITY	mS/cm	0.931	0.848	1.037	0.930	1.135	0.900	0.711	1.066	1.436	1.356	0.882
TURBIDITY	NTU	2.36	4.62	3.90	4.77	2.85	2.84	2.11	3.12	1.36	0.59	0.97
APPENDIX IV PARAMETERS												
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	2.2	35.0	48.5	2.0	1.3	0.11 J	18.8	29.6	26.7	29.6	33.2
BARIUM, TOTAL	µg/L	1,270	322	513	132	128	88.0	59.6	115	69.9	431	520
CHROMIUM, TOTAL	µg/L	0.28 J	0.32 J	0.23 J	ND	ND	ND	ND	0.29 J	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.31	0.38	0.32 J	0.47	0.35	0.47	0.27	0.23	0.24	0.33	0.36
LITHIUM, TOTAL	µg/L	35.3	46.0	30.0	23.7	25.9	33.0	22.1	16.1	25.8	38.2	17.5
MOLYBDENUM, TOTAL	µg/L	2.6 J	2.4 J	2.4 J	33.4	154	88.9	174	597	286	12.7 J	2.2 J
RADIUM [226 + 228]	pCi/L	4.140 J	ND	ND	2.146 J	2.114 J	ND	ND	ND	2.150	4.074 J	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	0.24 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 for but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
5. Radium [226 + 228] is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Prepared By: EMS
Check By: BTT
Reviewed By: MNH

Table 11
April 2020 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	4/14/2020	4/14/2020	4/16/2020	4/14/2020	4/20/2020	4/16/2020	4/16/2020	4/15/2020	4/20/2020	4/15/2020	4/20/2020	4/15/2020	4/20/2020	4/20/2020	4/15/2020	4/15/2020	4/15/2020	4/15/2020	4/15/2020	4/15/2020	4/20/2020	4/20/2020
DISSOLVED OXYGEN	mg/L	0.19	3.12	0.12	0.20	1.07	0.11	0.10	0.28	0.27	0.21	0.14	0.24	0.11	0.15	0.17	0.12	0.15	0.25	0.35	4.15	0.57	0.53
REDOX POTENTIAL	mV	-96.4	67.7	-16.0	104.3	-40.5	-3.6	-57.4	55.5	170.4	177.1	109.2	-118.7	159.4	112.3	15.0	-8.5	11.7	35.2	-125.6	-96.8	-145.0	118.3
SPECIFIC CONDUCTIVITY	mS/cm	1.306	0.840	1.187	0.572	1.383	1.130	1.455	0.943	0.934	0.875	1.382	0.961	0.902	0.920	0.897	0.902	0.879	0.806	0.914	1.848	0.888	1.143
TURBIDITY	NTU	9.57	0.99	4.72	0.55	9.95	4.64	4.90	2.81	0.74	0.57	9.65	2.38	0.56	0.15	1.34	0.64	4.97	0.65	0.86	0.94	4.43	1.02
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	95.2 J	51.0 J	5,910	3,340	3,390	6,460	7,720	81.2 J	ND	114	277	74.5 J	2,000	1,890	3,660	10,000	5,240	10,400	11,000 J	7,790	6,800	7,780 J
CALCIUM, TOTAL	µg/L	212,000	137,000	211,000	52,100	178,000	198,000	222,000	151,000	150,000	143,000	204,000	139,000	99,400	99,400	131,000	75,300	127,000	71,400	82,900	212,000	60,100	95,600 J
CHLORIDE, TOTAL	mg/L	3.7	4.0	8.0	19.2	38.5	14.8	18.9	6.6 J	4.2	4.2	105	4.2	20.7	22.5	10.9	22.8	13.3	ND	19.0	18.7	20.1	32.3
pH	SU	6.62	6.98	6.95	9.74	6.68	6.86	7.23	6.91	6.92	6.87	6.65	7.10	7.29	7.36	6.97	7.41	7.19	7.52	7.39	7.19	7.45	7.81
SULFATE, TOTAL	mg/L	38.5	45.5	293	195	99.9	195	633	20.9 J	30.8	20.2	21.3	14.1	150	164	113	1,720	158	0.45 J	245	865	276	314
TOTAL DISSOLVED SOLIDS	mg/L	711	555	942	386	767	839	1,200	638	499	514	803	553	496	535	585	674	587	620	601	1,490	549	711
APPENDIX IV PARAMETERS																							
ANTIMONY, TOTAL	µg/L	ND	0.19 J	ND	0.10 J	ND	ND	ND	0.10 J	ND	ND	ND	0.11 J	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	24.7	0.46 J	16.0	45.8	12.9	14.6	22.5	0.54 J	0.46 J	0.45 J	4.2	0.88 J	0.62 J	11.7	0.51 J	5.1	8.1	2.3	3.6	0.20 J	0.24 J	3.3
BARIUM, TOTAL	µg/L	321	260	66.1	34.8	145	325	146	221	228	374	519	1,390	123	117	290	66.8	436	85.8	80.0	62.7	104	68.3
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	0.066 J	0.089 J	0.10 J	0.29 J	ND	ND	ND	0.060 J	0.070 J	0.32 J	ND	0.39 J	0.36 J	0.22 J	0.15 J	0.17 J
CHROMIUM, TOTAL	µg/L	ND	0.41 J	0.35 J	2.5	ND	ND	ND	ND	ND	0.23 J	0.38 J	ND	ND	ND	ND	0.30 J	0.31 J	ND	0.99 J	ND	0.69 J	ND
COBALT, TOTAL	µg/L	ND	ND	1.8 J	ND	2.1 J	4.5 J	ND	ND	ND	ND	3.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FLUORIDE, TOTAL	mg/L	0.16 J	0.14 J	0.19 J	0.21	0.28	0.23	0.41	0.15 J	0.14 J	0.19 J	0.23	0.22	0.43	0.39	0.20	0.36	0.22	ND	0.32	0.37	0.48	0.34
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	19.8	18.7	23.9	11.3	34.3	45.8	22.2	21.2	26.5	26.3	28.3	26.1	32.7	40.3	35.2	27.8	21.7	29.0	31.4	30.0	16.1	39.0
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	1.8 J	14.3 J	97.0	35.1	81.0	177	ND	ND	ND	2.2 J	ND	93.0	126	186	994	2.5 J	1,140	1,090	542	326	398
RADIUM [226 + 228]	pCi/L	2.271	ND	ND	ND	ND	ND	ND	1.245 J	ND	ND	ND	4.370 J	2.022	ND	1.946 J	ND	3.160 J	1.734 J	1.047 J	1.197 J	ND	ND
SELENIUM, TOTAL	µg/L	ND	3.3	ND	0.21 J	ND	ND	ND	ND	0.44 J	ND	ND	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	674	301	422	29.8	534	487	248	490	425	440	594	470	239	247	371	120	315	141	168	73.4	86.1	152
IRON, FERRIC, TOTAL	mg/L	19.8	0.010 J	4.2	ND	4.0	6.0	11.4	0.021 J	0.016 J	ND	5.2	8.8	3.1	3.7	10.0	4.4	5.5	3.8	4.7	6.6	1.9	4.4
IRON, FERROUS, TOTAL	mg/L	8.1 J	ND	4.5 J	ND	0.69 J	0.13 J	0.66 J	ND	ND	ND	1.2 J	0.068 J	ND	0.076 J	0.084 J	0.086 J	ND	ND	0.052 J	1.7 J	0.054 J	0.16 J
IRON, TOTAL	µg/L	27,900	ND	8,640	ND	4,660	6,110	12,100	ND	ND	ND	6,400	8,850	3,120	3,800	10,100	4,500	5,560	3,780	4,720	8,330	1,920	4,560
MAGNESIUM, TOTAL	µg/L	47,100	20,400	38,100	94.0	31,400	44,200	41,000	31,700	29,800	21,400	44,900	36,400	15,300	18,800	29,500	17,300	34,800	16,200	20,600	45,800	10,300	15,300
MANGANESE, TOTAL	µg/L	2,730	ND	1,660	1.4 J	1,180	1,980	2,260	221	1,000	244	1,500	276	450	342	1,750	137	335	194	212	630	280	266
POTASSIUM, TOTAL	µg/L	5,180	6,800	5,650	8,270	6,540	6,630	7,850	5,190	4,010	31,100	6,590	4,080	6,770	5,960	5,240	5,880	4,560	5,810	6,200	6,860	5,740	8,110
SODIUM, TOTAL	µg/L	15,000	7,920	25,000	59,000	71,900	42,500	89,400	10,100	9,540	3,640	39,400	11,700	66,400	61,500	34,600	107,000	25,200	82,500	73,500	138,000	96,300	117,000 J
SULFIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.044 J	ND	ND	ND	0.079	0.044 J	ND	ND	0.048 J	ND	ND

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

Prepared By: JSI
Check By: AMM/KAB
Reviewed By: MNH

Table 12
May 2020 Corrective Action Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

ANALYTE	UNITS	BMW-1S	BMW-2S	LMW-1S	LMW-2S	LMW-4S	LMW-7S	LMW-8S	MW-24	MW-26	S-1	AM-1S	TP-1D	TP-2M	TP-2D	TP-3M	TP-3D	TP-4D	MW-33(D)	MW-34(D)	MW-35(D)	AMW-8	AM-1D
FIELD PARAMETERS																							
DATE	NA	5/29/2020	5/29/2020	5/27/2020	5/27/2020	5/26/2020	5/27/2020	5/26/2020	5/28/2020	5/27/2020	5/27/2020	5/28/2020	5/27/2020	5/28/2020	5/28/2020	5/29/2020	5/29/2020	5/29/2020	5/28/2020	5/28/2020	5/28/2020	5/27/2020	5/28/2020
DISSOLVED OXYGEN	mg/L	0.12	0.54	0.18	0.23	0.22	0.19	0.12	0.35	0.31	0.49	0.08	0.26	0.40	0.41	0.17	0.09	0.18	0.51	0.58	0.38	0.43	0.37
REDOX POTENTIAL	mV	18.3	147.4	131.7	129.0	103.8	161.4	85.6	99.1	110.0	73.7	67.3	-124.9	72.8	111.6	-106.0	-157.8	-107.2	-137.5	129.0	-127.1	-156.0	156.2
SPECIFIC CONDUCTIVITY	mS/cm	1.211	0.703	1.003	0.453	1.132	1.025	1.293	0.929	0.849	0.860	1.360	0.950	0.750	0.744	0.957	1.010	0.948	0.867	0.764	1.723	0.839	0.955
TURBIDITY	NTU	3.79	2.33	4.03	1.36	9.84	4.58	3.03	3.63	3.73	2.77	4.25	2.29	0.71	0.49	4.59	3.92	2.54	4.53	0.95	4.67	4.86	3.38
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	92.4 J	45.9 J	4,320	3,170	5,470	5,880	7,310	84.9 J	83.8 J	85.1 J	311	66.8 J	1,990	1,800	5,130	10,800	5,650	10,500	10,600	8,240	6,530	7,500
CALCIUM, TOTAL	µg/L	206,000	126,000	175,000	52,200	164,000	190,000	209,000	149,000	134,000	143,000	199,000	142,000	91,200	94,700	114,000	98,200	125,000	72,100	84,600	202,000	59,300	95,300
CHLORIDE, TOTAL	mg/L	4.8	3.2	5.3	19.3	38.8	12.4	18.5	5.0	4.4	2.2	178	4.3	21.2	22.6	14.3	24.4	13.7	22.0	18.9	19.0	21.3	33.2
pH	SU	6.61	6.83	6.82	9.20	6.58	6.67	7.01	6.87	6.95	6.80	6.50	7.03	7.27	7.00	7.04	7.58	7.14	7.44	6.94	7.26	7.67	7.06
SULFATE, TOTAL	mg/L	43.0	33.3	153	197	161	162	542	15.5	32.6	17.3	20.9	14.3	148	164	149	401	164	ND	281	868	267	313
TOTAL DISSOLVED SOLIDS	mg/L	749	456	706	396	814	839	1,150	507	511	523	935	541	541	557	572	789	604	582	602	1,370	573	717
APPENDIX IV PARAMETERS																							
ANTIMONY, TOTAL	µg/L	ND	0.25 J	ND	0.11 J	ND	ND	ND	0.11 J	0.14 J	0.13 J	ND	0.16 J	ND	0.13 J	ND	ND	ND	ND	ND	ND	0.15 J	ND
ARSENIC, TOTAL	µg/L	32.8	0.55 J	10.4	44.9	16.4	14.1	19.6	0.67 J	0.52 J	0.52 J	5.7	0.99 J	0.75 J	11.6	0.32 J	7.1	7.7	2.8	3.8	0.25 J	0.26 J	3.4
BARIUM, TOTAL	µg/L	349	242	61.2	34.5	139	310	128	232	206	373	587	1,420	115	115	259	75.8	442	89.4	82.3	59.6	106	67.0
CHROMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27 J
FLUORIDE, TOTAL	mg/L	0.22	0.23	0.22	0.22	0.28	0.28	0.36	0.25	0.22	0.24	0.22	0.19 J	0.51	0.41	0.23	0.32	0.21	0.42	0.36	0.10 J	0.46	0.35
LITHIUM, TOTAL	µg/L	19.5	17.6	13.0	6.9 J	27.9	38.3	16.0	23.4	22.9	17.8	35.2	23.1	35.3	42.5	34.7	32.5	20.0	34.4	36.4	31.7	12.6	38.1
MOLYBDENUM, TOTAL	µg/L	ND	2.8 J	9.6 J	101	60.3	79.2	153	ND	ND	1.7 J	3.6 J	ND	98.9	130	279	697	2.5 J	1,170	1,050	570	327	376
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.309	ND	1.923	2.974	ND	4.020	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	ND	1.9	ND	ND	ND	ND	ND	ND	0.47 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																							
ALKALINITY	mg/L	702	347	412	31.4	471	531	299	505	432	447	535	490	244	251	312	120	316	132	176	78.0	83.2	149
IRON, TOTAL	µg/L	30,600	ND	4,720	31.8 J	5,300	5,860	9,410	58.8	30.3 J	35.6 J	10,200	9,060	2,920	3,830	8,450	5,220	5,530	3,890	4,840	8,280	2,280 J	4,790
MAGNESIUM, TOTAL	µg/L	44,500	18,700	30,700	79.5	26,200	40,400	38,900	30,600	24,800	20,400	42,900	36,100	13,400	16,700	24,600	21,700	33,500	15,600	19,900	42,300	9,190	13,800
MANGANESE, TOTAL	µg/L	2,640	1.0 J	1,340	1.5 J	1,110	1,750	1,880	231	924	367	1,950	270	400	316	1,210	172	333	189	209	596	269	248
POTASSIUM, TOTAL	µg/L	5,450	6,450	5,020	8,560	6,390	6,550	8,670	5,660	3,800	32,900	6,830	4,350	6,320	5,710	5,520	6,820	4,790	6,290	6,550	6,970	5,660	7,850
SODIUM, TOTAL	µg/L	16,700	5,720	14,700	59,700	81,800	45,400	81,500	11,200	12,500	3,240	53,500	11,800	61,300	58,400	51,200	116,000	26,200	86,700	71,800	132,000	94,000	112,000

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 for but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
4. Radium [226 + 228] is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.
5. NA - Not Applicable.

Prepared By: JSI
Check By: BTT
Reviewed By: MNH

Table 13
November 2020 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	11/2/2020	11/2/2020	11/5/2020	11/5/2020	11/4/2020	11/5/2020	11/5/2020	11/2/2020	11/2/2020	11/2/2020	11/3/2020	11/2/2020	11/3/2020	11/3/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/2/2020	11/3/2020	11/3/2020
DISSOLVED OXYGEN	mg/L	3.01	2.14	0.16	0.19	0.80	0.20	0.19	2.17	0.34	0.21	3.24	3.77	0.21	0.14	0.17	0.16	0.17	0.29	0.25	0.28	2.33	0.11
REDOX POTENTIAL	mV	-52.3	-32.3	-38.6	-95.7	-3.7	-62.6	-57.4	20.1	-12.2	-2.3	-8.1	-132.9	-48.1	-91.1	-115.4	-158.0	-133.6	-140.1	-134.2	-149.8	-146.7	-161.7
SPECIFIC CONDUCTIVITY	mS/cm	1.352	0.802	0.990	0.661	1.214	1.267	0.675	0.900	0.718	0.834	1.470	0.917	0.813	0.842	0.943	1.137	0.921	0.976	0.886	1.353	0.840	1.135
TURBIDITY	NTU	1.89	0.96	4.17	1.28	4.91	1.51	4.64	1.07	3.08	1.44	4.82	2.29	1.63	1.35	0.17	0.45	1.18	0.41	0.42	0.25	0.64	1.82
APPENDIX III PARAMETERS																							
BORON, TOTAL	µg/L	99.0 J	45.2 J	4,390	3,150	3,120	7,010	2,570	104	63.6 J	82.7 J	299	67.9 J	1,720	3,140	3,780	10,200	5,830	9,860	10,400	8,590	6,360	7,660
CALCIUM, TOTAL	µg/L	216,000	142,000	158,000	61,900	183,000	173,000 J	70,800	149,000	119,000	143,000	203,000	141,000 J	88,000	95,000	126,000	93,000	121,000	83,000	83,200	154,000	56,900	104,000
CHLORIDE, TOTAL	mg/L	6.4	3.4	3.9	19.2	41.7	14.4	4.7	5.1	5.9	2.1	116	4.4	24.6	25.6	12.9	25.0	13.6	24.7	20.3	17.5	20.5	18.3
pH	SU	6.87	7.23	6.90	9.54	6.62	6.76	7.16	6.83	7.00	6.82	6.70	7.06	7.35	7.32	6.94	7.41	7.05	7.38	7.30	7.28	7.61	7.56
SULFATE, TOTAL	mg/L	66.5	73.4	142	243	83.5	176	80.4	32.4	29.8	17.6	14.1	11.5	159	154	126	412	163	365	110	579	261	425
TOTAL DISSOLVED SOLIDS	mg/L	780	524	635	445	717	808	440	511	420	486	844	527	498	518	597	804	600	713	670	1,020	541	796
APPENDIX IV PARAMETERS																							
ANTIMONY, TOTAL	µg/L	ND	0.22 J	ND	ND	ND	ND	ND	0.22 J	0.18 J	0.13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	29.8	0.43 J	6.8	46.8	16.1	11.6	6.0	0.46 J	0.51 J	0.57 J	7.5	1.1	0.60 J	11.6	0.51 J	7.4	8.3	3.2	3.5	0.13 J	0.15 J	3.6
BARIUM, TOTAL	µg/L	368	253	79.2	40.6	160	297	73.2	230	174	352	660	1,430	114	118	283	72.2	416	106	82.8	46.2	102	70.3
CHROMIUM, 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
FLUORIDE, TOTAL	mg/L	0.17 J	0.22	0.32	0.23	0.11 J	0.31	0.53	0.23	0.22	0.22 J	0.36	0.31	0.51	0.47	0.33	0.35	0.34	0.38	0.33	0.34	0.44	0.40
LITHIUM, TOTAL	µg/L	18.2	18.9	16.9	9.5 J	34.1	43.1	15.8	21.6	23.9	22.4	35.7	25.0	32.2	42.1	37.4	27.3	26.0	33.5	36.2	27.2	18.9	40.5
MOLYBDENUM, TOTAL	µg/L	ND	2.0 J	6.6 J	135	20.9	81.2	179	ND	ND	ND	4.2 J	ND	88.0	153	201	649	2.4 J	1,030	1,020	591	310	346
RADIUM [226 + 228]	pCi/L	2.850 J	ND	ND	ND	ND	ND	ND	2.056 J	ND	1.865 J	2.260	5.340 J	3.207	ND	2.769	ND	ND	ND	ND	2.007 J	ND	ND
SELENIUM, TOTAL	µg/L	ND	5.1	ND	0.18 J	ND	0.20 J	ND	9.4	0.65 J	0.23 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS																							
ALKALINITY	mg/L	742	359	402	31.8	566	511	273	496	374	484	633	528	252	264	394	130	329	118	181	154	92.4	146
IRON, TOTAL	µg/L	26,000	ND	2,570	ND	5,140	3,900	1,850	ND	ND	85.3 J	13,200	8,540	2,670	3,700	9,830	4,500	5,370	4,260	4,680	6,360	2,000	4,870
MAGNESIUM, TOTAL	µg/L	44,600	20,900	28,300	111	30,900	37,600	12,700	29,700	21,700	20,000	42,400	35,200	12,800	16,600	27,300	21,100	32,000	17,700	19,800	32,400	9,690	13,700
MANGANESE, TOTAL	µg/L	2,600	2.1 J	1,090	1.1 J	1,730	1,580	744	21.0	127	583	2,510	242	378	318	1,690	163	325	217	211	462	264	262
POTASSIUM, TOTAL	µg/L	5,350	5,040	4,830	9,230	6,420	7,650	5,310	6,120	3,900	27,400	6,680	4,420	6,300	5,760	5,290	6,650	4,670	6,780	6,470	5,980	5,390	8,450
SODIUM, TOTAL	µg/L	15,600	3,570	10,400	62,800	44,600	54,500	50,800	8,710	5,210	2,780	47,900	12,900	63,800	59,400	36,000	116,000	25,800	93,800	73,500	106,000	88,900	111,000

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 for but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
4. Radium [226 + 228] is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.
5. NA - Not Applicable.

Prepared By: EMS
Check By: BTT
Reviewed By: MNH

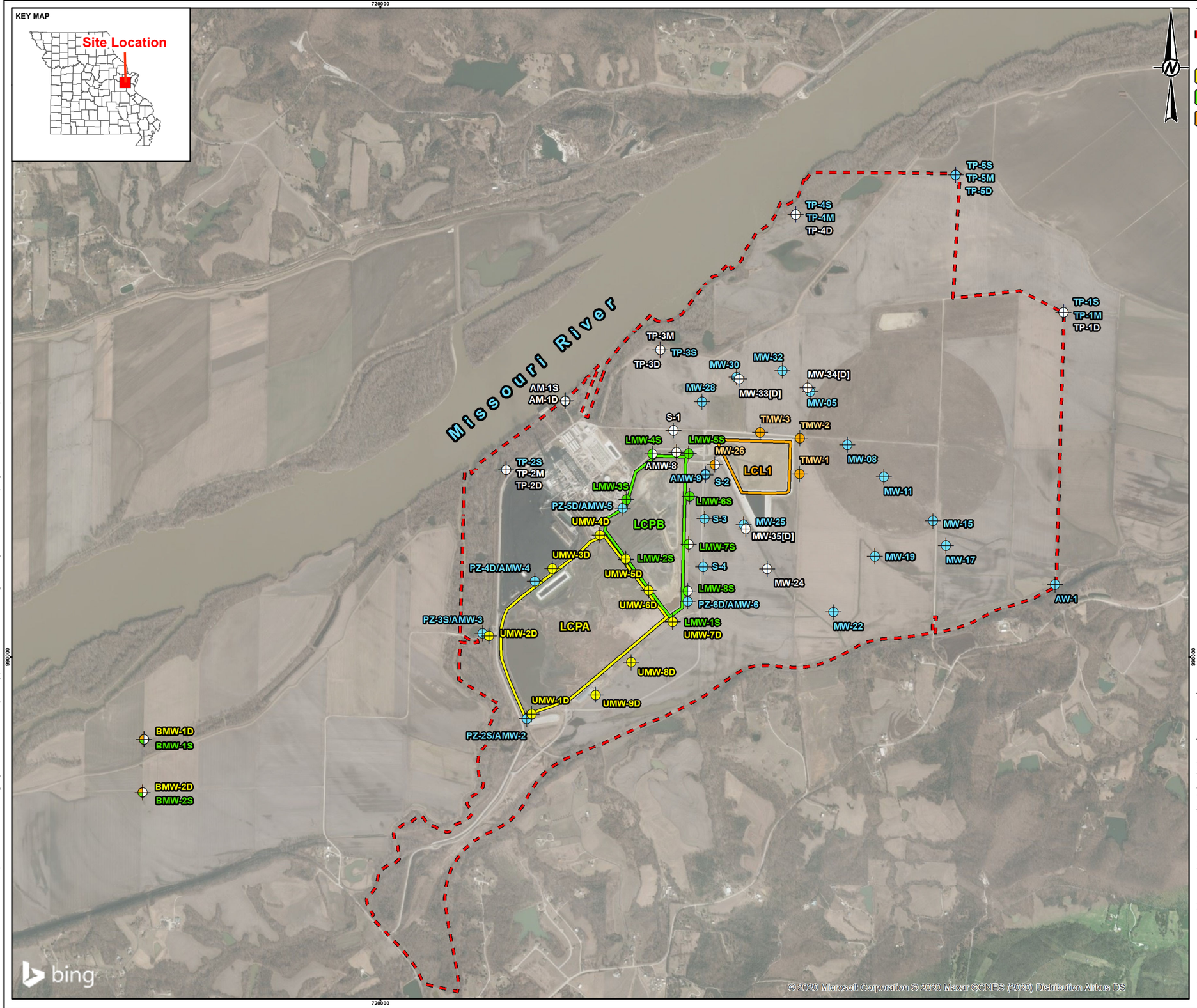
Table 14
Additional 2020 Corrective Action Monitoring Results
LCPA Surface Impoundment
Labadie Energy Center, Franklin County, MO

		GROUNDWATER MONITORING WELLS								
DATE	UNITS	AM-1D	AM-1S	AMW-8	TP-1D	TP-2D	TP-2M	TP-3M	TP-3D	TP-4D
Laboratory Analytical Data - Molybdenum										
6/23/2020	µg/L	-	-	320	-	-	-	-	-	-
7/20/2020	µg/L	-	-	-	-	-	-	157	890	2.2 J
7/21/2020	µg/L	-	-	324	ND	127	92.0	-	-	-
8/24/2020	µg/L	-	-	-	ND	-	-	168	938	2.3 J
8/25/2020	µg/L	376	ND	-	-	124	85.4	-	-	-
9/30/2020	µg/L	-	-	-	ND	129	92.9	167	918	3.1 J

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter.
2. J - Result is an estimated value.
3. ND - Constituent was analyzed for 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. "-" No sample collected.

Prepared By: EMS
Checked By: BTT
Reviewed By: MNH

Figures



LEGEND

Approximate Property Boundary

Labadie Energy Center CCR Units

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

Monitoring Well Network

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

0 1,000 2,000 3,000 4,000

Feet

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
GOLDER

YYYY-MM-DD	2020-10-12
DESIGNED	JSI
PREPARED	BTT
REVIEWED	JSI
APPROVED	MNH

PROJECT NO.	CONTROL	REV.	FIGURE
153140602	1240	0.0	1

APPENDIX A

Laboratory Analytical Data

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

February 13, 2020

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

RE: Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Dear Jeffrey Ingram:
Enclosed are the analytical results for sample(s) received by the laboratory between January 08, 2020 and January 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

REV-1, 2/13/20: Sample L-UMW-5D added to report. Samples L-TMW-1 and L-LCL1-FB-1 moved to #60326300.

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
Tommy Goodwin, Golder Associates
Mark Haddock, Golder Associates
Eric Schneider, Golder Associates

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 19-016-0
Arkansas Drinking Water
Illinois Certification #: 004455
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 #: KS000212018-8
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60326111001	**L-UMW-1D**	Water	01/06/20 10:48	01/08/20 03:30
60326111002	**L-UMW-7D**	Water	01/06/20 16:15	01/08/20 03:30
60326111003	**L-UMW-8D**	Water	01/06/20 12:50	01/08/20 03:30
60326111004	**L-UMW-9D**	Water	01/06/20 11:40	01/08/20 03:30
60326111005	**L-AM-1S**	Water	01/07/20 08:50	01/08/20 03:30
60326111006	**L-LCPA-DUP-1**	Water	01/06/20 08:00	01/08/20 03:30
60326111007	**L-LCPA-FB-1**	Water	01/06/20 13:00	01/08/20 03:30
60326297001	**L-UMW-5D**	Water	01/07/20 09:50	01/10/20 03:14

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60326111001	**L-UMW-1D**	SM 2540C	LDB	1	PASI-K
		EPA 300.0	CNB	1	PASI-K
60326111002	**L-UMW-7D**	EPA 200.7	LRS	1	PASI-K
60326111003	**L-UMW-8D**	EPA 200.7	LRS	2	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 300.0	CNB	1	PASI-K
60326111004	**L-UMW-9D**	EPA 200.7	LRS	2	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 300.0	CNB	1	PASI-K
60326111005	**L-AM-1S**	EPA 300.0	CNB	1	PASI-K
60326111006	**L-LCPA-DUP-1**	EPA 200.7	LRS	2	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 300.0	CNB	1	PASI-K
60326111007	**L-LCPA-FB-1**	EPA 200.7	LRS	2	PASI-K
		SM 2540C	LDB	1	PASI-K
		EPA 300.0	CNB	1	PASI-K
60326297001	**L-UMW-5D**	SM 2540C	BLA	1	PASI-K

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-UMW-1D **Lab ID: 60326111001** Collected: 01/06/20 10:48 Received: 01/08/20 03:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**598**	mg/L	10.0	10.0	1		01/13/20 17:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**39.6**	mg/L	5.0	1.4	5		01/15/20 14:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-UMW-7D **Lab ID: 60326111002** Collected: 01/06/20 16:15 Received: 01/08/20 03:30 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								
Calcium	**292000**	ug/L	200	32.4	1	01/13/20 09:51	01/14/20 15:18	7440-70-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-UMW-8D **Lab ID: 60326111003** Collected: 01/06/20 12:50 Received: 01/08/20 03:30 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								
Boron	**857**	ug/L	100	11.7	1	01/13/20 09:51	01/14/20 15:26	7440-42-8	
Calcium	**147000**	ug/L	200	32.4	1	01/13/20 09:51	01/14/20 15:26	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**632**	mg/L	10.0	10.0	1		01/13/20 17:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**109**	mg/L	20.0	5.6	20		01/15/20 15:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-UMW-9D **Lab ID: 60326111004** Collected: 01/06/20 11:40 Received: 01/08/20 03:30 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								
Boron	**92.5J**	ug/L	100	11.7	1	01/13/20 09:51	01/14/20 15:28	7440-42-8	
Calcium	**113000**	ug/L	200	32.4	1	01/13/20 09:51	01/14/20 15:28	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**472**	mg/L	10.0	10.0	1		01/13/20 17:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**<0.28**	mg/L	1.0	0.28	1		01/15/20 15:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-AM-1S **Lab ID: 60326111005** Collected: 01/07/20 08:50 Received: 01/08/20 03:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**63.9**	mg/L	5.0	1.4	5		01/15/20 15:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-LCPA-DUP-1 **Lab ID: 60326111006** Collected: 01/06/20 08:00 Received: 01/08/20 03:30 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								
Boron	**91.4J**	ug/L	100	11.7	1	01/13/20 09:51	01/14/20 15:31	7440-42-8	
Calcium	**115000**	ug/L	200	32.4	1	01/13/20 09:51	01/14/20 15:31	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**462**	mg/L	10.0	10.0	1		01/13/20 17:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**<0.28**	mg/L	1.0	0.28	1		01/15/20 15:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-LCPA-FB-1 **Lab ID: 60326111007** Collected: 01/06/20 13:00 Received: 01/08/20 03:30 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								
Boron	**<11.7**	ug/L	100	11.7	1	01/13/20 09:51	01/14/20 15:34	7440-42-8	
Calcium	**<32.4**	ug/L	200	32.4	1	01/13/20 09:51	01/14/20 15:34	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		01/13/20 17:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**<0.28**	mg/L	1.0	0.28	1		01/15/20 16:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Sample: L-UMW-5D **Lab ID: 60326297001** Collected: 01/07/20 09:50 Received: 01/10/20 03:14 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**468**	mg/L	5.0	5.0	1		01/14/20 09:15		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

QC Batch: 632714 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60326111002, 60326111003, 60326111004, 60326111006, 60326111007

METHOD BLANK: 2576847 Matrix: Water
Associated Lab Samples: 60326111002, 60326111003, 60326111004, 60326111006, 60326111007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	<11.7	100	11.7	01/14/20 14:55	
Calcium	ug/L	<32.4	200	32.4	01/14/20 14:55	

LABORATORY CONTROL SAMPLE: 2576848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	1000	975	97	85-115	
Calcium	ug/L	10000	9770	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2576849 2576850

Parameter	Units	60326269001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	ND	1000	1000	951	992	93	97	70-130	4	20	
Calcium	ug/L	79700	10000	10000	87400	87100	77	74	70-130	0	20	

MATRIX SPIKE SAMPLE: 2576851

Parameter	Units	60326111008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	95.2J	1000	1060	97	70-130	
Calcium	ug/L	166000	10000	175000	92	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 LABADIE ENERGY CTR
Pace Project No.: 60326111

QC Batch: 632736 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60326111001, 60326111003, 60326111004, 60326111006, 60326111007

METHOD BLANK: 2576916 Matrix: Water
Associated Lab Samples: 60326111001, 60326111003, 60326111004, 60326111006, 60326111007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	01/13/20 17:20	

LABORATORY CONTROL SAMPLE: 2576917

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

SAMPLE DUPLICATE: 2576918

Parameter	Units	60326111001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	598	606	1	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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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

QC Batch: 632924 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60326297001

METHOD BLANK: 2577333 Matrix: Water
Associated Lab Samples: 60326297001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	01/14/20 09:13	

LABORATORY CONTROL SAMPLE: 2577334

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

SAMPLE DUPLICATE: 2577335

Parameter	Units	60325852002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	888	909	2	10	

SAMPLE DUPLICATE: 2577336

Parameter	Units	60326252008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	964	1000	4	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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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

QC Batch: 632763 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60326111001, 60326111003, 60326111004, 60326111005, 60326111006, 60326111007

METHOD BLANK: 2577002 Matrix: Water
Associated Lab Samples: 60326111001, 60326111003, 60326111004, 60326111005, 60326111006, 60326111007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	<0.28	1.0	0.28	01/13/20 10:45	

METHOD BLANK: 2577515 Matrix: Water
Associated Lab Samples: 60326111001, 60326111003, 60326111004, 60326111005, 60326111006, 60326111007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	<0.28	1.0	0.28	01/14/20 09:36	

METHOD BLANK: 2579424 Matrix: Water
Associated Lab Samples: 60326111001, 60326111003, 60326111004, 60326111005, 60326111006, 60326111007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	<0.28	1.0	0.28	01/15/20 13:37	

LABORATORY CONTROL SAMPLE: 2577516

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

LABORATORY CONTROL SAMPLE: 2579425

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2577004 2577005

Parameter	Units	60326237001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	63.9	250	250	327	325	105	104	80-120	1	15	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

MATRIX SPIKE SAMPLE: 2577006

Parameter	Units	60326296001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	2120	1000	3260	114	80-120	

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 LABADIE ENERGY CTR
Pace Project No.: 60326111

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60326111

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60326111002	**L-UMW-7D**	EPA 200.7	632714	EPA 200.7	632903
60326111003	**L-UMW-8D**	EPA 200.7	632714	EPA 200.7	632903
60326111004	**L-UMW-9D**	EPA 200.7	632714	EPA 200.7	632903
60326111006	**L-LCPA-DUP-1**	EPA 200.7	632714	EPA 200.7	632903
60326111007	**L-LCPA-FB-1**	EPA 200.7	632714	EPA 200.7	632903
60326111001	**L-UMW-1D**	SM 2540C	632736		
60326111003	**L-UMW-8D**	SM 2540C	632736		
60326111004	**L-UMW-9D**	SM 2540C	632736		
60326111006	**L-LCPA-DUP-1**	SM 2540C	632736		
60326111007	**L-LCPA-FB-1**	SM 2540C	632736		
60326297001	**L-UMW-5D**	SM 2540C	632924		
60326111001	**L-UMW-1D**	EPA 300.0	632763		
60326111003	**L-UMW-8D**	EPA 300.0	632763		
60326111004	**L-UMW-9D**	EPA 300.0	632763		
60326111005	**L-AM-1S**	EPA 300.0	632763		
60326111006	**L-LCPA-DUP-1**	EPA 300.0	632763		
60326111007	**L-LCPA-FB-1**	EPA 300.0	632763		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60326111

60326111

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 ☑ ZPIC

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

Cooler Temperature (°C): **As-read** 0.0 **Corr. Factor** +0.2 **Corrected** 0.2

Date and initials of person examining contents: MB 1/8/2020

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	Did not recieve Samples
Pace containers used:	☑Yes ☐No ☐N/A	L-UMW-5D, L-LMW-4S,
Containers intact:	☑Yes ☐No ☐N/A	and L-LCPB-FB-1
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: Wt	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Per Eric Schneider, missing samples will be submitted at a later date.

Project Manager Review: Jami Church Date: 1/10/20

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 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/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Ryan Feldmann/Eric Schneider
Purchase Order No.:	
Project Name:	Ameren
Project Number:	

Section C Invoice Information:

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

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER

UST | RCRA | OTHER

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N		60324111
1	L-UMW-1D	WT	G			1/6/20	1048		1																	
2	L-UMW-5D	WT	G			1/7/20	0950		1																	
3	L-UMW-7D	WT	G			1/6/20	1605		1																	
4	L-UMW-8D	WT	G			1/6/20	1260		2																	
5	L-UMW-9D	WT	G			1/6/20	1440		2																	
6	L-AM-1S	WT	G	1/7/20	0950		0950		1																	
7	LCPA-Dup-1	WT	G			1/6/20	-		7																	
8	LCPA-FB-1	WT	G			1/6/20	1300		2																	
9		WT	G																							
10		WT	G																							
11		WT	G																							
12		WT	G																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		1-7	1745		1/8/2020	0350	0.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Drive, Ste 260	Copy To:	Ryan Feldmann/Eric Schneider	Company Name:	
	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Ameren	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:		Pace Profile #:	9285

REGULATORY AGENCY: NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | OTHER

Site Location STATE: MO

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Valid Matrix Codes

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

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

ITEM #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	WT	G			1/7/26	1130		2		3							Y	Y	Y	Y	Y	Y	Y	L0326111
2	WT	G			1/7/26	1440		2		3							Y	Y	Y	Y	Y	Y	Y	
3	WT	G																						
4	WT	G																						
5	WT	G																						
6	WT	G																						
7	WT	G																						
8	WT	G																						
9	WT	G																						
10	WT	G																						
11	WT	G																						
12	WT	G																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Angela Mann	1-7	1745	Victoria Jane	1/8/2026	0330	0.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Drive, Ste 260	Copy To:	Ryan Feldmann/Eric Schneider	Company Name:	
	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Ameren	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:		Pace Profile #:	9285

REGULATORY AGENCY: NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | OTHER _____

Site Location STATE: MO

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Valid Matrix Codes

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

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

ITEM #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																	Y/N	N	N	N	N	N	N		60324111
1	L-TMW-1	WT	G			1/7/20	1225		2	/		/						/	/	/			/		
2	LCL1-FB-1	WT	G			1/7/20	1335		2	/		/						/	/	/			/		
3		WT	G																						
4		WT	G																						
5		WT	G																						
6		WT	G																						
7		WT	G																						
8		WT	G																						
9		WT	G																						
10		WT	G																						
11		WT	G																						
12		WT	G																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	1-7	1745	[signature] Pace	1/8/2020	0330	0.2	Y	Y	Y

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

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Sample Condition Upon Receipt

WO# : 60326297

60326297

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: T-299 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 1.7 **Corr. Factor** 0.2 **Corrected** 1.9

Date and initials of person examining contents: 1/10/20

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jason Church Date: 1/10/20

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: of

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	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Ameren	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:		Pace Profile #:	9285

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER _____

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N	N	N	N		
1	L-UMW-50	WT	G			11/7/20	0950		1	1									/					/		40032297001
2		WT	G																							
3		WT	G																							
4		WT	G																							
5		WT	G																							
6		WT	G																							
7		WT	G																							
8		WT	G																							
9		WT	G																							
10		WT	G																							
11		WT	G																							
12		WT	G																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		11/9/20	1315	PACE	11/9/20	1315				
	PACE	11/9/20	1700		11/10/20	0314	1.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 11/09/20

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

MEMORANDUM

DATE February 13, 2020 **Project No.** 153140601

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

FROM Tommy Goodwin **EMAIL Tommy_Goodwin@golder.com**

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – VERIFICATION SAMPLING - DATA PACKAGE 60326111REV1

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

- None.

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: J Ingram
Project Name: Ameren - Labadie - LCPA
Project Number: 153140601
Reviewer: T Goodwin
Validation Date: 2/13/2020

Laboratory: Pace Analytical - KS
SDG #: 60326111rev1
Analytical Method (type and no.): EPA 200.7 (Metals); SM 2540C (TDS); EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names L-UMW-1D, L-UMW-7D, L-UMW-8D, L-UMW-9D, L-AM-1S, L-UMW-5D, 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?	x			1/6-7/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			
f) Field QC noted?	x			
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?		x		See Notes
b) Was the COC signed by both field and laboratory personnel?		x		First CoC not signed by field staff
c) Were samples received in good condition?	x			

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	See Notes
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	-11001 (TDS)
d) Were lab dup. precision criteria met (note RPD)?	☒	☐	☐	See Notes

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

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

Comments/Notes:

DUP-1 @ L-UMW-9D; L-LCPA- FB-1 @ L-UMW-8D;

CoC: Samples on pages 2 and 3 of the first CoC are not associated with this data package.

Dilution: Sulfate was diluted in several samples; no qualification is necessary.

Max Field Duplicate RPD: 2% (Limit 20%)

Max Lab Duplicate RPD: 1% (Limit 10%)

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
None				

Signature: Date: 2/13/2020

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

May 12, 2020

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

RE: Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between April 15, 2020 and April 17, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

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

Pace Analytical Services, LLC
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(913)599-5665

SAMPLE SUMMARY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60334355001	**L-UMW-2D**	Water	04/14/20 14:51	04/15/20 02:25
60334355002	**L-UMW-3D**	Water	04/14/20 14:25	04/15/20 02:25
60334355003	**L-UMW-4D**	Water	04/14/20 13:25	04/15/20 02:25
60334355004	**L-UMW-5D**	Water	04/14/20 12:10	04/15/20 02:25
60334355005	**L-UMW-6D**	Water	04/14/20 10:10	04/15/20 02:25
60334355006	**L-UMW-FB-1**	Water	04/14/20 15:05	04/15/20 02:25
60334355007	**L-UMW-DUP-2**	Water	04/14/20 08:00	04/15/20 02:25
60334355008	**L-BMW-1D**	Water	04/14/20 09:54	04/15/20 02:25
60334355009	**L-BMW-2D**	Water	04/14/20 13:48	04/15/20 02:25
60334355010	**L-UMW-DUP-1**	Water	04/14/20 08:00	04/15/20 02:25
60334355011	**L-UMW-1D**	Water	04/16/20 09:58	04/17/20 02:25
60334355012	**L-UMW-7D**	Water	04/16/20 09:40	04/17/20 02:25
60334355013	**L-UMW-8D**	Water	04/16/20 13:34	04/17/20 02:25
60334355014	**L-UMW-9D**	Water	04/16/20 11:22	04/17/20 02:25
60334355015	**L-UMW-FB-2**	Water	04/16/20 10:30	04/17/20 02:25
60334355016	**L-UMW-9D-MS-1**	Water	04/16/20 11:22	04/17/20 02:25
60334355017	**L-UMW-9D-MSD-1**	Water	04/16/20 11:22	04/17/20 02:25

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60334355001	**L-UMW-2D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355002	**L-UMW-3D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355003	**L-UMW-4D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355004	**L-UMW-5D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355005	**L-UMW-6D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355006	**L-UMW-FB-1**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334355007	**L-UMW-DUP-2**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355008	**L-BMW-1D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355009	**L-BMW-2D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334355010	**L-UMW-DUP-1**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334355011	**L-UMW-1D**	EPA 200.7	HKC	13	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334355012	**L-UMW-7D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334355013	**L-UMW-8D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334355014	**L-UMW-9D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334355015	**L-UMW-FB-2**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334355016	**L-UMW-9D-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60334355017	**L-UMW-9D-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-2D **Lab ID: 60334355001** Collected: 04/14/20 14:51 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**102**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:09	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:09	7440-41-7	
Boron	**1050**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:09	7440-42-8	
Calcium	**91900**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:09	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:09	7440-48-4	
Iron	**2600**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:09	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:09	7439-92-1	
Lithium	**23.9**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:09	7439-93-2	
Magnesium	**20000**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:09	7439-95-4	
Manganese	**304**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:09	7439-96-5	
Molybdenum	**42.2**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:09	7439-98-7	
Potassium	**6780**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:09	7440-09-7	
Sodium	**59700**	ug/L	500	107	1	04/23/20 14:30	04/24/20 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	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:18	7440-36-0	
Arsenic	**1.4**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:18	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:18	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:18	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:18	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 16:44	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**218**	mg/L	20.0	8.4	1		04/23/20 11:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**558**	mg/L	10.0	10.0	1		04/16/20 09:51		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**2.6**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:15		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-2D **Lab ID: 60334355001** Collected: 04/14/20 14:51 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.1**	mg/L	2.0	0.78	2		04/20/20 13:16	16887-00-6	
Fluoride	**0.37**	mg/L	0.20	0.075	1		04/21/20 17:03	16984-48-8	
Sulfate	**185**	mg/L	20.0	5.6	20		04/20/20 13:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-3D **Lab ID: 60334355002** Collected: 04/14/20 14:25 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**106**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:11	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:11	7440-41-7	
Boron	**9770**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:11	7440-42-8	M1
Calcium	**124000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:11	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:11	7440-48-4	
Iron	**117**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:11	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:11	7439-92-1	
Lithium	**18.4**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:11	7439-93-2	
Magnesium	**6300**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:11	7439-95-4	
Manganese	**128**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:11	7439-96-5	
Molybdenum	**179**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:11	7439-98-7	
Potassium	**12300**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:11	7440-09-7	
Sodium	**66700**	ug/L	500	107	1	04/23/20 14:30	04/24/20 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	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:21	7440-36-0	
Arsenic	**13.8**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:21	7440-38-2	
Cadmium	**0.070J**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:21	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:21	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:21	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 16:55	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**97.5**	mg/L	20.0	8.4	1		04/23/20 12:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**674**	mg/L	10.0	10.0	1		04/16/20 09:51		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.11**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:14		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-3D **Lab ID: 60334355002** Collected: 04/14/20 14:25 Received: 04/15/20 02:25 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	**0.14**	mg/L	0.050	0.039	1		04/21/20 09:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.3**	mg/L	1.0	0.39	1		04/21/20 17:19	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.075	1		04/21/20 17:19	16984-48-8	
Sulfate	**369**	mg/L	50.0	13.9	50		04/20/20 13:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-4D **Lab ID: 60334355003** Collected: 04/14/20 13:25 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**93.8**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:15	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:15	7440-41-7	
Boron	**4140**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:15	7440-42-8	
Calcium	**76600**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:15	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:15	7440-48-4	
Iron	**239**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:15	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:15	7439-92-1	
Lithium	**29.1**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:15	7439-93-2	
Magnesium	**7940**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:15	7439-95-4	
Manganese	**282**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:15	7439-96-5	
Molybdenum	**109**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:15	7439-98-7	
Potassium	**9560**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:15	7440-09-7	
Sodium	**124000**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:15	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:23	7440-36-0	
Arsenic	**0.12J**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:23	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:23	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:23	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:23	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 16:57	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**83.6**	mg/L	20.0	8.4	1		04/23/20 12:06		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**626**	mg/L	10.0	10.0	1		04/16/20 09:51		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.23**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:14		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-4D **Lab ID: 60334355003** Collected: 04/14/20 13:25 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**20.3**	mg/L	2.0	0.78	2		04/20/20 14:04	16887-00-6	
Fluoride	**0.38**	mg/L	0.20	0.075	1		04/21/20 17:51	16984-48-8	
Sulfate	**375**	mg/L	100	27.8	100		04/21/20 18:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-5D **Lab ID: 60334355004** Collected: 04/14/20 12:10 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**61.4**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:18	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:18	7440-41-7	
Boron	**7010**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:18	7440-42-8	
Calcium	**69400**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:18	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:18	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:18	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:18	7439-92-1	
Lithium	**24.7**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:18	7439-93-2	
Magnesium	**116**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:18	7439-95-4	
Manganese	**12.0**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:18	7439-96-5	
Molybdenum	**169**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:18	7439-98-7	
Potassium	**11100**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:18	7440-09-7	
Sodium	**65900**	ug/L	500	107	1	04/23/20 14:30	04/24/20 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	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:25	7440-36-0	
Arsenic	**13.3**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:25	7440-38-2	
Cadmium	**0.060J**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:25	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:25	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:25	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:25	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:00	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**57.9**	mg/L	20.0	8.4	1		04/23/20 12:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**480**	mg/L	5.0	5.0	1		04/16/20 09:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.013J**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:14		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-5D **Lab ID: 60334355004** Collected: 04/14/20 12:10 Received: 04/15/20 02:25 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	**0.71**	mg/L	0.050	0.039	1		04/21/20 09:44	18496-25-8	
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		04/21/20 18:38	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.075	1		04/21/20 18:22	16984-48-8	
Sulfate	**229**	mg/L	20.0	5.6	20		04/20/20 14:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-6D **Lab ID: 60334355005** Collected: 04/14/20 10:10 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**138**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:20	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:20	7440-41-7	
Boron	**14900**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:20	7440-42-8	
Calcium	**143000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:20	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:20	7440-48-4	
Iron	**188**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:20	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:20	7439-92-1	
Lithium	**20.0**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:20	7439-93-2	
Magnesium	**2120**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:20	7439-95-4	
Manganese	**168**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:20	7439-96-5	
Molybdenum	**597**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:20	7439-98-7	
Potassium	**31300**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:20	7440-09-7	
Sodium	**105000**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:20	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:26	7440-36-0	
Arsenic	**32.5**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:26	7440-38-2	
Cadmium	**0.20J**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:26	7440-43-9	
Chromium	**0.27J**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:26	7440-47-3	
Selenium	**0.24J**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:26	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:02	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**65.1**	mg/L	20.0	8.4	1		04/23/20 12:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**886**	mg/L	10.0	10.0	1		04/16/20 09:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.12**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.068J**	mg/L	0.20	0.035	1		04/15/20 14:07		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-6D **Lab ID: 60334355005** Collected: 04/14/20 10:10 Received: 04/15/20 02:25 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	**0.10**	mg/L	0.050	0.039	1		04/21/20 09:45	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.7**	mg/L	1.0	0.39	1		04/21/20 18:54	16887-00-6	
Fluoride	**0.16J**	mg/L	0.20	0.075	1		04/21/20 18:54	16984-48-8	
Sulfate	**503**	mg/L	50.0	13.9	50		04/20/20 15:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-FB-1 **Lab ID: 60334355006** Collected: 04/14/20 15:05 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:22	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:22	7440-41-7	
Boron	**23.7J**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:22	7440-42-8	
Calcium	**<32.4**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:22	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:22	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:22	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:22	7439-92-1	
Lithium	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:22	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:22	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:22	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:22	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:22	7440-09-7	
Sodium	**171J**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:22	7440-23-5	B
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:28	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:28	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:28	7440-43-9	
Chromium	**1.1**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:28	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:28	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:04	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		04/23/20 12:21		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**10.0**	mg/L	5.0	5.0	1		04/20/20 11:44		D6
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.00000000010J**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:15		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-FB-1 **Lab ID: 60334355006** Collected: 04/14/20 15:05 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:45	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.39**	mg/L	1.0	0.39	1		04/21/20 19:57	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		04/21/20 19:57	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		04/21/20 19:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-DUP-2 **Lab ID: 60334355007** Collected: 04/14/20 08:00 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**60.2**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:28	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:28	7440-41-7	
Boron	**6900**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:28	7440-42-8	
Calcium	**69100**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:28	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:28	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:28	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:28	7439-92-1	
Lithium	**22.4**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:28	7439-93-2	
Magnesium	**105**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:28	7439-95-4	
Manganese	**11.7**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:28	7439-96-5	
Molybdenum	**169**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:28	7439-98-7	
Potassium	**10900**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:28	7440-09-7	
Sodium	**65300**	ug/L	500	107	1	04/23/20 14:30	04/24/20 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	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:30	7440-36-0	
Arsenic	**13.2**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:30	7440-38-2	
Cadmium	**0.061J**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:30	7440-43-9	
Chromium	**0.41J**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:30	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:30	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:06	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**55.4**	mg/L	20.0	8.4	1		04/23/20 12:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**496**	mg/L	5.0	5.0	1		04/20/20 11:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.010J**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:06		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-DUP-2 **Lab ID: 60334355007** Collected: 04/14/20 08:00 Received: 04/15/20 02:25 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	**0.72**	mg/L	0.050	0.039	1		04/21/20 09:45	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.1**	mg/L	2.0	0.78	2		04/21/20 20:45	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.075	1		04/21/20 20:13	16984-48-8	
Sulfate	**222**	mg/L	20.0	5.6	20		04/20/20 15:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-BMW-1D **Lab ID: 60334355008** Collected: 04/14/20 09:54 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**989**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:30	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:30	7440-41-7	
Boron	**93.2J**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:30	7440-42-8	
Calcium	**122000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:30	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:30	7440-48-4	
Iron	**9750**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:30	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:30	7439-92-1	
Lithium	**29.2**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:30	7439-93-2	
Magnesium	**29800**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:30	7439-95-4	
Manganese	**547**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:30	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:30	7439-98-7	
Potassium	**4110**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:30	7440-09-7	
Sodium	**8070**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:30	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:36	7440-36-0	
Arsenic	**2.1**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:36	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:36	7440-43-9	
Chromium	**0.24J**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:36	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:09	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**377**	mg/L	20.0	8.4	1		04/23/20 12:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**451**	mg/L	10.0	10.0	1		04/20/20 11:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**9.3**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.42**	mg/L	0.20	0.035	1		04/15/20 14:07		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-BMW-1D **Lab ID: 60334355008** Collected: 04/14/20 09:54 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:46	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.9**	mg/L	1.0	0.39	1		04/21/20 21:17	16887-00-6	
Fluoride	**0.21**	mg/L	0.20	0.075	1		04/21/20 21:17	16984-48-8	
Sulfate	**25.2**	mg/L	5.0	1.4	5		04/20/20 16:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-BMW-2D **Lab ID: 60334355009** Collected: 04/14/20 13:48 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**338**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:33	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:33	7440-41-7	
Boron	**72.3J**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:33	7440-42-8	
Calcium	**143000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:33	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:33	7440-48-4	
Iron	**7990**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:33	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:33	7439-92-1	
Lithium	**43.8**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:33	7439-93-2	
Magnesium	**30600**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:33	7439-95-4	
Manganese	**308**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:33	7439-96-5	
Molybdenum	**2.1J**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:33	7439-98-7	
Potassium	**3790**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:33	7440-09-7	
Sodium	**6990**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:33	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:38	7440-36-0	
Arsenic	**38.3**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:38	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:38	7440-43-9	
Chromium	**0.88J**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:38	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:38	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:11	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**380**	mg/L	20.0	8.4	1		04/23/20 12:46		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**505**	mg/L	10.0	10.0	1		04/20/20 11:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**7.9**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.096J**	mg/L	0.20	0.035	1		04/15/20 14:14		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-BMW-2D **Lab ID: 60334355009** Collected: 04/14/20 13:48 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:46	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.2**	mg/L	1.0	0.39	1		04/21/20 21:32	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		04/21/20 21:32	16984-48-8	
Sulfate	**48.1**	mg/L	5.0	1.4	5		04/20/20 16:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-DUP-1 **Lab ID: 60334355010** Collected: 04/14/20 08:00 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**131**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:35	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:35	7440-41-7	
Boron	**14200**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:35	7440-42-8	
Calcium	**136000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:35	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:35	7440-48-4	
Iron	**185**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:35	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:35	7439-92-1	
Lithium	**16.9**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:35	7439-93-2	
Magnesium	**2040**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:35	7439-95-4	
Manganese	**162**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:35	7439-96-5	
Molybdenum	**570**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:35	7439-98-7	
Potassium	**30000**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:35	7440-09-7	
Sodium	**100000**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:35	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:40	7440-36-0	
Arsenic	**32.2**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:40	7440-38-2	
Cadmium	**0.20J**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:40	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:40	7440-47-3	
Selenium	**0.22J**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:40	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:13	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**63.7**	mg/L	20.0	8.4	1		04/23/20 12:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**878**	mg/L	10.0	10.0	1		04/20/20 11:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.15**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:06		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-DUP-1 **Lab ID: 60334355010** Collected: 04/14/20 08:00 Received: 04/15/20 02:25 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	**0.077**	mg/L	0.050	0.039	1		04/21/20 09:47	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.8**	mg/L	1.0	0.39	1		04/21/20 21:48	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.075	1		04/21/20 21:48	16984-48-8	
Sulfate	**530**	mg/L	100	27.8	100		04/21/20 22:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-1D **Lab ID: 60334355011** Collected: 04/16/20 09:58 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**478**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:37	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:37	7440-41-7	
Boron	**735**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:37	7440-42-8	
Calcium	**146000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:37	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:37	7440-48-4	
Iron	**15200**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:37	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:37	7439-92-1	
Lithium	**26.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:37	7439-93-2	
Magnesium	**37400**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:37	7439-95-4	
Manganese	**418**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:37	7439-96-5	
Molybdenum	**4.6J**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:37	7439-98-7	
Potassium	**6340**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:37	7440-09-7	
Sodium	**26200**	ug/L	500	107	1	04/23/20 14:30	04/24/20 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	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:42	7440-36-0	
Arsenic	**45.6**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:42	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:42	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:42	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:42	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/06/20 15:45	05/07/20 10:30	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**372**	mg/L	20.0	8.4	1		04/27/20 12:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**579**	mg/L	10.0	10.0	1		04/22/20 12:36		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**15.2**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:09		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-1D **Lab ID: 60334355011** Collected: 04/16/20 09:58 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:38	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	0.39	1		04/27/20 10:14	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		04/27/20 10:14	16984-48-8	
Sulfate	**24.7**	mg/L	5.0	1.4	5		04/25/20 22:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-7D **Lab ID: 60334355012** Collected: 04/16/20 09:40 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**102**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:39	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:39	7440-41-7	
Boron	**9750**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:39	7440-42-8	
Calcium	**281000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:39	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:39	7440-48-4	
Iron	**13900**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:39	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:39	7439-92-1	
Lithium	**26.7**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:39	7439-93-2	
Magnesium	**36200**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:39	7439-95-4	
Manganese	**2470**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:39	7439-96-5	
Molybdenum	**299**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:39	7439-98-7	
Potassium	**7900**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:39	7440-09-7	
Sodium	**134000**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:39	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:43	7440-36-0	
Arsenic	**22.8**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:43	7440-38-2	
Cadmium	**0.12J**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:43	7440-43-9	
Chromium	**0.57J**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:43	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:43	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:43	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/06/20 15:45	05/07/20 10:32	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**109**	mg/L	20.0	8.4	1		04/27/20 12:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1560**	mg/L	13.3	13.3	1		04/22/20 12:36		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**12.4**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.5**	mg/L	0.20	0.035	1		04/20/20 16:09		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-7D **Lab ID: 60334355012** Collected: 04/16/20 09:40 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:41	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**15.5**	mg/L	5.0	1.9	5		04/25/20 22:40	16887-00-6	
Fluoride	**0.39J**	mg/L	1.0	0.37	5		04/25/20 22:40	16984-48-8	
Sulfate	**906**	mg/L	50.0	13.9	50		04/25/20 22:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-8D **Lab ID: 60334355013** Collected: 04/16/20 13:34 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**453**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:41	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:41	7440-41-7	
Boron	**864**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:41	7440-42-8	
Calcium	**156000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:41	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:41	7440-48-4	
Iron	**26100**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:41	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:41	7439-92-1	
Lithium	**39.3**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:41	7439-93-2	
Magnesium	**40300**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:41	7439-95-4	
Manganese	**1110**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:41	7439-96-5	
Molybdenum	**17.1J**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:41	7439-98-7	
Potassium	**5870**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:41	7440-09-7	
Sodium	**28000**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:41	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:45	7440-36-0	
Arsenic	**30.3**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:45	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:45	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:45	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:45	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/06/20 15:45	05/07/20 10:35	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**314**	mg/L	20.0	8.4	1		04/27/20 12:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**661**	mg/L	10.0	10.0	1		04/22/20 12:36		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**26.1**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.042J**	mg/L	0.20	0.035	1		04/20/20 16:13		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-8D **Lab ID: 60334355013** Collected: 04/16/20 13:34 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:41	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**11.4**	mg/L	1.0	0.39	1		04/25/20 23:12	16887-00-6	
Fluoride	**0.15J**	mg/L	0.20	0.075	1		04/25/20 23:12	16984-48-8	
Sulfate	**102**	mg/L	10.0	2.8	10		04/27/20 10:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-9D **Lab ID: 60334355014** Collected: 04/16/20 11:22 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**503**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:43	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:43	7440-41-7	
Boron	**100**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:43	7440-42-8	
Calcium	**123000**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:43	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:43	7440-48-4	
Iron	**24700**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:43	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:43	7439-92-1	
Lithium	**16.2**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:43	7439-93-2	
Magnesium	**35000**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:43	7439-95-4	
Manganese	**388**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:43	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:43	7439-98-7	
Potassium	**4050**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:43	7440-09-7	
Sodium	**13600**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:43	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:47	7440-36-0	
Arsenic	**32.2**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:47	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:47	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:47	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:47	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/06/20 15:45	05/07/20 10:37	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**460**	mg/L	20.0	8.4	1		04/27/20 12:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**469**	mg/L	10.0	10.0	1		04/22/20 12:37		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**24.4**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.28**	mg/L	0.20	0.035	1		04/20/20 16:11		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-9D **Lab ID: 60334355014** Collected: 04/16/20 11:22 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:41	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.4**	mg/L	2.0	0.78	2		04/25/20 10:53	16887-00-6	
Fluoride	**0.20**	mg/L	0.20	0.075	1		04/25/20 10:06	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		04/25/20 10:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-FB-2 **Lab ID: 60334355015** Collected: 04/16/20 10:30 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	04/23/20 14:30	04/24/20 17:58	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 14:30	04/24/20 17:58	7440-41-7	
Boron	**<11.7**	ug/L	100	11.7	1	04/23/20 14:30	04/24/20 17:58	7440-42-8	
Calcium	**<32.4**	ug/L	200	32.4	1	04/23/20 14:30	04/24/20 17:58	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 14:30	04/24/20 17:58	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 14:30	04/24/20 17:58	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:58	7439-92-1	
Lithium	**<4.6**	ug/L	10.0	4.6	1	04/23/20 14:30	04/24/20 17:58	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	04/23/20 14:30	04/24/20 17:58	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	04/23/20 14:30	04/24/20 17:58	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 14:30	04/24/20 17:58	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	04/23/20 14:30	04/24/20 17:58	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	04/23/20 14:30	04/24/20 17:58	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 10:35	04/27/20 10:35	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	04/23/20 10:35	04/27/20 10:35	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 10:35	04/27/20 10:35	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 10:35	04/27/20 10:35	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 10:35	04/27/20 10:35	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 10:35	04/27/20 10:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/06/20 15:45	05/07/20 10:48	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**365**	mg/L	20.0	8.4	1		04/27/20 12:32		
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		04/22/20 12:37		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.00000000010J**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:10		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-FB-2 **Lab ID: 60334355015** Collected: 04/16/20 10:30 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.39**	mg/L	1.0	0.39	1		04/25/20 23:44	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		04/25/20 23:44	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		04/25/20 23:44	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 651527
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 2643587 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.058	0.20	0.058	04/28/20 16:39	

LABORATORY CONTROL SAMPLE: 2643588

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: 2643589 2643590

Parameter	Units	60334355001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.058	5	5	5.1	5.1	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 653218 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

METHOD BLANK: 2649727 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.058	0.20	0.058	05/07/20 10:25	

LABORATORY CONTROL SAMPLE: 2649728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2649729 2649730

Parameter	Units	60334355014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.058	5	5	5.0	5.0	99	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650935
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010, 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

METHOD BLANK: 2641367
Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010, 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/24/20 17:05	
Beryllium	ug/L	<0.49	1.0	0.49	04/24/20 17:05	
Boron	ug/L	<11.7	100	11.7	04/24/20 17:05	
Calcium	ug/L	<32.4	200	32.4	04/24/20 17:05	
Cobalt	ug/L	<1.5	5.0	1.5	04/24/20 17:05	
Iron	ug/L	<26.8	50.0	26.8	04/24/20 17:05	
Lead	ug/L	<4.6	10.0	4.6	04/24/20 17:05	
Lithium	ug/L	<4.6	10.0	4.6	04/24/20 17:05	
Magnesium	ug/L	<19.7	50.0	19.7	04/24/20 17:05	
Manganese	ug/L	<0.97	5.0	0.97	04/24/20 17:05	
Molybdenum	ug/L	<1.7	20.0	1.7	04/24/20 17:05	
Potassium	ug/L	<189	500	189	04/24/20 17:05	
Sodium	ug/L	143J	500	107	04/24/20 17:05	

LABORATORY CONTROL SAMPLE: 2641368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	996	100	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Boron	ug/L	1000	1020	102	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Iron	ug/L	10000	10000	100	85-115	
Lead	ug/L	1000	1070	107	85-115	
Lithium	ug/L	1000	954	95	85-115	
Magnesium	ug/L	10000	10600	106	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Molybdenum	ug/L	1000	1030	103	85-115	
Potassium	ug/L	10000	9730	97	85-115	
Sodium	ug/L	10000	10000	100	85-115	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

MATRIX SPIKE SAMPLE: 2641369

Parameter	Units	60334355002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	106	1000	1110	100	70-130	
Beryllium	ug/L	<0.49	1000	1020	102	70-130	
Boron	ug/L	9770	1000	11300	150	70-130	M1
Calcium	ug/L	124000	10000	136000	118	70-130	
Cobalt	ug/L	<1.5	1000	1030	103	70-130	
Iron	ug/L	117	10000	10200	101	70-130	
Lead	ug/L	<4.6	1000	1040	104	70-130	
Lithium	ug/L	18.4	1000	979	96	70-130	
Magnesium	ug/L	6300	10000	16800	105	70-130	
Manganese	ug/L	128	1000	1150	103	70-130	
Molybdenum	ug/L	179	1000	1230	105	70-130	
Potassium	ug/L	12300	10000	22600	102	70-130	
Sodium	ug/L	66700	10000	78000	113	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2641370 2641371

Parameter	Units	60334355014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	503	1000	1000	1500	1500	99	100	70-130	0	20	
Beryllium	ug/L	<0.49	1000	1000	1030	1040	103	103	70-130	0	20	
Boron	ug/L	100	1000	1000	1130	1130	103	103	70-130	0	20	
Calcium	ug/L	123000	10000	10000	132000	133000	89	103	70-130	1	20	
Cobalt	ug/L	<1.5	1000	1000	1020	1020	102	102	70-130	0	20	
Iron	ug/L	24700	10000	10000	34300	34600	96	100	70-130	1	20	
Lead	ug/L	<4.6	1000	1000	1050	1050	105	104	70-130	0	20	
Lithium	ug/L	16.2	1000	1000	987	985	97	97	70-130	0	20	
Magnesium	ug/L	35000	10000	10000	45600	46200	106	113	70-130	1	20	
Manganese	ug/L	388	1000	1000	1420	1440	104	105	70-130	1	20	
Molybdenum	ug/L	<1.7	1000	1000	1040	1040	104	104	70-130	0	20	
Potassium	ug/L	4050	10000	10000	14200	14300	102	103	70-130	0	20	
Sodium	ug/L	13600	10000	10000	23500	23700	99	101	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650762
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010, 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

METHOD BLANK: 2640710 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010, 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	04/27/20 10:15	
Arsenic	ug/L	<0.086	1.0	0.086	04/27/20 10:15	
Cadmium	ug/L	<0.056	0.50	0.056	04/27/20 10:15	
Chromium	ug/L	<0.22	1.0	0.22	04/27/20 10:15	
Selenium	ug/L	<0.18	1.0	0.18	04/27/20 10:15	
Thallium	ug/L	<0.093	1.0	0.093	04/27/20 10:15	

LABORATORY CONTROL SAMPLE: 2640711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.4	99	85-115	
Arsenic	ug/L	40	39.3	98	85-115	
Cadmium	ug/L	40	40.0	100	85-115	
Chromium	ug/L	40	40.0	100	85-115	
Selenium	ug/L	40	37.7	94	85-115	
Thallium	ug/L	40	37.5	94	85-115	

MATRIX SPIKE SAMPLE: 2640712

Parameter	Units	60334355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.097	40	39.2	98	70-130	
Arsenic	ug/L	1.4	40	40.0	97	70-130	
Cadmium	ug/L	<0.056	40	38.0	95	70-130	
Chromium	ug/L	0.31J	40	40.1	100	70-130	
Selenium	ug/L	<0.18	40	35.3	88	70-130	
Thallium	ug/L	<0.093	40	38.9	97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2640713 2640714

Parameter	Units	60334355014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	38.9	39.2	97	98	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2640713 2640714

Parameter	Units	60334355014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	32.2	40	40	70.7	71.0	96	97	70-130	0	20	
Cadmium	ug/L	<0.056	40	40	37.9	38.2	95	96	70-130	1	20	
Chromium	ug/L	<0.22	40	40	40.5	40.1	101	100	70-130	1	20	
Selenium	ug/L	<0.18	40	40	36.4	35.9	91	90	70-130	1	20	
Thallium	ug/L	<0.093	40	40	38.6	38.4	97	96	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650869 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 2641105 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/23/20 11:43	

LABORATORY CONTROL SAMPLE: 2641106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	455	91	90-110	

SAMPLE DUPLICATE: 2641107

Parameter	Units	60334355001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	218	228	5	10	

SAMPLE DUPLICATE: 2641108

Parameter	Units	60334356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	168	172	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 651355 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

METHOD BLANK: 2643077 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/27/20 11:43	

LABORATORY CONTROL SAMPLE: 2643078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	494	99	90-110	

SAMPLE DUPLICATE: 2643079

Parameter	Units	60335265001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	269	260	3	10	

SAMPLE DUPLICATE: 2643080

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	460	476	3	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 649499 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005

METHOD BLANK: 2635895 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/16/20 09:48	

LABORATORY CONTROL SAMPLE: 2635896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	940	94	80-120	

SAMPLE DUPLICATE: 2635897

Parameter	Units	60334170006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1690	1780	5	10	

SAMPLE DUPLICATE: 2635898

Parameter	Units	60334152001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4710	4640	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650056 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 2638189 Matrix: Water
Associated Lab Samples: 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/20/20 11:43	

LABORATORY CONTROL SAMPLE: 2638190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	955	96	80-120	

SAMPLE DUPLICATE: 2638191

Parameter	Units	60334355006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10.0	12.0	18	10	D6

SAMPLE DUPLICATE: 2638192

Parameter	Units	60334359008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	715	752	5	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650572 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

METHOD BLANK: 2639958 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/22/20 12:34	

LABORATORY CONTROL SAMPLE: 2639959

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

SAMPLE DUPLICATE: 2639960

Parameter	Units	60334356018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	<5.0	15.0		10	

SAMPLE DUPLICATE: 2639961

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	469	463	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 649344
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 2635215 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.035	0.20	0.035	04/15/20 14:05	H6

LABORATORY CONTROL SAMPLE: 2635216

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

SAMPLE DUPLICATE: 2635217

Parameter	Units	60334355007 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.035	<0.035		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650161 | 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: 60334355011, 60334355012, 60334355014, 60334355015

METHOD BLANK: 2638358 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355014, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.035	0.20	0.035	04/20/20 16:03	H6

LABORATORY CONTROL SAMPLE: 2638359

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

SAMPLE DUPLICATE: 2638360

Parameter	Units	60334356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.052J	0.088J		20	H6

SAMPLE DUPLICATE: 2638361

Parameter	Units	60334356010 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.068J	0.060J		20	H6

SAMPLE DUPLICATE: 2638362

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.28	0.28	0	20	H6

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650163
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355013

METHOD BLANK: 2638369 Matrix: Water
Associated Lab Samples: 60334355013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.035	0.20	0.035	04/20/20 16:11	H6

LABORATORY CONTROL SAMPLE: 2638370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	105	90-110	H6

SAMPLE DUPLICATE: 2638371

Parameter	Units	60334356020 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.13J	0.12J		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650266
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 2638673 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.039	0.050	0.039	04/21/20 09:42	

LABORATORY CONTROL SAMPLE: 2638674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.53	105	80-120	

MATRIX SPIKE SAMPLE: 2638675

Parameter	Units	60334355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.039	0.5	0.57	113	75-125	

SAMPLE DUPLICATE: 2638676

Parameter	Units	60334355003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

SAMPLE DUPLICATE: 2638677

Parameter	Units	60334356001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650771
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

METHOD BLANK: 2640755 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.039	0.050	0.039	04/23/20 12:12	

LABORATORY CONTROL SAMPLE: 2640756

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.55	109	80-120	

MATRIX SPIKE SAMPLE: 2640758

Parameter	Units	60334355014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.039	0.5	0.60	119	75-125	

SAMPLE DUPLICATE: 2640757

Parameter	Units	60334355012 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

SAMPLE DUPLICATE: 2640759

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 650170
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 2638395 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/20/20 10:38	
Fluoride	mg/L	<0.075	0.20	0.075	04/20/20 10:38	
Sulfate	mg/L	<0.28	1.0	0.28	04/20/20 10:38	

METHOD BLANK: 2638926 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.44J	1.0	0.39	04/16/20 09:12	
Fluoride	mg/L	<0.075	0.20	0.075	04/16/20 09:12	
Sulfate	mg/L	<0.28	1.0	0.28	04/16/20 09:12	

METHOD BLANK: 2639261 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/21/20 16:31	
Fluoride	mg/L	<0.075	0.20	0.075	04/21/20 16:31	
Sulfate	mg/L	<0.28	1.0	0.28	04/21/20 16:31	

METHOD BLANK: 2639859 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/22/20 12:52	
Fluoride	mg/L	<0.075	0.20	0.075	04/22/20 12:52	
Sulfate	mg/L	<0.28	1.0	0.28	04/22/20 12:52	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

METHOD BLANK: 2641399 Matrix: Water

Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/23/20 08:10	
Fluoride	mg/L	<0.075	0.20	0.075	04/23/20 08:10	
Sulfate	mg/L	<0.28	1.0	0.28	04/23/20 08:10	

LABORATORY CONTROL SAMPLE: 2638396

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	2.3	94	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

LABORATORY CONTROL SAMPLE: 2638927

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

LABORATORY CONTROL SAMPLE: 2639262

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	101	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 2639860

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	2.3	91	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 2641400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

LABORATORY CONTROL SAMPLE: 2641400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.1	103	90-110	

MATRIX SPIKE SAMPLE: 2638397

Parameter	Units	60334355007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	19.1	10	30.3	112	80-120	
Fluoride	mg/L	0.18J	2.5	2.7	102	80-120	
Sulfate	mg/L	222	100	325	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2638398 2638399

Parameter	Units	60334434003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	63.0	25	25	81.8	81.9	75	75	80-120	0	15	M1
Fluoride	mg/L	0.33	2.5	2.5	3.0	3.0	106	107	80-120	0	15	
Sulfate	mg/L	ND	5	5	5.3	5.3	101	101	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 651207
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355015

METHOD BLANK: 2642451 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/25/20 14:06	
Fluoride	mg/L	<0.075	0.20	0.075	04/25/20 14:06	
Sulfate	mg/L	<0.28	1.0	0.28	04/25/20 14:06	

METHOD BLANK: 2643294 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/27/20 09:42	
Fluoride	mg/L	<0.075	0.20	0.075	04/27/20 09:42	
Sulfate	mg/L	<0.28	1.0	0.28	04/27/20 09:42	

METHOD BLANK: 2644089 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.46J	1.0	0.39	04/28/20 07:11	
Fluoride	mg/L	<0.075	0.20	0.075	04/28/20 07:11	
Sulfate	mg/L	0.33J	1.0	0.28	04/28/20 07:11	

METHOD BLANK: 2644615 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.46J	1.0	0.39	04/28/20 07:11	
Fluoride	mg/L	<0.075	0.20	0.075	04/28/20 07:11	
Sulfate	mg/L	0.33J	1.0	0.28	04/28/20 07:11	

LABORATORY CONTROL SAMPLE: 2642452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

LABORATORY CONTROL SAMPLE: 2642452

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

LABORATORY CONTROL SAMPLE: 2643295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 2644090

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	5.2	103	90-110	

LABORATORY CONTROL SAMPLE: 2644616

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	5.2	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642453 2642454

Parameter	Units	60334629002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	600	250	250	868	872	107	109	80-120	0	15	
Fluoride	mg/L	ND	125	125	123	123	98	99	80-120	0	15	
Sulfate	mg/L	479	250	250	747	749	107	108	80-120	0	15	

MATRIX SPIKE SAMPLE: 2642455

Parameter	Units	60334689005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	8.7	10	18.9	103	80-120	
Fluoride	mg/L	ND	5	5.1	98	80-120	
Sulfate	mg/L	24.1	10	35.2	111	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 651213
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334355014

METHOD BLANK: 2642478 Matrix: Water
Associated Lab Samples: 60334355014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.51J	1.0	0.39	04/25/20 09:21	
Fluoride	mg/L	<0.075	0.20	0.075	04/25/20 09:21	
Sulfate	mg/L	<0.28	1.0	0.28	04/25/20 09:21	

METHOD BLANK: 2643227 Matrix: Water
Associated Lab Samples: 60334355014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/27/20 09:42	
Fluoride	mg/L	<0.075	0.20	0.075	04/27/20 09:42	
Sulfate	mg/L	<0.28	1.0	0.28	04/27/20 09:42	

LABORATORY CONTROL SAMPLE: 2642479

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	2.7	106	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

LABORATORY CONTROL SAMPLE: 2643228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642480 2642481

Parameter	Units	60334355014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22.4	10	10	33.9	33.8	115	114	80-120	0	15	
Fluoride	mg/L	0.20	2.5	2.5	2.9	2.9	109	109	80-120	1	15	
Sulfate	mg/L	<0.28	5	5	5.3	5.2	102	101	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642482 2642483

Parameter	Units	60334356007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	19.0	10	10	30.2	29.6	112	107	80-120	2	15	
Fluoride	mg/L	0.32	2.5	2.5	3.1	3.1	110	110	80-120	0	15	
Sulfate	mg/L	245	250	250	488	491	97	99	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642484 2642485

Parameter	Units	60334356010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.2	5	5	9.1	9.2	97	98	80-120	1	15	
Fluoride	mg/L	0.22	2.5	2.5	3.0	3.0	110	111	80-120	1	15	
Sulfate	mg/L	14.1	5	5	19.5	19.5	107	107	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-2D **Lab ID: 60334355001** Collected: 04/14/20 14:51 Received: 04/15/20 02:25 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	**0.451 ± 0.526 (0.813) C:NA T:92%**	pCi/L	04/27/20 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.02 ± 0.555 (1.00) C:74% T:83%**	pCi/L	04/27/20 17:46	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-3D **Lab ID: 60334355002** Collected: 04/14/20 14:25 Received: 04/15/20 02:25 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 ± 0.490 (0.785) C:NA T:81%**	pCi/L	04/27/20 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.721 ± 0.459 (0.868) C:73% T:92%**	pCi/L	04/27/20 17:46	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-4D **Lab ID: 60334355003** Collected: 04/14/20 13:25 Received: 04/15/20 02:25 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	**-0.0424 ± 0.375 (0.816) C:NA T:90%**	pCi/L	04/27/20 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.959 ± 0.457 (0.787) C:75% T:82%**	pCi/L	04/27/20 15:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-5D **Lab ID: 60334355004** Collected: 04/14/20 12:10 Received: 04/15/20 02:25 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	**0.113 ± 0.301 (0.490) C:NA T:95%**	pCi/L	04/27/20 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.516 ± 0.423 (0.850) C:79% T:78%**	pCi/L	04/27/20 15:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-6D **Lab ID: 60334355005** Collected: 04/14/20 10:10 Received: 04/15/20 02:25 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	**0.519 ± 0.464 (0.596) C:NA T:80%**	pCi/L	04/27/20 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.24 ± 0.482 (0.747) C:77% T:86%**	pCi/L	04/27/20 15:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-FB-1 **Lab ID: 60334355006** Collected: 04/14/20 15:05 Received: 04/15/20 02:25 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	**0.195 ± 0.591 (1.06) C:NA T:90%**	pCi/L	04/27/20 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.00743 ± 0.512 (1.19) C:76% T:73%**	pCi/L	04/27/20 17:46	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-DUP-2 **Lab ID: 60334355007** Collected: 04/14/20 08:00 Received: 04/15/20 02:25 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 ± 0.444 (0.775) C:NA T:88%**	pCi/L	04/27/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.518 ± 0.467 (0.956) C:80% T:71%**	pCi/L	04/27/20 15:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-BMW-1D **Lab ID: 60334355008** Collected: 04/14/20 09:54 Received: 04/15/20 02:25 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	**1.31 ± 0.595 (0.178) C:NA T:88%**	pCi/L	04/27/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.87 ± 0.617 (0.868) C:74% T:82%**	pCi/L	04/27/20 15:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-BMW-2D **Lab ID: 60334355009** Collected: 04/14/20 13:48 Received: 04/15/20 02:25 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	**0.0297 ± 0.676 (1.27) C:NA T:86%**	pCi/L	04/27/20 16:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.35 ± 0.497 (0.720) C:72% T:83%**	pCi/L	04/27/20 15:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-DUP-1 **Lab ID: 60334355010** Collected: 04/14/20 08:00 Received: 04/15/20 02:25 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	**0.422 ± 0.377 (0.484) C:NA T:94%**	pCi/L	04/27/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.44 ± 0.517 (0.756) C:76% T:84%**	pCi/L	04/27/20 15:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-1D **Lab ID: 60334355011** Collected: 04/16/20 09:58 Received: 04/17/20 02:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.409 ± 0.537 (0.894) C:NA T:89%**	pCi/L	05/11/20 16:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.83 ± 0.601 (0.805) C:76% T:87%**	pCi/L	05/08/20 14:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-7D **Lab ID: 60334355012** Collected: 04/16/20 09:40 Received: 04/17/20 02:25 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	**0.299 ± 0.275 (0.162) C:NA T:94%**	pCi/L	05/11/20 16:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.472 ± 0.458 (0.945) C:75% T:82%**	pCi/L	05/08/20 14:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-8D **Lab ID: 60334355013** Collected: 04/16/20 13:34 Received: 04/17/20 02:25 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	**0.448 ± 0.489 (0.769) C:NA T:89%**	pCi/L	05/11/20 16:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.31 ± 0.519 (0.803) C:76% T:89%**	pCi/L	05/08/20 14:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-9D **Lab ID: 60334355014** Collected: 04/16/20 11:22 Received: 04/17/20 02:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.115 ± 0.278 (0.536) C:NA T:93%**	pCi/L	05/11/20 16:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.704 ± 0.422 (0.782) C:73% T:89%**	pCi/L	05/08/20 14:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-FB-2 **Lab ID: 60334355015** Collected: 04/16/20 10:30 Received: 04/17/20 02:25 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	**0.215 ± 0.466 (0.860) C:NA T:83%**	pCi/L	05/11/20 16:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.354 ± 0.428 (0.905) C:72% T:86%**	pCi/L	05/08/20 14:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-9D-MS-1 **Lab ID: 60334355016** Collected: 04/16/20 11:22 Received: 04/17/20 02:25 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	**79.26 %REC ± NA (NA) C:NA T:NA%**	pCi/L	05/11/20 16:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**89.84 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/08/20 14:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Sample: L-UMW-9D-MSD-1 **Lab ID: 60334355017** Collected: 04/16/20 11:22 Received: 04/17/20 02:25 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	**91.82 %REC 14.69 RPD ± NA (NA) C:NA T:NA%**	pCi/L	05/11/20 17:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**63.12 %REC 34.94 RPD ± NA (NA) C:NA T:NA**	pCi/L	05/08/20 14:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 393308 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: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015, 60334355016, 60334355017

METHOD BLANK: 1905209 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015, 60334355016, 60334355017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.376 (0.780) C:NA T:88%	pCi/L	05/11/20 16:24	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 393047
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 1903867 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.188 ± 0.367 (0.865) C:NA T:75%	pCi/L	04/27/20 16:34	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 392938
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

METHOD BLANK: 1903522 Matrix: Water
Associated Lab Samples: 60334355001, 60334355002, 60334355003, 60334355004, 60334355005, 60334355006, 60334355007, 60334355008, 60334355009, 60334355010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.280 ± 0.321 (0.671) C:80% T:74%	pCi/L	04/27/20 15:58	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

QC Batch: 393309 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: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015, 60334355016, 60334355017

METHOD BLANK: 1905210 Matrix: Water
Associated Lab Samples: 60334355011, 60334355012, 60334355013, 60334355014, 60334355015, 60334355016, 60334355017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.865 ± 0.375 (0.599) C:80% T:96%	pCi/L	05/08/20 14:56	

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QUALIFIERS

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

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.

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.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334355001	L-UMW-2D	EPA 200.7	650935	EPA 200.7	651004
60334355002	L-UMW-3D	EPA 200.7	650935	EPA 200.7	651004
60334355003	L-UMW-4D	EPA 200.7	650935	EPA 200.7	651004
60334355004	L-UMW-5D	EPA 200.7	650935	EPA 200.7	651004
60334355005	L-UMW-6D	EPA 200.7	650935	EPA 200.7	651004
60334355006	L-UMW-FB-1	EPA 200.7	650935	EPA 200.7	651004
60334355007	L-UMW-DUP-2	EPA 200.7	650935	EPA 200.7	651004
60334355008	L-BMW-1D	EPA 200.7	650935	EPA 200.7	651004
60334355009	L-BMW-2D	EPA 200.7	650935	EPA 200.7	651004
60334355010	L-UMW-DUP-1	EPA 200.7	650935	EPA 200.7	651004
60334355011	L-UMW-1D	EPA 200.7	650935	EPA 200.7	651004
60334355012	L-UMW-7D	EPA 200.7	650935	EPA 200.7	651004
60334355013	L-UMW-8D	EPA 200.7	650935	EPA 200.7	651004
60334355014	L-UMW-9D	EPA 200.7	650935	EPA 200.7	651004
60334355015	L-UMW-FB-2	EPA 200.7	650935	EPA 200.7	651004
60334355001	L-UMW-2D	EPA 200.8	650762	EPA 200.8	650918
60334355002	L-UMW-3D	EPA 200.8	650762	EPA 200.8	650918
60334355003	L-UMW-4D	EPA 200.8	650762	EPA 200.8	650918
60334355004	L-UMW-5D	EPA 200.8	650762	EPA 200.8	650918
60334355005	L-UMW-6D	EPA 200.8	650762	EPA 200.8	650918
60334355006	L-UMW-FB-1	EPA 200.8	650762	EPA 200.8	650918
60334355007	L-UMW-DUP-2	EPA 200.8	650762	EPA 200.8	650918
60334355008	L-BMW-1D	EPA 200.8	650762	EPA 200.8	650918
60334355009	L-BMW-2D	EPA 200.8	650762	EPA 200.8	650918
60334355010	L-UMW-DUP-1	EPA 200.8	650762	EPA 200.8	650918
60334355011	L-UMW-1D	EPA 200.8	650762	EPA 200.8	650918
60334355012	L-UMW-7D	EPA 200.8	650762	EPA 200.8	650918
60334355013	L-UMW-8D	EPA 200.8	650762	EPA 200.8	650918
60334355014	L-UMW-9D	EPA 200.8	650762	EPA 200.8	650918
60334355015	L-UMW-FB-2	EPA 200.8	650762	EPA 200.8	650918
60334355001	L-UMW-2D	EPA 7470	651527	EPA 7470	651619
60334355002	L-UMW-3D	EPA 7470	651527	EPA 7470	651619
60334355003	L-UMW-4D	EPA 7470	651527	EPA 7470	651619
60334355004	L-UMW-5D	EPA 7470	651527	EPA 7470	651619
60334355005	L-UMW-6D	EPA 7470	651527	EPA 7470	651619
60334355006	L-UMW-FB-1	EPA 7470	651527	EPA 7470	651619
60334355007	L-UMW-DUP-2	EPA 7470	651527	EPA 7470	651619
60334355008	L-BMW-1D	EPA 7470	651527	EPA 7470	651619
60334355009	L-BMW-2D	EPA 7470	651527	EPA 7470	651619
60334355010	L-UMW-DUP-1	EPA 7470	651527	EPA 7470	651619
60334355011	L-UMW-1D	EPA 7470	653218	EPA 7470	653326
60334355012	L-UMW-7D	EPA 7470	653218	EPA 7470	653326
60334355013	L-UMW-8D	EPA 7470	653218	EPA 7470	653326
60334355014	L-UMW-9D	EPA 7470	653218	EPA 7470	653326
60334355015	L-UMW-FB-2	EPA 7470	653218	EPA 7470	653326
60334355001	L-UMW-2D	EPA 903.1	393047		
60334355002	L-UMW-3D	EPA 903.1	393047		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334355003	L-UMW-4D	EPA 903.1	393047		
60334355004	L-UMW-5D	EPA 903.1	393047		
60334355005	L-UMW-6D	EPA 903.1	393047		
60334355006	L-UMW-FB-1	EPA 903.1	393047		
60334355007	L-UMW-DUP-2	EPA 903.1	393047		
60334355008	L-BMW-1D	EPA 903.1	393047		
60334355009	L-BMW-2D	EPA 903.1	393047		
60334355010	L-UMW-DUP-1	EPA 903.1	393047		
60334355011	L-UMW-1D	EPA 903.1	393308		
60334355012	L-UMW-7D	EPA 903.1	393308		
60334355013	L-UMW-8D	EPA 903.1	393308		
60334355014	L-UMW-9D	EPA 903.1	393308		
60334355015	L-UMW-FB-2	EPA 903.1	393308		
60334355016	L-UMW-9D-MS-1	EPA 903.1	393308		
60334355017	L-UMW-9D-MSD-1	EPA 903.1	393308		
60334355001	L-UMW-2D	EPA 904.0	392938		
60334355002	L-UMW-3D	EPA 904.0	392938		
60334355003	L-UMW-4D	EPA 904.0	392938		
60334355004	L-UMW-5D	EPA 904.0	392938		
60334355005	L-UMW-6D	EPA 904.0	392938		
60334355006	L-UMW-FB-1	EPA 904.0	392938		
60334355007	L-UMW-DUP-2	EPA 904.0	392938		
60334355008	L-BMW-1D	EPA 904.0	392938		
60334355009	L-BMW-2D	EPA 904.0	392938		
60334355010	L-UMW-DUP-1	EPA 904.0	392938		
60334355011	L-UMW-1D	EPA 904.0	393309		
60334355012	L-UMW-7D	EPA 904.0	393309		
60334355013	L-UMW-8D	EPA 904.0	393309		
60334355014	L-UMW-9D	EPA 904.0	393309		
60334355015	L-UMW-FB-2	EPA 904.0	393309		
60334355016	L-UMW-9D-MS-1	EPA 904.0	393309		
60334355017	L-UMW-9D-MSD-1	EPA 904.0	393309		
60334355001	L-UMW-2D	SM 2320B	650869		
60334355002	L-UMW-3D	SM 2320B	650869		
60334355003	L-UMW-4D	SM 2320B	650869		
60334355004	L-UMW-5D	SM 2320B	650869		
60334355005	L-UMW-6D	SM 2320B	650869		
60334355006	L-UMW-FB-1	SM 2320B	650869		
60334355007	L-UMW-DUP-2	SM 2320B	650869		
60334355008	L-BMW-1D	SM 2320B	650869		
60334355009	L-BMW-2D	SM 2320B	650869		
60334355010	L-UMW-DUP-1	SM 2320B	650869		
60334355011	L-UMW-1D	SM 2320B	651355		
60334355012	L-UMW-7D	SM 2320B	651355		
60334355013	L-UMW-8D	SM 2320B	651355		
60334355014	L-UMW-9D	SM 2320B	651355		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334355015	L-UMW-FB-2	SM 2320B	651355		
60334355001	L-UMW-2D	SM 2540C	649499		
60334355002	L-UMW-3D	SM 2540C	649499		
60334355003	L-UMW-4D	SM 2540C	649499		
60334355004	L-UMW-5D	SM 2540C	649499		
60334355005	L-UMW-6D	SM 2540C	649499		
60334355006	L-UMW-FB-1	SM 2540C	650056		
60334355007	L-UMW-DUP-2	SM 2540C	650056		
60334355008	L-BMW-1D	SM 2540C	650056		
60334355009	L-BMW-2D	SM 2540C	650056		
60334355010	L-UMW-DUP-1	SM 2540C	650056		
60334355011	L-UMW-1D	SM 2540C	650572		
60334355012	L-UMW-7D	SM 2540C	650572		
60334355013	L-UMW-8D	SM 2540C	650572		
60334355014	L-UMW-9D	SM 2540C	650572		
60334355015	L-UMW-FB-2	SM 2540C	650572		
60334355001	L-UMW-2D	SM 3500-Fe B#4	651492		
60334355002	L-UMW-3D	SM 3500-Fe B#4	651492		
60334355003	L-UMW-4D	SM 3500-Fe B#4	651492		
60334355004	L-UMW-5D	SM 3500-Fe B#4	651492		
60334355005	L-UMW-6D	SM 3500-Fe B#4	651492		
60334355006	L-UMW-FB-1	SM 3500-Fe B#4	651492		
60334355007	L-UMW-DUP-2	SM 3500-Fe B#4	651492		
60334355008	L-BMW-1D	SM 3500-Fe B#4	651492		
60334355009	L-BMW-2D	SM 3500-Fe B#4	651492		
60334355010	L-UMW-DUP-1	SM 3500-Fe B#4	651492		
60334355011	L-UMW-1D	SM 3500-Fe B#4	652021		
60334355012	L-UMW-7D	SM 3500-Fe B#4	652021		
60334355013	L-UMW-8D	SM 3500-Fe B#4	652021		
60334355014	L-UMW-9D	SM 3500-Fe B#4	652021		
60334355015	L-UMW-FB-2	SM 3500-Fe B#4	652021		
60334355001	L-UMW-2D	SM 3500-Fe B#4	649344		
60334355002	L-UMW-3D	SM 3500-Fe B#4	649344		
60334355003	L-UMW-4D	SM 3500-Fe B#4	649344		
60334355004	L-UMW-5D	SM 3500-Fe B#4	649344		
60334355005	L-UMW-6D	SM 3500-Fe B#4	649344		
60334355006	L-UMW-FB-1	SM 3500-Fe B#4	649344		
60334355007	L-UMW-DUP-2	SM 3500-Fe B#4	649344		
60334355008	L-BMW-1D	SM 3500-Fe B#4	649344		
60334355009	L-BMW-2D	SM 3500-Fe B#4	649344		
60334355010	L-UMW-DUP-1	SM 3500-Fe B#4	649344		
60334355011	L-UMW-1D	SM 3500-Fe B#4	650161		
60334355012	L-UMW-7D	SM 3500-Fe B#4	650161		
60334355013	L-UMW-8D	SM 3500-Fe B#4	650163		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY CTR LCPA
Pace Project No.: 60334355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334355014	**L-UMW-9D**	SM 3500-Fe B#4	650161		
60334355015	**L-UMW-FB-2**	SM 3500-Fe B#4	650161		
60334355001	**L-UMW-2D**	SM 4500-S-2 D	650266		
60334355002	**L-UMW-3D**	SM 4500-S-2 D	650266		
60334355003	**L-UMW-4D**	SM 4500-S-2 D	650266		
60334355004	**L-UMW-5D**	SM 4500-S-2 D	650266		
60334355005	**L-UMW-6D**	SM 4500-S-2 D	650266		
60334355006	**L-UMW-FB-1**	SM 4500-S-2 D	650266		
60334355007	**L-UMW-DUP-2**	SM 4500-S-2 D	650266		
60334355008	**L-BMW-1D**	SM 4500-S-2 D	650266		
60334355009	**L-BMW-2D**	SM 4500-S-2 D	650266		
60334355010	**L-UMW-DUP-1**	SM 4500-S-2 D	650266		
60334355011	**L-UMW-1D**	SM 4500-S-2 D	650771		
60334355012	**L-UMW-7D**	SM 4500-S-2 D	650771		
60334355013	**L-UMW-8D**	SM 4500-S-2 D	650771		
60334355014	**L-UMW-9D**	SM 4500-S-2 D	650771		
60334355015	**L-UMW-FB-2**	SM 4500-S-2 D	650771		
60334355001	**L-UMW-2D**	EPA 300.0	650170		
60334355002	**L-UMW-3D**	EPA 300.0	650170		
60334355003	**L-UMW-4D**	EPA 300.0	650170		
60334355004	**L-UMW-5D**	EPA 300.0	650170		
60334355005	**L-UMW-6D**	EPA 300.0	650170		
60334355006	**L-UMW-FB-1**	EPA 300.0	650170		
60334355007	**L-UMW-DUP-2**	EPA 300.0	650170		
60334355008	**L-BMW-1D**	EPA 300.0	650170		
60334355009	**L-BMW-2D**	EPA 300.0	650170		
60334355010	**L-UMW-DUP-1**	EPA 300.0	650170		
60334355011	**L-UMW-1D**	EPA 300.0	651207		
60334355012	**L-UMW-7D**	EPA 300.0	651207		
60334355013	**L-UMW-8D**	EPA 300.0	651207		
60334355014	**L-UMW-9D**	EPA 300.0	651213		
60334355015	**L-UMW-FB-2**	EPA 300.0	651207		

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Sample Condition Upon Receipt

WO# : 60334355

60334355

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 ☒ zplc

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

Cooler Temperature (°C): **As-read** 0.3 **Corr. Factor** +0.1 **Corrected** 0.4

Date and initials of person examining contents: 4-15-2020 JL

Temperature should be above freezing to 6°C 15.4, 16.1, 0.3, 0.5 15.5, 16.2, 0.4, 0.6

Chain of Custody present:	☒Yes ☐No ☐N/A	cooler with 15.5 temp had
Chain of Custody relinquished	☒Yes ☐No ☐N/A	only Radium and 16.2
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	Fe+2
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) Lot #603173, 603222	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jami Church 4/15/20 Date

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Dr., Ste 260	Copy To:	Eric Schnieder, Ryan Feldman	Company Name:	Golder Associates Inc
	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:	COC #1	Pace Quote Reference:	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Ameren Labadie Energy Center LCPA	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	153140602.0001A	Pace Profile #:	9285, line 1

REGULATORY AGENCY

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

Site Location STATE: MO

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Valid Matrix Codes

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

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N	N	N	N				60334355
1	L-UMW-1D	WT	G																												
2	L-UMW-2D	WT	G			4/14/20	1451		6	2		3					1		X	X	X	X	X	X	X	X	X	X				
3	L-UMW-3D	WT	G			4/14/20	1425		1	1		1					1		1	1	1	1	1	1	1	1	1	1				
4	L-UMW-4D	WT	G			4/14/20	1325		6	2		3					1		X	X	X	X	X	X	X	X	X	X				
5	L-UMW-5D	WT	G			4/14/20	1210		1	1		1					1		1	1	1	1	1	1	1	1	1	1				
6	L-UMW-6D	WT	G			4/14/20	1010		6	2		3					1		X	X	X	X	X	X	X	X	X	X				
7	L-UMW-7D	WT	G																												
8	~~L-UMW-8D~~ L-UMW-FB-1	WT	G			4/14/20	1505		6	2		3					1		X	X	X	X	X	X	X	X	X	X				
9	~~L-UMW-9D~~ L-UMW-DUP-2	WT	G			4/14/20	—		6	2		3					1		X	X	X	X	X	X	X	X	X	X				
10	L-BMW-1D	WT	G			4/14/20	0954		6	2		3					1		X	X	X	X	X	X	X	X	X	X				
11	L-BMW-2D	WT	G			1	1348		1	1		1					1		1	1	1	1	1	1	1	1	1	1				
12	L-UMW-DUP-1	WT	G			4/14/20	—		6	2		3					1		X	X	X	X	X	X	X	X	X	X				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[illegible]/Golder	4/14/20	1700	[illegible]	04.15.20	0225	0.4	Y	Y	Y
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl							15.5 16.0			
							0.4			
							0.6			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 04/14/20

*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.

F-ALL-Q-020rev.08, 12-Oct-2007

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Sample Condition Upon Receipt

WO# : 60334355

60334355

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 ☒ Zip/C

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

Cooler Temperature (°C): As-read 16.3 Corr. Factor +0.1 Corrected 16.4

Date and initials of person examining contents: 4-17-2020 MK

Temperature should be above freezing to 6°C 16.1 0.1,1.0 16.2,0.2,1.1

Chain of Custody present:	☒Yes ☐No ☐N/A	all coolers out of temp had only Radium
Chain of Custody relinquished	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	Fe+2
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO₃, H₂SO₄, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) Lot #603173, 603222	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Jami Church Date 4/17/20

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #1
Project Name:	Ameren Labadie Energy Center LCPA
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

NPDES / GROUND WATER (✓) / DRINKING WATER / UST / RCRA / OTHER

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N): N for each analysis below.

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	L-UMW-1D	WT	G			4/16/20	0958		6	2		3					1		X	X	X	X	X	X	X	X	X	X		60334355
2	L-UMW-2D	WT	G																											
3	L-UMW-3D	WT	G																											
4	L-UMW-4D	WT	G																											
5	L-UMW-5D	WT	G																											
6	L-UMW-6D	WT	G																											
7	L-UMW-7D	WT	G			4/16/20	0940		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
8	L-UMW-8D	WT	G			4/16/20	1334		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
9	L-UMW-9D	WT	G			4/16/20	1122		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
10	L-BMW-1D	WT	G																											
11	L-BMW-2D	WT	G																											
12	L-UMW-DUP-1	WT	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, Be, Co, Pb, Li, Mo
200.8 Metals - Sb, As, Cd, Cr, Se, Tl

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Brendan Talbert	4-16-20	1650	Angela McManus	4-16-20	1655
Angela McManus	4-16-20	1655	[illegible] / Pace	4-17-20	0225

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
16.4	N	N	Y
16.2			
0.2			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 4-16-2020

*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

F-ALL-Q-020rev.08, 12-Oct-2007

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical
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Page: 2 of 2

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #1
Project Name:	Ameren Labadie Energy Center LCPA
Project Number:	153140602.0001A

Section C
Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D
Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: 60334355

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Chloride/Fluoride/Sulfate (N)	App III and Cat/An Metals* (N)	Alkalinity (N)	TDS (N)	Appendix IV Metals ** (N)	Mercury (N)	Radium 226 (N)	Radium 226 (N)	Ferrous/Ferric Iron (N)	SM4500-S2D Sulfide (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	L-UMW-DUP-2	WT	G																											
2	L-UMW-FB-1	WT	G																											
3	L-UMW-FB-2	WT	G			04/16/20	1030		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
4	L-UMW-MS-1 – UMW-9D	WT	G			4/16/20	1122		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
5	L-UMW-MSD-1 – UMW-9D	WT	G			4/16/20	1122		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
6		WT	G																											
7		WT	G																											
8		WT	G																											
9		WT	G																											
10		WT	G																											
11		WT	G																											
12		WT	G																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert	4-16-20	1650	Angela [illegible]	4/16/20	1655				
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Angela McMann	4-16-20	1655	[illegible] / PAS	4-17-20	0225	16.9	N	N	Y
							16.2			
							0.2	Y		
							1.1			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4-16-2020

*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

F-ALL-Q-020rev.08, 12-Oct-2007

MEMORANDUM

DATE May 14, 2020 **Project No.** 153140602

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60334355

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

- When a compound was analyzed outside of hold time, 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 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).

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 05/14/2020

Laboratory: Pace Analytical Services, LLC
SDG #: 60334355
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 7470 (Mercury); SM2320B (Alkalinity); SM2540C (TDS); SM3500-Fe B#4 (Ferric, Ferrous Iron); SM4500-S-2 D (Total Sulfide); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names L-UMW-2D, L-UMW-3D, L-UMW-4D, L-UMW-5D, L-UMW-6D, L-UMW-FB-1, L-UMW-DUP-2, L-BMW-1D, L-BMW-2D, L-UMW-DUP-1, L-UMW-1D, L-UMW-7D, L-UMW-8D, L-UMW-9D, L-UMW-FB-2, L-UMW-9D-MS-1, L-UMW-9D-MSD-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			04/14 & 04/16/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-UMW-DUP-1 @ L-UMW-6D
	x			L-UMW-DUP-2 @ L-UMW-5D
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?				
	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See Notes

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

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

Comments/Notes:

L-UMW-9D-MS-1 and L-UMW-9D-MSD-1 @ L-UMW-9D

Ferrous Iron analyzed outside of hold time in all samples.

Dilutions: Chloride, Fluoride, and Sulfate diluted in multiple samples, no qualification necessary.

MB: 2641367: Sodium (143 J), associated samples -55001 through -55015

2638926: Chloride (0.44 J), associated samples -55001 through -55010, detections in sample > reporting limit or non-detect (-55006), no qualification necessary

2644089: Chloride (0.46 J), Sulfate (0.33 J), associated samples -55011 through -55013 and -55015, detections in sample > reporting limit or non-detect, no qualification necessary

2644615: Chloride (0.46 J), Sulfate (0.33 J), associated samples -55011 through -55013 and -55015, detections in sample > reporting limit or non-detect, no qualification necessary

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

2642478: Chloride (0.51 J), associated sample -55014, detection in sample > reporting limit, no qualification necessary

1905210: Radium-228 (0.865±0.375), associated samples -55011 through -55017

FB: L-UMW-FB-1 @ L-UMW-2D: Boron (23.7 J), Sodium (171 J B), Chromium (1.1), TDS (10.0 D6), Ferric Iron (0.00000000010 J)

L-UMW-FB-2 @ L-UMW-1D: Alkalinity (365), TDS (12.5), Ferric Iron (0.00000000010 J)

Lab Duplicates: SAMPLE DUPLICATE 2638191: RPD exceeds limits (10%) for TDS, associated sample 60334355006

DUP: L-UMW-DUP-1: Chromium and Ferrous Iron detected in sample, non-detect in DUP

RPD exceeds limit (20%) for Ferric Iron, Sulfide

L-UMW-DUP-2: Chromium detected in DUP, non-detect in sample

RPD exceeds limit (20%) for Ferric Iron

MS/MSD: 2641369: MS % Rec high for Boron, associated with sample 60334355002

2638398, 2638399: MS/MSD % Rec low for chloride (for unrelated sample)

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-2D	Ferrous Iron	0.035	UJ	Analyzed outside of hold time
L-UMW-3D	"	0.035	UJ	"
L-UMW-4D	"	0.035	UJ	"
L-UMW-5D	"	0.035	UJ	"
L-UMW-FB-1	"	0.035	UJ	"
L-UMW-DUP-2	"	0.035	UJ	"
L-BMW-1D	"	0.42	J	"
L-BMW-2D	"	0.096	J	"
L-UMW-1D	"	0.035	UJ	"
L-UMW-7D	"	1.5	J	"
L-UMW-8D	"	0.042	J	"
L-UMW-9D	"	0.28	J	"
L-UMW-FB-2	"	0.035	UJ	"
L-UMW-6D	"	0.068	J	Analyzed outside of hold time; detected in sample, ND in Dup
L-UMW-DUP-1	"	0.035	UJ	"
L-UMW-FB-1	Sodium	500	U	Detected in MB; RL>Result>MDL
L-UMW-1D	Radium-228	1.83±0.601	J	Detected in MB
L-UMW-7D	"	0.472±0.458	UJ	"
L-UMW-8D	"	1.31±0.519	J	"
L-UMW-9D	"	0.704±0.422	UJ	"
L-UMW-FB-2	"	0.354 ± 0.428	UJ	"
L-UMW-2D	Chromium	1.0	U	Detected in FB, RL > Results > MDL
L-UMW-1D	Alkalinity	372	J	Detected in FB, 10x Blank > Result > RL
L-UMW-FB-1	TDS	10.0	J	RPD for lab dup exceeds limit
L-UMW-6D	Chromium	0.27	J	Detected in sample, non-detect in Dup
"	Ferric Iron	0.12	J	Sample/Dup RPD exceeds limit
"	Sulfide	0.10	J	"
L-UMW-DUP-1	Chomium	0.22	UJ	Detected in sample, non-detect in Dup
"	Ferric Iron	0.15	J	Sample/Dup RPD exceeds limit
"	Sulfide	0.077	J	"
L-UMW-5D	Chromium	0.22	UJ	Detected in Dup, non-detect in sample
"	Ferric Iron	0.013	J	Sample/Dup RPD exceeds limit
L-UMW-DUP-2	Chromium	0.41	J	Detected in Dup, non-detect in sample
"	Ferric Iron	0.010	J	Sample/Dup RPD exceeds limit

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-3D	Boron	9770	J	MS % Rec high

Signature: _____ Ann Muhlfarth _____ Date: 05/14/2020

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

May 14, 2020

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

RE: Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between April 15, 2020 and April 22, 2020. 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, 5/14/20: Sample ID L-AMW-4S corrected to L-LMW-4S.

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

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

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

SAMPLE SUMMARY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60334356001	L-LMW-2S	Water	04/14/20 11:25	04/15/20 02:25
60334356002	L-CA-FB-1	Water	04/14/20 11:30	04/15/20 02:25
60334356003	L-BMW-1S	Water	04/14/20 11:24	04/15/20 02:25
60334356004	L-BMW-2S	Water	04/14/20 11:39	04/15/20 02:25
60334356005	L-MW-24	Water	04/15/20 10:52	04/17/20 02:25
60334356006	L-MW-33(D)	Water	04/15/20 14:00	04/17/20 02:25
60334356007	L-MW-34(D)	Water	04/15/20 12:58	04/17/20 02:25
60334356008	L-MW-35(D)	Water	04/15/20 09:56	04/17/20 02:25
60334356009	L-S-1	Water	04/15/20 15:30	04/17/20 02:25
60334356010	L-TP-1D	Water	04/15/20 14:40	04/17/20 02:25
60334356011	L-TP-3M	Water	04/15/20 11:55	04/17/20 02:25
60334356012	L-TP-3D	Water	04/15/20 12:50	04/17/20 02:25
60334356013	L-TP-4D	Water	04/15/20 10:25	04/17/20 02:25
60334356014	L-CA-DUP-1	Water	04/15/20 08:00	04/17/20 02:25
60334356015	L-CA-DUP-2	Water	04/15/20 08:00	04/17/20 02:25
60334356016	L-CA-DUP-3	Water	04/15/20 08:00	04/17/20 02:25
60334356017	L-CA-FB-2	Water	04/15/20 13:15	04/17/20 02:25
60334356018	L-CA-FB-3	Water	04/15/20 16:00	04/17/20 02:25
60334356019	L-LMW-1S	Water	04/16/20 10:40	04/17/20 02:25
60334356020	L-LMW-7S	Water	04/16/20 13:25	04/17/20 02:25
60334356021	L-LMW-8S	Water	04/16/20 12:05	04/17/20 02:25
60334356022	L-MW-34(D)-MS-1	Water	04/15/20 12:58	04/17/20 02:25
60334356023	L-MW-34(D)-MSD-1	Water	04/15/20 12:58	04/17/20 02:25
60334356024	L-TP-1D-MS-1	Water	04/15/20 14:40	04/17/20 02:25
60334356025	L-TP-1D-MSD-1	Water	04/15/20 14:40	04/17/20 02:25
60334356026	L-AM-1S	Water	04/20/20 10:05	04/22/20 02:38
60334356027	L-AM-1D	Water	04/20/20 11:10	04/22/20 02:38
60334356028	L-TP-2M	Water	04/20/20 12:20	04/22/20 02:38
60334356029	L-TP-2D	Water	04/20/20 13:00	04/22/20 02:38
60334356030	L-MW-26	Water	04/21/20 14:05	04/22/20 02:38
60334356031	L-AMW-8	Water	04/20/20 14:07	04/22/20 02:38
60334356032	L-LMW-4S	Water	04/20/20 12:43	04/22/20 02:38

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60334356001	**L-LMW-2S**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334356002	**L-CA-FB-1**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334356003	**L-BMW-1S**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334356004	**L-BMW-2S**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MJK	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334356005	**L-MW-24**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, LDB	3	PASI-K
60334356006	**L-MW-33(D)**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356007	**L-MW-34(D)**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356008	**L-MW-35(D)**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356009	**L-S-1**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356010	**L-TP-1D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356011	**L-TP-3M**	EPA 200.7	HKC	13	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356012	**L-TP-3D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356013	**L-TP-4D**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356014	**L-CA-DUP-1**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		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 LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356015	**L-CA-DUP-2**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356016	**L-CA-DUP-3**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356017	**L-CA-FB-2**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356018	**L-CA-FB-3**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	MJK	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356019	**L-LMW-1S**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356020	**L-LMW-7S**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356021	**L-LMW-8S**	EPA 200.7	HKC	13	PASI-K
		EPA 200.8	JGP	6	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	LDB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	JWR	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60334356022	**L-MW-34(D)-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60334356023	**L-MW-34(D)-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60334356024	**L-TP-1D-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60334356025	**L-TP-1D-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60334356026	**L-AM-1S**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	CNB	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334356027	**L-AM-1D**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	CNB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334356028	**L-TP-2M**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	CNB	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334356029	**L-TP-2D**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	CNB	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334356030	**L-MW-26**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	CNB	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60334356031	**L-AMW-8**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	CNB	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, MJK	3	PASI-K
60334356032	**L-LMW-4S**	EPA 200.7	JLH	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	LDB	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 3500-Fe B#4	CNB	1	PASI-K
		SM 4500-S-2 D	CNB	1	PASI-K
		EPA 300.0	JWR, MJK	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-2S **Lab ID: 60334356001** Collected: 04/14/20 11:25 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**34.8**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:00	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:00	7440-41-7	
Boron	**3340**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:00	7440-42-8	
Calcium	**52100**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:00	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:00	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:00	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:00	7439-92-1	
Lithium	**11.3**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:00	7439-93-2	
Magnesium	**94.0**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:00	7439-95-4	
Manganese	**1.4J**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:00	7439-96-5	
Molybdenum	**97.0**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:00	7439-98-7	
Potassium	**8270**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:00	7440-09-7	
Sodium	**59000**	ug/L	500	107	1	04/23/20 16:10	04/24/20 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	**0.10J**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 10:58	7440-36-0	
Arsenic	**45.8**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 10:58	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 10:58	7440-43-9	
Chromium	**2.5**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 10:58	7440-47-3	
Selenium	**0.21J**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 10:58	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 10:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:16	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**29.8**	mg/L	20.0	8.4	1		04/23/20 12:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**386**	mg/L	5.0	5.0	1		04/20/20 11:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.023J**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:12		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-2S **Lab ID: 60334356001** Collected: 04/14/20 11:25 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:47	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	0.78	2		04/21/20 23:08	16887-00-6	
Fluoride	**0.21**	mg/L	0.20	0.075	1		04/21/20 22:52	16984-48-8	
Sulfate	**195**	mg/L	20.0	5.6	20		04/20/20 17:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-1 **Lab ID: 60334356002** Collected: 04/14/20 11:30 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:02	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:02	7440-41-7	
Boron	**<11.7**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:02	7440-42-8	
Calcium	**<32.4**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:02	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:02	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:02	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:02	7439-92-1	
Lithium	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:02	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:02	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:02	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:02	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:02	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:02	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:10	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:10	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:10	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:10	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:10	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:22	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		04/23/20 12:59		
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		04/20/20 11:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0046J**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:12		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-1 **Lab ID: 60334356002** Collected: 04/14/20 11:30 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:48	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.39**	mg/L	1.0	0.39	1		04/21/20 23:23	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		04/21/20 23:23	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		04/21/20 23:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-BMW-1S **Lab ID: 60334356003** Collected: 04/14/20 11:24 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**321**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:04	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:04	7440-41-7	
Boron	**95.2J**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:04	7440-42-8	
Calcium	**212000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:04	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:04	7440-48-4	
Iron	**27900**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:04	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:04	7439-92-1	
Lithium	**19.8**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:04	7439-93-2	
Magnesium	**47100**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:04	7439-95-4	
Manganese	**2730**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:04	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:04	7439-98-7	
Potassium	**5180**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:04	7440-09-7	
Sodium	**15000**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:04	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:00	7440-36-0	
Arsenic	**24.7**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:00	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:00	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:00	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:00	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:25	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**674**	mg/L	20.0	8.4	1		04/23/20 13:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**711**	mg/L	10.0	10.0	1		04/20/20 11:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**19.8**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**8.1**	mg/L	0.40	0.070	2		04/15/20 14:12		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-BMW-1S **Lab ID: 60334356003** Collected: 04/14/20 11:24 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:48	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.7**	mg/L	1.0	0.39	1		04/21/20 23:39	16887-00-6	B
Fluoride	**0.16J**	mg/L	0.20	0.075	1		04/21/20 23:39	16984-48-8	
Sulfate	**38.5**	mg/L	5.0	1.4	5		04/20/20 18:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-BMW-2S **Lab ID: 60334356004** Collected: 04/14/20 11:39 Received: 04/15/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**260**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:06	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:06	7440-41-7	
Boron	**51.0J**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:06	7440-42-8	
Calcium	**137000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:06	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:06	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:06	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:06	7439-92-1	
Lithium	**18.7**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:06	7439-93-2	
Magnesium	**20400**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:06	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:06	7439-96-5	
Molybdenum	**1.8J**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:06	7439-98-7	
Potassium	**6800**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:06	7440-09-7	
Sodium	**7920**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:06	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.19J**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:02	7440-36-0	
Arsenic	**0.46J**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:02	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:02	7440-43-9	
Chromium	**0.41J**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:02	7440-47-3	
Selenium	**3.3**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:02	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	04/28/20 10:15	04/28/20 17:27	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**301**	mg/L	20.0	8.4	1		04/22/20 17:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**555**	mg/L	10.0	10.0	1		04/20/20 11:45		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.010J**	mg/L	0.050		1		04/27/20 17:06	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/15/20 14:13		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-BMW-2S **Lab ID: 60334356004** Collected: 04/14/20 11:39 Received: 04/15/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:48	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.0**	mg/L	1.0	0.39	1		04/21/20 23:55	16887-00-6	B
Fluoride	**0.14J**	mg/L	0.20	0.075	1		04/21/20 23:55	16984-48-8	
Sulfate	**45.5**	mg/L	5.0	1.4	5		04/20/20 18:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-24 **Lab ID: 60334356005** Collected: 04/15/20 10:52 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**221**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:09	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:09	7440-41-7	
Boron	**81.2J**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:09	7440-42-8	
Calcium	**151000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:09	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:09	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:09	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:09	7439-92-1	
Lithium	**21.2**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:09	7439-93-2	
Magnesium	**31700**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:09	7439-95-4	
Manganese	**221**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:09	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:09	7439-98-7	
Potassium	**5190**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:09	7440-09-7	
Sodium	**10100**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.10J**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:03	7440-36-0	
Arsenic	**0.54J**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:03	7440-38-2	
Cadmium	**0.10J**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:03	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:03	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:03	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 13:37	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**490**	mg/L	20.0	8.4	1		04/23/20 13:46		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**638**	mg/L	10.0	10.0	1		04/22/20 12:32		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.021J**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:06		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-24 **Lab ID: 60334356005** Collected: 04/15/20 10:52 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:50	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**6.6**	mg/L	5.0	1.9	5		04/28/20 08:32	16887-00-6	
Fluoride	**0.15J**	mg/L	0.20	0.075	1		04/26/20 00:32	16984-48-8	
Sulfate	**20.9**	mg/L	5.0	1.4	5		04/28/20 08:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-33(D) **Lab ID: 60334356006** Collected: 04/15/20 14:00 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**85.8**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:11	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:11	7440-41-7	
Boron	**10400**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:11	7440-42-8	
Calcium	**71400**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:11	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:11	7440-48-4	
Iron	**3780**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:11	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:11	7439-92-1	
Lithium	**29.0**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:11	7439-93-2	
Magnesium	**16200**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:11	7439-95-4	
Manganese	**194**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:11	7439-96-5	
Molybdenum	**1140**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:11	7439-98-7	
Potassium	**5810**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:11	7440-09-7	
Sodium	**82500**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:05	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:05	7440-38-2	
Cadmium	**0.39J**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:05	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:05	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:05	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 13:40	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**141**	mg/L	20.0	8.4	1		04/23/20 13:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**620**	mg/L	10.0	10.0	1		04/22/20 12:32		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.8**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:08		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-33(D) **Lab ID: 60334356006** Collected: 04/15/20 14:00 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/21/20 09:50	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**0.52J**	mg/L	1.0	0.39	1		04/25/20 12:12	16887-00-6	B
Fluoride	**<0.075**	mg/L	0.20	0.075	1		04/25/20 12:12	16984-48-8	
Sulfate	**0.45J**	mg/L	1.0	0.28	1		04/25/20 12:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-34(D) **Lab ID: 60334356007** Collected: 04/15/20 12:58 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**80.0**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:13	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:13	7440-41-7	
Boron	**11000**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:13	7440-42-8	M1
Calcium	**82900**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:13	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:13	7440-48-4	
Iron	**4720**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:13	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:13	7439-92-1	
Lithium	**31.4**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:13	7439-93-2	
Magnesium	**20600**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:13	7439-95-4	
Manganese	**212**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:13	7439-96-5	
Molybdenum	**1090**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:13	7439-98-7	
Potassium	**6200**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:13	7440-09-7	
Sodium	**73500**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:13	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:12	7440-36-0	
Arsenic	**3.6**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:12	7440-38-2	
Cadmium	**0.36J**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:12	7440-43-9	
Chromium	**0.99J**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:12	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:12	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 13:42	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**168**	mg/L	20.0	8.4	1		04/23/20 13:54		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**601**	mg/L	10.0	10.0	1		04/22/20 12:32		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.7**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.052J**	mg/L	0.20	0.035	1		04/20/20 16:07		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-34(D) **Lab ID: 60334356007** Collected: 04/15/20 12:58 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:23	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.0**	mg/L	2.0	0.78	2		04/27/20 20:39	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.075	1		04/25/20 12:28	16984-48-8	
Sulfate	**245**	mg/L	50.0	13.9	50		04/27/20 14:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-35(D) **Lab ID: 60334356008** Collected: 04/15/20 09:56 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**62.7**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:23	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:23	7440-41-7	
Boron	**7790**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:23	7440-42-8	
Calcium	**212000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:23	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:23	7440-48-4	
Iron	**8330**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:23	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:23	7439-92-1	
Lithium	**30.0**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:23	7439-93-2	
Magnesium	**45800**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:23	7439-95-4	
Manganese	**630**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:23	7439-96-5	
Molybdenum	**542**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:23	7439-98-7	
Potassium	**6860**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:23	7440-09-7	
Sodium	**138000**	ug/L	500	107	1	04/23/20 16:10	04/24/20 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	**<0.097**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:17	7440-36-0	
Arsenic	**0.20J**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:17	7440-38-2	
Cadmium	**0.22J**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:17	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:17	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:17	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 13:49	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**73.4**	mg/L	20.0	8.4	1		04/24/20 10:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1490**	mg/L	13.3	13.3	1		04/22/20 12:32		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**6.6**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.7**	mg/L	0.20	0.035	1		04/20/20 16:05		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-35(D) **Lab ID: 60334356008** Collected: 04/15/20 09:56 Received: 04/17/20 02:25 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	**0.048J**	mg/L	0.050	0.039	1		04/22/20 15:24	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	0.39	1		04/25/20 13:15	16887-00-6	
Fluoride	**0.37**	mg/L	0.20	0.075	1		04/25/20 13:15	16984-48-8	
Sulfate	**865**	mg/L	100	27.8	100		04/27/20 15:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-S-1 **Lab ID: 60334356009** Collected: 04/15/20 15:30 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**374**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:25	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:25	7440-41-7	
Boron	**114**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:25	7440-42-8	
Calcium	**143000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:25	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:25	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:25	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:25	7439-92-1	
Lithium	**26.3**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:25	7439-93-2	
Magnesium	**21400**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:25	7439-95-4	
Manganese	**244**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:25	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:25	7439-98-7	
Potassium	**31100**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:25	7440-09-7	
Sodium	**3640**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:25	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/23/20 12:10	04/27/20 11:19	7440-36-0	
Arsenic	**0.45J**	ug/L	1.0	0.086	1	04/23/20 12:10	04/27/20 11:19	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/23/20 12:10	04/27/20 11:19	7440-43-9	
Chromium	**0.23J**	ug/L	1.0	0.22	1	04/23/20 12:10	04/27/20 11:19	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/23/20 12:10	04/27/20 11:19	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/23/20 12:10	04/27/20 11:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 13:51	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**440**	mg/L	20.0	8.4	1		04/24/20 10:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**514**	mg/L	10.0	10.0	1		04/22/20 12:32		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.012J**	mg/L	0.050		1		04/29/20 18:18	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:09		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-S-1 **Lab ID: 60334356009** Collected: 04/15/20 15:30 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:24	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.2**	mg/L	1.0	0.39	1		04/25/20 13:31	16887-00-6	B
Fluoride	**0.19J**	mg/L	0.20	0.075	1		04/25/20 13:31	16984-48-8	
Sulfate	**20.2**	mg/L	2.0	0.56	2		04/27/20 15:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-1D **Lab ID: 60334356010** Collected: 04/15/20 14:40 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**1390**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:27	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:27	7440-41-7	
Boron	**74.5J**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:27	7440-42-8	
Calcium	**139000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:27	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:27	7440-48-4	
Iron	**8850**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:27	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:27	7439-92-1	
Lithium	**26.1**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:27	7439-93-2	
Magnesium	**36400**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:27	7439-95-4	
Manganese	**276**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:27	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:27	7439-98-7	
Potassium	**4080**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:27	7440-09-7	
Sodium	**11700**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:27	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.11J**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:27	7440-36-0	
Arsenic	**0.88J**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:15	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:15	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:15	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:15	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:44	7439-97-6	M1
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**470**	mg/L	20.0	8.4	1		04/24/20 10:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**553**	mg/L	10.0	10.0	1		04/22/20 12:32		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**8.8**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.068J**	mg/L	0.20	0.035	1		04/20/20 16:08		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-1D **Lab ID: 60334356010** Collected: 04/15/20 14:40 Received: 04/17/20 02:25 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	**0.044J**	mg/L	0.050	0.039	1		04/22/20 15:24	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.2**	mg/L	1.0	0.39	1		04/25/20 13:47	16887-00-6	B
Fluoride	**0.22**	mg/L	0.20	0.075	1		04/25/20 13:47	16984-48-8	
Sulfate	**14.1**	mg/L	1.0	0.28	1		04/25/20 13:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-3M **Lab ID: 60334356011** Collected: 04/15/20 11:55 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**290**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:33	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:33	7440-41-7	
Boron	**3660**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:33	7440-42-8	
Calcium	**131000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:33	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:33	7440-48-4	
Iron	**10100**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:33	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:33	7439-92-1	
Lithium	**35.2**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:33	7439-93-2	
Magnesium	**29500**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:33	7439-95-4	
Manganese	**1750**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:33	7439-96-5	
Molybdenum	**186**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:33	7439-98-7	
Potassium	**5240**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:33	7440-09-7	
Sodium	**34600**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:33	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:33	7440-36-0	
Arsenic	**0.51J**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:24	7440-38-2	
Cadmium	**0.070J**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:24	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:24	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 13:53	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**371**	mg/L	20.0	8.4	1		04/24/20 10:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**585**	mg/L	10.0	10.0	1		04/22/20 12:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**10.0**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.084J**	mg/L	0.20	0.035	1		04/20/20 16:06		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-3M **Lab ID: 60334356011** Collected: 04/15/20 11:55 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:25	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.9**	mg/L	1.0	0.39	1		04/25/20 15:06	16887-00-6	
Fluoride	**0.20**	mg/L	0.20	0.075	1		04/25/20 15:06	16984-48-8	
Sulfate	**113**	mg/L	20.0	5.6	20		04/25/20 15:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-3D **Lab ID: 60334356012** Collected: 04/15/20 12:50 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**66.8**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:36	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:36	7440-41-7	
Boron	**10000**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:36	7440-42-8	
Calcium	**75300**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:36	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:36	7440-48-4	
Iron	**4500**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:36	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:36	7439-92-1	
Lithium	**27.8**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:36	7439-93-2	
Magnesium	**17300**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:36	7439-95-4	
Manganese	**137**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:36	7439-96-5	
Molybdenum	**994**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:36	7439-98-7	
Potassium	**5880**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:36	7440-09-7	
Sodium	**107000**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:36	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:35	7440-36-0	
Arsenic	**5.1**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:26	7440-38-2	
Cadmium	**0.32J**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:26	7440-43-9	
Chromium	**0.30J**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:26	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:26	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 13:56	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**120**	mg/L	20.0	8.4	1		04/24/20 10:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**674**	mg/L	10.0	10.0	1		04/22/20 12:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.4**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.086J**	mg/L	0.20	0.035	1		04/20/20 16:06		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-3D **Lab ID: 60334356012** Collected: 04/15/20 12:50 Received: 04/17/20 02:25 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	**0.079**	mg/L	0.050	0.039	1		04/22/20 15:26	18496-25-8	
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		04/25/20 15:54	16887-00-6	B
Fluoride	**0.36**	mg/L	0.20	0.075	1		04/25/20 15:38	16984-48-8	
Sulfate	**1720**	mg/L	100	27.8	100		04/25/20 16:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-4D **Lab ID: 60334356013** Collected: 04/15/20 10:25 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**436**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:38	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:38	7440-41-7	
Boron	**5240**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:38	7440-42-8	
Calcium	**127000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:38	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:38	7440-48-4	
Iron	**5560**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:38	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:38	7439-92-1	
Lithium	**21.7**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:38	7439-93-2	
Magnesium	**34800**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:38	7439-95-4	
Manganese	**335**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:38	7439-96-5	
Molybdenum	**2.5J**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:38	7439-98-7	
Potassium	**4560**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:38	7440-09-7	
Sodium	**25200**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**1.0**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:36	7440-36-0	
Arsenic	**8.1**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:28	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:28	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:28	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:28	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:03	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**315**	mg/L	20.0	8.4	1		04/24/20 10:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**587**	mg/L	10.0	10.0	1		04/22/20 12:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**5.5**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:05		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-4D **Lab ID: 60334356013** Collected: 04/15/20 10:25 Received: 04/17/20 02:25 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	**0.044J**	mg/L	0.050	0.039	1		04/22/20 15:26	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.3**	mg/L	1.0	0.39	1		04/25/20 16:26	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		04/25/20 16:26	16984-48-8	
Sulfate	**158**	mg/L	20.0	5.6	20		04/25/20 16:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-1 **Lab ID: 60334356014** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**224**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:48	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:48	7440-41-7	
Boron	**83.9J**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:48	7440-42-8	
Calcium	**157000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:48	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:48	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:48	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:48	7439-92-1	
Lithium	**23.2**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:48	7439-93-2	
Magnesium	**32400**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:48	7439-95-4	
Manganese	**217**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:48	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:48	7439-98-7	
Potassium	**5400**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:48	7440-09-7	
Sodium	**10300**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:48	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.11J**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:38	7440-36-0	
Arsenic	**0.54J**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:41	7440-38-2	
Cadmium	**0.10J**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:41	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:41	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:41	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:05	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**477**	mg/L	20.0	8.4	1		04/24/20 11:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**569**	mg/L	10.0	10.0	1		04/22/20 12:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.020J**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:04		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-1 **Lab ID: 60334356014** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:26	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	0.39	1		04/25/20 16:57	16887-00-6	B
Fluoride	**0.19J**	mg/L	0.20	0.075	1		04/25/20 16:57	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		04/25/20 16:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-2 **Lab ID: 60334356015** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**286**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:50	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:50	7440-41-7	
Boron	**3520**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:50	7440-42-8	
Calcium	**131000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:50	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:50	7440-48-4	
Iron	**10100**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:50	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:50	7439-92-1	
Lithium	**34.8**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:50	7439-93-2	
Magnesium	**28800**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:50	7439-95-4	
Manganese	**1680**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:50	7439-96-5	
Molybdenum	**184**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:50	7439-98-7	
Potassium	**5160**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:50	7440-09-7	
Sodium	**34100**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:50	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:40	7440-36-0	
Arsenic	**0.52J**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:43	7440-38-2	
Cadmium	**0.071J**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:43	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:43	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:43	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:07	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**383**	mg/L	20.0	8.4	1		04/24/20 11:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**570**	mg/L	10.0	10.0	1		04/22/20 12:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**9.9**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.24**	mg/L	0.20	0.035	1		04/20/20 16:04		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-2 **Lab ID: 60334356015** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:26	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.9**	mg/L	1.0	0.39	1		04/25/20 17:13	16887-00-6	
Fluoride	**0.20J**	mg/L	0.20	0.075	1		04/25/20 17:13	16984-48-8	
Sulfate	**111**	mg/L	10.0	2.8	10		04/27/20 16:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-3 **Lab ID: 60334356016** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**86.7**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:53	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:53	7440-41-7	
Boron	**10200**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:53	7440-42-8	
Calcium	**72400**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:53	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:53	7440-48-4	
Iron	**3820**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:53	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:53	7439-92-1	
Lithium	**29.2**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:53	7439-93-2	
Magnesium	**16200**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:53	7439-95-4	
Manganese	**192**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:53	7439-96-5	
Molybdenum	**1150**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:53	7439-98-7	
Potassium	**5890**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:53	7440-09-7	
Sodium	**83000**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:53	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:49	7440-36-0	
Arsenic	**2.3**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:45	7440-38-2	
Cadmium	**0.41J**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:45	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:45	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:45	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:49	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:09	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**134**	mg/L	20.0	8.4	1		04/24/20 11:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**608**	mg/L	10.0	10.0	1		04/22/20 12:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.7**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.16J**	mg/L	0.20	0.035	1		04/20/20 16:05		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-3 **Lab ID: 60334356016** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:26	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.8**	mg/L	2.0	0.78	2		04/27/20 16:22	16887-00-6	
Fluoride	**0.37**	mg/L	0.20	0.075	1		04/25/20 17:29	16984-48-8	
Sulfate	**259**	mg/L	50.0	13.9	50		04/27/20 16:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-2 **Lab ID: 60334356017** Collected: 04/15/20 13:15 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 18:59	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 18:59	7440-41-7	
Boron	**21.0J**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 18:59	7440-42-8	
Calcium	**<32.4**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 18:59	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 18:59	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 18:59	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:59	7439-92-1	
Lithium	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 18:59	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 18:59	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 18:59	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 18:59	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	04/23/20 16:10	04/24/20 18:59	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	04/23/20 16:10	04/24/20 18:59	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:46	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:36	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:36	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:36	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:12	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		04/24/20 11:27		
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		04/22/20 12:34		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0029J**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:08		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-2 **Lab ID: 60334356017** Collected: 04/15/20 13:15 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:26	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.39**	mg/L	1.0	0.39	1		04/25/20 18:16	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		04/25/20 18:16	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		04/25/20 18:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-3 **Lab ID: 60334356018** Collected: 04/15/20 16:00 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 19:01	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 19:01	7440-41-7	
Boron	**<11.7**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 19:01	7440-42-8	
Calcium	**<32.4**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 19:01	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 19:01	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 19:01	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:01	7439-92-1	
Lithium	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:01	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 19:01	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 19:01	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 19:01	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	04/23/20 16:10	04/24/20 19:01	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	04/23/20 16:10	04/24/20 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	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:47	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:39	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:39	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:39	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:39	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:14	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		04/24/20 11:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		04/22/20 12:35		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.011J**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/20/20 16:09		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-3 **Lab ID: 60334356018** Collected: 04/15/20 16:00 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/22/20 15:26	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.39**	mg/L	1.0	0.39	1		04/25/20 18:32	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		04/25/20 18:32	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		04/25/20 18:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-1S **Lab ID: 60334356019** Collected: 04/16/20 10:40 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**66.1**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 19:03	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 19:03	7440-41-7	
Boron	**5910**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 19:03	7440-42-8	
Calcium	**211000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 19:03	7440-70-2	
Cobalt	**1.8J**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 19:03	7440-48-4	
Iron	**8640**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 19:03	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:03	7439-92-1	
Lithium	**23.9**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:03	7439-93-2	
Magnesium	**38100**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 19:03	7439-95-4	
Manganese	**1660**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 19:03	7439-96-5	
Molybdenum	**14.3J**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 19:03	7439-98-7	
Potassium	**5650**	ug/L	500	189	1	04/23/20 16:10	04/24/20 19:03	7440-09-7	
Sodium	**25000**	ug/L	500	107	1	04/23/20 16:10	04/24/20 19:03	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:51	7440-36-0	
Arsenic	**16.0**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:47	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:47	7440-43-9	
Chromium	**0.35J**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:47	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:47	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:16	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**422**	mg/L	20.0	8.4	1		04/27/20 12:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**942**	mg/L	10.0	10.0	1		04/22/20 12:37		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.2**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**4.5**	mg/L	0.20	0.035	1		04/20/20 16:11		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-1S **Lab ID: 60334356019** Collected: 04/16/20 10:40 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**8.0**	mg/L	1.0	0.39	1		04/25/20 18:48	16887-00-6	
Fluoride	**0.19J**	mg/L	0.20	0.075	1		04/25/20 18:48	16984-48-8	
Sulfate	**293**	mg/L	20.0	5.6	20		04/25/20 19:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-7S **Lab ID: 60334356020** Collected: 04/16/20 13:25 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**325**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 19:14	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 19:14	7440-41-7	
Boron	**6460**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 19:14	7440-42-8	
Calcium	**198000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 19:14	7440-70-2	
Cobalt	**4.5J**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 19:14	7440-48-4	
Iron	**6110**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 19:14	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:14	7439-92-1	
Lithium	**45.8**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:14	7439-93-2	
Magnesium	**44200**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 19:14	7439-95-4	
Manganese	**1980**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 19:14	7439-96-5	
Molybdenum	**81.0**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 19:14	7439-98-7	
Potassium	**6630**	ug/L	500	189	1	04/23/20 16:10	04/24/20 19:14	7440-09-7	
Sodium	**42500**	ug/L	500	107	1	04/23/20 16:10	04/24/20 19:14	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:53	7440-36-0	
Arsenic	**14.6**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:49	7440-38-2	
Cadmium	**0.066J**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:49	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:49	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:49	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:19	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**487**	mg/L	20.0	8.4	1		04/27/20 12:54		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**839**	mg/L	10.0	10.0	1		04/22/20 12:37		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**6.0**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.13J**	mg/L	0.20	0.035	1		04/20/20 16:12		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-7S **Lab ID: 60334356020** Collected: 04/16/20 13:25 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**14.8**	mg/L	1.0	0.39	1		04/25/20 19:20	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		04/25/20 19:20	16984-48-8	
Sulfate	**195**	mg/L	10.0	2.8	10		04/25/20 19:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-8S **Lab ID: 60334356021** Collected: 04/16/20 12:05 Received: 04/17/20 02:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**146**	ug/L	5.0	1.8	1	04/23/20 16:10	04/24/20 19:16	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/23/20 16:10	04/24/20 19:16	7440-41-7	
Boron	**7720**	ug/L	100	11.7	1	04/23/20 16:10	04/24/20 19:16	7440-42-8	
Calcium	**222000**	ug/L	200	32.4	1	04/23/20 16:10	04/24/20 19:16	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/23/20 16:10	04/24/20 19:16	7440-48-4	
Iron	**12100**	ug/L	50.0	26.8	1	04/23/20 16:10	04/24/20 19:16	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:16	7439-92-1	
Lithium	**22.2**	ug/L	10.0	4.6	1	04/23/20 16:10	04/24/20 19:16	7439-93-2	
Magnesium	**41000**	ug/L	50.0	19.7	1	04/23/20 16:10	04/24/20 19:16	7439-95-4	
Manganese	**2260**	ug/L	5.0	0.97	1	04/23/20 16:10	04/24/20 19:16	7439-96-5	
Molybdenum	**177**	ug/L	20.0	1.7	1	04/23/20 16:10	04/24/20 19:16	7439-98-7	
Potassium	**7850**	ug/L	500	189	1	04/23/20 16:10	04/24/20 19:16	7440-09-7	
Sodium	**89400**	ug/L	500	107	1	04/23/20 16:10	04/24/20 19:16	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/24/20 15:26	04/30/20 10:57	7440-36-0	
Arsenic	**22.5**	ug/L	1.0	0.086	1	04/24/20 15:26	04/28/20 15:55	7440-38-2	
Cadmium	**0.089J**	ug/L	0.50	0.056	1	04/24/20 15:26	04/28/20 15:55	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/24/20 15:26	04/28/20 15:55	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/24/20 15:26	04/28/20 15:55	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/24/20 15:26	04/30/20 10:57	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:21	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**248**	mg/L	20.0	8.4	1		04/27/20 12:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1200**	mg/L	10.0	10.0	1		04/22/20 12:37		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**11.4**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.66**	mg/L	0.20	0.035	1		04/20/20 16:11		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-8S **Lab ID: 60334356021** Collected: 04/16/20 12:05 Received: 04/17/20 02:25 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	**<0.039**	mg/L	0.050	0.039	1		04/23/20 12:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**18.9**	mg/L	1.0	0.39	1		04/25/20 19:52	16887-00-6	
Fluoride	**0.41**	mg/L	0.20	0.075	1		04/25/20 19:52	16984-48-8	
Sulfate	**633**	mg/L	50.0	13.9	50		04/25/20 20:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AM-1S **Lab ID: 60334356026** Collected: 04/20/20 10:05 Received: 04/22/20 02:38 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**519**	ug/L	5.0	1.8	1	04/29/20 13:20	04/30/20 17:11	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/29/20 13:20	04/30/20 17:11	7440-41-7	
Boron	**277**	ug/L	100	11.7	1	04/29/20 13:20	04/30/20 17:11	7440-42-8	
Calcium	**204000**	ug/L	200	32.4	1	04/29/20 13:20	04/30/20 17:11	7440-70-2	
Cobalt	**3.2J**	ug/L	5.0	1.5	1	04/29/20 13:20	04/30/20 17:11	7440-48-4	
Iron	**6400**	ug/L	50.0	26.8	1	04/29/20 13:20	04/30/20 17:11	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:11	7439-92-1	
Lithium	**28.3**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:11	7439-93-2	
Magnesium	**44900**	ug/L	50.0	19.7	1	04/29/20 13:20	04/30/20 17:11	7439-95-4	
Manganese	**1500**	ug/L	5.0	0.97	1	04/29/20 13:20	04/30/20 17:11	7439-96-5	
Molybdenum	**2.2J**	ug/L	20.0	1.7	1	04/29/20 13:20	04/30/20 17:11	7439-98-7	
Potassium	**6590**	ug/L	500	189	1	04/29/20 13:20	04/30/20 17:11	7440-09-7	
Sodium	**39400**	ug/L	500	107	1	04/29/20 13:20	04/30/20 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	**<0.097**	ug/L	1.0	0.097	1	04/27/20 14:39	05/08/20 13:51	7440-36-0	
Arsenic	**4.2**	ug/L	1.0	0.086	1	04/27/20 14:39	05/08/20 13:51	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/27/20 14:39	05/08/20 13:51	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.22	1	04/27/20 14:39	05/08/20 13:51	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/27/20 14:39	05/08/20 13:51	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/27/20 14:39	05/08/20 13:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:23	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**594**	mg/L	20.0	8.4	1		04/28/20 09:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**803**	mg/L	13.3	13.3	1		04/24/20 14:43		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**5.2**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.2**	mg/L	0.20	0.035	1		04/23/20 11:12		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AM-1S **Lab ID: 60334356026** Collected: 04/20/20 10:05 Received: 04/22/20 02:38 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	**<0.039**	mg/L	0.050	0.039	1		04/24/20 14:16	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**105**	mg/L	10.0	3.9	10		05/08/20 19:34	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		05/08/20 19:18	16984-48-8	
Sulfate	**21.3**	mg/L	2.0	0.56	2		05/11/20 15:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AM-1D **Lab ID: 60334356027** Collected: 04/20/20 11:10 Received: 04/22/20 02:38 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**68.3**	ug/L	5.0	1.8	1	04/29/20 13:20	04/30/20 17:21	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/29/20 13:20	04/30/20 17:21	7440-41-7	
Boron	**7780**	ug/L	100	11.7	1	04/29/20 13:20	04/30/20 17:21	7440-42-8	M1
Calcium	**95600**	ug/L	200	32.4	1	04/29/20 13:20	04/30/20 17:21	7440-70-2	M1
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/29/20 13:20	04/30/20 17:21	7440-48-4	
Iron	**4560**	ug/L	50.0	26.8	1	04/29/20 13:20	04/30/20 17:21	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:21	7439-92-1	
Lithium	**39.0**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:21	7439-93-2	
Magnesium	**15300**	ug/L	50.0	19.7	1	04/29/20 13:20	04/30/20 17:21	7439-95-4	
Manganese	**266**	ug/L	5.0	0.97	1	04/29/20 13:20	04/30/20 17:21	7439-96-5	
Molybdenum	**398**	ug/L	20.0	1.7	1	04/29/20 13:20	04/30/20 17:21	7439-98-7	
Potassium	**8110**	ug/L	500	189	1	04/29/20 13:20	04/30/20 17:21	7440-09-7	
Sodium	**117000**	ug/L	500	107	1	04/29/20 13:20	04/30/20 17:21	7440-23-5	M1
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/27/20 14:39	05/08/20 14:04	7440-36-0	
Arsenic	**3.3**	ug/L	1.0	0.086	1	04/27/20 14:39	05/08/20 14:04	7440-38-2	
Cadmium	**0.17J**	ug/L	0.50	0.056	1	04/27/20 14:39	05/08/20 14:04	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/27/20 14:39	05/08/20 14:04	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/27/20 14:39	05/08/20 14:04	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/27/20 14:39	05/08/20 14:04	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:33	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**152**	mg/L	20.0	8.4	1		04/28/20 09:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**711**	mg/L	10.0	10.0	1		04/24/20 14:43		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.4**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.16J**	mg/L	0.20	0.035	1		04/23/20 11:13		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AM-1D **Lab ID: 60334356027** Collected: 04/20/20 11:10 Received: 04/22/20 02:38 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	**<0.039**	mg/L	0.050	0.039	1		04/24/20 14:16	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**32.3**	mg/L	5.0	1.9	5		05/08/20 20:06	16887-00-6	
Fluoride	**0.34**	mg/L	0.20	0.075	1		05/08/20 19:50	16984-48-8	
Sulfate	**314**	mg/L	50.0	13.9	50		05/08/20 20:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-2M **Lab ID: 60334356028** Collected: 04/20/20 12:20 Received: 04/22/20 02:38 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	04/29/20 13:20	04/30/20 17:24	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/29/20 13:20	04/30/20 17:24	7440-41-7	
Boron	**2000**	ug/L	100	11.7	1	04/29/20 13:20	04/30/20 17:24	7440-42-8	
Calcium	**99400**	ug/L	200	32.4	1	04/29/20 13:20	04/30/20 17:24	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/29/20 13:20	04/30/20 17:24	7440-48-4	
Iron	**3120**	ug/L	50.0	26.8	1	04/29/20 13:20	04/30/20 17:24	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:24	7439-92-1	
Lithium	**32.7**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:24	7439-93-2	
Magnesium	**15300**	ug/L	50.0	19.7	1	04/29/20 13:20	04/30/20 17:24	7439-95-4	
Manganese	**450**	ug/L	5.0	0.97	1	04/29/20 13:20	04/30/20 17:24	7439-96-5	
Molybdenum	**93.0**	ug/L	20.0	1.7	1	04/29/20 13:20	04/30/20 17:24	7439-98-7	
Potassium	**6770**	ug/L	500	189	1	04/29/20 13:20	04/30/20 17:24	7440-09-7	
Sodium	**66400**	ug/L	500	107	1	04/29/20 13:20	04/30/20 17:24	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/27/20 14:39	05/08/20 14:08	7440-36-0	
Arsenic	**0.62J**	ug/L	1.0	0.086	1	04/27/20 14:39	05/08/20 14:08	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/27/20 14:39	05/08/20 14:08	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/27/20 14:39	05/08/20 14:08	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/27/20 14:39	05/08/20 14:08	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/27/20 14:39	05/08/20 14:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:35	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**239**	mg/L	20.0	8.4	1		04/28/20 09:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**496**	mg/L	10.0	10.0	1		04/24/20 14:43		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.1**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/23/20 11:13		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-2M **Lab ID: 60334356028** Collected: 04/20/20 12:20 Received: 04/22/20 02:38 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	**<0.039**	mg/L	0.050	0.039	1		04/24/20 14:17	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**20.7**	mg/L	2.0	0.78	2		05/08/20 20:54	16887-00-6	
Fluoride	**0.43**	mg/L	0.20	0.075	1		05/08/20 20:38	16984-48-8	
Sulfate	**150**	mg/L	20.0	5.6	20		05/08/20 21:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-2D **Lab ID: 60334356029** Collected: 04/20/20 13:00 Received: 04/22/20 02:38 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	04/29/20 13:20	04/30/20 17:26	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/29/20 13:20	04/30/20 17:26	7440-41-7	
Boron	**1890**	ug/L	100	11.7	1	04/29/20 13:20	04/30/20 17:26	7440-42-8	
Calcium	**99400**	ug/L	200	32.4	1	04/29/20 13:20	04/30/20 17:26	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/29/20 13:20	04/30/20 17:26	7440-48-4	
Iron	**3800**	ug/L	50.0	26.8	1	04/29/20 13:20	04/30/20 17:26	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:26	7439-92-1	
Lithium	**40.3**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:26	7439-93-2	
Magnesium	**18800**	ug/L	50.0	19.7	1	04/29/20 13:20	04/30/20 17:26	7439-95-4	
Manganese	**342**	ug/L	5.0	0.97	1	04/29/20 13:20	04/30/20 17:26	7439-96-5	
Molybdenum	**126**	ug/L	20.0	1.7	1	04/29/20 13:20	04/30/20 17:26	7439-98-7	
Potassium	**5960**	ug/L	500	189	1	04/29/20 13:20	04/30/20 17:26	7440-09-7	
Sodium	**61500**	ug/L	500	107	1	04/29/20 13:20	04/30/20 17:26	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/27/20 14:39	05/08/20 14:11	7440-36-0	
Arsenic	**11.7**	ug/L	1.0	0.086	1	04/27/20 14:39	05/08/20 14:11	7440-38-2	
Cadmium	**0.060J**	ug/L	0.50	0.056	1	04/27/20 14:39	05/08/20 14:11	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/27/20 14:39	05/08/20 14:11	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/27/20 14:39	05/08/20 14:11	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/27/20 14:39	05/08/20 14:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:37	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**247**	mg/L	20.0	8.4	1		04/28/20 10:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**535**	mg/L	10.0	10.0	1		04/24/20 14:43		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**3.7**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.076J**	mg/L	0.20	0.035	1		04/23/20 11:13		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-2D **Lab ID: 60334356029** Collected: 04/20/20 13:00 Received: 04/22/20 02:38 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	**<0.039**	mg/L	0.050	0.039	1		04/24/20 14:17	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.5**	mg/L	2.0	0.78	2		05/08/20 21:41	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	0.075	1		05/08/20 21:25	16984-48-8	
Sulfate	**164**	mg/L	10.0	2.8	10		05/08/20 22:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-26 **Lab ID: 60334356030** Collected: 04/21/20 14:05 Received: 04/22/20 02:38 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**228**	ug/L	5.0	1.8	1	04/29/20 13:20	04/30/20 17:28	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/29/20 13:20	04/30/20 17:28	7440-41-7	
Boron	**93.0J**	ug/L	100	11.7	1	04/29/20 13:20	04/30/20 17:28	7440-42-8	B
Calcium	**150000**	ug/L	200	32.4	1	04/29/20 13:20	04/30/20 17:28	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/29/20 13:20	04/30/20 17:28	7440-48-4	
Iron	**<26.8**	ug/L	50.0	26.8	1	04/29/20 13:20	04/30/20 17:28	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:28	7439-92-1	
Lithium	**26.5**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:28	7439-93-2	
Magnesium	**29800**	ug/L	50.0	19.7	1	04/29/20 13:20	04/30/20 17:28	7439-95-4	
Manganese	**1000**	ug/L	5.0	0.97	1	04/29/20 13:20	04/30/20 17:28	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	04/29/20 13:20	04/30/20 17:28	7439-98-7	
Potassium	**4010**	ug/L	500	189	1	04/29/20 13:20	04/30/20 17:28	7440-09-7	
Sodium	**9540**	ug/L	500	107	1	04/29/20 13:20	04/30/20 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	**<0.097**	ug/L	1.0	0.097	1	04/27/20 14:39	05/08/20 14:14	7440-36-0	
Arsenic	**0.46J**	ug/L	1.0	0.086	1	04/27/20 14:39	05/08/20 14:14	7440-38-2	
Cadmium	**0.29J**	ug/L	0.50	0.056	1	04/27/20 14:39	05/08/20 14:14	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/27/20 14:39	05/08/20 14:14	7440-47-3	
Selenium	**0.44J**	ug/L	1.0	0.18	1	04/27/20 14:39	05/08/20 14:14	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/27/20 14:39	05/08/20 14:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:51	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**425**	mg/L	20.0	8.4	1		04/28/20 12:34		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**499**	mg/L	10.0	10.0	1		04/27/20 15:31		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.016J**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.035**	mg/L	0.20	0.035	1		04/23/20 11:14		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-26 **Lab ID: 60334356030** Collected: 04/21/20 14:05 Received: 04/22/20 02:38 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	**<0.039**	mg/L	0.050	0.039	1		04/24/20 14:18	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.2**	mg/L	1.0	0.39	1		05/08/20 22:45	16887-00-6	B
Fluoride	**0.14J**	mg/L	0.20	0.075	1		05/08/20 22:45	16984-48-8	
Sulfate	**30.8**	mg/L	2.0	0.56	2		05/11/20 15:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AMW-8 **Lab ID: 60334356031** Collected: 04/20/20 14:07 Received: 04/22/20 02:38 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	1.8	1	04/29/20 13:20	04/30/20 17:30	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/29/20 13:20	04/30/20 17:30	7440-41-7	
Boron	**6800**	ug/L	100	11.7	1	04/29/20 13:20	04/30/20 17:30	7440-42-8	
Calcium	**60100**	ug/L	200	32.4	1	04/29/20 13:20	04/30/20 17:30	7440-70-2	
Cobalt	**<1.5**	ug/L	5.0	1.5	1	04/29/20 13:20	04/30/20 17:30	7440-48-4	
Iron	**1920**	ug/L	50.0	26.8	1	04/29/20 13:20	04/30/20 17:30	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:30	7439-92-1	
Lithium	**16.1**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:30	7439-93-2	
Magnesium	**10300**	ug/L	50.0	19.7	1	04/29/20 13:20	04/30/20 17:30	7439-95-4	
Manganese	**280**	ug/L	5.0	0.97	1	04/29/20 13:20	04/30/20 17:30	7439-96-5	
Molybdenum	**326**	ug/L	20.0	1.7	1	04/29/20 13:20	04/30/20 17:30	7439-98-7	
Potassium	**5740**	ug/L	500	189	1	04/29/20 13:20	04/30/20 17:30	7440-09-7	
Sodium	**96300**	ug/L	500	107	1	04/29/20 13:20	04/30/20 17:30	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/27/20 14:39	05/08/20 14:21	7440-36-0	
Arsenic	**0.24J**	ug/L	1.0	0.086	1	04/27/20 14:39	05/08/20 14:21	7440-38-2	
Cadmium	**0.15J**	ug/L	0.50	0.056	1	04/27/20 14:39	05/08/20 14:21	7440-43-9	
Chromium	**0.69J**	ug/L	1.0	0.22	1	04/27/20 14:39	05/08/20 14:21	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/27/20 14:39	05/08/20 14:21	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/27/20 14:39	05/08/20 14:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 14:54	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**86.1**	mg/L	20.0	8.4	1		04/28/20 10:06		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**549**	mg/L	10.0	10.0	1		04/24/20 14:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**1.9**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.054J**	mg/L	0.20	0.035	1		04/23/20 11:14		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AMW-8 **Lab ID: 60334356031** Collected: 04/20/20 14:07 Received: 04/22/20 02:38 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	**<0.039**	mg/L	0.050	0.039	1		04/24/20 14:17	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**20.1**	mg/L	5.0	1.9	5		05/12/20 10:07	16887-00-6	
Fluoride	**0.48**	mg/L	0.20	0.075	1		05/08/20 12:43	16984-48-8	
Sulfate	**276**	mg/L	20.0	5.6	20		05/08/20 13:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-4S **Lab ID: 60334356032** Collected: 04/20/20 12:43 Received: 04/22/20 02:38 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	1.8	1	04/29/20 13:20	04/30/20 17:32	7440-39-3	
Beryllium	**<0.49**	ug/L	1.0	0.49	1	04/29/20 13:20	04/30/20 17:32	7440-41-7	
Boron	**3390**	ug/L	100	11.7	1	04/29/20 13:20	04/30/20 17:32	7440-42-8	
Calcium	**178000**	ug/L	200	32.4	1	04/29/20 13:20	04/30/20 17:32	7440-70-2	
Cobalt	**2.1J**	ug/L	5.0	1.5	1	04/29/20 13:20	04/30/20 17:32	7440-48-4	
Iron	**4660**	ug/L	50.0	26.8	1	04/29/20 13:20	04/30/20 17:32	7439-89-6	
Lead	**<4.6**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:32	7439-92-1	
Lithium	**34.3**	ug/L	10.0	4.6	1	04/29/20 13:20	04/30/20 17:32	7439-93-2	
Magnesium	**31400**	ug/L	50.0	19.7	1	04/29/20 13:20	04/30/20 17:32	7439-95-4	
Manganese	**1180**	ug/L	5.0	0.97	1	04/29/20 13:20	04/30/20 17:32	7439-96-5	
Molybdenum	**35.1**	ug/L	20.0	1.7	1	04/29/20 13:20	04/30/20 17:32	7439-98-7	
Potassium	**6540**	ug/L	500	189	1	04/29/20 13:20	04/30/20 17:32	7440-09-7	
Sodium	**71900**	ug/L	500	107	1	04/29/20 13:20	04/30/20 17:32	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	04/27/20 14:39	05/08/20 14:25	7440-36-0	
Arsenic	**12.9**	ug/L	1.0	0.086	1	04/27/20 14:39	05/08/20 14:25	7440-38-2	
Cadmium	**<0.056**	ug/L	0.50	0.056	1	04/27/20 14:39	05/08/20 14:25	7440-43-9	
Chromium	**<0.22**	ug/L	1.0	0.22	1	04/27/20 14:39	05/08/20 14:25	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/27/20 14:39	05/08/20 14:25	7782-49-2	
Thallium	**<0.093**	ug/L	1.0	0.093	1	04/27/20 14:39	05/08/20 14:25	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.058**	ug/L	0.20	0.058	1	05/11/20 12:10	05/12/20 15:00	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**534**	mg/L	20.0	8.4	1		04/28/20 10:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**767**	mg/L	10.0	10.0	1		04/24/20 14:44		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**4.0**	mg/L	0.050		1		05/12/20 11:04	7439-89-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.69**	mg/L	0.20	0.035	1		04/23/20 11:13		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-4S **Lab ID: 60334356032** Collected: 04/20/20 12:43 Received: 04/22/20 02:38 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	**<0.039**	mg/L	0.050	0.039	1		04/24/20 14:18	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**38.5**	mg/L	10.0	3.9	10		05/11/20 14:51	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.075	1		05/08/20 13:16	16984-48-8	
Sulfate	**99.9**	mg/L	10.0	2.8	10		05/11/20 14:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651527
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

METHOD BLANK: 2643587 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.058	0.20	0.058	04/28/20 16:39	

LABORATORY CONTROL SAMPLE: 2643588

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: 2643589 2643590

Parameter	Units	60334355001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.058	5	5	5.1	5.1	102	103	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 653874
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021, 60334356026, 60334356027, 60334356028, 60334356029

METHOD BLANK: 2652894
Matrix: Water
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021, 60334356026, 60334356027, 60334356028, 60334356029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.058	0.20	0.058	05/12/20 13:28	

LABORATORY CONTROL SAMPLE: 2652895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2652896 2652897

Parameter	Units	60334356007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.058	5	5	3.9	3.8	78	77	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 653875 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356010, 60334356030, 60334356031, 60334356032

METHOD BLANK: 2652898 Matrix: Water
Associated Lab Samples: 60334356010, 60334356030, 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.058	0.20	0.058	05/12/20 14:40	

LABORATORY CONTROL SAMPLE: 2652899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2652900 2652901

Parameter	Units	60334356010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.058	5	5	3.2	2.8	65	57	75-125	13	20	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650987
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004, 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015

METHOD BLANK: 2641577
Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004, 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/24/20 17:56	
Beryllium	ug/L	<0.49	1.0	0.49	04/24/20 17:56	
Boron	ug/L	<11.7	100	11.7	04/24/20 17:56	
Calcium	ug/L	<32.4	200	32.4	04/24/20 17:56	
Cobalt	ug/L	<1.5	5.0	1.5	04/24/20 17:56	
Iron	ug/L	<26.8	50.0	26.8	04/24/20 17:56	
Lead	ug/L	<4.6	10.0	4.6	04/24/20 17:56	
Lithium	ug/L	<4.6	10.0	4.6	04/24/20 17:56	
Magnesium	ug/L	<19.7	50.0	19.7	04/24/20 17:56	
Manganese	ug/L	<0.97	5.0	0.97	04/24/20 17:56	
Molybdenum	ug/L	<1.7	20.0	1.7	04/24/20 17:56	
Potassium	ug/L	<189	500	189	04/24/20 17:56	
Sodium	ug/L	<107	500	107	04/24/20 17:56	

LABORATORY CONTROL SAMPLE: 2641578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	990	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	1020	102	85-115	
Calcium	ug/L	10000	10500	105	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1080	108	85-115	
Lithium	ug/L	1000	959	96	85-115	
Magnesium	ug/L	10000	11000	110	85-115	
Manganese	ug/L	1000	1050	105	85-115	
Molybdenum	ug/L	1000	1030	103	85-115	
Potassium	ug/L	10000	9870	99	85-115	
Sodium	ug/L	10000	10000	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2641579 2641580

Parameter	Units	60334356007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	80.0	1000	1000	1070	1070	99	99	70-130	1	20	
Beryllium	ug/L	<0.49	1000	1000	1020	1010	102	101	70-130	0	20	
Boron	ug/L	11000	1000	1000	11600	11800	60	72	70-130	1	20	M1
Calcium	ug/L	82900	10000	10000	91700	93200	88	103	70-130	2	20	
Cobalt	ug/L	<1.5	1000	1000	1030	1020	103	102	70-130	1	20	
Iron	ug/L	4720	10000	10000	14600	14700	99	100	70-130	0	20	
Lead	ug/L	<4.6	1000	1000	1040	1030	104	103	70-130	1	20	
Lithium	ug/L	31.4	1000	1000	988	979	96	95	70-130	1	20	
Magnesium	ug/L	20600	10000	10000	30300	30600	96	100	70-130	1	20	
Manganese	ug/L	212	1000	1000	1220	1210	101	100	70-130	1	20	
Molybdenum	ug/L	1090	1000	1000	2090	2110	101	102	70-130	1	20	
Potassium	ug/L	6200	10000	10000	16000	16200	98	100	70-130	1	20	
Sodium	ug/L	73500	10000	10000	81900	82800	84	94	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2641581 2641582

Parameter	Units	60334356010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	1390	1000	1000	2420	2390	103	100	70-130	1	20	
Beryllium	ug/L	<0.49	1000	1000	1030	1020	103	102	70-130	1	20	
Boron	ug/L	74.5J	1000	1000	1120	1100	104	103	70-130	1	20	
Calcium	ug/L	139000	10000	10000	151000	150000	120	109	70-130	1	20	
Cobalt	ug/L	<1.5	1000	1000	1020	1000	102	100	70-130	1	20	
Iron	ug/L	8850	10000	10000	18900	18700	101	99	70-130	1	20	
Lead	ug/L	<4.6	1000	1000	1030	1020	103	102	70-130	1	20	
Lithium	ug/L	26.1	1000	1000	1000	982	97	96	70-130	2	20	
Magnesium	ug/L	36400	10000	10000	47200	46900	108	105	70-130	1	20	
Manganese	ug/L	276	1000	1000	1300	1280	102	101	70-130	1	20	
Molybdenum	ug/L	<1.7	1000	1000	1040	1030	104	103	70-130	1	20	
Potassium	ug/L	4080	10000	10000	14200	13900	101	99	70-130	2	20	
Sodium	ug/L	11700	10000	10000	21900	21700	102	100	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650989
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021

METHOD BLANK: 2641586 Matrix: Water
Associated Lab Samples: 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/24/20 18:46	
Beryllium	ug/L	<0.49	1.0	0.49	04/24/20 18:46	
Boron	ug/L	<11.7	100	11.7	04/24/20 18:46	
Calcium	ug/L	<32.4	200	32.4	04/24/20 18:46	
Cobalt	ug/L	<1.5	5.0	1.5	04/24/20 18:46	
Iron	ug/L	<26.8	50.0	26.8	04/24/20 18:46	
Lead	ug/L	<4.6	10.0	4.6	04/24/20 18:46	
Lithium	ug/L	<4.6	10.0	4.6	04/24/20 18:46	
Magnesium	ug/L	<19.7	50.0	19.7	04/24/20 18:46	
Manganese	ug/L	<0.97	5.0	0.97	04/24/20 18:46	
Molybdenum	ug/L	<1.7	20.0	1.7	04/24/20 18:46	
Potassium	ug/L	<189	500	189	04/24/20 18:46	
Sodium	ug/L	<107	500	107	04/24/20 18:46	

LABORATORY CONTROL SAMPLE: 2641587

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	998	100	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	1020	102	85-115	
Calcium	ug/L	10000	10400	104	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1070	107	85-115	
Lithium	ug/L	1000	964	96	85-115	
Magnesium	ug/L	10000	10700	107	85-115	
Manganese	ug/L	1000	1030	103	85-115	
Molybdenum	ug/L	1000	1040	104	85-115	
Potassium	ug/L	10000	9850	99	85-115	
Sodium	ug/L	10000	9960	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2641588 2641589

Parameter	Units	60334356016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	86.7	1000	1000	1080	1080	99	99	70-130	0	20	
Beryllium	ug/L	<0.49	1000	1000	1020	1020	102	102	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2641588 2641589

Parameter	Units	60334356016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	10200	1000	1000	11200	11500	99	127	70-130	2	20	
Calcium	ug/L	72400	10000	10000	82000	83000	95	106	70-130	1	20	
Cobalt	ug/L	<1.5	1000	1000	1030	1030	103	103	70-130	0	20	
Iron	ug/L	3820	10000	10000	13900	13900	101	101	70-130	0	20	
Lead	ug/L	<4.6	1000	1000	1040	1040	103	103	70-130	0	20	
Lithium	ug/L	29.2	1000	1000	991	988	96	96	70-130	0	20	
Magnesium	ug/L	16200	10000	10000	26200	27000	100	108	70-130	3	20	
Manganese	ug/L	192	1000	1000	1200	1220	101	103	70-130	2	20	
Molybdenum	ug/L	1150	1000	1000	2170	2190	102	103	70-130	1	20	
Potassium	ug/L	5890	10000	10000	15900	16000	100	101	70-130	1	20	
Sodium	ug/L	83000	10000	10000	92100	93100	91	100	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651904
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

METHOD BLANK: 2644803 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	04/30/20 17:09	
Beryllium	ug/L	<0.49	1.0	0.49	04/30/20 17:09	
Boron	ug/L	12.8J	100	11.7	04/30/20 17:09	
Calcium	ug/L	<32.4	200	32.4	04/30/20 17:09	
Cobalt	ug/L	<1.5	5.0	1.5	04/30/20 17:09	
Iron	ug/L	<26.8	50.0	26.8	04/30/20 17:09	
Lead	ug/L	<4.6	10.0	4.6	04/30/20 17:09	
Lithium	ug/L	<4.6	10.0	4.6	04/30/20 17:09	
Magnesium	ug/L	<19.7	50.0	19.7	04/30/20 17:09	
Manganese	ug/L	<0.97	5.0	0.97	04/30/20 17:09	
Molybdenum	ug/L	<1.7	20.0	1.7	04/30/20 17:09	
Potassium	ug/L	<189	500	189	04/30/20 17:09	
Sodium	ug/L	<107	500	107	04/30/20 17:09	

LABORATORY CONTROL SAMPLE: 2644804

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	975	98	85-115	
Beryllium	ug/L	1000	986	99	85-115	
Boron	ug/L	1000	999	100	85-115	
Calcium	ug/L	10000	10100	101	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	9930	99	85-115	
Lead	ug/L	1000	1050	105	85-115	
Lithium	ug/L	1000	971	97	85-115	
Magnesium	ug/L	10000	10500	105	85-115	
Manganese	ug/L	1000	1010	101	85-115	
Molybdenum	ug/L	1000	1000	100	85-115	
Potassium	ug/L	10000	9960	100	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2644805 2644806

Parameter	Units	60334356027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	68.3	1000	1000	1040	1060	97	99	70-130	1	20	
Beryllium	ug/L	<0.49	1000	1000	986	1010	99	101	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2644805 2644806

Parameter	Units	60334356027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	7780	1000	1000	8480	8340	69	56	70-130	2	20	M1
Calcium	ug/L	95600	10000	10000	102000	103000	62	74	70-130	1	20	M1
Cobalt	ug/L	<1.5	1000	1000	1010	1010	101	101	70-130	0	20	
Iron	ug/L	4560	10000	10000	14200	14600	97	100	70-130	3	20	
Lead	ug/L	<4.6	1000	1000	1020	1020	102	102	70-130	0	20	
Lithium	ug/L	39.0	1000	1000	1030	1040	99	100	70-130	1	20	
Magnesium	ug/L	15300	10000	10000	24400	24800	91	95	70-130	2	20	
Manganese	ug/L	266	1000	1000	1260	1280	100	102	70-130	2	20	
Molybdenum	ug/L	398	1000	1000	1400	1390	100	99	70-130	1	20	
Potassium	ug/L	8110	10000	10000	18000	18200	98	101	70-130	2	20	
Sodium	ug/L	117000	10000	10000	124000	123000	68	64	70-130	0	20	M1

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650776
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004, 60334356005, 60334356006, 60334356007, 60334356008, 60334356009

METHOD BLANK: 2640781 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004, 60334356005, 60334356006, 60334356007, 60334356008, 60334356009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	04/27/20 10:55	
Arsenic	ug/L	<0.086	1.0	0.086	04/27/20 10:55	
Cadmium	ug/L	<0.056	0.50	0.056	04/27/20 10:55	
Chromium	ug/L	<0.22	1.0	0.22	04/27/20 10:55	
Selenium	ug/L	<0.18	1.0	0.18	04/27/20 10:55	
Thallium	ug/L	<0.093	1.0	0.093	04/27/20 10:55	

LABORATORY CONTROL SAMPLE: 2640782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.9	100	85-115	
Arsenic	ug/L	40	39.6	99	85-115	
Cadmium	ug/L	40	40.5	101	85-115	
Chromium	ug/L	40	39.9	100	85-115	
Selenium	ug/L	40	38.3	96	85-115	
Thallium	ug/L	40	37.9	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2640783 2640784

Parameter	Units	60334356007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	40.0	39.3	100	98	70-130	2	20	
Arsenic	ug/L	3.6	40	40	42.9	42.4	98	97	70-130	1	20	
Cadmium	ug/L	0.36J	40	40	39.0	38.5	97	95	70-130	2	20	
Chromium	ug/L	0.99J	40	40	39.6	39.0	96	95	70-130	1	20	
Selenium	ug/L	<0.18	40	40	36.1	35.7	90	89	70-130	1	20	
Thallium	ug/L	<0.093	40	40	39.2	39.2	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651208
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021

METHOD BLANK: 2642458 Matrix: Water
Associated Lab Samples: 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	04/30/20 10:24	
Arsenic	ug/L	<0.086	1.0	0.086	04/28/20 15:09	
Cadmium	ug/L	<0.056	0.50	0.056	04/28/20 15:09	
Chromium	ug/L	<0.22	1.0	0.22	04/28/20 15:09	
Selenium	ug/L	<0.18	1.0	0.18	04/28/20 15:09	
Thallium	ug/L	<0.093	1.0	0.093	04/30/20 10:24	

LABORATORY CONTROL SAMPLE: 2642459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	37.8	94	85-115	
Arsenic	ug/L	40	38.6	97	85-115	
Cadmium	ug/L	40	39.1	98	85-115	
Chromium	ug/L	40	40.2	101	85-115	
Selenium	ug/L	40	38.4	96	85-115	
Thallium	ug/L	40	36.7	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642460 2642461

Parameter	Units	60334356010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.11J	40	40	39.9	40.2	99	100	70-130	1	20	
Arsenic	ug/L	0.88J	40	40	41.2	40.7	101	100	70-130	1	20	
Cadmium	ug/L	<0.056	40	40	38.0	38.1	95	95	70-130	0	20	
Chromium	ug/L	<0.22	40	40	40.8	40.5	102	101	70-130	1	20	
Selenium	ug/L	<0.18	40	40	38.7	38.0	97	95	70-130	2	20	
Thallium	ug/L	<0.093	40	40	36.6	36.7	91	92	70-130	0	20	

MATRIX SPIKE SAMPLE: 2642462

Parameter	Units	60334356020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.097	40	38.7	97	70-130	
Arsenic	ug/L	14.6	40	54.5	100	70-130	
Cadmium	ug/L	0.066J	40	37.0	92	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

MATRIX SPIKE SAMPLE: 2642462

Parameter	Units	60334356020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	<0.22	40	39.8	99	70-130	
Selenium	ug/L	<0.18	40	37.7	94	70-130	
Thallium	ug/L	<0.093	40	35.1	88	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651306 | 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: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

METHOD BLANK: 2642951 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	05/08/20 13:47	
Arsenic	ug/L	<0.086	1.0	0.086	05/08/20 13:47	
Cadmium	ug/L	<0.056	0.50	0.056	05/08/20 13:47	
Chromium	ug/L	<0.22	1.0	0.22	05/08/20 13:47	
Selenium	ug/L	<0.18	1.0	0.18	05/08/20 13:47	
Thallium	ug/L	<0.093	1.0	0.093	05/08/20 13:47	

LABORATORY CONTROL SAMPLE: 2642952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.8	97	85-115	
Arsenic	ug/L	40	38.8	97	85-115	
Cadmium	ug/L	40	39.1	98	85-115	
Chromium	ug/L	40	36.3	91	85-115	
Selenium	ug/L	40	39.0	98	85-115	
Thallium	ug/L	40	37.3	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642953 2642954

Parameter	Units	60334356026 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	38.7	38.3	96	96	70-130	1	20	
Arsenic	ug/L	4.2	40	40	41.2	41.4	93	93	70-130	0	20	
Cadmium	ug/L	<0.056	40	40	36.8	36.7	92	92	70-130	0	20	
Chromium	ug/L	0.38J	40	40	35.2	35.1	87	87	70-130	0	20	
Selenium	ug/L	<0.18	40	40	35.7	36.5	89	91	70-130	2	20	
Thallium	ug/L	<0.093	40	40	38.8	39.3	97	98	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650660
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356004

METHOD BLANK: 2640387 Matrix: Water
Associated Lab Samples: 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/22/20 17:19	

LABORATORY CONTROL SAMPLE: 2640388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	477	95	90-110	

SAMPLE DUPLICATE: 2640389

Parameter	Units	60334977003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	152	154	1	10	

SAMPLE DUPLICATE: 2640390

Parameter	Units	60334689003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	515	546	6	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650869 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356005, 60334356006, 60334356007

METHOD BLANK: 2641105 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356005, 60334356006, 60334356007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/23/20 11:43	

LABORATORY CONTROL SAMPLE: 2641106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	455	91	90-110	

SAMPLE DUPLICATE: 2641107

Parameter	Units	60334355001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	218	228	5	10	

SAMPLE DUPLICATE: 2641108

Parameter	Units	60334356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	168	172	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651047 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018

METHOD BLANK: 2641812 Matrix: Water
Associated Lab Samples: 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/24/20 10:09	

LABORATORY CONTROL SAMPLE: 2641813

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

SAMPLE DUPLICATE: 2641814

Parameter	Units	60334356010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	470	494	5	10	

SAMPLE DUPLICATE: 2641815

Parameter	Units	60334356017 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	<8.4		10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651355 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356019, 60334356020, 60334356021

METHOD BLANK: 2643077 Matrix: Water
Associated Lab Samples: 60334356019, 60334356020, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/27/20 11:43	

LABORATORY CONTROL SAMPLE: 2643078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	494	99	90-110	

SAMPLE DUPLICATE: 2643079

Parameter	Units	60335265001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	269	260	3	10	

SAMPLE DUPLICATE: 2643080

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	460	476	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651437 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356031, 60334356032

METHOD BLANK: 2643271 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/28/20 08:58	

LABORATORY CONTROL SAMPLE: 2643272

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

SAMPLE DUPLICATE: 2643273

Parameter	Units	60334997006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	95.3	91.7	4	10	

SAMPLE DUPLICATE: 2643274

Parameter	Units	60334356032 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	534	532	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651576
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356030

METHOD BLANK: 2643724 Matrix: Water
Associated Lab Samples: 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	04/28/20 11:57	

LABORATORY CONTROL SAMPLE: 2643725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	484	97	90-110	

SAMPLE DUPLICATE: 2643726

Parameter	Units	60334358004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	563	594	5	10	

SAMPLE DUPLICATE: 2643727

Parameter	Units	60334358007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	<8.4		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650056 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

METHOD BLANK: 2638189 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/20/20 11:43	

LABORATORY CONTROL SAMPLE: 2638190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	955	96	80-120	

SAMPLE DUPLICATE: 2638191

Parameter	Units	60334355006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10.0	12.0	18	10	D6

SAMPLE DUPLICATE: 2638192

Parameter	Units	60334359008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	715	752	5	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650571
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017

METHOD BLANK: 2639951 Matrix: Water
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/22/20 12:30	

LABORATORY CONTROL SAMPLE: 2639952

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

SAMPLE DUPLICATE: 2639955

Parameter	Units	60334610001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	847	847	0	10	

SAMPLE DUPLICATE: 2639956

Parameter	Units	60334356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	601	654	8	10	

SAMPLE DUPLICATE: 2639957

Parameter	Units	60334356010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	553	532	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650572 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356018, 60334356019, 60334356020, 60334356021

METHOD BLANK: 2639958 Matrix: Water
Associated Lab Samples: 60334356018, 60334356019, 60334356020, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/22/20 12:34	

LABORATORY CONTROL SAMPLE: 2639959

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

SAMPLE DUPLICATE: 2639960

Parameter	Units	60334356018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	<5.0	15.0		10	

SAMPLE DUPLICATE: 2639961

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	469	463	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651085 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356031, 60334356032

METHOD BLANK: 2641960 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/24/20 14:42	

LABORATORY CONTROL SAMPLE: 2641961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	977	98	80-120	

SAMPLE DUPLICATE: 2641962

Parameter	Units	60334674001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4660	4530			H5

SAMPLE DUPLICATE: 2641963

Parameter	Units	60334997006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5090	5610	10	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651301
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356030

METHOD BLANK: 2642929 Matrix: Water
Associated Lab Samples: 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/27/20 15:30	

LABORATORY CONTROL SAMPLE: 2642930

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

SAMPLE DUPLICATE: 2642931

Parameter	Units	60335043008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5640	5560	1	10	

SAMPLE DUPLICATE: 2642932

Parameter	Units	60334358004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	732	728	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 649344
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

METHOD BLANK: 2635215 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.035	0.20	0.035	04/15/20 14:05	H6

LABORATORY CONTROL SAMPLE: 2635216

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

SAMPLE DUPLICATE: 2635217

Parameter	Units	60334355007 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.035	<0.035		20	H6

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650161
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356021

METHOD BLANK: 2638358 Matrix: Water
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.035	0.20	0.035	04/20/20 16:03	H6

LABORATORY CONTROL SAMPLE: 2638359

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

SAMPLE DUPLICATE: 2638360

Parameter	Units	60334356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.052J	0.088J		20	H6

SAMPLE DUPLICATE: 2638361

Parameter	Units	60334356010 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.068J	0.060J		20	H6

SAMPLE DUPLICATE: 2638362

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.28	0.28	0	20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650163
QC Batch Method: SM 3500-Fe B#4
Analysis Method: SM 3500-Fe B#4
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356020

METHOD BLANK: 2638369 Matrix: Water
Associated Lab Samples: 60334356020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.035	0.20	0.035	04/20/20 16:11	H6

LABORATORY CONTROL SAMPLE: 2638370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	105	90-110	H6

SAMPLE DUPLICATE: 2638371

Parameter	Units	60334356020 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.13J	0.12J		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650770 | 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: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

METHOD BLANK: 2640750 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.035	0.20	0.035	04/23/20 11:11	H6

LABORATORY CONTROL SAMPLE: 2640751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	106	90-110	H6

SAMPLE DUPLICATE: 2640752

Parameter	Units	60334356026 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	1.2	1.2	1	20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650266
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004, 60334356005, 60334356006

METHOD BLANK: 2638673 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004, 60334356005, 60334356006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.039	0.050	0.039	04/21/20 09:42	

LABORATORY CONTROL SAMPLE: 2638674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.53	105	80-120	

MATRIX SPIKE SAMPLE: 2638675

Parameter	Units	60334355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.039	0.5	0.57	113	75-125	

SAMPLE DUPLICATE: 2638676

Parameter	Units	60334355003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

SAMPLE DUPLICATE: 2638677

Parameter	Units	60334356001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650643
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018

METHOD BLANK: 2640326 Matrix: Water
Associated Lab Samples: 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.039	0.050	0.039	04/22/20 15:22	

LABORATORY CONTROL SAMPLE: 2640327

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

MATRIX SPIKE SAMPLE: 2640328

Parameter	Units	60334356007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.039	0.5	0.46	89	75-125	

MATRIX SPIKE SAMPLE: 2640330

Parameter	Units	60334356010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.044J	0.5	0.51	94	75-125	

SAMPLE DUPLICATE: 2640329

Parameter	Units	60334356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

SAMPLE DUPLICATE: 2640331

Parameter	Units	60334356010 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.044J	0.043J		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

SAMPLE DUPLICATE: 2640332

Parameter	Units	60334356017 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650771
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356019, 60334356020, 60334356021

METHOD BLANK: 2640755 Matrix: Water
Associated Lab Samples: 60334356019, 60334356020, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.039	0.050	0.039	04/23/20 12:12	

LABORATORY CONTROL SAMPLE: 2640756

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.55	109	80-120	

MATRIX SPIKE SAMPLE: 2640758

Parameter	Units	60334355014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.039	0.5	0.60	119	75-125	

SAMPLE DUPLICATE: 2640757

Parameter	Units	60334355012 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

SAMPLE DUPLICATE: 2640759

Parameter	Units	60334355014 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651165
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

METHOD BLANK: 2642333 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.039	0.050	0.039	04/24/20 14:02	

LABORATORY CONTROL SAMPLE: 2642334

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	98	80-120	

MATRIX SPIKE SAMPLE: 2642335

Parameter	Units	60335246002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.34	0.5	0.81	95	75-125	

SAMPLE DUPLICATE: 2642336

Parameter	Units	60334356027 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.039	<0.039		20	

SAMPLE DUPLICATE: 2642337

Parameter	Units	60335094001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.13	0.13	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 650170
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

METHOD BLANK: 2638395 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/20/20 10:38	
Fluoride	mg/L	<0.075	0.20	0.075	04/20/20 10:38	
Sulfate	mg/L	<0.28	1.0	0.28	04/20/20 10:38	

METHOD BLANK: 2638926 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.44J	1.0	0.39	04/16/20 09:12	
Fluoride	mg/L	<0.075	0.20	0.075	04/16/20 09:12	
Sulfate	mg/L	<0.28	1.0	0.28	04/16/20 09:12	

METHOD BLANK: 2639261 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/21/20 16:31	
Fluoride	mg/L	<0.075	0.20	0.075	04/21/20 16:31	
Sulfate	mg/L	<0.28	1.0	0.28	04/21/20 16:31	

METHOD BLANK: 2639859 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/22/20 12:52	
Fluoride	mg/L	<0.075	0.20	0.075	04/22/20 12:52	
Sulfate	mg/L	<0.28	1.0	0.28	04/22/20 12:52	

METHOD BLANK: 2641399 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/23/20 08:10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

METHOD BLANK: 2641399 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	04/23/20 08:10	
Sulfate	mg/L	<0.28	1.0	0.28	04/23/20 08:10	

LABORATORY CONTROL SAMPLE: 2638396

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	2.3	94	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

LABORATORY CONTROL SAMPLE: 2638927

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

LABORATORY CONTROL SAMPLE: 2639262

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	101	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 2639860

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	2.3	91	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 2641400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

MATRIX SPIKE SAMPLE: 2638397

Parameter	Units	60334355007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	19.1	10	30.3	112	80-120	
Fluoride	mg/L	0.18J	2.5	2.7	102	80-120	
Sulfate	mg/L	222	100	325	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2638398 2638399

Parameter	Units	60334434003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	63.0	25	25	81.8	81.9	75	75	80-120	0	15	M1
Fluoride	mg/L	0.33	2.5	2.5	3.0	3.0	106	107	80-120	0	15	
Sulfate	mg/L	ND	5	5	5.3	5.3	101	101	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651207
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356005

METHOD BLANK: 2642451 Matrix: Water
Associated Lab Samples: 60334356005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/25/20 14:06	
Fluoride	mg/L	<0.075	0.20	0.075	04/25/20 14:06	
Sulfate	mg/L	<0.28	1.0	0.28	04/25/20 14:06	

METHOD BLANK: 2643294 Matrix: Water
Associated Lab Samples: 60334356005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/27/20 09:42	
Fluoride	mg/L	<0.075	0.20	0.075	04/27/20 09:42	
Sulfate	mg/L	<0.28	1.0	0.28	04/27/20 09:42	

METHOD BLANK: 2644089 Matrix: Water
Associated Lab Samples: 60334356005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.46J	1.0	0.39	04/28/20 07:11	
Fluoride	mg/L	<0.075	0.20	0.075	04/28/20 07:11	
Sulfate	mg/L	0.33J	1.0	0.28	04/28/20 07:11	

METHOD BLANK: 2644615 Matrix: Water
Associated Lab Samples: 60334356005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.46J	1.0	0.39	04/28/20 07:11	
Fluoride	mg/L	<0.075	0.20	0.075	04/28/20 07:11	
Sulfate	mg/L	0.33J	1.0	0.28	04/28/20 07:11	

LABORATORY CONTROL SAMPLE: 2642452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

LABORATORY CONTROL SAMPLE: 2642452

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

LABORATORY CONTROL SAMPLE: 2643295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 2644090

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	5.2	103	90-110	

LABORATORY CONTROL SAMPLE: 2644616

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	5.2	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642453 2642454

Parameter	Units	60334629002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	600	250	250	868	872	107	109	80-120	0	15	
Fluoride	mg/L	ND	125	125	123	123	98	99	80-120	0	15	
Sulfate	mg/L	479	250	250	747	749	107	108	80-120	0	15	

MATRIX SPIKE SAMPLE: 2642455

Parameter	Units	60334689005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	8.7	10	18.9	103	80-120	
Fluoride	mg/L	ND	5	5.1	98	80-120	
Sulfate	mg/L	24.1	10	35.2	111	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 651213
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021

METHOD BLANK: 2642478 Matrix: Water
Associated Lab Samples: 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.51J	1.0	0.39	04/25/20 09:21	
Fluoride	mg/L	<0.075	0.20	0.075	04/25/20 09:21	
Sulfate	mg/L	<0.28	1.0	0.28	04/25/20 09:21	

METHOD BLANK: 2643227 Matrix: Water
Associated Lab Samples: 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/27/20 09:42	
Fluoride	mg/L	<0.075	0.20	0.075	04/27/20 09:42	
Sulfate	mg/L	<0.28	1.0	0.28	04/27/20 09:42	

LABORATORY CONTROL SAMPLE: 2642479

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	2.7	106	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

LABORATORY CONTROL SAMPLE: 2643228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642480 2642481

Parameter	Units	60334355014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22.4	10	10	33.9	33.8	115	114	80-120	0	15	
Fluoride	mg/L	0.20	2.5	2.5	2.9	2.9	109	109	80-120	1	15	
Sulfate	mg/L	<0.28	5	5	5.3	5.2	102	101	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642482 2642483

Parameter	Units	60334356007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	19.0	10	10	30.2	29.6	112	107	80-120	2	15	
Fluoride	mg/L	0.32	2.5	2.5	3.1	3.1	110	110	80-120	0	15	
Sulfate	mg/L	245	250	250	488	491	97	99	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2642484 2642485

Parameter	Units	60334356010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.2	5	5	9.1	9.2	97	98	80-120	1	15	
Fluoride	mg/L	0.22	2.5	2.5	3.0	3.0	110	111	80-120	1	15	
Sulfate	mg/L	14.1	5	5	19.5	19.5	107	107	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 653452
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030

METHOD BLANK: 2650862 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	05/08/20 13:45	
Fluoride	mg/L	<0.075	0.20	0.075	05/08/20 13:45	
Sulfate	mg/L	<0.28	1.0	0.28	05/08/20 13:45	

METHOD BLANK: 2652708 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	05/11/20 09:21	
Fluoride	mg/L	<0.075	0.20	0.075	05/11/20 09:21	
Sulfate	mg/L	<0.28	1.0	0.28	05/11/20 09:21	

METHOD BLANK: 2653004 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/21/20 17:16	
Fluoride	mg/L	<0.075	0.20	0.075	04/21/20 17:16	
Sulfate	mg/L	<0.28	1.0	0.28	04/21/20 17:16	

METHOD BLANK: 2653006 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	04/29/20 07:26	
Fluoride	mg/L	<0.075	0.20	0.075	04/29/20 07:26	
Sulfate	mg/L	<0.28	1.0	0.28	04/29/20 07:26	

METHOD BLANK: 2653008 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.44J	1.0	0.39	04/23/20 00:34	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

METHOD BLANK: 2653008 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	04/23/20 00:34	
Sulfate	mg/L	<0.28	1.0	0.28	04/23/20 00:34	

LABORATORY CONTROL SAMPLE: 2650863

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	2.3	93	90-110	
Sulfate	mg/L	5	4.8	95	90-110	

LABORATORY CONTROL SAMPLE: 2652709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.4	94	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2653005

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	2.3	91	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2653007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

LABORATORY CONTROL SAMPLE: 2653009

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	2.5	101	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2650864 2650865

Parameter	Units	60334857001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	116	50	50	166	165	101	99	80-120	1	15	
Fluoride	mg/L	0.49	2.5	2.5	2.9	3.0	98	100	80-120	2	15	
Sulfate	mg/L	783	500	500	1290	1290	102	100	80-120	0	15	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 653569
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60334356031, 60334356032

METHOD BLANK: 2651339 Matrix: Water
Associated Lab Samples: 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	05/08/20 09:30	
Fluoride	mg/L	<0.075	0.20	0.075	05/08/20 09:30	
Sulfate	mg/L	<0.28	1.0	0.28	05/08/20 09:30	

METHOD BLANK: 2652710 Matrix: Water
Associated Lab Samples: 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	05/11/20 09:21	
Fluoride	mg/L	<0.075	0.20	0.075	05/11/20 09:21	
Sulfate	mg/L	<0.28	1.0	0.28	05/11/20 09:21	

METHOD BLANK: 2653309 Matrix: Water
Associated Lab Samples: 60334356031, 60334356032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	05/12/20 09:16	
Fluoride	mg/L	<0.075	0.20	0.075	05/12/20 09:16	
Sulfate	mg/L	<0.28	1.0	0.28	05/12/20 09:16	

LABORATORY CONTROL SAMPLE: 2651340

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	2.5	101	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 2652711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.4	94	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

LABORATORY CONTROL SAMPLE: 2653310

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	2.4	98	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2651341 2651342

Parameter	Units	60335360003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.5	5	5	6.0	6.1	89	92	80-120	2	15	
Fluoride	mg/L	0.40	2.5	2.5	2.9	2.9	99	100	80-120	2	15	
Sulfate	mg/L	33.8	25	25	58.2	58.1	98	97	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2651343 2651344

Parameter	Units	60335359004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.2	5	5	10.1	10.2	98	99	80-120	1	15	
Fluoride	mg/L	0.28	2.5	2.5	2.7	2.8	98	99	80-120	1	15	
Sulfate	mg/L	58.3	25	25	83.0	82.3	99	96	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-2S **Lab ID: 60334356001** Collected: 04/14/20 11:25 Received: 04/15/20 02:25 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	**-0.295 ± 0.684 (1.39) C:NA T:93%**	pCi/L	04/27/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.186 ± 0.449 (0.996) C:76% T:74%**	pCi/L	04/27/20 16:02	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-1 **Lab ID: 60334356002** Collected: 04/14/20 11:30 Received: 04/15/20 02:25 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	**0.444 ± 0.764 (1.28) C:NA T:84%**	pCi/L	04/27/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.236 ± 0.480 (1.14) C:78% T:69%**	pCi/L	04/27/20 16:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-BMW-1S **Lab ID: 60334356003** Collected: 04/14/20 11:24 Received: 04/15/20 02:25 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	**0.811 ± 0.548 (0.586) C:NA T:90%**	pCi/L	04/27/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.46 ± 0.629 (1.10) C:78% T:82%**	pCi/L	04/27/20 16:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-BMW-2S **Lab ID: 60334356004** Collected: 04/14/20 11:39 Received: 04/15/20 02:25 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	**0.391 ± 0.377 (0.212) C:NA T:87%**	pCi/L	04/27/20 16:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.453 ± 0.449 (0.934) C:78% T:87%**	pCi/L	04/27/20 16:02	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-24 **Lab ID: 60334356005** Collected: 04/15/20 10:52 Received: 04/17/20 02:25 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	**0.185 ± 0.282 (0.167) C:NA T:90%**	pCi/L	05/11/20 15:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.06 ± 0.480 (0.810) C:79% T:84%**	pCi/L	05/08/20 14:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-33(D) **Lab ID: 60334356006** Collected: 04/15/20 14:00 Received: 04/17/20 02:25 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	**0.594 ± 0.374 (0.161) C:NA T:89%**	pCi/L	05/11/20 15:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.14 ± 0.450 (0.703) C:78% T:96%**	pCi/L	05/08/20 14:52	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-34(D) **Lab ID: 60334356007** Collected: 04/15/20 12:58 Received: 04/17/20 02:25 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	**0.415 ± 0.286 (0.305) C:NA T:97%**	pCi/L	05/11/20 15:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.632 ± 0.392 (0.734) C:77% T:92%**	pCi/L	05/08/20 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-35(D) **Lab ID: 60334356008** Collected: 04/15/20 09:56 Received: 04/17/20 02:25 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	**0.617 ± 0.410 (0.186) C:NA T:81%**	pCi/L	05/11/20 15:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.580 ± 0.389 (0.748) C:78% T:91%**	pCi/L	05/08/20 14:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-S-1 **Lab ID: 60334356009** Collected: 04/15/20 15:30 Received: 04/17/20 02:25 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	**0.237 ± 0.369 (0.639) C:NA T:91%**	pCi/L	05/11/20 15:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.938 ± 0.453 (0.796) C:84% T:87%**	pCi/L	05/08/20 14:53	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-1D **Lab ID: 60334356010** Collected: 04/15/20 14:40 Received: 04/17/20 02:25 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	**1.80 ± 0.674 (0.586) C:NA T:89%**	pCi/L	05/11/20 15:25	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**2.57 ± 0.644 (0.571) C:84% T:98%**	pCi/L	05/08/20 14:54	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-3M **Lab ID: 60334356011** Collected: 04/15/20 11:55 Received: 04/17/20 02:25 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	**0.949 ± 0.558 (0.691) C:NA T:93%**	pCi/L	05/11/20 15:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.997 ± 0.447 (0.762) C:81% T:94%**	pCi/L	05/08/20 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-3D **Lab ID: 60334356012** Collected: 04/15/20 12:50 Received: 04/17/20 02:25 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	**-0.137 ± 0.381 (0.900) C:NA T:81%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.531 ± 0.406 (0.808) C:82% T:88%**	pCi/L	05/08/20 14:53	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-4D **Lab ID: 60334356013** Collected: 04/15/20 10:25 Received: 04/17/20 02:25 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	**1.56 ± 0.655 (0.536) C:NA T:89%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.60 ± 0.570 (0.846) C:77% T:87%**	pCi/L	05/08/20 14:53	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-1 **Lab ID: 60334356014** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 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 (0.626) C:NA T:85%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.18 ± 0.469 (0.736) C:78% T:93%**	pCi/L	05/08/20 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-2 **Lab ID: 60334356015** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 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	**0.482 ± 0.339 (0.163) C:NA T:89%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.37 ± 0.660 (0.772) C:78% T:94%**	pCi/L	05/08/20 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-DUP-3 **Lab ID: 60334356016** Collected: 04/15/20 08:00 Received: 04/17/20 02:25 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	**0.387 ± 0.313 (0.175) C:NA T:81%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.849 ± 0.459 (0.826) C:76% T:82%**	pCi/L	05/08/20 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-2 **Lab ID: 60334356017** Collected: 04/15/20 13:15 Received: 04/17/20 02:25 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 ± 0.261 (0.531) C:NA T:94%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.410 ± 0.398 (0.823) C:80% T:91%**	pCi/L	05/08/20 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-CA-FB-3 **Lab ID: 60334356018** Collected: 04/15/20 16:00 Received: 04/17/20 02:25 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	**0.426 ± 0.361 (0.448) C:NA T:89%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.425 ± 0.334 (0.661) C:79% T:97%**	pCi/L	05/08/20 14:53	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-1S **Lab ID: 60334356019** Collected: 04/16/20 10:40 Received: 04/17/20 02:25 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	**0.287 ± 0.374 (0.618) C:NA T:95%**	pCi/L	05/11/20 15:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.680 ± 0.350 (0.598) C:74% T:91%**	pCi/L	05/08/20 14:54	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-7S **Lab ID: 60334356020** Collected: 04/16/20 13:25 Received: 04/17/20 02:25 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	**0.140 ± 0.320 (0.516) C:NA T:83%**	pCi/L	05/11/20 15:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.478 ± 0.330 (0.624) C:76% T:89%**	pCi/L	05/08/20 14:54	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-8S **Lab ID: 60334356021** Collected: 04/16/20 12:05 Received: 04/17/20 02:25 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	**0.563 ± 0.520 (0.758) C:NA T:98%**	pCi/L	05/11/20 16:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.288 ± 0.422 (0.909) C:76% T:82%**	pCi/L	05/08/20 14:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-34(D)-MS-1 **Lab ID: 60334356022** Collected: 04/15/20 12:58 Received: 04/17/20 02:25 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	**112.20 %REC ± NA (NA) C:NA T:NA%**	pCi/L	05/11/20 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**88.08 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/08/20 14:54	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-34(D)-MSD-1 **Lab ID: 60334356023** Collected: 04/15/20 12:58 Received: 04/17/20 02:25 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	**98.41 %REC 13.09 RPD ± NA (NA) C:NA T:NA%**	pCi/L	05/11/20 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**88.52 %REC 0.50 RPD ± NA (NA) C:NA T:NA**	pCi/L	05/08/20 14:54	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-1D-MS-1 **Lab ID: 60334356024** Collected: 04/15/20 14:40 Received: 04/17/20 02:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**95.79 %REC ± NA (NA) C:NA T:NA%**	pCi/L	05/11/20 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**69.69 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/08/20 14:54	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-1D-MSD-1 **Lab ID: 60334356025** Collected: 04/15/20 14:40 Received: 04/17/20 02:25 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	**82.50 %REC 14.91 RPD ± NA (NA) C:NA T:NA%**	pCi/L	05/11/20 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**82.91 %REC 17.33 RPD ± NA (NA) C:NA T:NA**	pCi/L	05/08/20 14:54	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AM-1S **Lab ID: 60334356026** Collected: 04/20/20 10:05 Received: 04/22/20 02:38 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	**0.336 ± 0.477 (0.808) C:NA T:94%**	pCi/L	05/12/20 16:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.572 ± 0.392 (0.753) C:82% T:88%**	pCi/L	05/11/20 14:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AM-1D **Lab ID: 60334356027** Collected: 04/20/20 11:10 Received: 04/22/20 02:38 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	**0.533 ± 0.452 (0.560) C:NA T:81%**	pCi/L	05/12/20 16:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.107 ± 0.353 (0.794) C:79% T:86%**	pCi/L	05/11/20 14:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-2M **Lab ID: 60334356028** Collected: 04/20/20 12:20 Received: 04/22/20 02:38 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.382 ± 0.560 (0.956) C:NA T:94%**	pCi/L	05/12/20 16:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.64 ± 0.628 (1.01) C:75% T:86%**	pCi/L	05/11/20 14:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-TP-2D **Lab ID: 60334356029** Collected: 04/20/20 13:00 Received: 04/22/20 02:38 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	**0.251 ± 0.426 (0.753) C:NA T:95%**	pCi/L	05/12/20 16:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.21 ± 0.536 (0.888) C:77% T:80%**	pCi/L	05/11/20 14:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-MW-26 **Lab ID: 60334356030** Collected: 04/21/20 14:05 Received: 04/22/20 02:38 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.202 ± 0.544 (1.01) C:NA T:92%**	pCi/L	05/12/20 16:31	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.902 ± 0.477 (0.861) C:76% T:85%**	pCi/L	05/11/20 14:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-AMW-8 **Lab ID: 60334356031** Collected: 04/20/20 14:07 Received: 04/22/20 02:38 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	**0.293 ± 0.576 (1.03) C:NA T:81%**	pCi/L	05/12/20 16:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.549 ± 0.441 (0.883) C:74% T:84%**	pCi/L	05/11/20 14:04	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Sample: L-LMW-4S **Lab ID: 60334356032** Collected: 04/20/20 12:43 Received: 04/22/20 02:38 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	**0.453 ± 0.584 (0.972) C:NA T:96%**	pCi/L	05/12/20 16:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.936 ± 0.498 (0.909) C:77% T:83%**	pCi/L	05/11/20 14:04	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 393308
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334356021

METHOD BLANK: 1905209 Matrix: Water
Associated Lab Samples: 60334356021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.376 (0.780) C:NA T:88%	pCi/L	05/11/20 16:24	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 394136 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: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

METHOD BLANK: 1909194 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.561 ± 0.387 (0.748) C:81% T:86%	pCi/L	05/11/20 14:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 393047
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

METHOD BLANK: 1903867 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.188 ± 0.367 (0.865) C:NA T:75%	pCi/L	04/27/20 16:34	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 393306 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: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356022, 60334356023, 60334356024, 60334356025

METHOD BLANK: 1905208 Matrix: Water
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356022, 60334356023, 60334356024, 60334356025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.735 ± 0.333 (0.533) C:82% T:96%	pCi/L	05/08/20 14:54	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 392938
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

METHOD BLANK: 1903522 Matrix: Water
Associated Lab Samples: 60334356001, 60334356002, 60334356003, 60334356004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.280 ± 0.321 (0.671) C:80% T:74%	pCi/L	04/27/20 15:58	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 393305
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356022, 60334356023, 60334356024, 60334356025

METHOD BLANK: 1905206
Matrix: Water
Associated Lab Samples: 60334356005, 60334356006, 60334356007, 60334356008, 60334356009, 60334356010, 60334356011, 60334356012, 60334356013, 60334356014, 60334356015, 60334356016, 60334356017, 60334356018, 60334356019, 60334356020, 60334356022, 60334356023, 60334356024, 60334356025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.353 (0.722) C:NA T:84%	pCi/L	05/11/20 15:25	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 393309
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334356021

METHOD BLANK: 1905210
Matrix: Water
Associated Lab Samples: 60334356021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.865 ± 0.375 (0.599) C:80% T:96%	pCi/L	05/08/20 14:56	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

QC Batch: 394135
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

METHOD BLANK: 1909193 Matrix: Water
Associated Lab Samples: 60334356026, 60334356027, 60334356028, 60334356029, 60334356030, 60334356031, 60334356032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.392 (0.815) C:NA T:93%	pCi/L	05/12/20 16:31	

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QUALIFIERS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

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.

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.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356001	L-LMW-2S	EPA 200.7	650987	EPA 200.7	651023
60334356002	L-CA-FB-1	EPA 200.7	650987	EPA 200.7	651023
60334356003	L-BMW-1S	EPA 200.7	650987	EPA 200.7	651023
60334356004	L-BMW-2S	EPA 200.7	650987	EPA 200.7	651023
60334356005	L-MW-24	EPA 200.7	650987	EPA 200.7	651023
60334356006	L-MW-33(D)	EPA 200.7	650987	EPA 200.7	651023
60334356007	L-MW-34(D)	EPA 200.7	650987	EPA 200.7	651023
60334356008	L-MW-35(D)	EPA 200.7	650987	EPA 200.7	651023
60334356009	L-S-1	EPA 200.7	650987	EPA 200.7	651023
60334356010	L-TP-1D	EPA 200.7	650987	EPA 200.7	651023
60334356011	L-TP-3M	EPA 200.7	650987	EPA 200.7	651023
60334356012	L-TP-3D	EPA 200.7	650987	EPA 200.7	651023
60334356013	L-TP-4D	EPA 200.7	650987	EPA 200.7	651023
60334356014	L-CA-DUP-1	EPA 200.7	650987	EPA 200.7	651023
60334356015	L-CA-DUP-2	EPA 200.7	650987	EPA 200.7	651023
60334356016	L-CA-DUP-3	EPA 200.7	650989	EPA 200.7	651024
60334356017	L-CA-FB-2	EPA 200.7	650989	EPA 200.7	651024
60334356018	L-CA-FB-3	EPA 200.7	650989	EPA 200.7	651024
60334356019	L-LMW-1S	EPA 200.7	650989	EPA 200.7	651024
60334356020	L-LMW-7S	EPA 200.7	650989	EPA 200.7	651024
60334356021	L-LMW-8S	EPA 200.7	650989	EPA 200.7	651024
60334356026	L-AM-1S	EPA 200.7	651904	EPA 200.7	651985
60334356027	L-AM-1D	EPA 200.7	651904	EPA 200.7	651985
60334356028	L-TP-2M	EPA 200.7	651904	EPA 200.7	651985
60334356029	L-TP-2D	EPA 200.7	651904	EPA 200.7	651985
60334356030	L-MW-26	EPA 200.7	651904	EPA 200.7	651985
60334356031	L-AMW-8	EPA 200.7	651904	EPA 200.7	651985
60334356032	L-LMW-4S	EPA 200.7	651904	EPA 200.7	651985
60334356001	L-LMW-2S	EPA 200.8	650776	EPA 200.8	650919
60334356002	L-CA-FB-1	EPA 200.8	650776	EPA 200.8	650919
60334356003	L-BMW-1S	EPA 200.8	650776	EPA 200.8	650919
60334356004	L-BMW-2S	EPA 200.8	650776	EPA 200.8	650919
60334356005	L-MW-24	EPA 200.8	650776	EPA 200.8	650919
60334356006	L-MW-33(D)	EPA 200.8	650776	EPA 200.8	650919
60334356007	L-MW-34(D)	EPA 200.8	650776	EPA 200.8	650919
60334356008	L-MW-35(D)	EPA 200.8	650776	EPA 200.8	650919
60334356009	L-S-1	EPA 200.8	650776	EPA 200.8	650919
60334356010	L-TP-1D	EPA 200.8	651208	EPA 200.8	651222
60334356011	L-TP-3M	EPA 200.8	651208	EPA 200.8	651222
60334356012	L-TP-3D	EPA 200.8	651208	EPA 200.8	651222
60334356013	L-TP-4D	EPA 200.8	651208	EPA 200.8	651222
60334356014	L-CA-DUP-1	EPA 200.8	651208	EPA 200.8	651222
60334356015	L-CA-DUP-2	EPA 200.8	651208	EPA 200.8	651222
60334356016	L-CA-DUP-3	EPA 200.8	651208	EPA 200.8	651222
60334356017	L-CA-FB-2	EPA 200.8	651208	EPA 200.8	651222
60334356018	L-CA-FB-3	EPA 200.8	651208	EPA 200.8	651222
60334356019	L-LMW-1S	EPA 200.8	651208	EPA 200.8	651222

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356020	L-LMW-7S	EPA 200.8	651208	EPA 200.8	651222
60334356021	L-LMW-8S	EPA 200.8	651208	EPA 200.8	651222
60334356026	L-AM-1S	EPA 200.8	651306	EPA 200.8	651453
60334356027	L-AM-1D	EPA 200.8	651306	EPA 200.8	651453
60334356028	L-TP-2M	EPA 200.8	651306	EPA 200.8	651453
60334356029	L-TP-2D	EPA 200.8	651306	EPA 200.8	651453
60334356030	L-MW-26	EPA 200.8	651306	EPA 200.8	651453
60334356031	L-AMW-8	EPA 200.8	651306	EPA 200.8	651453
60334356032	L-LMW-4S	EPA 200.8	651306	EPA 200.8	651453
60334356001	L-LMW-2S	EPA 7470	651527	EPA 7470	651619
60334356002	L-CA-FB-1	EPA 7470	651527	EPA 7470	651619
60334356003	L-BMW-1S	EPA 7470	651527	EPA 7470	651619
60334356004	L-BMW-2S	EPA 7470	651527	EPA 7470	651619
60334356005	L-MW-24	EPA 7470	653874	EPA 7470	653952
60334356006	L-MW-33(D)	EPA 7470	653874	EPA 7470	653952
60334356007	L-MW-34(D)	EPA 7470	653874	EPA 7470	653952
60334356008	L-MW-35(D)	EPA 7470	653874	EPA 7470	653952
60334356009	L-S-1	EPA 7470	653874	EPA 7470	653952
60334356010	L-TP-1D	EPA 7470	653875	EPA 7470	653955
60334356011	L-TP-3M	EPA 7470	653874	EPA 7470	653952
60334356012	L-TP-3D	EPA 7470	653874	EPA 7470	653952
60334356013	L-TP-4D	EPA 7470	653874	EPA 7470	653952
60334356014	L-CA-DUP-1	EPA 7470	653874	EPA 7470	653952
60334356015	L-CA-DUP-2	EPA 7470	653874	EPA 7470	653952
60334356016	L-CA-DUP-3	EPA 7470	653874	EPA 7470	653952
60334356017	L-CA-FB-2	EPA 7470	653874	EPA 7470	653952
60334356018	L-CA-FB-3	EPA 7470	653874	EPA 7470	653952
60334356019	L-LMW-1S	EPA 7470	653874	EPA 7470	653952
60334356020	L-LMW-7S	EPA 7470	653874	EPA 7470	653952
60334356021	L-LMW-8S	EPA 7470	653874	EPA 7470	653952
60334356026	L-AM-1S	EPA 7470	653874	EPA 7470	653952
60334356027	L-AM-1D	EPA 7470	653874	EPA 7470	653952
60334356028	L-TP-2M	EPA 7470	653874	EPA 7470	653952
60334356029	L-TP-2D	EPA 7470	653874	EPA 7470	653952
60334356030	L-MW-26	EPA 7470	653875	EPA 7470	653955
60334356031	L-AMW-8	EPA 7470	653875	EPA 7470	653955
60334356032	L-LMW-4S	EPA 7470	653875	EPA 7470	653955
60334356001	L-LMW-2S	EPA 903.1	393047		
60334356002	L-CA-FB-1	EPA 903.1	393047		
60334356003	L-BMW-1S	EPA 903.1	393047		
60334356004	L-BMW-2S	EPA 903.1	393047		
60334356005	L-MW-24	EPA 903.1	393305		
60334356006	L-MW-33(D)	EPA 903.1	393305		
60334356007	L-MW-34(D)	EPA 903.1	393305		
60334356008	L-MW-35(D)	EPA 903.1	393305		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356009	L-S-1	EPA 903.1	393305		
60334356010	L-TP-1D	EPA 903.1	393305		
60334356011	L-TP-3M	EPA 903.1	393305		
60334356012	L-TP-3D	EPA 903.1	393305		
60334356013	L-TP-4D	EPA 903.1	393305		
60334356014	L-CA-DUP-1	EPA 903.1	393305		
60334356015	L-CA-DUP-2	EPA 903.1	393305		
60334356016	L-CA-DUP-3	EPA 903.1	393305		
60334356017	L-CA-FB-2	EPA 903.1	393305		
60334356018	L-CA-FB-3	EPA 903.1	393305		
60334356019	L-LMW-1S	EPA 903.1	393305		
60334356020	L-LMW-7S	EPA 903.1	393305		
60334356021	L-LMW-8S	EPA 903.1	393308		
60334356022	L-MW-34(D)-MS-1	EPA 903.1	393305		
60334356023	L-MW-34(D)-MSD-1	EPA 903.1	393305		
60334356024	L-TP-1D-MS-1	EPA 903.1	393305		
60334356025	L-TP-1D-MSD-1	EPA 903.1	393305		
60334356026	L-AM-1S	EPA 903.1	394135		
60334356027	L-AM-1D	EPA 903.1	394135		
60334356028	L-TP-2M	EPA 903.1	394135		
60334356029	L-TP-2D	EPA 903.1	394135		
60334356030	L-MW-26	EPA 903.1	394135		
60334356031	L-AMW-8	EPA 903.1	394135		
60334356032	L-LMW-4S	EPA 903.1	394135		
60334356001	L-LMW-2S	EPA 904.0	392938		
60334356002	L-CA-FB-1	EPA 904.0	392938		
60334356003	L-BMW-1S	EPA 904.0	392938		
60334356004	L-BMW-2S	EPA 904.0	392938		
60334356005	L-MW-24	EPA 904.0	393306		
60334356006	L-MW-33(D)	EPA 904.0	393306		
60334356007	L-MW-34(D)	EPA 904.0	393306		
60334356008	L-MW-35(D)	EPA 904.0	393306		
60334356009	L-S-1	EPA 904.0	393306		
60334356010	L-TP-1D	EPA 904.0	393306		
60334356011	L-TP-3M	EPA 904.0	393306		
60334356012	L-TP-3D	EPA 904.0	393306		
60334356013	L-TP-4D	EPA 904.0	393306		
60334356014	L-CA-DUP-1	EPA 904.0	393306		
60334356015	L-CA-DUP-2	EPA 904.0	393306		
60334356016	L-CA-DUP-3	EPA 904.0	393306		
60334356017	L-CA-FB-2	EPA 904.0	393306		
60334356018	L-CA-FB-3	EPA 904.0	393306		
60334356019	L-LMW-1S	EPA 904.0	393306		
60334356020	L-LMW-7S	EPA 904.0	393306		
60334356021	L-LMW-8S	EPA 904.0	393309		

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Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356022	L-MW-34(D)-MS-1	EPA 904.0	393306		
60334356023	L-MW-34(D)-MSD-1	EPA 904.0	393306		
60334356024	L-TP-1D-MS-1	EPA 904.0	393306		
60334356025	L-TP-1D-MSD-1	EPA 904.0	393306		
60334356026	L-AM-1S	EPA 904.0	394136		
60334356027	L-AM-1D	EPA 904.0	394136		
60334356028	L-TP-2M	EPA 904.0	394136		
60334356029	L-TP-2D	EPA 904.0	394136		
60334356030	L-MW-26	EPA 904.0	394136		
60334356031	L-AMW-8	EPA 904.0	394136		
60334356032	L-LMW-4S	EPA 904.0	394136		
60334356001	L-LMW-2S	SM 2320B	650869		
60334356002	L-CA-FB-1	SM 2320B	650869		
60334356003	L-BMW-1S	SM 2320B	650869		
60334356004	L-BMW-2S	SM 2320B	650660		
60334356005	L-MW-24	SM 2320B	650869		
60334356006	L-MW-33(D)	SM 2320B	650869		
60334356007	L-MW-34(D)	SM 2320B	650869		
60334356008	L-MW-35(D)	SM 2320B	651047		
60334356009	L-S-1	SM 2320B	651047		
60334356010	L-TP-1D	SM 2320B	651047		
60334356011	L-TP-3M	SM 2320B	651047		
60334356012	L-TP-3D	SM 2320B	651047		
60334356013	L-TP-4D	SM 2320B	651047		
60334356014	L-CA-DUP-1	SM 2320B	651047		
60334356015	L-CA-DUP-2	SM 2320B	651047		
60334356016	L-CA-DUP-3	SM 2320B	651047		
60334356017	L-CA-FB-2	SM 2320B	651047		
60334356018	L-CA-FB-3	SM 2320B	651047		
60334356019	L-LMW-1S	SM 2320B	651355		
60334356020	L-LMW-7S	SM 2320B	651355		
60334356021	L-LMW-8S	SM 2320B	651355		
60334356026	L-AM-1S	SM 2320B	651437		
60334356027	L-AM-1D	SM 2320B	651437		
60334356028	L-TP-2M	SM 2320B	651437		
60334356029	L-TP-2D	SM 2320B	651437		
60334356030	L-MW-26	SM 2320B	651576		
60334356031	L-AMW-8	SM 2320B	651437		
60334356032	L-LMW-4S	SM 2320B	651437		
60334356001	L-LMW-2S	SM 2540C	650056		
60334356002	L-CA-FB-1	SM 2540C	650056		
60334356003	L-BMW-1S	SM 2540C	650056		
60334356004	L-BMW-2S	SM 2540C	650056		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356005	L-MW-24	SM 2540C	650571		
60334356006	L-MW-33(D)	SM 2540C	650571		
60334356007	L-MW-34(D)	SM 2540C	650571		
60334356008	L-MW-35(D)	SM 2540C	650571		
60334356009	L-S-1	SM 2540C	650571		
60334356010	L-TP-1D	SM 2540C	650571		
60334356011	L-TP-3M	SM 2540C	650571		
60334356012	L-TP-3D	SM 2540C	650571		
60334356013	L-TP-4D	SM 2540C	650571		
60334356014	L-CA-DUP-1	SM 2540C	650571		
60334356015	L-CA-DUP-2	SM 2540C	650571		
60334356016	L-CA-DUP-3	SM 2540C	650571		
60334356017	L-CA-FB-2	SM 2540C	650571		
60334356018	L-CA-FB-3	SM 2540C	650572		
60334356019	L-LMW-1S	SM 2540C	650572		
60334356020	L-LMW-7S	SM 2540C	650572		
60334356021	L-LMW-8S	SM 2540C	650572		
60334356026	L-AM-1S	SM 2540C	651085		
60334356027	L-AM-1D	SM 2540C	651085		
60334356028	L-TP-2M	SM 2540C	651085		
60334356029	L-TP-2D	SM 2540C	651085		
60334356030	L-MW-26	SM 2540C	651301		
60334356031	L-AMW-8	SM 2540C	651085		
60334356032	L-LMW-4S	SM 2540C	651085		
60334356001	L-LMW-2S	SM 3500-Fe B#4	651492		
60334356002	L-CA-FB-1	SM 3500-Fe B#4	651492		
60334356003	L-BMW-1S	SM 3500-Fe B#4	651492		
60334356004	L-BMW-2S	SM 3500-Fe B#4	651492		
60334356005	L-MW-24	SM 3500-Fe B#4	652021		
60334356006	L-MW-33(D)	SM 3500-Fe B#4	652021		
60334356007	L-MW-34(D)	SM 3500-Fe B#4	652021		
60334356008	L-MW-35(D)	SM 3500-Fe B#4	652021		
60334356009	L-S-1	SM 3500-Fe B#4	652021		
60334356010	L-TP-1D	SM 3500-Fe B#4	654094		
60334356011	L-TP-3M	SM 3500-Fe B#4	654094		
60334356012	L-TP-3D	SM 3500-Fe B#4	654094		
60334356013	L-TP-4D	SM 3500-Fe B#4	654094		
60334356014	L-CA-DUP-1	SM 3500-Fe B#4	654094		
60334356015	L-CA-DUP-2	SM 3500-Fe B#4	654094		
60334356016	L-CA-DUP-3	SM 3500-Fe B#4	654094		
60334356017	L-CA-FB-2	SM 3500-Fe B#4	654094		
60334356018	L-CA-FB-3	SM 3500-Fe B#4	654094		
60334356019	L-LMW-1S	SM 3500-Fe B#4	654094		
60334356020	L-LMW-7S	SM 3500-Fe B#4	654094		
60334356021	L-LMW-8S	SM 3500-Fe B#4	654094		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356026	**L-AM-1S**	SM 3500-Fe B#4	654094		
60334356027	**L-AM-1D**	SM 3500-Fe B#4	654094		
60334356028	**L-TP-2M**	SM 3500-Fe B#4	654094		
60334356029	**L-TP-2D**	SM 3500-Fe B#4	654094		
60334356030	**L-MW-26**	SM 3500-Fe B#4	654094		
60334356031	**L-AMW-8**	SM 3500-Fe B#4	654094		
60334356032	**L-LMW-4S**	SM 3500-Fe B#4	654094		
60334356001	**L-LMW-2S**	SM 3500-Fe B#4	649344		
60334356002	**L-CA-FB-1**	SM 3500-Fe B#4	649344		
60334356003	**L-BMW-1S**	SM 3500-Fe B#4	649344		
60334356004	**L-BMW-2S**	SM 3500-Fe B#4	649344		
60334356005	**L-MW-24**	SM 3500-Fe B#4	650161		
60334356006	**L-MW-33(D)**	SM 3500-Fe B#4	650161		
60334356007	**L-MW-34(D)**	SM 3500-Fe B#4	650161		
60334356008	**L-MW-35(D)**	SM 3500-Fe B#4	650161		
60334356009	**L-S-1**	SM 3500-Fe B#4	650161		
60334356010	**L-TP-1D**	SM 3500-Fe B#4	650161		
60334356011	**L-TP-3M**	SM 3500-Fe B#4	650161		
60334356012	**L-TP-3D**	SM 3500-Fe B#4	650161		
60334356013	**L-TP-4D**	SM 3500-Fe B#4	650161		
60334356014	**L-CA-DUP-1**	SM 3500-Fe B#4	650161		
60334356015	**L-CA-DUP-2**	SM 3500-Fe B#4	650161		
60334356016	**L-CA-DUP-3**	SM 3500-Fe B#4	650161		
60334356017	**L-CA-FB-2**	SM 3500-Fe B#4	650161		
60334356018	**L-CA-FB-3**	SM 3500-Fe B#4	650161		
60334356019	**L-LMW-1S**	SM 3500-Fe B#4	650161		
60334356020	**L-LMW-7S**	SM 3500-Fe B#4	650163		
60334356021	**L-LMW-8S**	SM 3500-Fe B#4	650161		
60334356026	**L-AM-1S**	SM 3500-Fe B#4	650770		
60334356027	**L-AM-1D**	SM 3500-Fe B#4	650770		
60334356028	**L-TP-2M**	SM 3500-Fe B#4	650770		
60334356029	**L-TP-2D**	SM 3500-Fe B#4	650770		
60334356030	**L-MW-26**	SM 3500-Fe B#4	650770		
60334356031	**L-AMW-8**	SM 3500-Fe B#4	650770		
60334356032	**L-LMW-4S**	SM 3500-Fe B#4	650770		
60334356001	**L-LMW-2S**	SM 4500-S-2 D	650266		
60334356002	**L-CA-FB-1**	SM 4500-S-2 D	650266		
60334356003	**L-BMW-1S**	SM 4500-S-2 D	650266		
60334356004	**L-BMW-2S**	SM 4500-S-2 D	650266		
60334356005	**L-MW-24**	SM 4500-S-2 D	650266		
60334356006	**L-MW-33(D)**	SM 4500-S-2 D	650266		
60334356007	**L-MW-34(D)**	SM 4500-S-2 D	650643		
60334356008	**L-MW-35(D)**	SM 4500-S-2 D	650643		
60334356009	**L-S-1**	SM 4500-S-2 D	650643		
60334356010	**L-TP-1D**	SM 4500-S-2 D	650643		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356011	**L-TP-3M**	SM 4500-S-2 D	650643		
60334356012	**L-TP-3D**	SM 4500-S-2 D	650643		
60334356013	**L-TP-4D**	SM 4500-S-2 D	650643		
60334356014	**L-CA-DUP-1**	SM 4500-S-2 D	650643		
60334356015	**L-CA-DUP-2**	SM 4500-S-2 D	650643		
60334356016	**L-CA-DUP-3**	SM 4500-S-2 D	650643		
60334356017	**L-CA-FB-2**	SM 4500-S-2 D	650643		
60334356018	**L-CA-FB-3**	SM 4500-S-2 D	650643		
60334356019	**L-LMW-1S**	SM 4500-S-2 D	650771		
60334356020	**L-LMW-7S**	SM 4500-S-2 D	650771		
60334356021	**L-LMW-8S**	SM 4500-S-2 D	650771		
60334356026	**L-AM-1S**	SM 4500-S-2 D	651165		
60334356027	**L-AM-1D**	SM 4500-S-2 D	651165		
60334356028	**L-TP-2M**	SM 4500-S-2 D	651165		
60334356029	**L-TP-2D**	SM 4500-S-2 D	651165		
60334356030	**L-MW-26**	SM 4500-S-2 D	651165		
60334356031	**L-AMW-8**	SM 4500-S-2 D	651165		
60334356032	**L-LMW-4S**	SM 4500-S-2 D	651165		
60334356001	**L-LMW-2S**	EPA 300.0	650170		
60334356002	**L-CA-FB-1**	EPA 300.0	650170		
60334356003	**L-BMW-1S**	EPA 300.0	650170		
60334356004	**L-BMW-2S**	EPA 300.0	650170		
60334356005	**L-MW-24**	EPA 300.0	651207		
60334356006	**L-MW-33(D)**	EPA 300.0	651213		
60334356007	**L-MW-34(D)**	EPA 300.0	651213		
60334356008	**L-MW-35(D)**	EPA 300.0	651213		
60334356009	**L-S-1**	EPA 300.0	651213		
60334356010	**L-TP-1D**	EPA 300.0	651213		
60334356011	**L-TP-3M**	EPA 300.0	651213		
60334356012	**L-TP-3D**	EPA 300.0	651213		
60334356013	**L-TP-4D**	EPA 300.0	651213		
60334356014	**L-CA-DUP-1**	EPA 300.0	651213		
60334356015	**L-CA-DUP-2**	EPA 300.0	651213		
60334356016	**L-CA-DUP-3**	EPA 300.0	651213		
60334356017	**L-CA-FB-2**	EPA 300.0	651213		
60334356018	**L-CA-FB-3**	EPA 300.0	651213		
60334356019	**L-LMW-1S**	EPA 300.0	651213		
60334356020	**L-LMW-7S**	EPA 300.0	651213		
60334356021	**L-LMW-8S**	EPA 300.0	651213		
60334356026	**L-AM-1S**	EPA 300.0	653452		
60334356027	**L-AM-1D**	EPA 300.0	653452		
60334356028	**L-TP-2M**	EPA 300.0	653452		
60334356029	**L-TP-2D**	EPA 300.0	653452		
60334356030	**L-MW-26**	EPA 300.0	653452		
60334356031	**L-AMW-8**	EPA 300.0	653569		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60334356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60334356032	**L-LMW-4S**	EPA 300.0	653569		

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Sample Condition Upon Receipt

WO# : 60334356

60334356

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 ☒ cyl

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

Cooler Temperature (°C): **As-read** 0.5 **Corr. Factor** +0.1 **Corrected** 0.6

Date and initials of person examining contents: 4-15-2020 JK

Temperature should be above freezing to 6°C 16.1 16.2

Chain of Custody present:	☒Yes ☐No ☐N/A	cooler with 16.2 temp
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	Rad only Radium
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	Fe +2
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) Lot #603173, 607222	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Jami Church 4/15/20

Project Manager Review: _____ Date

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N	N	N	N	N	N	N	N				60174356
1	L-MW-26	WT	G																												
2	L-LMW-1S	WT	G																												
3	L-LMW-2S	WT	G			4/14/20	1125		6	2	3						1		X	X	X	X	X	X	X	X	X	X				
4	~~L-LMW-4S~~ L-GA-FB-1	WT	G			↓	1130		↓	↓	↓						↓		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
5	L-LMW-7S	WT	G																												
6	L-LMW-8S	WT	G																												
7	L-BMW-1S	WT	G			4/14/20	1124		6	2	3						1		X	X	X	X	X	X	X	X	X	X				
8	L-BMW-2S	WT	G			↓	1239		↓	↓	↓						↓		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓				
9		WT	G																												
10		WT	G																												
11		WT	G																												
12		WT	G																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[signature] / Golder	4/14/20	1700	Kept / Pas	4-15-20	0225	0.6	Y	Y	Y
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl							16.2	N	J	J

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 04/14/20

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

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

Pace Analytical

Sample Condition Upon Receipt

WO# : 60334356

60334356

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 ☒ Ziplc

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

Cooler Temperature (°C): As-read 0.3 Corr. Factor +0.1 Corrected 0.4

Date and initials of person examining contents: 4-17-2020 MK

Temperature should be above freezing to 6°C 16.3, 0.1, 1.5, 12.2 16.4, 0.2, 1.6, 17.3

Chain of Custody present:	☒Yes ☐No ☐N/A	all coolers out of temp had
Chain of Custody relinquished	☒Yes ☐No ☐N/A	only Radium
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	Fe+2
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) Lot #603173, 603222	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Jami Church 4/17/20 Date

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

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
- [x] GROUND WATER
- [ ] DRINKING WATER
- [ ] UST
- [ ] RCRA
- [ ] OTHER

Site Location STATE: MO

Section D
Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Chloride/Fluoride/Sulfate (N)	App III and Cat/An Metals* (N)	Alkalinity (N)	TDS (N)	Appendix IV Metals ** (N)	Mercury (N)	Radium 226 (N)	Radium 226 (N)	Ferrous/Ferric Iron (N)	SM4500-S2D Sulfide (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60334356
1	L-AM-1S	WT	G																											
2	L-AM-1D	WT	G																											
3	~~L-CA-DUP-1~~ L-CA-DUP-1	WT	G			4/15/20	—		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
4	L-CA-DUP-2	WT	G			⊥	—		⊥	⊥		⊥					⊥		⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥		
5	L-CA-DUP-3	WT	G			4/15/20	—		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
6	~~L-CA-FB-1~~	WT	G																											
7	L-CA-FB-2	WT	G			4/15/20	1315		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
8	L-CA-FB-3	WT	G			4/15/20	1600		⊥	⊥		⊥					⊥		⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥		
9	L-CA-MS-1 – MW-34(D)	WT	G			4/15/20	1258		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
10	L-CA-MSD-1 – MW-34(D)	WT	G			4/15/20	1258		⊥	⊥		⊥					⊥		⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥		
11	L-CA-MS-2 – TP-1D	WT	G			4/15/20	1440		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
12	L-CA-MSD-2 – TP-1D	WT	G			4/15/20	1440		⊥	⊥		⊥					⊥		⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥	⊥		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert	4-16-20	1650	Angela McMahan	4/16/20	1655				
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Angela McMahan	4-16-20	1655	[illegible] / Pace	4-17-20	0225	6.4 / 16.4	Y / N	N	Y
							0.2	Y	⊥	⊥
							17.2 / 17.2	N / ⊥		

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 4-16-2020

F-ALL-Q-020rev 08, 12-Oct-2007

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WP; AR; OT; TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	N	N	N	N	N		
1	L-AMW-8	WT	G																											60334356
2	L-MW-24	WT	G			4/15/20	1052		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
3	L-MW-33(D)	WT	G			"	1400		"	"		"					"		"	"	"	"	"	"	"	"	"	"		
4	L-MW-34(D)	WT	G			"	1258		"	"		"					"		"	"	"	"	"	"	"	"	"	"		
5	L-MW-35(D)	WT	G			4/15/20	0956		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
6	L-S-1	WT	G			"	1530		"	"		"					"		"	"	"	"	"	"	"	"	"	"		
7	L-TP-1D	WT	G			4/15/20	1440		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
8	L-TP-2M	WT	G																											
9	L-TP-2D	WT	G																											
10	L-TP-3M	WT	G			4/15/20	1155		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
11	L-TP-3D	WT	G			"	1250		"	"		"					"		"	"	"	"	"	"	"	"	"	"		
12	L-TP-4D	WT	G			"	1125		"	"		"					"		"	"	"	"	"	"	"	"	"	"		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert	4-16-2020	1650	Angela McManus	4-16-20	1655				
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo; 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Angela McManus	4-16-20	1655	UPS Next Day	4-17-20	0225	0.4 16.4 0.2 17.3 17.3	Y N N Y N N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert

DATE Signed (MM/DD/YY): 4-16-2020

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

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C
Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D
Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N	N	N	N	N	N	N	N		60334356
1	L-MW-26	WT	G																											
2	L-LMW-1S	WT	G			4/16/20	1040		6	2		3					1		x	x	x	x	x	x	x	x	x	x		
3	~~L-LMW-2S~~	WT	G																											
4	L-LMW-4S	WT	G																											
5	L-LMW-7S	WT	G			4/16/20	1325		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
6	L-LMW-8S	WT	G			↓	1205		6	2		3					1		X	X	X	X	X	X	X	X	X	X		
7	L-BMW-1S	WT	G																											
8	L-BMW-2S	WT	G																											
9		WT	G																											
10		WT	G																											
11		WT	G																											
12		WT	G																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert	4-16-20	1650	Angela McManus	4-16-20	1655				
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	Angela McManus	4-16-20	1655	Wzjot / Pas.	4.17.20	0205		Y/N	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 4-16-2020

*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

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical

Sample Condition Upon Receipt

WO# : 60334356

60334356

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 ☒ Zip (

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

Cooler Temperature (°C): As-read 1.4 Corr. Factor +0.1 Corrected 1.5

Date and initials of person examining contents: 4.22.20 AK

Temperature should be above freezing to 6°C 0.4, 0.1, 19.3 0.5, 0.2, 19.4

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	Fe+2
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added. Lot #603173, 603222
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution _____

Jami Church 4/23/20

Project Manager Review: _____ Date

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 226	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N	N	N	N		
1	L-AM-1S	WT	G			4/20/20	1005		6	2		3					1		X	X	X	X	X	X	X	X	X	X		60J34356
2	L-AM-1D	WT	G			"	1110		1	1		1					1		1	1	1	1	1	1	1	1	1	1		
3	~~L-CA-DUP-1~~ L-TP-2M	WT	G			"	1220		1	1		1					1		1	1	1	1	1	1	1	1	1	1		
4	~~L-CA-DUP-2~~ L-TP-2D	WT	G			"	1300		1	1		1					1		1	1	1	1	1	1	1	1	1	1		
5	~~L-CA-DUP-3~~ L-MW-26	WT	G			4/20/20	1405		1	1		1					1		1	1	1	1	1	1	1	1	1	1		
6	~~L-CA-FB-1~~ L-AMW-8	WT	G			4/20/20	1407		6	2		3					1		X	X	X	X	X	X	X	X	X	F		
7	~~L-CA-FB-2~~ L-LMW-45	WT	G			"	1243		1	1		1					1		1	1	1	1	1	1	1	1	1	1		
8	L-CA-FB-3	WT	G																											
9	L-CA-MS-1	WT	G																											
10	L-CA-MSD-1	WT	G																											
11	L- CA-MS-2	WT	G																											
12	L- CA-MSD-2	WT	G																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
App III and Cat/An Metals - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[illegible] Golder	4/21/20	1234	[illegible] PACE	4/21/20	1234				
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl	[illegible] PACE	4/21/20	1700	[illegible]	4-22-20	0238	1.5	Y	Y	Y
							0.5			
							19.4	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 04/21/20

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

MEMORANDUM

DATE May 19, 2020 **Project No.** 153140602

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 – CORRECTIVE ACTION SAMPLING APRIL 2020 - DATA PACKAGE 60334356, REV-1

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

- When a compound was analyzed outside of hold time, 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 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).

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA-CA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 05/19/2020

Laboratory: Pace Analytical
SDG #: 60334356, REV-1
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); EPA 7470 (Mercury); SM2320B (Alkalinity); SM2540C (TDS); SM3500-Fe B#4 (Ferric, Ferrous Iron); SM4500-S-2 D (Total Sulfide); EPA 300.0 (Anions); EPA 903.1/904.0 (Radium 226/228)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names L-LMW-2S, L-CA-FB-1, L-BMW-1S, L-BMW-2S, L-MW-24, L-MW-33(D), L-MW-34(D), L-MW-35(D), L-S-1, L-TP-1D, L-TP-3M, L-TP-3D, L-TP-4D, L-CA-DUP-1, L-CA-DUP-2, L-CA-DUP-3, L-CA-FB-2, L-CA-FB-3, L-LMW-1S, L-LMW-7S, L-LMW-8S, L-MW-34(D)-MS-1, L-MW-34(D)-MSD-1, L-TP-1D-MS-1, L-TP-1D-MSD-1, L-AM-1S, L-AM-1D, L-TP-2M, L-TP-2D, L-MW-26, L-AMW-8, L-LMW-4S

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			04/14 - 04/21/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-CA-DUP-1 @ L-MW-24
	x			L-CA-DUP-2 @ L-TP-3M
b) Were field dup. precision criteria met (note RPD)?		x		L-CA-DUP-3 @ L-MW-33(D)
c) Were lab duplicates analyzed (note original and duplicate samples)?				See Notes
	x			
d) Were lab dup. precision criteria met (note RPD)?		x		

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

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

Comments/Notes:

Ferrous Iron analyzed outside of hold time in all samples.

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

MB: 2644803: Boron (12.8 J), associated samples -56026 through -56032

2638926: Chloride (0.44 J), associated samples -56001 through -56004, detections in samples > RL or no detect (-56002), no qualification necessary

2644089: Chloride (0.46 J) and Sulfate (0.33 J), associated sample -56005, detections in sample > RL, no qualification necessary

2644615: Chloride (0.46 J), associated sample -56005, detection in samples > RL, no qualification necessary

2642478: Chloride (0.51 J), associated samples -56006 through -56021

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

MB Continued: 2653008: Chloride (0.44 J), associated samples -560026 through -56030, detections in samples > RL, no qualification necessary

1905208: Radium-228 (0.735±0.333), associated samples -56005 through -56020, -56022 through -56025

1905210 Radium-228 (0.865±0.375), associated sample -56021

FB: L-CA-FB-1 @ L-LMW-2S: TDS (8.5), Ferric Iron (0.0046 J)

L-CA-FB-2 @ L-TP-3D: Boron (21.0 J), TDS (14.0), Ferric Iron (0.0029 J), no qualification necessary because sample result > 10x blank result

L-CA-FB-3 @ L-S-1: Ferric Iron (0.011 J)

Lab Duplicates: SAMPLE DUPLICATE 2638191: RPD exceeds limit (10%) for TDS, associated sample 60334355006 (unrelated sample)

DUP: L-CA-DUP-1: Sulfate, Radium-226 detected in sample, non-detect in DUP, RPD exceeds limit (20%) for Chloride and Fluoride

L-CA-DUP-2: RPD exceeds limit (20%) for Ferrous Iron, Radium-226, and Radium-228

L-CA-DUP-3: Ferrous Iron and Fluoride non-detect in sample, detected in DUP, RPD exceeds limit (20%) for Chloride, Sulfate, Radium-226, and Radium-228

MS/MSD: 2652900, 2652901: MS/MSD % Rec low for Mercury, associated with sample 60334356010

2641579, 2641580: MS/MSD % Rec low for Boron, associated with sample 60334356007

2644805, 2644806: MS/MSD % Rec low for Boron, Calcium, and Sodium, associated with sample 60334356027

2638398, 2638399: MS/MSD % Recovery low for Chloride (for unrelated sample)

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-LMW-2S	Ferrous Iron	0.035	UJ	Analyzed outside of hold time and analyte not detected
L-CA-FB-1	"	0.035	UJ	"
L-BMW-1S	"	8.1	J	Analyzed outside of hold time
L-BMW-2S	"	0.035	UJ	Analyzed outside of hold time and analyte not detected
L-MW-24	"	0.035	UJ	"
L-MW-34(D)	"	0.052	J	Analyzed outside of hold time
L-MW-35(D)	"	1.7	J	"
L-S-1	"	0.035	UJ	Analyzed outside of hold time and analyte not detected
L-TP-1D	"	0.068	J	Analyzed outside of hold time
L-TP-3D	"	0.086	J	"
L-TP-4D	"	0.035	UJ	Analyzed outside of hold time and analyte not detected
L-CA-DUP-1	"	0.035	UJ	"
L-CA-FB-2	"	0.035	UJ	"
L-CA-FB-3	"	0.035	UJ	"
L-LMW-1S	"	4.5	J	Analyzed outside of hold time
L-LMW-7S	"	0.13	J	"
L-LMW-8S	"	0.66	J	"
L-AM-1S	"	1.2	J	"
L-AM-1D	"	0.16	J	"
L-TP-2M	"	0.035	UJ	Analyzed outside of hold time and analyte not detected
L-TP-2D	"	0.076	J	Analyzed outside of hold time
L-MW-26	"	0.035	UJ	Analyzed outside of hold time and analyte not detected
L-AMW-8	"	0.054	J	Analyzed outside of hold time
L-LMW-4S	"	0.69	J	"
L-CA-DUP-2	"	0.24	J	Analyzed outside of hold time; DUP RPD exceeds limit
L-TP-3M	"	0.084	J	"
L-CA-DUP-3	"	0.16	J	Analyzed outside of hold time; non-detect in sample, detect in DUP
L-MW-33(D)	"	0.035	UJ	"
L-MW-26	Boron	100	U	Detected in MB, RL>Result>MDL
L-CA-FB-2	Chloride	1.0	U	"
L-MW-33(D)	"	1.0	U	Detected in MB, RL>Result>MDL; Dup RPD exceeds limit
L-MW-34(D)	Radium-228	0.632±0.392	UJ	Detected in MB
L-MW-24	"	1.06 ± 0.480	J	"
L-MW-33(D)	"	1.14 ± 0.45	J	"

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-MW-35(D)	Radium-228	0.580 ± 0.389	UJ	Detected in MB
L-S-1	"	0.938 ± 0.453	J	"
L-TP-1D	"	2.57 ± 0.644	J	"
L-TP-3M	"	0.997 ± 0.447	J	"
L-TP-3D	"	0.531 ± 0.406	UJ	"
L-TP-4D	"	1.60 ± 0.570	J	"
L-CA-DUP-1	"	1.18 ± 0.469	J	"
L-CA-DUP-2	"	2.37 ± 0.660	J	"
L-CA-DUP-3	"	0.849 ± 0.459	J	"
L-CA-FB-2	"	0.410 ± 0.398	UJ	"
L-CA-FB-3	"	0.425 ± 0.334	UJ	"
L-LMW-1S	"	0.680 ± 0.350	J	"
L-LMW-7S	"	0.478 ± 0.330	UJ	"
L-LMW-8S	"	0.288 ± 0.422	UJ	"
L-MW-2S	Ferric Iron	0.050	UJ	Detected in FB, RL>Result
L-S-1	"	0.050	UJ	"
L-MW-24	Sulfate	20.9	J	Detected in sample, non-detect in DUP
"	Radium-226	0.185 ± 0.282	J	"
"	Chloride	6.6	J	Dup RPD exceeds limit
"	Fluoride	0.15	J	"
L-CA-DUP-1	Sulfate	0.28	UJ	Detected in sample, non-detect in DUP
"	Radium-226	0.000 ± 0.279	UJ	"
"	Chloride	4.9	J	Dup RPD exceeds limit
"	Fluoride	0.19	J	"
L-MW-33(D)	Fluoride	0.075	UJ	Non-detect in sample, detected in DUP
"	Sulfate	0.45	J	Dup RPD exceeds limit
"	Radium-226	0.594 ± 0.374	J	"
"	Radium-228	1.14 ± 0.450	J	"
L-CA-DUP-3	Fluoride	0.37	J	Non-detect in sample, detected in DUP
"	Chloride	21.8	J	Dup RPD exceeds limit
"	Sulfate	259	J	"
"	Radium-226	0.387 ± 0.313	J	"
"	Radium-228	0.849 ± 0.459	J	"
L-TP-3M	Radium-226	0.949 ± 0.558	J	"

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-TP-3M	Radium-228	0.997 ± 0.447	J	Dup RPD exceeds limit
L-CA-DUP-2	Radium-226	0.482 ± 0.339	J	"
"	Radium-228	2.37 ± 0.660	J	"
L-TP-1D	Mercury	0.058	UJ	MS/MSD % Rec low
L-MW-34(D)	Boron	11000	J	"
L-AM-1D	"	7780	J	"
"	Calcium	95600	J	"
"	Sodium	117000	J	"

Signature: _____ Ann Muehlfarth _____ Date: 05/19/2020

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

June 11, 2020

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

RE: Project: AMEREN LCPA
Pace Project No.: 60338348

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between May 28, 2020 and May 29, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN LCPA
Pace Project No.: 60338348

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

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SAMPLE SUMMARY

Project: AMEREN LCPA
Pace Project No.: 60338348

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60338348001	**L-UMW-4D**	Water	05/27/20 09:35	05/28/20 03:05
60338348002	**L-UMW-7D**	Water	05/27/20 12:10	05/28/20 03:05
60338348003	**L-UMW-DUP-1**	Water	05/27/20 08:00	05/28/20 03:05
60338562001	**L-UMW-8D**	Water	05/29/20 13:35	05/29/20 18:20
60338562002	**L-UMW-FB-1**	Water	05/29/20 14:15	05/29/20 18:20

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60338348

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60338348001	**L-UMW-4D**	EPA 200.7	HKC	1	PASI-K
		EPA 300.0	JWR	1	PASI-K
60338348002	**L-UMW-7D**	EPA 300.0	JWR	1	PASI-K
60338348003	**L-UMW-DUP-1**	EPA 300.0	JWR	1	PASI-K
60338562001	**L-UMW-8D**	EPA 200.7	HKC	1	PASI-K
60338562002	**L-UMW-FB-1**	EPA 200.7	HKC	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60338348

Sample: L-UMW-4D **Lab ID: 60338348001** Collected: 05/27/20 09:35 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**71900**	ug/L	200	32.4	1	05/29/20 11:30	06/01/20 12:11	7440-70-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**0.45**	mg/L	0.20	0.075	1		05/29/20 17:31	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60338348

Sample: L-UMW-7D **Lab ID: 60338348002** Collected: 05/27/20 12:10 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**0.35**	mg/L	0.20	0.075	1		05/29/20 18:21	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60338348

Sample: L-UMW-DUP-1 **Lab ID: 60338348003** Collected: 05/27/20 08:00 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**0.34**	mg/L	0.20	0.075	1		05/29/20 18:37	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60338348

Sample: L-UMW-8D **Lab ID: 60338562001** Collected: 05/29/20 13:35 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**153000**	ug/L	200	32.4	1	06/08/20 14:05	06/09/20 15:08	7440-70-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60338348

Sample: L-UMW-FB-1 **Lab ID: 60338562002** Collected: 05/29/20 14:15 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**32.5J**	ug/L	200	32.4	1	06/08/20 14:05	06/09/20 15:10	7440-70-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60338348

QC Batch: 657374
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338348001

METHOD BLANK: 2665880 Matrix: Water
Associated Lab Samples: 60338348001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<32.4	200	32.4	06/01/20 11:56	

LABORATORY CONTROL SAMPLE: 2665881

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	9790	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2665882 2665883

Parameter	Units	60338348001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	71900	10000	10000	81200	81900	93	100	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2665884 2665885

Parameter	Units	60338349001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	75600	10000	10000	83400	86100	78	105	70-130	3	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60338348

QC Batch: 658943
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338562001, 60338562002

METHOD BLANK: 2672263 Matrix: Water
Associated Lab Samples: 60338562001, 60338562002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<32.4	200	32.4	06/09/20 15:03	

LABORATORY CONTROL SAMPLE: 2672264

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2672265 2672266

Parameter	Units	60339192001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	80200	10000	10000	90100	89100	99	90	70-130	1	20	

MATRIX SPIKE SAMPLE: 2672267

Parameter	Units	60338826001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	11400	20000	30600	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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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60338348

QC Batch: 657410
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338348001, 60338348002, 60338348003

METHOD BLANK: 2666088 Matrix: Water
Associated Lab Samples: 60338348001, 60338348002, 60338348003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	05/29/20 08:05	

METHOD BLANK: 2667783 Matrix: Water
Associated Lab Samples: 60338348001, 60338348002, 60338348003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	06/01/20 09:31	

METHOD BLANK: 2668608 Matrix: Water
Associated Lab Samples: 60338348001, 60338348002, 60338348003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.075	0.20	0.075	06/02/20 09:28	

LABORATORY CONTROL SAMPLE: 2666089

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

LABORATORY CONTROL SAMPLE: 2667784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	106	90-110	

LABORATORY CONTROL SAMPLE: 2668609

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

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60338348

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2666090 2666091

Parameter	Units	60338348001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.45	2.5	2.5	3.1	3.1	105	107	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2666092 2666093

Parameter	Units	60338349001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.47	2.5	2.5	3.1	3.2	106	108	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2666094 2666095

Parameter	Units	60338352001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.16J	2.5	2.5	2.7	2.7	101	101	80-120	0	15	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN LCPA
Pace Project No.: 60338348

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60338348

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60338348001	**L-UMW-4D**	EPA 200.7	657374	EPA 200.7	657433
60338562001	**L-UMW-8D**	EPA 200.7	658943	EPA 200.7	658990
60338562002	**L-UMW-FB-1**	EPA 200.7	658943	EPA 200.7	658990
60338348001	**L-UMW-4D**	EPA 300.0	657410		
60338348002	**L-UMW-7D**	EPA 300.0	657410		
60338348003	**L-UMW-DUP-1**	EPA 300.0	657410		

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Sample Condition Upon Receipt

WO# : 60338348

60338348

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 ☒ Zip C

Thermometer Used: T259 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 0.1 Corr. Factor +0.1 Corrected 0.2

Temperature should be above freezing to 6°C 1.8 1.9

Date and initials of person examining contents: 5-28-2020 MM

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO₃, H₂SO₄, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) Lot # 60173	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jami Church 5/29/20 Date

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Golder Associates
Address:	13515 Barrett Parkway 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
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

NPDES / GROUND WATER DRINKING WATER
UST RCRA OTHER _____

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Calcium	Fluoride	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N		
1	L-UMW-4D	WT	G			5/27/20	0935		1	1									X				
2	L-UMW-7D	WT	G			"	1210		1	1									/				
3	L-UMW-DUP-1	WT	G			"	—		1	1									/				
4	L-UMW-MS-1	WT	G			"	0935		2	1		1							/	/			
5	L-UMW-MSD-1	WT	G			"	0935		2	1		1							/	/			
6		WT	G																				
7		WT	G																				
8		WT	G																				
9		WT	G																				
10		WT	G																				
11		WT	G																				
12		WT	G																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Katherine Bartels/Golder	5/27/20	1820	Fed Ex	5.28.20	0300	0.2	Y	Y	Y
							1.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Katherine Bartels

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): 5/27/20

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60338562

60338562

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 ☑ ZPIC

Thermometer Used: T301 **Type of Ice:** Wet ☑ Blue None

Cooler Temperature (°C): **As-read** 0.8 **Corr. Factor** -0.4 **Corrected** 0.4

Date and initials of person examining contents: 5/29/20 HT

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☑No ☐N/A	
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# U03173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jami Church Date: 6/(1/20

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Drive, Ste 260	Copy To:	Ryan Feldmann/Eric Schneider	Company Name:	
	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:		Pace Quote Reference	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Ameren LCPA Verification Sample	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	153140602.0001A	Pace Profile #:	9285

REGULATORY AGENCY

NPDES / GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: MO

Requested Analysis Filtered (Y/N)

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Calcium	Fluoride	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N		L0033852
1	L-UMW-8D	WT	G			5/29/20	1335		1			1							✓				
2	L-UMW-FB-1	WT	G			5/29/20	1415		1			1							✓				
3		WT	G																				
4		WT	G																				
5		WT	G																				
6		WT	G																				
7		WT	G																				
8		WT	G																				
9		WT	G																				
10		WT	G																				
11		WT	G																				
12		WT	G																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Brendan Talbert	5/29/20	1600	Angie M	5/29	1604				
	Angie M	5/29	1604	Henry Fowler (FDSI)	5/29/20	1920	0.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: B. Talbert DATE Signed (MM/DD/YY): 5/29/2020

MEMORANDUM

DATE June 24, 2020 **Project No.** 153140602

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 60338348

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).

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 06/24/2020

Laboratory: Pace Analytical
SDG #: 60338348
Analytical Method (type and no.): EPA 200.7 (Total Metals); EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names L-UMW-4D, L-UMW-7D, L-UMW-DUP-1, L-UMW-8D, L-UMW-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			05/27 - 05/29/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-UMW-DUP-1 @ L-UMW-7D
	☒	☐	☐	
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	
c) Were lab duplicates analyzed (note original and duplicate samples)?				
	☐	☒	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☒	

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

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

Comments/Notes:

FB: L-UMW-FB-1 @ L-UMW-8D: Calcium (32.5 J), no qualification necessary because sample result > 10x blank result.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Ann Muhlfarth _____ Date: 06/24/2020

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

June 25, 2020

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

RE: Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between May 28, 2020 and May 29, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

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 #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

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

Pace Analytical Services, LLC
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(913)599-5665

SAMPLE SUMMARY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60338382001	**L-AMW-8**	Water	05/27/20 13:42	05/28/20 03:05
60338382002	**L-LMW-1S**	Water	05/27/20 10:50	05/28/20 03:05
60338382003	**L-LMW-2S**	Water	05/27/20 15:20	05/28/20 03:05
60338382004	**L-LMW-4S**	Water	05/26/20 10:00	05/28/20 03:05
60338382005	**L-LMW-7S**	Water	05/27/20 13:25	05/28/20 03:05
60338382006	**L-LMW-8S**	Water	05/26/20 13:10	05/28/20 03:05
60338382007	**L-MW-26**	Water	05/27/20 11:20	05/28/20 03:05
60338382008	**L-S-1**	Water	05/27/20 14:47	05/28/20 03:05
60338382009	**L-TP-1D**	Water	05/27/20 15:46	05/28/20 03:05
60338382010	**L-CA-DUP-1**	Water	05/27/20 08:00	05/28/20 03:05
60338382011	**L-CA-DUP-2**	Water	05/27/20 08:00	05/28/20 03:05
60338382012	**L-CA-FB-1**	Water	05/27/20 14:05	05/28/20 03:05
60338382013	**L-MW-26-MS-1**	Water	05/27/20 11:20	05/28/20 03:05
60338382014	**L-MW-26-MSD-1**	Water	05/27/20 11:20	05/28/20 03:05
60338382015	**L-LMW-1S-MS-2**	Water	05/27/20 10:50	05/28/20 03:05
60338382016	**L-LMW-1S-MSD-2**	Water	05/27/20 10:50	05/28/20 03:05
60338382017	**L-BMW-1S**	Water	05/29/20 10:20	05/29/20 18:20
60338382018	**L-BMW-2S**	Water	05/29/20 11:35	05/29/20 18:20
60338382019	**L-MW-24**	Water	05/28/20 11:58	05/29/20 18:20
60338382020	**L-MW-33(D)**	Water	05/28/20 15:47	05/29/20 18:20
60338382021	**L-MW-34(D)**	Water	05/28/20 15:40	05/29/20 18:20
60338382022	**L-MW-35(D)**	Water	05/28/20 12:51	05/29/20 18:20
60338382023	**L-TP-2M**	Water	05/28/20 13:50	05/29/20 18:20
60338382024	**L-TP-2D**	Water	05/28/20 12:55	05/29/20 18:20
60338382025	**L-TP-3M**	Water	05/29/20 12:55	05/29/20 18:20
60338382026	**L-TP-3D**	Water	05/29/20 12:14	05/29/20 18:20
60338382027	**L-TP-4D**	Water	05/29/20 10:32	05/29/20 18:20
60338382028	**L-AM-1S**	Water	05/28/20 11:15	05/29/20 18:20
60338382029	**L-AM-1D**	Water	05/28/20 09:35	05/29/20 18:20
60338382030	**L-CA-DUP-3**	Water	05/28/20 08:00	05/29/20 18:20
60338382031	**L-CA-FB-2**	Water	05/28/20 11:20	05/29/20 18:20
60338382032	**L-CA-FB-3**	Water	05/28/20 13:25	05/29/20 18:20

REPORT OF LABORATORY ANALYSIS

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

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60338382001	L-AMW-8	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382002	L-LMW-1S	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382003	L-LMW-2S	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382004	L-LMW-4S	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382005	L-LMW-7S	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382006	L-LMW-8S	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382007	**L-MW-26**	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382008	**L-S-1**	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382009	**L-TP-1D**	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382010	**L-CA-DUP-1**	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382011	**L-CA-DUP-2**	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	MGS	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382012	**L-CA-FB-1**	EPA 200.7	HKC	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382013	**L-MW-26-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60338382014	**L-MW-26-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60338382015	**L-LMW-1S-MS-2**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60338382016	**L-LMW-1S-MSD-2**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60338382017	**L-BMW-1S**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382018	**L-BMW-2S**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382019	**L-MW-24**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382020	**L-MW-33(D)**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382021	**L-MW-34(D)**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382022	**L-MW-35(D)**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382023	**L-TP-2M**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382024	**L-TP-2D**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60338382025	**L-TP-3M**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382026	**L-TP-3D**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382027	**L-TP-4D**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382028	**L-AM-1S**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382029	**L-AM-1D**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382030	**L-CA-DUP-3**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382031	**L-CA-FB-2**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K
60338382032	**L-CA-FB-3**	EPA 200.7	JDE	10	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	MGS	1	PASI-K
		SM 2540C	CNB	1	PASI-K
		EPA 300.0	JWR	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-AMW-8 **Lab ID: 60338382001** Collected: 05/27/20 13:42 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**106**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 21:42	7440-39-3	
Boron	**6530**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 21:42	7440-42-8	
Calcium	**59300**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 21:42	7440-70-2	
Iron	**2280**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 21:42	7439-89-6	
Lithium	**12.6**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 21:42	7439-93-2	
Magnesium	**9190**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 21:42	7439-95-4	
Manganese	**269**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 21:42	7439-96-5	
Molybdenum	**327**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 21:42	7439-98-7	
Potassium	**5660**	ug/L	500	189	1	06/11/20 12:40	06/12/20 21:42	7440-09-7	
Sodium	**94000**	ug/L	500	107	1	06/11/20 12:40	06/12/20 21:42	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.15J**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:10	7440-36-0	
Arsenic	**0.26J**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:10	7440-38-2	
Chromium	**0.33J**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:10	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:10	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**83.2**	mg/L	20.0	8.4	1		06/05/20 12:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**573**	mg/L	10.0	10.0	1		06/01/20 12:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.3**	mg/L	5.0	1.9	5		06/08/20 18:26	16887-00-6	
Fluoride	**0.46**	mg/L	0.20	0.075	1		06/08/20 18:10	16984-48-8	
Sulfate	**267**	mg/L	20.0	5.6	20		06/08/20 18:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-1S **Lab ID: 60338382002** Collected: 05/27/20 10:50 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	1.8	1	06/11/20 12:40	06/12/20 21:45	7440-39-3	
Boron	**4320**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 21:45	7440-42-8	
Calcium	**175000**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 21:45	7440-70-2	
Iron	**4720**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 21:45	7439-89-6	
Lithium	**13.0**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 21:45	7439-93-2	
Magnesium	**30700**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 21:45	7439-95-4	
Manganese	**1340**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 21:45	7439-96-5	
Molybdenum	**9.6J**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 21:45	7439-98-7	
Potassium	**5020**	ug/L	500	189	1	06/11/20 12:40	06/12/20 21:45	7440-09-7	
Sodium	**14700**	ug/L	500	107	1	06/11/20 12:40	06/12/20 21:45	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
	Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:11	7440-36-0	
Arsenic	**10.4**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:11	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:11	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:11	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**412**	mg/L	20.0	8.4	1		06/05/20 12:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**706**	mg/L	10.0	10.0	1		06/01/20 13:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
	Pace Analytical Services - Kansas City								
Chloride	**5.3**	mg/L	1.0	0.39	1		06/08/20 20:22	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		06/08/20 20:22	16984-48-8	
Sulfate	**153**	mg/L	20.0	5.6	20		06/08/20 18:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-2S **Lab ID: 60338382003** Collected: 05/27/20 15:20 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**34.5**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:01	7440-39-3	
Boron	**3170**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:01	7440-42-8	
Calcium	**52200**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:01	7440-70-2	
Iron	**31.8J**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:01	7439-89-6	
Lithium	**6.9J**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:01	7439-93-2	
Magnesium	**79.5**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:01	7439-95-4	B
Manganese	**1.5J**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:01	7439-96-5	
Molybdenum	**101**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:01	7439-98-7	
Potassium	**8560**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:01	7440-09-7	
Sodium	**59700**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:01	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.11J**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:16	7440-36-0	
Arsenic	**44.9**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:16	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:16	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:16	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**31.4**	mg/L	20.0	8.4	1		06/05/20 12:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**396**	mg/L	5.0	5.0	1		06/01/20 13:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.3**	mg/L	2.0	0.78	2		06/09/20 16:52	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		06/08/20 21:12	16984-48-8	
Sulfate	**197**	mg/L	20.0	5.6	20		06/08/20 21:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-4S **Lab ID: 60338382004** Collected: 05/26/20 10:00 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**139**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:04	7440-39-3	
Boron	**5470**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:04	7440-42-8	
Calcium	**164000**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:04	7440-70-2	
Iron	**5300**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:04	7439-89-6	
Lithium	**27.9**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:04	7439-93-2	
Magnesium	**26200**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:04	7439-95-4	
Manganese	**1110**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:04	7439-96-5	
Molybdenum	**60.3**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:04	7439-98-7	
Potassium	**6390**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:04	7440-09-7	
Sodium	**81800**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:04	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
	Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:17	7440-36-0	
Arsenic	**16.4**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:17	7440-38-2	
Chromium	**0.31J**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:17	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:17	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**471**	mg/L	20.0	8.4	1		06/04/20 15:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**814**	mg/L	10.0	10.0	1		06/01/20 12:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
	Pace Analytical Services - Kansas City								
Chloride	**38.8**	mg/L	5.0	1.9	5		06/09/20 17:08	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.075	1		06/08/20 21:45	16984-48-8	
Sulfate	**161**	mg/L	20.0	5.6	20		06/08/20 22:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-7S **Lab ID: 60338382005** Collected: 05/27/20 13:25 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**310**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:06	7440-39-3	
Boron	**5880**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:06	7440-42-8	
Calcium	**190000**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:06	7440-70-2	
Iron	**5860**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:06	7439-89-6	
Lithium	**38.3**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:06	7439-93-2	
Magnesium	**40400**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:06	7439-95-4	
Manganese	**1750**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:06	7439-96-5	
Molybdenum	**79.2**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:06	7439-98-7	
Potassium	**6550**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:06	7440-09-7	
Sodium	**45400**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:06	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
	Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:19	7440-36-0	
Arsenic	**14.1**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:19	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:19	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:19	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**531**	mg/L	20.0	8.4	1		06/05/20 12:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**839**	mg/L	10.0	10.0	1		06/01/20 13:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
	Pace Analytical Services - Kansas City								
Chloride	**12.4**	mg/L	1.0	0.39	1		06/08/20 22:18	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.075	1		06/08/20 22:18	16984-48-8	
Sulfate	**162**	mg/L	10.0	2.8	10		06/08/20 22:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-8S **Lab ID: 60338382006** Collected: 05/26/20 13:10 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**128**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:09	7440-39-3	
Boron	**7310**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:09	7440-42-8	
Calcium	**209000**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:09	7440-70-2	
Iron	**9410**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:09	7439-89-6	
Lithium	**16.0**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:09	7439-93-2	
Magnesium	**38900**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:09	7439-95-4	
Manganese	**1880**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:09	7439-96-5	
Molybdenum	**153**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:09	7439-98-7	
Potassium	**8670**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:09	7440-09-7	
Sodium	**81500**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:20	7440-36-0	
Arsenic	**19.6**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:20	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:20	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:20	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**299**	mg/L	20.0	8.4	1		06/04/20 15:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1150**	mg/L	13.3	13.3	1		06/01/20 12:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**18.5**	mg/L	1.0	0.39	1		06/08/20 23:25	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.075	1		06/08/20 23:25	16984-48-8	
Sulfate	**542**	mg/L	50.0	13.9	50		06/08/20 23:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-26 **Lab ID: 60338382007** Collected: 05/27/20 11:20 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**206**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:11	7440-39-3	
Boron	**83.8J**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:11	7440-42-8	
Calcium	**134000**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:11	7440-70-2	
Iron	**30.3J**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:11	7439-89-6	
Lithium	**22.9**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:11	7439-93-2	
Magnesium	**24800**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:11	7439-95-4	
Manganese	**924**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:11	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:11	7439-98-7	
Potassium	**3800**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:11	7440-09-7	
Sodium	**12500**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.14J**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:27	7440-36-0	
Arsenic	**0.52J**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:27	7440-38-2	
Chromium	**0.97J**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:27	7440-47-3	B
Selenium	**0.47J**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:27	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**432**	mg/L	20.0	8.4	1		06/05/20 13:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**511**	mg/L	10.0	10.0	1		06/01/20 13:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.4**	mg/L	1.0	0.39	1		06/08/20 23:58	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		06/08/20 23:58	16984-48-8	
Sulfate	**32.6**	mg/L	2.0	0.56	2		06/09/20 00:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-S-1 **Lab ID: 60338382008** Collected: 05/27/20 14:47 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**373**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:18	7440-39-3	
Boron	**85.1J**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:18	7440-42-8	
Calcium	**143000**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:18	7440-70-2	
Iron	**35.6J**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:18	7439-89-6	
Lithium	**17.8**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:18	7439-93-2	
Magnesium	**20400**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:18	7439-95-4	
Manganese	**367**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:18	7439-96-5	
Molybdenum	**1.7J**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:18	7439-98-7	
Potassium	**32900**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:18	7440-09-7	
Sodium	**3240**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:18	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.13J**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:31	7440-36-0	
Arsenic	**0.52J**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:31	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:31	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:31	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**447**	mg/L	20.0	8.4	1		06/05/20 13:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**523**	mg/L	10.0	10.0	1		06/01/20 13:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.2**	mg/L	1.0	0.39	1		06/09/20 01:37	16887-00-6	
Fluoride	**0.24**	mg/L	0.20	0.075	1		06/09/20 01:37	16984-48-8	
Sulfate	**17.3**	mg/L	1.0	0.28	1		06/09/20 01:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-1D **Lab ID: 60338382009** Collected: 05/27/20 15:46 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**1420**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:31	7440-39-3	
Boron	**66.8J**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:31	7440-42-8	
Calcium	**142000**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:31	7440-70-2	
Iron	**9060**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:31	7439-89-6	
Lithium	**23.1**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:31	7439-93-2	
Magnesium	**36100**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:31	7439-95-4	
Manganese	**270**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:31	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:31	7439-98-7	
Potassium	**4350**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:31	7440-09-7	
Sodium	**11800**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:31	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.16J**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:33	7440-36-0	
Arsenic	**0.99J**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:33	7440-38-2	
Chromium	**0.22J**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:33	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:33	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**490**	mg/L	20.0	8.4	1		06/05/20 13:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**541**	mg/L	10.0	10.0	1		06/01/20 13:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.3**	mg/L	1.0	0.39	1		06/09/20 17:24	16887-00-6	
Fluoride	**0.19J**	mg/L	0.20	0.075	1		06/09/20 17:24	16984-48-8	
Sulfate	**14.3**	mg/L	1.0	0.28	1		06/09/20 17:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-DUP-1 **Lab ID: 60338382010** Collected: 05/27/20 08:00 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	06/11/20 12:40	06/12/20 22:33	7440-39-3	
Boron	**6370**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:33	7440-42-8	
Calcium	**59500**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:33	7440-70-2	
Iron	**2800**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:33	7439-89-6	
Lithium	**13.1**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:33	7439-93-2	
Magnesium	**9260**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:33	7439-95-4	
Manganese	**270**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:33	7439-96-5	
Molybdenum	**329**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:33	7439-98-7	
Potassium	**5640**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:33	7440-09-7	
Sodium	**94900**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:33	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
	Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:34	7440-36-0	
Arsenic	**0.26J**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:34	7440-38-2	
Chromium	**0.36J**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:34	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:34	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**84.0**	mg/L	20.0	8.4	1		06/05/20 13:34		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**574**	mg/L	10.0	10.0	1		06/01/20 13:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
	Pace Analytical Services - Kansas City								
Chloride	**21.2**	mg/L	2.0	0.78	2		06/09/20 17:40	16887-00-6	
Fluoride	**0.46**	mg/L	0.20	0.075	1		06/09/20 03:00	16984-48-8	
Sulfate	**278**	mg/L	50.0	13.9	50		06/09/20 17:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-DUP-2 **Lab ID: 60338382011** Collected: 05/27/20 08:00 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**35.2**	ug/L	5.0	1.8	1	06/11/20 12:40	06/12/20 22:36	7440-39-3	
Boron	**3200**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:36	7440-42-8	
Calcium	**52500**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:36	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:36	7439-89-6	
Lithium	**6.4J**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:36	7439-93-2	
Magnesium	**88.6**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:36	7439-95-4	B
Manganese	**1.6J**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:36	7439-96-5	
Molybdenum	**104**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:36	7439-98-7	
Potassium	**8560**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:36	7440-09-7	
Sodium	**60400**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:36	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:36	7440-36-0	
Arsenic	**44.9**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:36	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:36	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**31.6**	mg/L	20.0	8.4	1		06/05/20 13:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**402**	mg/L	5.0	5.0	1		06/01/20 13:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.5**	mg/L	2.0	0.78	2		06/09/20 18:11	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		06/09/20 03:16	16984-48-8	
Sulfate	**195**	mg/L	20.0	5.6	20		06/09/20 18:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-FB-1 **Lab ID: 60338382012** Collected: 05/27/20 14:05 Received: 05/28/20 03:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	06/11/20 12:40	06/12/20 22:38	7440-39-3	
Boron	**12.3J**	ug/L	100	11.7	1	06/11/20 12:40	06/12/20 22:38	7440-42-8	
Calcium	**58.1J**	ug/L	200	32.4	1	06/11/20 12:40	06/12/20 22:38	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	06/11/20 12:40	06/12/20 22:38	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	06/11/20 12:40	06/12/20 22:38	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	06/11/20 12:40	06/12/20 22:38	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	06/11/20 12:40	06/12/20 22:38	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	06/11/20 12:40	06/12/20 22:38	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	06/11/20 12:40	06/12/20 22:38	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	06/11/20 12:40	06/12/20 22:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/11/20 18:00	06/15/20 17:25	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	06/11/20 18:00	06/15/20 17:25	7440-38-2	
Chromium	**0.43J**	ug/L	1.0	0.22	1	06/11/20 18:00	06/15/20 17:25	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/11/20 18:00	06/15/20 17:25	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		06/05/20 13:42		
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		06/03/20 14:49		D6
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		06/09/20 18:43	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		06/09/20 18:43	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		06/09/20 18:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-BMW-1S **Lab ID: 60338382017** Collected: 05/29/20 10:20 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**349**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 13:43	7440-39-3	
Boron	**92.4J**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 13:43	7440-42-8	
Calcium	**206000**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 13:43	7440-70-2	
Iron	**30600**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 13:43	7439-89-6	
Lithium	**19.5**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 13:43	7439-93-2	B
Magnesium	**44500**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 13:43	7439-95-4	
Manganese	**2640**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 13:43	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 13:43	7439-98-7	
Potassium	**5450**	ug/L	500	189	1	06/23/20 13:16	06/24/20 13:43	7440-09-7	
Sodium	**16700**	ug/L	500	107	1	06/23/20 13:16	06/24/20 13:43	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 12:58	7440-36-0	
Arsenic	**32.8**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 12:58	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 12:58	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 12:58	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**702**	mg/L	20.0	8.4	1		06/08/20 14:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**749**	mg/L	10.0	10.0	1		06/05/20 15:28		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.8**	mg/L	1.0	0.39	1		06/06/20 00:08	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		06/06/20 00:08	16984-48-8	L2
Sulfate	**43.0**	mg/L	5.0	1.4	5		06/06/20 00:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-BMW-2S **Lab ID: 60338382018** Collected: 05/29/20 11:35 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**242**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 13:54	7440-39-3	
Boron	**45.9J**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 13:54	7440-42-8	
Calcium	**126000**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 13:54	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 13:54	7439-89-6	
Lithium	**17.6**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 13:54	7439-93-2	B
Magnesium	**18700**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 13:54	7439-95-4	
Manganese	**1.0J**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 13:54	7439-96-5	
Molybdenum	**2.8J**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 13:54	7439-98-7	
Potassium	**6450**	ug/L	500	189	1	06/23/20 13:16	06/24/20 13:54	7440-09-7	
Sodium	**5720**	ug/L	500	107	1	06/23/20 13:16	06/24/20 13:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.25J**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:04	7440-36-0	
Arsenic	**0.55J**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:04	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:04	7440-47-3	
Selenium	**1.9**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:04	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**347**	mg/L	20.0	8.4	1		06/08/20 14:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**456**	mg/L	10.0	10.0	1		06/05/20 15:28		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.2**	mg/L	1.0	0.39	1		06/06/20 00:41	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		06/06/20 00:41	16984-48-8	L2
Sulfate	**33.3**	mg/L	5.0	1.4	5		06/06/20 00:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-24 **Lab ID: 60338382019** Collected: 05/28/20 11:58 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**232**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 13:56	7440-39-3	
Boron	**84.9J**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 13:56	7440-42-8	
Calcium	**149000**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 13:56	7440-70-2	
Iron	**58.8**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 13:56	7439-89-6	
Lithium	**23.4**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 13:56	7439-93-2	B
Magnesium	**30600**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 13:56	7439-95-4	
Manganese	**231**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 13:56	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 13:56	7439-98-7	
Potassium	**5660**	ug/L	500	189	1	06/23/20 13:16	06/24/20 13:56	7440-09-7	
Sodium	**11200**	ug/L	500	107	1	06/23/20 13:16	06/24/20 13:56	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.11J**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:06	7440-36-0	
Arsenic	**0.67J**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:06	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:06	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:06	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**505**	mg/L	20.0	8.4	1		06/05/20 19:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**507**	mg/L	10.0	10.0	1		06/04/20 13:58		
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		06/06/20 01:14	16887-00-6	
Fluoride	**0.25**	mg/L	0.20	0.075	1		06/06/20 01:14	16984-48-8	L2
Sulfate	**15.5**	mg/L	1.0	0.28	1		06/06/20 01:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-33(D) **Lab ID: 60338382020** Collected: 05/28/20 15:47 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**89.4**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 13:58	7440-39-3	
Boron	**10500**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 13:58	7440-42-8	
Calcium	**72100**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 13:58	7440-70-2	
Iron	**3890**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 13:58	7439-89-6	
Lithium	**34.4**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 13:58	7439-93-2	B
Magnesium	**15600**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 13:58	7439-95-4	
Manganese	**189**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 13:58	7439-96-5	
Molybdenum	**1170**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 13:58	7439-98-7	
Potassium	**6290**	ug/L	500	189	1	06/23/20 13:16	06/24/20 13:58	7440-09-7	
Sodium	**86700**	ug/L	500	107	1	06/23/20 13:16	06/24/20 13:58	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:08	7440-36-0	
Arsenic	**2.8**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:08	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:08	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:08	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**132**	mg/L	20.0	8.4	1		06/05/20 19:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**582**	mg/L	10.0	10.0	1		06/04/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.0**	mg/L	2.0	0.78	2		06/08/20 17:24	16887-00-6	
Fluoride	**0.42**	mg/L	0.20	0.075	1		06/06/20 01:48	16984-48-8	L2
Sulfate	**<13.9**	mg/L	50.0	13.9	50		06/08/20 17:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-34(D) **Lab ID: 60338382021** Collected: 05/28/20 15:40 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**82.3**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:00	7440-39-3	
Boron	**10600**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:00	7440-42-8	
Calcium	**84600**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:00	7440-70-2	
Iron	**4840**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:00	7439-89-6	
Lithium	**36.4**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:00	7439-93-2	B
Magnesium	**19900**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:00	7439-95-4	
Manganese	**209**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:00	7439-96-5	
Molybdenum	**1050**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:00	7439-98-7	
Potassium	**6550**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:00	7440-09-7	
Sodium	**71800**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:00	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:10	7440-36-0	
Arsenic	**3.8**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:10	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:10	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:10	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**176**	mg/L	20.0	8.4	1		06/05/20 19:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**602**	mg/L	10.0	10.0	1		06/04/20 13:58		
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		06/06/20 03:11	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.075	1		06/06/20 02:54	16984-48-8	L2
Sulfate	**281**	mg/L	50.0	13.9	50		06/06/20 02:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-35(D) **Lab ID: 60338382022** Collected: 05/28/20 12:51 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**59.6**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:03	7440-39-3	
Boron	**8240**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:03	7440-42-8	
Calcium	**202000**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:03	7440-70-2	
Iron	**8280**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:03	7439-89-6	
Lithium	**31.7**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:03	7439-93-2	B
Magnesium	**42300**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:03	7439-95-4	
Manganese	**596**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:03	7439-96-5	
Molybdenum	**570**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:03	7439-98-7	
Potassium	**6970**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:03	7440-09-7	
Sodium	**132000**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:03	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:12	7440-36-0	
Arsenic	**0.25J**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:12	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:12	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:12	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**78.0**	mg/L	20.0	8.4	1		06/05/20 19:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1370**	mg/L	13.3	13.3	1		06/04/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.0**	mg/L	1.0	0.39	1		06/06/20 03:27	16887-00-6	
Fluoride	**0.10J**	mg/L	0.20	0.075	1		06/06/20 03:27	16984-48-8	L2
Sulfate	**868**	mg/L	100	27.8	100		06/06/20 03:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-2M **Lab ID: 60338382023** Collected: 05/28/20 13:50 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**115**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:05	7440-39-3	
Boron	**1990**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:05	7440-42-8	
Calcium	**91200**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:05	7440-70-2	
Iron	**2920**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:05	7439-89-6	
Lithium	**35.3**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:05	7439-93-2	B
Magnesium	**13400**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:05	7439-95-4	
Manganese	**400**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:05	7439-96-5	
Molybdenum	**98.9**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:05	7439-98-7	
Potassium	**6320**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:05	7440-09-7	
Sodium	**61300**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:05	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:20	7440-36-0	
Arsenic	**0.75J**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:20	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:20	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:20	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**244**	mg/L	20.0	8.4	1		06/08/20 10:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**541**	mg/L	10.0	10.0	1		06/04/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.2**	mg/L	2.0	0.78	2		06/06/20 04:17	16887-00-6	
Fluoride	**0.51**	mg/L	0.20	0.075	1		06/06/20 04:01	16984-48-8	L2
Sulfate	**148**	mg/L	20.0	5.6	20		06/06/20 04:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-2D **Lab ID: 60338382024** Collected: 05/28/20 12:55 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**115**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:07	7440-39-3	
Boron	**1800**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:07	7440-42-8	
Calcium	**94700**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:07	7440-70-2	
Iron	**3830**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:07	7439-89-6	
Lithium	**42.5**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:07	7439-93-2	B
Magnesium	**16700**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:07	7439-95-4	
Manganese	**316**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:07	7439-96-5	
Molybdenum	**130**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:07	7439-98-7	
Potassium	**5710**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:07	7440-09-7	
Sodium	**58400**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.13J**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:22	7440-36-0	
Arsenic	**11.6**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:22	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:22	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:22	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**251**	mg/L	20.0	8.4	1		06/08/20 10:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**557**	mg/L	10.0	10.0	1		06/04/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.6**	mg/L	2.0	0.78	2		06/05/20 16:29	16887-00-6	
Fluoride	**0.41**	mg/L	0.20	0.075	1		06/05/20 15:41	16984-48-8	
Sulfate	**164**	mg/L	10.0	2.8	10		06/05/20 17:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-3M **Lab ID: 60338382025** Collected: 05/29/20 12:55 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**259**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:10	7440-39-3	
Boron	**5130**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:10	7440-42-8	
Calcium	**114000**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:10	7440-70-2	
Iron	**8450**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:10	7439-89-6	
Lithium	**34.7**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:10	7439-93-2	B
Magnesium	**24600**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:10	7439-95-4	
Manganese	**1210**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:10	7439-96-5	
Molybdenum	**279**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:10	7439-98-7	
Potassium	**5520**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:10	7440-09-7	
Sodium	**51200**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:10	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:24	7440-36-0	
Arsenic	**0.32J**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:24	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:24	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**312**	mg/L	20.0	8.4	1		06/08/20 14:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**572**	mg/L	10.0	10.0	1		06/05/20 15:29		
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		06/05/20 18:35	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		06/05/20 18:35	16984-48-8	
Sulfate	**149**	mg/L	20.0	5.6	20		06/05/20 18:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-3D **Lab ID: 60338382026** Collected: 05/29/20 12:14 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	1.8	1	06/23/20 13:16	06/24/20 14:12	7440-39-3	
Boron	**10800**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:12	7440-42-8	
Calcium	**98200**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:12	7440-70-2	
Iron	**5220**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:12	7439-89-6	
Lithium	**32.5**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:12	7439-93-2	B
Magnesium	**21700**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:12	7439-95-4	
Manganese	**172**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:12	7439-96-5	
Molybdenum	**697**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:12	7439-98-7	
Potassium	**6820**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:12	7440-09-7	
Sodium	**116000**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:12	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:26	7440-36-0	
Arsenic	**7.1**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:26	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:26	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:26	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**120**	mg/L	20.0	8.4	1		06/08/20 14:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**789**	mg/L	10.0	10.0	1		06/05/20 15:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.4**	mg/L	5.0	1.9	5		06/05/20 19:23	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.075	1		06/05/20 19:07	16984-48-8	
Sulfate	**401**	mg/L	100	27.8	100		06/05/20 19:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-4D **Lab ID: 60338382027** Collected: 05/29/20 10:32 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**442**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:42	7440-39-3	
Boron	**5650**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:42	7440-42-8	
Calcium	**125000**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:42	7440-70-2	
Iron	**5530**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:42	7439-89-6	
Lithium	**20.0**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:42	7439-93-2	B
Magnesium	**33500**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:42	7439-95-4	
Manganese	**333**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:42	7439-96-5	
Molybdenum	**2.5J**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:42	7439-98-7	
Potassium	**4790**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:42	7440-09-7	
Sodium	**26200**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:42	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:28	7440-36-0	
Arsenic	**7.7**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:28	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:28	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:28	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**316**	mg/L	20.0	8.4	1		06/08/20 14:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**604**	mg/L	10.0	10.0	1		06/05/20 15:29		
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		06/05/20 20:42	16887-00-6	
Fluoride	**0.21**	mg/L	0.20	0.075	1		06/05/20 20:42	16984-48-8	
Sulfate	**164**	mg/L	20.0	5.6	20		06/05/20 19:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-AM-1S **Lab ID: 60338382028** Collected: 05/28/20 11:15 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**587**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:44	7440-39-3	
Boron	**311**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:44	7440-42-8	
Calcium	**199000**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:44	7440-70-2	
Iron	**10200**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:44	7439-89-6	
Lithium	**35.2**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:44	7439-93-2	B
Magnesium	**42900**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:44	7439-95-4	
Manganese	**1950**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:44	7439-96-5	
Molybdenum	**3.6J**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:44	7439-98-7	
Potassium	**6830**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:44	7440-09-7	
Sodium	**53500**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:44	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:32	7440-36-0	
Arsenic	**5.7**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:32	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:32	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:32	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**535**	mg/L	20.0	8.4	1		06/08/20 10:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**935**	mg/L	13.3	13.3	1		06/04/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**178**	mg/L	10.0	3.9	10		06/05/20 21:30	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		06/05/20 20:58	16984-48-8	
Sulfate	**20.9**	mg/L	5.0	1.4	5		06/05/20 21:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-AM-1D **Lab ID: 60338382029** Collected: 05/28/20 09:35 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**67.0**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:47	7440-39-3	
Boron	**7500**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:47	7440-42-8	
Calcium	**95300**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:47	7440-70-2	
Iron	**4790**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:47	7439-89-6	
Lithium	**38.1**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:47	7439-93-2	B
Magnesium	**13800**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:47	7439-95-4	
Manganese	**248**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:47	7439-96-5	
Molybdenum	**376**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:47	7439-98-7	
Potassium	**7850**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:47	7440-09-7	
Sodium	**112000**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:47	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:34	7440-36-0	
Arsenic	**3.4**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:34	7440-38-2	
Chromium	**0.27J**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:34	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:34	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**149**	mg/L	20.0	8.4	1		06/08/20 11:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**717**	mg/L	10.0	10.0	1		06/04/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**33.2**	mg/L	5.0	1.9	5		06/05/20 22:01	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.075	1		06/05/20 21:45	16984-48-8	
Sulfate	**313**	mg/L	50.0	13.9	50		06/05/20 22:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-DUP-3 **Lab ID: 60338382030** Collected: 05/28/20 08:00 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**67.4**	ug/L	5.0	1.8	1	06/23/20 13:16	06/24/20 14:49	7440-39-3	
Boron	**7400**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:49	7440-42-8	
Calcium	**93900**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:49	7440-70-2	
Iron	**4730**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:49	7439-89-6	
Lithium	**36.1**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:49	7439-93-2	B
Magnesium	**13500**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:49	7439-95-4	
Manganese	**244**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:49	7439-96-5	
Molybdenum	**370**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:49	7439-98-7	
Potassium	**7690**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:49	7440-09-7	
Sodium	**109000**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:49	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:36	7440-36-0	
Arsenic	**3.4**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:36	7440-38-2	
Chromium	**0.30J**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:36	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**146**	mg/L	20.0	8.4	1		06/08/20 11:06		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**700**	mg/L	10.0	10.0	1		06/04/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**35.5**	mg/L	2.0	0.78	2		06/05/20 22:49	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.075	1		06/05/20 22:33	16984-48-8	
Sulfate	**324**	mg/L	50.0	13.9	50		06/05/20 23:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-FB-2 **Lab ID: 60338382031** Collected: 05/28/20 11:20 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	06/23/20 13:16	06/24/20 14:52	7440-39-3	
Boron	**19.1J**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:52	7440-42-8	
Calcium	**36.8J**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:52	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:52	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:52	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:52	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:52	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:52	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:52	7440-09-7	
Sodium	**120J**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:52	7440-23-5	B
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:44	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:44	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:44	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:44	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		06/08/20 11:09		
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		06/04/20 13:59		
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		06/05/20 23:52	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		06/05/20 23:52	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		06/05/20 23:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-FB-3 **Lab ID: 60338382032** Collected: 05/28/20 13:25 Received: 05/29/20 18:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	06/23/20 13:16	06/24/20 14:54	7440-39-3	
Boron	**12.3J**	ug/L	100	11.7	1	06/23/20 13:16	06/24/20 14:54	7440-42-8	
Calcium	**<32.4**	ug/L	200	32.4	1	06/23/20 13:16	06/24/20 14:54	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	06/23/20 13:16	06/24/20 14:54	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	06/23/20 13:16	06/24/20 14:54	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	06/23/20 13:16	06/24/20 14:54	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	06/23/20 13:16	06/24/20 14:54	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	06/23/20 13:16	06/24/20 14:54	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	06/23/20 13:16	06/24/20 14:54	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	06/23/20 13:16	06/24/20 14:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	06/19/20 08:50	06/22/20 13:46	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	06/19/20 08:50	06/22/20 13:46	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	06/19/20 08:50	06/22/20 13:46	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	06/19/20 08:50	06/22/20 13:46	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		06/08/20 11:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**6.5**	mg/L	5.0	5.0	1		06/04/20 13:59		
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		06/06/20 00:08	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		06/06/20 00:08	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		06/06/20 00:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 659614
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

METHOD BLANK: 2674695 Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	06/12/20 21:37	
Boron	ug/L	<11.7	100	11.7	06/12/20 21:37	
Calcium	ug/L	<32.4	200	32.4	06/15/20 15:04	
Iron	ug/L	<26.8	50.0	26.8	06/15/20 15:04	
Lithium	ug/L	<4.6	10.0	4.6	06/12/20 21:37	
Magnesium	ug/L	26.4J	50.0	19.7	06/12/20 21:37	
Manganese	ug/L	<0.97	5.0	0.97	06/15/20 15:04	
Molybdenum	ug/L	<1.7	20.0	1.7	06/12/20 21:37	
Potassium	ug/L	<189	500	189	06/12/20 21:37	
Sodium	ug/L	214J	500	107	06/12/20 21:37	

LABORATORY CONTROL SAMPLE: 2674696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	985	99	85-115	
Boron	ug/L	1000	988	99	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lithium	ug/L	1000	1010	101	85-115	
Magnesium	ug/L	10000	10000	100	85-115	
Manganese	ug/L	1000	981	98	85-115	
Molybdenum	ug/L	1000	1030	103	85-115	
Potassium	ug/L	10000	10000	100	85-115	
Sodium	ug/L	10000	10200	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2674697 2674698

Parameter	Units	60338382002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	61.2	1000	1000	1050	1030	98	97	70-130	1	20	
Boron	ug/L	4320	1000	1000	5310	5270	100	95	70-130	1	20	
Calcium	ug/L	175000	10000	10000	184000	184000	90	90	70-130	0	20	
Iron	ug/L	4720	10000	10000	14700	14600	100	99	70-130	1	20	
Lithium	ug/L	13.0	1000	1000	1040	1020	102	101	70-130	2	20	
Magnesium	ug/L	30700	10000	10000	40800	40700	102	100	70-130	0	20	
Manganese	ug/L	1340	1000	1000	2320	2300	98	96	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2674697 2674698

Parameter	Units	60338382002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	9.6J	1000	1000	1050	1040	104	103	70-130	1	20	
Potassium	ug/L	5020	10000	10000	15200	15000	102	100	70-130	1	20	
Sodium	ug/L	14700	10000	10000	24700	24500	101	99	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2674699 2674700

Parameter	Units	60338382007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	206	1000	1000	1160	1180	96	97	70-130	1	20	
Boron	ug/L	83.8J	1000	1000	1040	1050	96	97	70-130	1	20	
Calcium	ug/L	134000	10000	10000	145000	144000	119	110	70-130	1	20	
Iron	ug/L	30.3J	10000	10000	9890	9970	99	99	70-130	1	20	
Lithium	ug/L	22.9	1000	1000	1020	1030	99	101	70-130	1	20	
Magnesium	ug/L	24800	10000	10000	34600	34800	98	100	70-130	1	20	
Manganese	ug/L	924	1000	1000	1890	1910	97	98	70-130	1	20	
Molybdenum	ug/L	<1.7	1000	1000	1010	1020	101	102	70-130	1	20	
Potassium	ug/L	3800	10000	10000	13800	13800	100	100	70-130	0	20	
Sodium	ug/L	12500	10000	10000	22500	22600	100	101	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 661528
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

METHOD BLANK: 2681820 Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	06/24/20 13:38	
Boron	ug/L	<11.7	100	11.7	06/24/20 13:38	
Calcium	ug/L	<32.4	200	32.4	06/24/20 13:38	
Iron	ug/L	<26.8	50.0	26.8	06/24/20 13:38	
Lithium	ug/L	8.7J	10.0	4.6	06/24/20 13:38	
Magnesium	ug/L	<19.7	50.0	19.7	06/24/20 13:38	
Manganese	ug/L	<0.97	5.0	0.97	06/24/20 13:38	
Molybdenum	ug/L	<1.7	20.0	1.7	06/24/20 13:38	
Potassium	ug/L	<189	500	189	06/24/20 13:38	
Sodium	ug/L	435J	500	107	06/24/20 13:38	

LABORATORY CONTROL SAMPLE: 2681821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	1020	102	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Iron	ug/L	10000	10400	104	85-115	
Lithium	ug/L	1000	1020	102	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	1080	108	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10400	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2681822 2681823

Parameter	Units	60338382018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	242	1000	1000	1240	1240	99	100	70-130	0	20	
Boron	ug/L	45.9J	1000	1000	1070	1060	103	102	70-130	1	20	
Calcium	ug/L	126000	10000	10000	136000	135000	97	91	70-130	0	20	
Iron	ug/L	<26.8	10000	10000	10200	10200	102	102	70-130	0	20	
Lithium	ug/L	17.6	1000	1000	1040	1040	102	102	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2681822 2681823

Parameter	Units	60338382018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	ug/L	18700	10000	10000	28600	28100	98	93	70-130	2	20	
Manganese	ug/L	1.0J	1000	1000	990	970	99	97	70-130	2	20	
Molybdenum	ug/L	2.8J	1000	1000	1060	1060	106	106	70-130	0	20	
Potassium	ug/L	6450	10000	10000	16700	16700	103	102	70-130	0	20	
Sodium	ug/L	5720	10000	10000	15900	15800	102	101	70-130	0	20	

SAMPLE DUPLICATE: 2683650

Parameter	Units	60339925001 Result	Dup Result	RPD	Max RPD	Qualifiers
Barium	ug/L	0.0067 mg/L	6.3	7	20	
Boron	ug/L	2340	2300	2	20	
Calcium	ug/L	543000	531000	2	20	
Iron	ug/L	570	553	3	19	
Lithium	ug/L	0.081 mg/L	83.6	4	20	
Magnesium	ug/L	188000	186000	1	20	
Manganese	ug/L	46.6	46.2	1	12	
Molybdenum	ug/L	<20.0	3.5J		20	
Potassium	ug/L	7060	6950	2	20	
Sodium	ug/L	170000	166000	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 659733
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

METHOD BLANK: 2675060 Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	06/15/20 17:07	
Arsenic	ug/L	<0.086	1.0	0.086	06/15/20 17:07	
Chromium	ug/L	0.79J	1.0	0.22	06/15/20 17:07	
Selenium	ug/L	<0.18	1.0	0.18	06/15/20 17:07	

LABORATORY CONTROL SAMPLE: 2675061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.4	98	85-115	
Arsenic	ug/L	40	38.9	97	85-115	
Chromium	ug/L	40	38.3	96	85-115	
Selenium	ug/L	40	38.3	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2675062 2675063

Parameter	Units	60338382002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	39.3	40.3	98	101	70-130	3	20	
Arsenic	ug/L	10.4	40	40	49.7	50.5	98	100	70-130	2	20	
Chromium	ug/L	<0.22	40	40	37.0	37.7	92	94	70-130	2	20	
Selenium	ug/L	<0.18	40	40	37.1	37.5	93	93	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2675064 2675065

Parameter	Units	60338382007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.14J	40	40	39.9	36.8	99	92	70-130	8	20	
Arsenic	ug/L	0.52J	40	40	40.5	37.1	100	92	70-130	9	20	
Chromium	ug/L	0.97J	40	40	38.3	35.3	93	86	70-130	8	20	
Selenium	ug/L	0.47J	40	40	37.9	34.7	93	85	70-130	9	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 661097
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

METHOD BLANK: 2680169 Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	06/22/20 12:54	
Arsenic	ug/L	<0.086	1.0	0.086	06/22/20 12:54	
Chromium	ug/L	<0.22	1.0	0.22	06/22/20 12:54	
Selenium	ug/L	<0.18	1.0	0.18	06/22/20 12:54	

LABORATORY CONTROL SAMPLE: 2680170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.9	100	85-115	
Arsenic	ug/L	40	39.0	98	85-115	
Chromium	ug/L	40	39.5	99	85-115	
Selenium	ug/L	40	37.4	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2680171 2680172

Parameter	Units	60338382017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	40.1	41.5	100	104	70-130	3	20	
Arsenic	ug/L	32.8	40	40	71.8	74.4	97	104	70-130	4	20	
Chromium	ug/L	<0.22	40	40	38.7	40.3	96	100	70-130	4	20	
Selenium	ug/L	<0.18	40	40	37.0	38.2	92	95	70-130	3	20	

MATRIX SPIKE SAMPLE: 2680173

Parameter	Units	60338382027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.097	40	41.0	102	70-130	
Arsenic	ug/L	7.7	40	48.1	101	70-130	
Chromium	ug/L	<0.22	40	39.9	99	70-130	
Selenium	ug/L	<0.18	40	37.4	93	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658482
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382004, 60338382006

METHOD BLANK: 2669985 Matrix: Water
Associated Lab Samples: 60338382004, 60338382006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	06/04/20 15:15	

LABORATORY CONTROL SAMPLE: 2669986

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

SAMPLE DUPLICATE: 2669987

Parameter	Units	60338358006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	224	241	8	10	

SAMPLE DUPLICATE: 2669988

Parameter	Units	60338388004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	285	296	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658598 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382005, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

METHOD BLANK: 2670688 Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382005, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	06/05/20 12:11	

LABORATORY CONTROL SAMPLE: 2670689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	479	96	90-110	

SAMPLE DUPLICATE: 2670690

Parameter	Units	60338382002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	412	440	7	10	

SAMPLE DUPLICATE: 2670691

Parameter	Units	60338382007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	432	422	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658743 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382019, 60338382020, 60338382021, 60338382022

METHOD BLANK: 2671254 Matrix: Water
Associated Lab Samples: 60338382019, 60338382020, 60338382021, 60338382022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	06/05/20 16:10	

LABORATORY CONTROL SAMPLE: 2671255

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	498	100	90-110	

SAMPLE DUPLICATE: 2671256

Parameter	Units	60338463001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	87.2	92.0	5	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658821 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382023, 60338382024, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

METHOD BLANK: 2671970 Matrix: Water
Associated Lab Samples: 60338382023, 60338382024, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	06/08/20 10:29	

LABORATORY CONTROL SAMPLE: 2671971

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	494	99	90-110	

SAMPLE DUPLICATE: 2671972

Parameter	Units	60338382023 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	244	246	1	10	

SAMPLE DUPLICATE: 2671973

Parameter	Units	60338903008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	112	117	5	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658822 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382017, 60338382018, 60338382025, 60338382026, 60338382027

METHOD BLANK: 2671974 Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382025, 60338382026, 60338382027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	06/08/20 13:37	

LABORATORY CONTROL SAMPLE: 2671975

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	506	101	90-110	

SAMPLE DUPLICATE: 2671976

Parameter	Units	60339054002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	303	298	2	10	

SAMPLE DUPLICATE: 2671977

Parameter	Units	60339059003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	202	211	4	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 657627
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011

METHOD BLANK: 2667049
Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	06/01/20 12:57	

LABORATORY CONTROL SAMPLE: 2667050

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

SAMPLE DUPLICATE: 2667051

Parameter	Units	60338382002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	706	727	3	10	

SAMPLE DUPLICATE: 2667052

Parameter	Units	60338382007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	511	506	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 657803
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382012

METHOD BLANK: 2667429 Matrix: Water
Associated Lab Samples: 60338382012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	06/03/20 14:48	

LABORATORY CONTROL SAMPLE: 2667430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	996	100	80-120	

SAMPLE DUPLICATE: 2667431

Parameter	Units	60338382012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	11.5	5.5	71	10	D6

SAMPLE DUPLICATE: 2667432

Parameter	Units	60338483005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	503	512	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658452
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

METHOD BLANK: 2669851 Matrix: Water
Associated Lab Samples: 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	06/04/20 13:57	

LABORATORY CONTROL SAMPLE: 2669852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1110	111	80-120	

SAMPLE DUPLICATE: 2669853

Parameter	Units	60338552001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2340	2480	6	10	

SAMPLE DUPLICATE: 2669854

Parameter	Units	60338382030 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	700	735	5	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658581 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382017, 60338382018, 60338382025, 60338382026, 60338382027

METHOD BLANK: 2670620 Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382025, 60338382026, 60338382027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	06/05/20 15:27	

LABORATORY CONTROL SAMPLE: 2670621

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

SAMPLE DUPLICATE: 2670622

Parameter	Units	60338358004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	8820	9400	6	10	H1

SAMPLE DUPLICATE: 2670623

Parameter	Units	60338382027 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	604	583	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658650
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023

METHOD BLANK: 2670898 Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	06/05/20 17:14	
Fluoride	mg/L	<0.075	0.20	0.075	06/05/20 17:14	
Sulfate	mg/L	<0.28	1.0	0.28	06/05/20 17:14	

METHOD BLANK: 2672706 Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	06/08/20 10:04	
Fluoride	mg/L	<0.075	0.20	0.075	06/08/20 10:04	
Sulfate	mg/L	<0.28	1.0	0.28	06/08/20 10:04	

LABORATORY CONTROL SAMPLE: 2670899

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	99	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 2672707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	93	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2670900 2670901

Parameter	Units	60339136001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	602	250	250	833	804	92	81	80-120	3	15	
Fluoride	mg/L	ND	125	125	137	138	105	106	80-120	0	15	
Sulfate	mg/L	ND	250	250	294	293	102	102	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

MATRIX SPIKE SAMPLE: 2670902

Parameter	Units	60338595005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	534	250	815	112	80-120	
Fluoride	mg/L	ND	125	138	106	80-120	
Sulfate	mg/L	162	250	425	105	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658655
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

METHOD BLANK: 2670911 Matrix: Water
Associated Lab Samples: 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	06/05/20 15:09	
Fluoride	mg/L	<0.075	0.20	0.075	06/05/20 15:09	
Sulfate	mg/L	<0.28	1.0	0.28	06/05/20 15:09	

METHOD BLANK: 2672709 Matrix: Water
Associated Lab Samples: 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	06/08/20 10:04	
Fluoride	mg/L	<0.075	0.20	0.075	06/08/20 10:04	
Sulfate	mg/L	<0.28	1.0	0.28	06/08/20 10:04	

METHOD BLANK: 2673579 Matrix: Water
Associated Lab Samples: 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	06/09/20 09:22	
Fluoride	mg/L	<0.075	0.20	0.075	06/09/20 09:22	
Sulfate	mg/L	<0.28	1.0	0.28	06/09/20 09:22	

LABORATORY CONTROL SAMPLE: 2670912

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	2.3	91	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 2672710

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

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

LABORATORY CONTROL SAMPLE: 2672710

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

LABORATORY CONTROL SAMPLE: 2673580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.3	90	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2670913 2670914

Parameter	Units	60338382024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22.6	10	10	34.1	34.3	114	116	80-120	1	15	
Fluoride	mg/L	0.41	2.5	2.5	2.9	2.9	98	100	80-120	2	15	
Sulfate	mg/L	164	50	50	217	215	106	102	80-120	1	15	E

MATRIX SPIKE SAMPLE: 2670915

Parameter	Units	60338806001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	149	250	409	104	80-120	
Fluoride	mg/L	<10.0	125	129	100	80-120	
Sulfate	mg/L	297	250	565	107	80-120	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 658871 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: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

METHOD BLANK: 2672128 Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	06/08/20 10:04	
Fluoride	mg/L	<0.075	0.20	0.075	06/08/20 10:04	
Sulfate	mg/L	<0.28	1.0	0.28	06/08/20 10:04	

METHOD BLANK: 2673583 Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	06/09/20 09:22	
Fluoride	mg/L	<0.075	0.20	0.075	06/09/20 09:22	
Sulfate	mg/L	<0.28	1.0	0.28	06/09/20 09:22	

LABORATORY CONTROL SAMPLE: 2672129

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	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 2673584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.3	90	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2672134 2672135

Parameter	Units	60338825002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	82.9	50	50	144	133	123	100	80-120	8	15	M1
Fluoride	mg/L	0.91J	25	25	28.5	24.5	110	94	80-120	15	15	

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QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2672134 2672135

Parameter	Units	60338825002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	136	50	50	201	184	131	97	80-120	9	15	E,M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2672136 2672137

Parameter	Units	60338382002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.3	5	5	9.8	10.1	91	96	80-120	2	15	
Fluoride	mg/L	0.22	2.5	2.5	2.6	2.8	97	102	80-120	4	15	
Sulfate	mg/L	153	100	100	249	249	96	95	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2672138 2672139

Parameter	Units	60338382007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.4	5	5	9.2	9.3	95	97	80-120	1	15	
Fluoride	mg/L	0.22	2.5	2.5	2.6	2.7	96	99	80-120	2	15	
Sulfate	mg/L	32.6	10	10	43.1	43.4	105	107	80-120	1	15	E

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-AMW-8 **Lab ID: 60338382001** Collected: 05/27/20 13:42 Received: 05/28/20 03:05 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	**0.267 ± 0.418 (0.699) C:NA T:98%**	pCi/L	06/19/20 14:03	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.243 ± 0.613 (1.36) C:68% T:82%**	pCi/L	06/18/20 12:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-1S **Lab ID: 60338382002** Collected: 05/27/20 10:50 Received: 05/28/20 03:05 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	**0.206 ± 0.334 (0.566) C:NA T:96%**	pCi/L	06/19/20 14:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.190 ± 0.407 (0.903) C:71% T:82%**	pCi/L	06/18/20 15:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-2S **Lab ID: 60338382003** Collected: 05/27/20 15:20 Received: 05/28/20 03:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.273 ± 0.407 (0.963) C:NA T:93%**	pCi/L	06/19/20 14:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.181 ± 0.410 (0.980) C:74% T:79%**	pCi/L	06/18/20 12:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-4S **Lab ID: 60338382004** Collected: 05/26/20 10:00 Received: 05/28/20 03:05 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	**0.326 ± 0.605 (1.03) C:NA T:98%**	pCi/L	06/19/20 14:03	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.370 ± 0.524 (1.13) C:75% T:81%**	pCi/L	06/18/20 15:50	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-7S **Lab ID: 60338382005** Collected: 05/27/20 13:25 Received: 05/28/20 03:05 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	**0.0299 ± 0.422 (0.861) C:NA T:88%**	pCi/L	06/19/20 14:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.173 ± 0.391 (0.966) C:72% T:87%**	pCi/L	06/18/20 15:56	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-8S **Lab ID: 60338382006** Collected: 05/26/20 13:10 Received: 05/28/20 03:05 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	**0.314 ± 0.492 (0.823) C:NA T:91%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.386 ± 0.514 (1.10) C:68% T:84%**	pCi/L	06/18/20 12:55	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-26 **Lab ID: 60338382007** Collected: 05/27/20 11:20 Received: 05/28/20 03:05 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	**-0.0462 ± 0.353 (0.744) C:NA T:88%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.232 ± 0.427 (1.06) C:68% T:86%**	pCi/L	06/18/20 15:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-S-1 **Lab ID: 60338382008** Collected: 05/27/20 14:47 Received: 05/28/20 03:05 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	**0.341 ± 0.382 (0.555) C:NA T:87%**	pCi/L	06/19/20 14:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.675 ± 0.718 (1.51) C:68% T:92%**	pCi/L	06/18/20 19:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-1D **Lab ID: 60338382009** Collected: 05/27/20 15:46 Received: 05/28/20 03:05 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	**0.759 ± 0.580 (0.768) C:NA T:96%**	pCi/L	06/19/20 14:52	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**2.55 ± 1.01 (1.68) C:70% T:87%**	pCi/L	06/18/20 19:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-DUP-1 **Lab ID: 60338382010** Collected: 05/27/20 08:00 Received: 05/28/20 03:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.143 ± 0.461 (0.888) C:NA T:76%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.264 ± 0.510 (1.12) C:67% T:87%**	pCi/L	06/18/20 12:55	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-DUP-2 **Lab ID: 60338382011** Collected: 05/27/20 08:00 Received: 05/28/20 03:05 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	**-0.192 ± 0.375 (0.884) C:NA T:95%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.325 ± 0.585 (1.28) C:64% T:80%**	pCi/L	06/18/20 15:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-FB-1 **Lab ID: 60338382012** Collected: 05/27/20 14:05 Received: 05/28/20 03:05 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	**0.0442 ± 0.352 (0.729) C:NA T:90%**	pCi/L	06/19/20 14:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.312 ± 0.686 (1.52) C:71% T:79%**	pCi/L	06/18/20 19:59	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-26-MS-1 **Lab ID: 60338382013** Collected: 05/27/20 11:20 Received: 05/28/20 03:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**92.94 %REC ± NA (NA) C:NA T:NA%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**116.09 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/18/20 15:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-26-MSD-1 **Lab ID: 60338382014** Collected: 05/27/20 11:20 Received: 05/28/20 03:05 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	**102.23 %REC 9.52 RPD ± NA (NA) C:NA T:NA%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**119.92 %REC 3.25 RPD ± NA (NA) C:NA T:NA**	pCi/L	06/18/20 15:52	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-1S-MS-2 **Lab ID: 60338382015** Collected: 05/27/20 10:50 Received: 05/28/20 03:05 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	**86.02 %REC ± NA (NA) C:NA T:NA%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**119.63 %REC ± NA (NA) C:NA T:NA**	pCi/L	06/18/20 15:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-LMW-1S-MSD-2 **Lab ID: 60338382016** Collected: 05/27/20 10:50 Received: 05/28/20 03:05 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	**101.33 %REC 16.34 RPD ± NA (NA) C:NA T:NA%**	pCi/L	06/19/20 14:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**115.43 %REC 3.58 RPD ± NA (NA) C:NA T:NA**	pCi/L	06/18/20 15:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-BMW-1S **Lab ID: 60338382017** Collected: 05/29/20 10:20 Received: 05/29/20 18:20 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 ± 0.401 (0.849) C:NA T:90%**	pCi/L	06/22/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.39 ± 0.514 (0.748) C:70% T:85%**	pCi/L	06/18/20 12:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-BMW-2S **Lab ID: 60338382018** Collected: 05/29/20 11:35 Received: 05/29/20 18:20 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	**0.109 ± 0.339 (0.657) C:NA T:102%**	pCi/L	06/22/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.141 ± 0.363 (0.883) C:65% T:81%**	pCi/L	06/18/20 12:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-24 **Lab ID: 60338382019** Collected: 05/28/20 11:58 Received: 05/29/20 18:20 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 ± 0.437 (0.924) C:NA T:83%**	pCi/L	06/22/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.0348 ± 0.308 (0.731) C:69% T:89%**	pCi/L	06/18/20 12:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-33(D) **Lab ID: 60338382020** Collected: 05/28/20 15:47 Received: 05/29/20 18:20 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 ± 0.498 (0.950) C:NA T:95%**	pCi/L	06/22/20 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.14 ± 0.579 (1.02) C:64% T:79%**	pCi/L	06/18/20 12:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-34(D) **Lab ID: 60338382021** Collected: 05/28/20 15:40 Received: 05/29/20 18:20 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	**-0.0687 ± 0.521 (1.09) C:NA T:84%**	pCi/L	06/22/20 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.848 ± 0.470 (0.855) C:67% T:85%**	pCi/L	06/18/20 12:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-MW-35(D) **Lab ID: 60338382022** Collected: 05/28/20 12:51 Received: 05/29/20 18:20 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 ± 0.370 (0.783) C:NA T:103%**	pCi/L	06/22/20 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.781 ± 0.499 (0.949) C:63% T:86%**	pCi/L	06/18/20 12:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-2M **Lab ID: 60338382023** Collected: 05/28/20 13:50 Received: 05/29/20 18:20 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 ± 0.544 (1.18) C:NA T:80%**	pCi/L	06/22/20 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.601 ± 0.480 (0.964) C:68% T:84%**	pCi/L	06/18/20 12:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-2D **Lab ID: 60338382024** Collected: 05/28/20 12:55 Received: 05/29/20 18:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.273 ± 0.465 (0.821) C:NA T:85%**	pCi/L	06/22/20 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.65 ± 0.641 (0.991) C:66% T:76%**	pCi/L	06/18/20 12:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-3M **Lab ID: 60338382025** Collected: 05/29/20 12:55 Received: 05/29/20 18:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.804 ± 0.534 (0.622) C:NA T:89%**	pCi/L	06/22/20 13:46	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**2.17 ± 0.743 (1.06) C:60% T:79%**	pCi/L	06/18/20 12:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-3D **Lab ID: 60338382026** Collected: 05/29/20 12:14 Received: 05/29/20 18:20 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	**-0.0592 ± 0.307 (0.711) C:NA T:93%**	pCi/L	06/22/20 13:46	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.284 ± 0.463 (1.01) C:65% T:80%**	pCi/L	06/18/20 12:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-TP-4D **Lab ID: 60338382027** Collected: 05/29/20 10:32 Received: 05/29/20 18:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**2.35 ± 0.971 (0.962) C:NA T:79%**	pCi/L	06/22/20 13:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.67 ± 0.617 (0.934) C:71% T:79%**	pCi/L	06/18/20 12:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-AM-1S **Lab ID: 60338382028** Collected: 05/28/20 11:15 Received: 05/29/20 18:20 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	**0.191 ± 0.483 (0.896) C:NA T:92%**	pCi/L	06/22/20 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.996 ± 0.531 (0.957) C:70% T:76%**	pCi/L	06/18/20 12:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-AM-1D **Lab ID: 60338382029** Collected: 05/28/20 09:35 Received: 05/29/20 18:20 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 ± 0.518 (1.08) C:NA T:90%**	pCi/L	06/22/20 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.711 ± 0.445 (0.835) C:66% T:85%**	pCi/L	06/18/20 12:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-DUP-3 **Lab ID: 60338382030** Collected: 05/28/20 08:00 Received: 05/29/20 18:20 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 ± 0.270 (0.606) C:NA T:97%**	pCi/L	06/22/20 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.03 ± 0.533 (0.948) C:66% T:81%**	pCi/L	06/18/20 12:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-FB-2 **Lab ID: 60338382031** Collected: 05/28/20 11:20 Received: 05/29/20 18:20 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	**0.150 ± 0.343 (0.204) C:NA T:85%**	pCi/L	06/22/20 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.466 ± 0.628 (1.34) C:68% T:73%**	pCi/L	06/18/20 15:50	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Sample: L-CA-FB-3 **Lab ID: 60338382032** Collected: 05/28/20 13:25 Received: 05/29/20 18:20 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 ± 0.276 (0.445) C:NA T:92%**	pCi/L	06/22/20 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.485 ± 0.542 (1.13) C:72% T:78%**	pCi/L	06/18/20 15:50	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 399231
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012, 60338382013, 60338382014, 60338382015, 60338382016

METHOD BLANK: 1933427
Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012, 60338382013, 60338382014, 60338382015, 60338382016

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.293 ± 0.549 (0.929) C:NA T:91%	pCi/L	06/19/20 14:03	

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 LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 399404
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

METHOD BLANK: 1934132
Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.239 ± 0.387 (0.674) C:NA T:92%	pCi/L	06/22/20 13:29	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 399232
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012, 60338382013, 60338382014, 60338382015, 60338382016

METHOD BLANK: 1933429
Matrix: Water
Associated Lab Samples: 60338382001, 60338382002, 60338382003, 60338382004, 60338382005, 60338382006, 60338382007, 60338382008, 60338382009, 60338382010, 60338382011, 60338382012, 60338382013, 60338382014, 60338382015, 60338382016

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.391 ± 0.380 (0.777) C:71% T:80%	pCi/L	06/18/20 12:49	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

QC Batch: 399405
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

METHOD BLANK: 1934137
Matrix: Water
Associated Lab Samples: 60338382017, 60338382018, 60338382019, 60338382020, 60338382021, 60338382022, 60338382023, 60338382024, 60338382025, 60338382026, 60338382027, 60338382028, 60338382029, 60338382030, 60338382031, 60338382032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.304 ± 0.317 (0.652) C:68% T:84%	pCi/L	06/18/20 12:49	

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QUALIFIERS

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

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.

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.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60338382001	L-AMW-8	EPA 200.7	659614	EPA 200.7	659632
60338382002	L-LMW-1S	EPA 200.7	659614	EPA 200.7	659632
60338382003	L-LMW-2S	EPA 200.7	659614	EPA 200.7	659632
60338382004	L-LMW-4S	EPA 200.7	659614	EPA 200.7	659632
60338382005	L-LMW-7S	EPA 200.7	659614	EPA 200.7	659632
60338382006	L-LMW-8S	EPA 200.7	659614	EPA 200.7	659632
60338382007	L-MW-26	EPA 200.7	659614	EPA 200.7	659632
60338382008	L-S-1	EPA 200.7	659614	EPA 200.7	659632
60338382009	L-TP-1D	EPA 200.7	659614	EPA 200.7	659632
60338382010	L-CA-DUP-1	EPA 200.7	659614	EPA 200.7	659632
60338382011	L-CA-DUP-2	EPA 200.7	659614	EPA 200.7	659632
60338382012	L-CA-FB-1	EPA 200.7	659614	EPA 200.7	659632
60338382017	L-BMW-1S	EPA 200.7	661528	EPA 200.7	661701
60338382018	L-BMW-2S	EPA 200.7	661528	EPA 200.7	661701
60338382019	L-MW-24	EPA 200.7	661528	EPA 200.7	661701
60338382020	L-MW-33(D)	EPA 200.7	661528	EPA 200.7	661701
60338382021	L-MW-34(D)	EPA 200.7	661528	EPA 200.7	661701
60338382022	L-MW-35(D)	EPA 200.7	661528	EPA 200.7	661701
60338382023	L-TP-2M	EPA 200.7	661528	EPA 200.7	661701
60338382024	L-TP-2D	EPA 200.7	661528	EPA 200.7	661701
60338382025	L-TP-3M	EPA 200.7	661528	EPA 200.7	661701
60338382026	L-TP-3D	EPA 200.7	661528	EPA 200.7	661701
60338382027	L-TP-4D	EPA 200.7	661528	EPA 200.7	661701
60338382028	L-AM-1S	EPA 200.7	661528	EPA 200.7	661701
60338382029	L-AM-1D	EPA 200.7	661528	EPA 200.7	661701
60338382030	L-CA-DUP-3	EPA 200.7	661528	EPA 200.7	661701
60338382031	L-CA-FB-2	EPA 200.7	661528	EPA 200.7	661701
60338382032	L-CA-FB-3	EPA 200.7	661528	EPA 200.7	661701
60338382001	L-AMW-8	EPA 200.8	659733	EPA 200.8	659742
60338382002	L-LMW-1S	EPA 200.8	659733	EPA 200.8	659742
60338382003	L-LMW-2S	EPA 200.8	659733	EPA 200.8	659742
60338382004	L-LMW-4S	EPA 200.8	659733	EPA 200.8	659742
60338382005	L-LMW-7S	EPA 200.8	659733	EPA 200.8	659742
60338382006	L-LMW-8S	EPA 200.8	659733	EPA 200.8	659742
60338382007	L-MW-26	EPA 200.8	659733	EPA 200.8	659742
60338382008	L-S-1	EPA 200.8	659733	EPA 200.8	659742
60338382009	L-TP-1D	EPA 200.8	659733	EPA 200.8	659742
60338382010	L-CA-DUP-1	EPA 200.8	659733	EPA 200.8	659742
60338382011	L-CA-DUP-2	EPA 200.8	659733	EPA 200.8	659742
60338382012	L-CA-FB-1	EPA 200.8	659733	EPA 200.8	659742
60338382017	L-BMW-1S	EPA 200.8	661097	EPA 200.8	661163
60338382018	L-BMW-2S	EPA 200.8	661097	EPA 200.8	661163
60338382019	L-MW-24	EPA 200.8	661097	EPA 200.8	661163
60338382020	L-MW-33(D)	EPA 200.8	661097	EPA 200.8	661163
60338382021	L-MW-34(D)	EPA 200.8	661097	EPA 200.8	661163
60338382022	L-MW-35(D)	EPA 200.8	661097	EPA 200.8	661163
60338382023	L-TP-2M	EPA 200.8	661097	EPA 200.8	661163

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60338382024	L-TP-2D	EPA 200.8	661097	EPA 200.8	661163
60338382025	L-TP-3M	EPA 200.8	661097	EPA 200.8	661163
60338382026	L-TP-3D	EPA 200.8	661097	EPA 200.8	661163
60338382027	L-TP-4D	EPA 200.8	661097	EPA 200.8	661163
60338382028	L-AM-1S	EPA 200.8	661097	EPA 200.8	661163
60338382029	L-AM-1D	EPA 200.8	661097	EPA 200.8	661163
60338382030	L-CA-DUP-3	EPA 200.8	661097	EPA 200.8	661163
60338382031	L-CA-FB-2	EPA 200.8	661097	EPA 200.8	661163
60338382032	L-CA-FB-3	EPA 200.8	661097	EPA 200.8	661163
60338382001	L-AMW-8	EPA 903.1	399231		
60338382002	L-LMW-1S	EPA 903.1	399231		
60338382003	L-LMW-2S	EPA 903.1	399231		
60338382004	L-LMW-4S	EPA 903.1	399231		
60338382005	L-LMW-7S	EPA 903.1	399231		
60338382006	L-LMW-8S	EPA 903.1	399231		
60338382007	L-MW-26	EPA 903.1	399231		
60338382008	L-S-1	EPA 903.1	399231		
60338382009	L-TP-1D	EPA 903.1	399231		
60338382010	L-CA-DUP-1	EPA 903.1	399231		
60338382011	L-CA-DUP-2	EPA 903.1	399231		
60338382012	L-CA-FB-1	EPA 903.1	399231		
60338382013	L-MW-26-MS-1	EPA 903.1	399231		
60338382014	L-MW-26-MSD-1	EPA 903.1	399231		
60338382015	L-LMW-1S-MS-2	EPA 903.1	399231		
60338382016	L-LMW-1S-MSD-2	EPA 903.1	399231		
60338382017	L-BMW-1S	EPA 903.1	399404		
60338382018	L-BMW-2S	EPA 903.1	399404		
60338382019	L-MW-24	EPA 903.1	399404		
60338382020	L-MW-33(D)	EPA 903.1	399404		
60338382021	L-MW-34(D)	EPA 903.1	399404		
60338382022	L-MW-35(D)	EPA 903.1	399404		
60338382023	L-TP-2M	EPA 903.1	399404		
60338382024	L-TP-2D	EPA 903.1	399404		
60338382025	L-TP-3M	EPA 903.1	399404		
60338382026	L-TP-3D	EPA 903.1	399404		
60338382027	L-TP-4D	EPA 903.1	399404		
60338382028	L-AM-1S	EPA 903.1	399404		
60338382029	L-AM-1D	EPA 903.1	399404		
60338382030	L-CA-DUP-3	EPA 903.1	399404		
60338382031	L-CA-FB-2	EPA 903.1	399404		
60338382032	L-CA-FB-3	EPA 903.1	399404		
60338382001	L-AMW-8	EPA 904.0	399232		
60338382002	L-LMW-1S	EPA 904.0	399232		
60338382003	L-LMW-2S	EPA 904.0	399232		
60338382004	L-LMW-4S	EPA 904.0	399232		
60338382005	L-LMW-7S	EPA 904.0	399232		
60338382006	L-LMW-8S	EPA 904.0	399232		

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Pace Project No.: 60338382

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60338382007	L-MW-26	EPA 904.0	399232		
60338382008	L-S-1	EPA 904.0	399232		
60338382009	L-TP-1D	EPA 904.0	399232		
60338382010	L-CA-DUP-1	EPA 904.0	399232		
60338382011	L-CA-DUP-2	EPA 904.0	399232		
60338382012	L-CA-FB-1	EPA 904.0	399232		
60338382013	L-MW-26-MS-1	EPA 904.0	399232		
60338382014	L-MW-26-MSD-1	EPA 904.0	399232		
60338382015	L-LMW-1S-MS-2	EPA 904.0	399232		
60338382016	L-LMW-1S-MSD-2	EPA 904.0	399232		
60338382017	L-BMW-1S	EPA 904.0	399405		
60338382018	L-BMW-2S	EPA 904.0	399405		
60338382019	L-MW-24	EPA 904.0	399405		
60338382020	L-MW-33(D)	EPA 904.0	399405		
60338382021	L-MW-34(D)	EPA 904.0	399405		
60338382022	L-MW-35(D)	EPA 904.0	399405		
60338382023	L-TP-2M	EPA 904.0	399405		
60338382024	L-TP-2D	EPA 904.0	399405		
60338382025	L-TP-3M	EPA 904.0	399405		
60338382026	L-TP-3D	EPA 904.0	399405		
60338382027	L-TP-4D	EPA 904.0	399405		
60338382028	L-AM-1S	EPA 904.0	399405		
60338382029	L-AM-1D	EPA 904.0	399405		
60338382030	L-CA-DUP-3	EPA 904.0	399405		
60338382031	L-CA-FB-2	EPA 904.0	399405		
60338382032	L-CA-FB-3	EPA 904.0	399405		
60338382001	L-AMW-8	SM 2320B	658598		
60338382002	L-LMW-1S	SM 2320B	658598		
60338382003	L-LMW-2S	SM 2320B	658598		
60338382004	L-LMW-4S	SM 2320B	658482		
60338382005	L-LMW-7S	SM 2320B	658598		
60338382006	L-LMW-8S	SM 2320B	658482		
60338382007	L-MW-26	SM 2320B	658598		
60338382008	L-S-1	SM 2320B	658598		
60338382009	L-TP-1D	SM 2320B	658598		
60338382010	L-CA-DUP-1	SM 2320B	658598		
60338382011	L-CA-DUP-2	SM 2320B	658598		
60338382012	L-CA-FB-1	SM 2320B	658598		
60338382017	L-BMW-1S	SM 2320B	658822		
60338382018	L-BMW-2S	SM 2320B	658822		
60338382019	L-MW-24	SM 2320B	658743		
60338382020	L-MW-33(D)	SM 2320B	658743		
60338382021	L-MW-34(D)	SM 2320B	658743		
60338382022	L-MW-35(D)	SM 2320B	658743		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

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Pace Project No.: 60338382

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60338382023	**L-TP-2M**	SM 2320B	658821		
60338382024	**L-TP-2D**	SM 2320B	658821		
60338382025	**L-TP-3M**	SM 2320B	658822		
60338382026	**L-TP-3D**	SM 2320B	658822		
60338382027	**L-TP-4D**	SM 2320B	658822		
60338382028	**L-AM-1S**	SM 2320B	658821		
60338382029	**L-AM-1D**	SM 2320B	658821		
60338382030	**L-CA-DUP-3**	SM 2320B	658821		
60338382031	**L-CA-FB-2**	SM 2320B	658821		
60338382032	**L-CA-FB-3**	SM 2320B	658821		
60338382001	**L-AMW-8**	SM 2540C	657627		
60338382002	**L-LMW-1S**	SM 2540C	657627		
60338382003	**L-LMW-2S**	SM 2540C	657627		
60338382004	**L-LMW-4S**	SM 2540C	657627		
60338382005	**L-LMW-7S**	SM 2540C	657627		
60338382006	**L-LMW-8S**	SM 2540C	657627		
60338382007	**L-MW-26**	SM 2540C	657627		
60338382008	**L-S-1**	SM 2540C	657627		
60338382009	**L-TP-1D**	SM 2540C	657627		
60338382010	**L-CA-DUP-1**	SM 2540C	657627		
60338382011	**L-CA-DUP-2**	SM 2540C	657627		
60338382012	**L-CA-FB-1**	SM 2540C	657803		
60338382017	**L-BMW-1S**	SM 2540C	658581		
60338382018	**L-BMW-2S**	SM 2540C	658581		
60338382019	**L-MW-24**	SM 2540C	658452		
60338382020	**L-MW-33(D)**	SM 2540C	658452		
60338382021	**L-MW-34(D)**	SM 2540C	658452		
60338382022	**L-MW-35(D)**	SM 2540C	658452		
60338382023	**L-TP-2M**	SM 2540C	658452		
60338382024	**L-TP-2D**	SM 2540C	658452		
60338382025	**L-TP-3M**	SM 2540C	658581		
60338382026	**L-TP-3D**	SM 2540C	658581		
60338382027	**L-TP-4D**	SM 2540C	658581		
60338382028	**L-AM-1S**	SM 2540C	658452		
60338382029	**L-AM-1D**	SM 2540C	658452		
60338382030	**L-CA-DUP-3**	SM 2540C	658452		
60338382031	**L-CA-FB-2**	SM 2540C	658452		
60338382032	**L-CA-FB-3**	SM 2540C	658452		
60338382001	**L-AMW-8**	EPA 300.0	658871		
60338382002	**L-LMW-1S**	EPA 300.0	658871		
60338382003	**L-LMW-2S**	EPA 300.0	658871		
60338382004	**L-LMW-4S**	EPA 300.0	658871		
60338382005	**L-LMW-7S**	EPA 300.0	658871		
60338382006	**L-LMW-8S**	EPA 300.0	658871		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY LCPA-CA
Pace Project No.: 60338382

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60338382007	**L-MW-26**	EPA 300.0	658871		
60338382008	**L-S-1**	EPA 300.0	658871		
60338382009	**L-TP-1D**	EPA 300.0	658871		
60338382010	**L-CA-DUP-1**	EPA 300.0	658871		
60338382011	**L-CA-DUP-2**	EPA 300.0	658871		
60338382012	**L-CA-FB-1**	EPA 300.0	658871		
60338382017	**L-BMW-1S**	EPA 300.0	658650		
60338382018	**L-BMW-2S**	EPA 300.0	658650		
60338382019	**L-MW-24**	EPA 300.0	658650		
60338382020	**L-MW-33(D)**	EPA 300.0	658650		
60338382021	**L-MW-34(D)**	EPA 300.0	658650		
60338382022	**L-MW-35(D)**	EPA 300.0	658650		
60338382023	**L-TP-2M**	EPA 300.0	658650		
60338382024	**L-TP-2D**	EPA 300.0	658655		
60338382025	**L-TP-3M**	EPA 300.0	658655		
60338382026	**L-TP-3D**	EPA 300.0	658655		
60338382027	**L-TP-4D**	EPA 300.0	658655		
60338382028	**L-AM-1S**	EPA 300.0	658655		
60338382029	**L-AM-1D**	EPA 300.0	658655		
60338382030	**L-CA-DUP-3**	EPA 300.0	658655		
60338382031	**L-CA-FB-2**	EPA 300.0	658655		
60338382032	**L-CA-FB-3**	EPA 300.0	658655		

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Sample Condition Upon Receipt

WO#: 60338382

60338382

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 ☒ Zip

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

Cooler Temperature (°C): As-read 19.4 Corr. Factor +0.1 Corrected 19.5

Date and initials of person examining contents:

Temperature should be above freezing to 6°C 19.8, 0.1, 1.8 19.9, 0.2, 1.9

Chain of Custody present:	☒Yes ☐No ☐N/A	all coolers received out of ten had only Radium samples
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	Received MS/MSD for time of 1100 4BP1U, 2BP1U, 2BPJN
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	Received MS/MSD for time of 1050 only 2BP1U, 2BPJN
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) Lot # 603173	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Jamie Church 5/29/20

Project Manager Review: _____ Date

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **		Radium 226	Radium 226				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N	N	N	N	N	N	N	N		60338382
1	L-AMW-8	WT	G			5/27/20	1342		4	1		3						✓	✓	✓	✓	✓		✓	✓				
2	L-BMW-1S	WT	G																										
3	L-BMW-2S	WT	G																										
4	L-LMW-1S	WT	G			5/27/20	1050		4	1		3						✓	✓	✓	✓	✓		✓	✓				
5	L-LMW-2S	WT	G			5/27/20	1520		4	1		3						✓	✓	✓	✓	✓		✓	✓				
6	L-LMW-4S	WT	G			5/26/20	1000		4	1		3						✓	✓	✓	✓	✓		✓	✓				
7	L-LMW-7S	WT	G			5/27/20	1325		4	1		3						✓	✓	✓	✓	✓		✓	✓				
8	L-LMW8S	WT	G			5/26/20	1310		4	1		3						✓	✓	✓	✓	✓		✓	✓				
9	L-MW-24	WT	G																										
10	L-MW-26	WT	G			5/27/20	1120		4	1		3						✓	✓	✓	✓	✓		✓	✓				
11	L-MW-33(D)	WT	G																										
12	L-MW-34(D)	WT	G																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
"App III and Cat/An Metals" - EPA 200.7: B, Ca, Fe, Mg, Mn, K, Na	Katherine Bantels/Golder	5/27/20	1815	WZ ipt (Yes	5-28-20	0305	19.4	N	Y	C
**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - Sb, As, Cr, Se							19.8	C		
							6.2	Y		
							1.9			

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Katherine Bantels

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 5/27/20

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

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Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **		Radium 226	Radium 226					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N	N	N	N	N	N	N	N				60339382
1	L-MW-35(D)	WT	G																												
2	L-S-1	WT	G			5/27/20	1447	9	4	1		3							✓	✓	✓	✓	✓		✓	✓					
3	L-TP-1D	WT	G			5/27/20	1346		4	1		3							✓	✓	✓	✓	✓		✓	✓					
4	L-TP-2M	WT	G																												
5	L-TP-2D	WT	G																												
6	L-TP-3M	WT	G																												
7	L-TP-3D	WT	G																												
8	L-TP-4D	WT	G																												
9	L-AM-1S	WT	G																												
10	L-AM-1D	WT	G																												
11	L-CA-DUP-1	WT	G			5/27/20	—		4	1		3							✓	✓	✓	✓	✓		✓	✓					
12	L-CA-DUP-2	WT	G			5/27/20	—		4	1		3							✓	✓	✓	✓	✓		✓	✓					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
App III and Cat/An Metals - EPA 200.7: B, Ca, Fe, Mg, Mn, K, Na	Katherine Bartels/Golder	5/27/20	1815	Receipt Test	5-28-20	0805	4.4	N	Y	Y
**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - Sb, As, Cr, Se							19.8	↓	↓	↓
							0.2	Y		
							1.9	↓	↓	↓

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Katherine Bartels

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): 5/27/20

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

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www.pacelabs.com

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	Ballwin, MO 63021
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Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

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Attention:	
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Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

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☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
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Site Location STATE: MO

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Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

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																		Y/N ↓	N	N	N	N	N	N	N	N	N
1	L-CA-DUP-3	WT	G																								
2	L-CA-FB-1	WT	G			5/27/20	1405		4	1		3							/	/	/	/	/		/	/		
3	L-CA-FB-2	WT	G			~~5/27/20~~																					
4	L-CA-FB-3	WT	G																								
5	L-MS-1	WT	G			5/27/20	1120		4	1		3							/	/	/	/	/		/	/		
6	L-MSD-1	WT	G			5/27/20	1120		4	1		3							/	/	/	/	/		/	/		
7	L-MS-2	WT	G																								
8	L-MSD-2	WT	G																								
9		WT	G																								
10		WT	G																								
11		WT	G																								
12		WT	G																								

Residual Chlorine (Y/N): 6053 8382

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
App III and Cat/An Metals - EPA 200.7: B, Ca, Fe, Mg, Mn, K, Na	Katherine Bandels/Golder	5/27/20	1516	Receipt Pace	5/28/20	0705	19.4	N	Y	Y
**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - Sb, As, Cr, Se							19.8	Y		
							0.2	Y		
							1.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Katherine Bandels

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 5/27/20

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Sample Condition Upon Receipt

WO# : 60338382

60338382

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 ☑ zpc

Thermometer Used: T301 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 0.8, 1.6 **Corr. Factor** -0.4 **Corrected** 0.4, 1.2, 19.9, 20.7

Date and initials of person examining contents: 5/29/20 HF

Temperature should be above freezing to 6°C 20.3, 21.1

Chain of Custody present:	☑Yes ☐No ☐N/A	2 Coolers received w/ ice
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	2 coolers (containing Radium samples) no ice
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☑No ☐N/A	
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 403173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jasmi Church Date: 6/1/20

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	COC #2
Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

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

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Requested Analysis Filtered (Y/N)

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										N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		10338382
1	L-AMW-8	WT	G																										
2	L-BMW-1S	WT	G			5/29/20	1020		4	1		3						/	/	/	/	/		/	/				017
3	L-BMW-2S	WT	G			5/29/20	1135		4	1		3						/	/	/	/	/		/	/				
4	L-LMW-1S	WT	G																										
5	L-LMW-2S	WT	G																										
6	L-LMW-4S	WT	G																										
7	L-LMW-7S	WT	G																										
8	L-LMW8S	WT	G																										
9	L-MW-24	WT	G			5/28/20	1158		4	1		3						/	/	/	/	/		/	/				
10	L-MW-26	WT	G																										
11	L-MW-33(D)	WT	G			5/28/20	1547		4	1		3						/	/	/	/	/		/	/				
12	L-MW-34(D)	WT	G			5/28/20	1540		4	1		3						/	/	/	/	/		/	/				

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**- App IV Metals - EPA 200.7 - Ba, Li, Mo 200.8 Metals - Sb, As, Cr, Se	Angela McM	5/29	1604	Holly Fowler / POSI	5/29/20	1820	0.4	Y	Y	Y
							1.2	Y	↓	↓
							19.9	N	↓	↓
							20.7	↓	↓	↓

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert

DATE Signed (MM/DD/YY): 5/29/2020

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Project Name:	Ameren Labadie Energy Center LCPA-CA
Project Number:	153140602.0001A

Section C Invoice Information:

Attention:	
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Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285, line 1

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
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																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	N	N	N	N	N			
1	L-MW-35(D)	WT	G			5/28/20	1251		4	1		3							/	/	/	/	/		/	/				40338382
2	L-S-1	WT	G																												
3	L-TP-1D	WT	G																												
4	L-TP-2M	WT	G			5/28/20	1350		4	1		3							/	/	/	/	/		/	/				
5	L-TP-2D	WT	G			5/28/20	1255		4	1		3							/	/	/	/	/		/	/				
6	L-TP-3M	WT	G			5/29/20	1255		4	1		3							/	/	/	/	/		/	/				
7	L-TP-3D	WT	G			5/29/20	1214		4	1		3							/	/	/	/	/		/	/				
8	L-TP-4D	WT	G			05/29/20	1032		4	1		3							/	/	/	/	/		/	/				
9	L-AM-1S	WT	G			05/28/20	1115		4	1		3							X	/	/	/	/		/	/				
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	Analysis Test Y/N																		N	N	N	N	N	N	N	N				
1	L-CA-DUP-3	WT	G			5/28/20	—		4	1		3							/	/	/	/	/		/	/				LD 338782
2	L-CA-FB-1	WT	G																											
3	L-CA-FB-2	WT	G			5/28/20	1120		4	1		3							/	/	/	/	/		/	/				
4	L-CA-FB-3	WT	G			5/28/20	1325		4	1		3							/	/	/	/	/		/	/				
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SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert DATE Signed (MM/DD/YY): 5/29/2020

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

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MEMORANDUM

DATE June 30, 2020 **Project No.** 153140602

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 – CORRECTIVE ACTION SAMPLING MAY 2020 - DATA PACKAGE 60338382

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

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA-CA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 06/30/2020

Laboratory: Pace Analytical
SDG #: 60338382
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-AMW-8, L-LMW-1S, L-LMW-2S, L-LMW-4S, L-LMW-7S, L-LMW-8S, L-MW-26, L-S-1, L-TP-1D, L-CA-DUP-1, L-CA-DUP-2, L-CA-FB-1, L-MW-26-MS-1, L-MW-26-MSD-1, L-LMW-1S-MS-2, L-LMW-1S-MSD-2, L-BMW-1S, L-BMW-2S, L-MW-24, L-MW-33(D), L-MW-34(D), L-MW-35(D), L-TP-2M, L-TP-2D, L-TP-3M, L-TP-3D, L-TP-4D, L-AM-1S, L-AM-1D, L-CA-DUP-3, L-CA-FB-2, L-CA-FB-3

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			05/26 - 05/29/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-CA-DUP-1 @ L-AMW-8
	x			L-CA-DUP-2 @ L-LMW-2S
b) Were field dup. precision criteria met (note RPD)?		x		L-CA-DUP-3 @ L-AM-1D
c) Were lab duplicates analyzed (note original and duplicate samples)?				See Notes
	x			
d) Were lab dup. precision criteria met (note RPD)?		x		See Notes

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

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

Comments/Notes:

COC: Coolers outside of temp contained only radium. MS/MSD times do not match COC from 05/27/2020.

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

MB: 2674695: Magnesium (26.4 J), Sodium (214 J), associated samples -82001 through -82012, detections in samples are > RL or non-detect, no qualification necessary.

2681820: Lithium (8.7 J), Sodium (435 J), associated samples -82017 through -82032

2675060: Chromium (0.79 J), associated samples -82001 through -82012

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

FB: L-CA-FB-1 @ L-LMW-7S: Boron (12.3 J), Calcium (58.1 J), Chromium (0.43 J), TDS (11.5), detections in sample > 10x the blank result or non-detect, no qualification necessary.

L-CA-FB-2 @ L-AM-1S: Boron (19.1 J), Calcium (36.8 J), Sodium (120 J), TDS (8.5), detections in sample > 10x the blank result, no qualification necessary.

L-CA-FB-3 @ L-MW-35(D): Boron (12.3 J), TDS (6.5), detections in sample > 10x the blank result, no qualification necessary.

DUP: L-CA-DUP-1: RPD exceeds limit (>20%) for Iron, Antimony detected in sample and non-detect in DUP

L-CA-DUP-2: Iron and Antimony detected in sample and non-detect in DUP

L-CA-DUP-3: Radium-228 detected in DUP and non-detect in sample

Lab Duplicate: 2667431: RPD exceeds limit (>10%) for TDS, associated sample -82012

MS/MSD: 2672134, 2672135: MS % recovery low for Chloride, associated sample -25002 (unrelated sample)

2672134, 2672135: MS % recovery high for Sulfate, associated sample -25002 (unrelated sample)

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-CA-FB-2	Sodium	500	U	Detected in method blank
L-AMW-8	Chromium	1.0	U	"
L-LMW-4S	"	1.0	U	"
L-MW-26	"	1.0	U	"
L-TP-1D	"	1.0	U	"
L-CA-DUP-1	"	1.0	U	"
L-CA-FB-1	"	1.0	U	"
L-AMW-8	Iron	2280	J	DUP RPD exceeds limit
"	Antimony	0.15	J	Detected in sample, non-detect in DUP
L-CA-DUP-1	Iron	2800	J	DUP RPD exceeds limit
"	Antimony	0.097	UJ	Detected in sample, non-detect in DUP
L-LMW-2S	Iron	31.8	J	Detected in sample, non-detect in DUP
"	Antimony	0.11	J	"
L-CA-DUP-2	Iron	26.8	UJ	"
"	Antimony	0.097	UJ	"
L-AM-1D	Radium-228	0.711 ± 0.445	UJ	Detected in DUP, non-detect in sample
L-CA-DUP-3	"	1.03 ± 0.533	J	"
L-CA-FB-1	TDS	11.5	J	Lab Duplicate RPD exceeds limit

Signature: Ann Muhlfarth (signature)

Date: 06/30/2020

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

July 08, 2020

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

RE: Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on June 24, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

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

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

SAMPLE SUMMARY

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60340837001	**L-AMW-8**	Water	06/23/20 10:20	06/24/20 04:45

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SAMPLE ANALYTE COUNT

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60340837001	**L-AMW-8**	EPA 200.7	JDE	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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

ANALYTICAL RESULTS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

Sample: L-AMW-8 **Lab ID: 60340837001** Collected: 06/23/20 10:20 Received: 06/24/20 04:45 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								
Molybdenum	**320**	ug/L	20.0	1.7	1	07/06/20 16:51	07/07/20 13:14	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

QC Batch: 663588
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60340837001

METHOD BLANK: 2689906 Matrix: Water
Associated Lab Samples: 60340837001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Molybdenum	ug/L	<1.7	20.0	1.7	07/07/20 12:19	

LABORATORY CONTROL SAMPLE: 2689907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2689908 2689909

Parameter	Units	60340569001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	<1.7	1000	1000	1000	1030	100	103	70-130	3	20	

MATRIX SPIKE SAMPLE: 2689910

Parameter	Units	60340199024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	<1.7	1000	1020	102	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LABADIE ENERGY CTR
Pace Project No.: 60340837

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60340837001	**L-AMW-8**	EPA 200.7	663588	EPA 200.7	663739

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60340837

60340837

Client Name: Golder Associates

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

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

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

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

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

Cooler Temperature (°C): As-read 0.0 Corr. Factor -0.5 Corrected 0.1

Date and initials of person examining contents: 06242020 MK

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: LQT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 0032960	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jami Church Date: 6/24/20

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Drive, Ste 260	Copy To:	Ryan Feldmann/Eric Schneider	Company Name:	
	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No :		Pace Quote Reference:	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Arneren	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	153140602.0001A	Pace Profile #:	9285

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Boron	200.7 Calcium	Chloride	Fluoride	Sulfate	TDS	200.8 Molybdenum	200.8 Arsenic	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N				
1	L-AMW-8	WT	G			6/23/20	1020		1		1													X			20340837
2		WT	G																									
3		WT	G																									
4		WT	G																									
5		WT	G																									
6		WT	G																									
7		WT	G																									
8		WT	G																									
9		WT	G																									
10		WT	G																									
11		WT	G																									
12		WT	G																									

Pace Project No./ Lab I.D.: 20340837

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Brendan Talkert / Golder	6/23/20	1500	MKeller/Pace	6/24/20	0445	0.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Brendan Talkert				
SIGNATURE of SAMPLER:	Brendan Talkert	DATE Signed (MM/DD/YY):	06/23/2020	Temp in °C	Received on Ice (Y/N) / Custody Sealed Cooler (Y/N) / Samples Intact (Y/N)

MEMORANDUM

DATE July 8, 2020 **Project No.** 153140602

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 – ADDITIONAL CORRECTIVE ACTION SAMPLING JUNE 2020 - DATA PACKAGE 60340837

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

- None.

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA-CA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 07/08/2020

Laboratory: Pace Analytical
SDG #: 60340837
Analytical Method (type and no.): EPA 200.7 (Total Metals)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names L-AMW-8

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			06/23/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?		x		
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

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

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

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

Comments/Notes:

None.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Ann Muhlfeith _____ Date: 07/08/2020

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

July 28, 2020

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

RE: Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on July 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

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

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60343328001	**L-TP-4D**	Water	07/20/20 10:37	07/22/20 04:50
60343328002	**L-TP-3M**	Water	07/20/20 13:26	07/22/20 04:50
60343328003	**L-TP-3D**	Water	07/20/20 12:52	07/22/20 04:50
60343328004	**L-TP-1D**	Water	07/21/20 08:57	07/22/20 04:50
60343328005	**L-AMW-8**	Water	07/21/20 10:00	07/22/20 04:50
60343328006	**L-TP-2D**	Water	07/21/20 11:10	07/22/20 04:50
60343328007	**L-TP-2M**	Water	07/21/20 11:45	07/22/20 04:50
60343328008	**L-CA-DUP-1**	Water	07/20/20 08:00	07/22/20 04:50
60343328009	**L-CA-FB-1**	Water	07/21/20 09:10	07/22/20 04:50

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SAMPLE ANALYTE COUNT

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60343328001	**L-TP-4D**	EPA 200.7	JDE	1	PASI-K
60343328002	**L-TP-3M**	EPA 200.7	JDE	1	PASI-K
60343328003	**L-TP-3D**	EPA 200.7	JDE	1	PASI-K
60343328004	**L-TP-1D**	EPA 200.7	JDE	1	PASI-K
60343328005	**L-AMW-8**	EPA 200.7	JDE	1	PASI-K
60343328006	**L-TP-2D**	EPA 200.7	JDE	1	PASI-K
60343328007	**L-TP-2M**	EPA 200.7	JDE	1	PASI-K
60343328008	**L-CA-DUP-1**	EPA 200.7	JDE	1	PASI-K
60343328009	**L-CA-FB-1**	EPA 200.7	JDE	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-TP-4D **Lab ID: 60343328001** Collected: 07/20/20 10:37 Received: 07/22/20 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	**2.2J**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 16:51	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-TP-3M **Lab ID: 60343328002** Collected: 07/20/20 13:26 Received: 07/22/20 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	**157**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 16:58	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-TP-3D **Lab ID: 60343328003** Collected: 07/20/20 12:52 Received: 07/22/20 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	**890**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 17:00	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-TP-1D **Lab ID: 60343328004** Collected: 07/21/20 08:57 Received: 07/22/20 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	**<1.7**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 17:03	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-AMW-8 **Lab ID: 60343328005** Collected: 07/21/20 10:00 Received: 07/22/20 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	**324**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 17:05	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-TP-2D **Lab ID: 60343328006** Collected: 07/21/20 11:10 Received: 07/22/20 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	**127**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 17:08	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-TP-2M **Lab ID: 60343328007** Collected: 07/21/20 11:45 Received: 07/22/20 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	**92.0**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 17:15	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-CA-DUP-1 **Lab ID: 60343328008** Collected: 07/20/20 08:00 Received: 07/22/20 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	**858**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 17:17	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Sample: L-CA-FB-1 **Lab ID: 60343328009** Collected: 07/21/20 09:10 Received: 07/22/20 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	**<1.7**	ug/L	20.0	1.7	1	07/23/20 09:58	07/27/20 17:20	7439-98-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
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QUALITY CONTROL DATA

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

QC Batch: 667102
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60343328001, 60343328002, 60343328003, 60343328004, 60343328005, 60343328006, 60343328007, 60343328008, 60343328009

METHOD BLANK: 2701654 Matrix: Water
Associated Lab Samples: 60343328001, 60343328002, 60343328003, 60343328004, 60343328005, 60343328006, 60343328007, 60343328008, 60343328009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Molybdenum	ug/L	<1.7	20.0	1.7	07/27/20 16:46	

LABORATORY CONTROL SAMPLE: 2701655

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2701656 2701657

Parameter	Units	60343328001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	2.2J	1000	1000	1040	1040	103	104	70-130	0	20	

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

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
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QUALIFIERS

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN - LABADIE ENERGY CENTER
Pace Project No.: 60343328

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60343328001	**L-TP-4D**	EPA 200.7	667102	EPA 200.7	667161
60343328002	**L-TP-3M**	EPA 200.7	667102	EPA 200.7	667161
60343328003	**L-TP-3D**	EPA 200.7	667102	EPA 200.7	667161
60343328004	**L-TP-1D**	EPA 200.7	667102	EPA 200.7	667161
60343328005	**L-AMW-8**	EPA 200.7	667102	EPA 200.7	667161
60343328006	**L-TP-2D**	EPA 200.7	667102	EPA 200.7	667161
60343328007	**L-TP-2M**	EPA 200.7	667102	EPA 200.7	667161
60343328008	**L-CA-DUP-1**	EPA 200.7	667102	EPA 200.7	667161
60343328009	**L-CA-FB-1**	EPA 200.7	667102	EPA 200.7	667161

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60343328

60343328

Client Name: Golder Associates

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

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

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

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

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

Cooler Temperature (°C): **As-read** 0.0 **Corr. Factor** -.05 **Corrected** 0.1

Date and initials of person examining contents: 07/22/20 MK

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: LT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) Lot #003173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution _____

Project Manager Review: Jami Church 7/22/20 Date

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.	
Project Name:	Ameren - Labadie Energy Center
Project Number:	153140602.0001

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Molybdenum	Arsenic	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Analysis Test Y/N	N	N		00343328
1	L-TP-4D	WT	G			7/20/20	1037		1			1							/			
2	L-TP-3M	WT	G			"	1326		1			1							/			
3	L-TP-3D	WT	G			"	1252		1			1							/			
4	L-TP-1D	WT	G			7/21/20	0857		1			1							/			
5	L-AMW-8	WT	G			"	1000		1			1							/			
6	L-TP-2D	WT	G			"	1110		1			1							/			
7	L-TP-2M	WT	G			"	1145		1			1							/			
8	L-CA-DUP-1	WT	G			7/20/20	—		1			1							/			
9	L-CA-FB-1	WT	G			7/21/20	0910		1			1							/			
10	L-CA-MS-1	WT	G			7/20/20	1037		1			1							/			(TP-4D)
11	L-CA-MSD-1	WT	G			7/20/20	1037		1			1							/			(w/ TP-4D)
12		WT	G																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Brendan Talbert/Golder	7/21/2020	1815	MYERS/PACE	7/22/20	0450	0.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert DATE Signed (MM/DD/YY): 07/21/2020

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

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

MEMORANDUM

DATE July 29, 2020 **Project No.** 153140602

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 – ADDITIONAL CORRECTIVE ACTION SAMPLING JULY 2020 - DATA PACKAGE 60343328

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).

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA-CA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 07/29/2020

Laboratory: Pace Analytical
SDG #: 60343328
Analytical Method (type and no.): EPA 200.7 (Total Metals)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names L-TP-4D, L-TP-3M, L-TP-3D, L-TP-1D, L-AMW-8, L-TP-2D, L-TP-2M, L-CA-DUP-1, L-CA-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			07/20/2020 - 07/21/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☐	☒	☐	L-CA-FB-1 @ L-TP-1D
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-CA-DUP-1 @ L-TP-3D
	☒	☐	☐	
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD: 3.66% (<20%)
c) Were lab duplicates analyzed (note original and duplicate samples)?				
	☐	☒	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☒	

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

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

Comments/Notes:

None.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Ann Muehlfarth _____ Date: 07/29/2020

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

September 02, 2020

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

RE: Project: AMEREN -LCPA
Pace Project No.: 60346687

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on August 27, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN -LCPA
Pace Project No.: 60346687

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

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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: AMEREN -LCPA
Pace Project No.: 60346687

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60346687001	**L-TP-1D**	Water	08/24/20 16:05	08/27/20 04:26
60346687002	**L-TP-2M**	Water	08/25/20 11:22	08/27/20 04:26
60346687003	**L-TP-2D**	Water	08/25/20 10:56	08/27/20 04:26
60346687004	**L-TP-3M**	Water	08/24/20 12:00	08/27/20 04:26
60346687005	**L-TP-3D**	Water	08/24/20 12:32	08/27/20 04:26
60346687006	**L-TP-4D**	Water	08/24/20 10:25	08/27/20 04:26
60346687007	**L-AM-1S**	Water	08/25/20 09:53	08/27/20 04:26
60346687008	**L-AM-1D**	Water	08/25/20 09:20	08/27/20 04:26
60346687009	**L-FB-1**	Water	08/24/20 12:45	08/27/20 04:26
60346687010	**L-DUP-1**	Water	08/24/20 00:00	08/27/20 04:26

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SAMPLE ANALYTE COUNT

Project: AMEREN -LCPA
Pace Project No.: 60346687

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60346687001	**L-TP-1D**	EPA 200.7	TDS	1	PASI-K
60346687002	**L-TP-2M**	EPA 200.7	TDS	1	PASI-K
60346687003	**L-TP-2D**	EPA 200.7	TDS	1	PASI-K
60346687004	**L-TP-3M**	EPA 200.7	TDS	1	PASI-K
60346687005	**L-TP-3D**	EPA 200.7	TDS	1	PASI-K
60346687006	**L-TP-4D**	EPA 200.7	TDS	1	PASI-K
60346687007	**L-AM-1S**	EPA 200.7	TDS	1	PASI-K
60346687008	**L-AM-1D**	EPA 200.7	TDS	1	PASI-K
60346687009	**L-FB-1**	EPA 200.7	TDS	1	PASI-K
60346687010	**L-DUP-1**	EPA 200.7	TDS	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-TP-1D **Lab ID: 60346687001** Collected: 08/24/20 16:05 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 18:48	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-TP-2M **Lab ID: 60346687002** Collected: 08/25/20 11:22 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**85.4**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 18:50	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-TP-2D **Lab ID: 60346687003** Collected: 08/25/20 10:56 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**124**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 18:53	7439-98-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-TP-3M **Lab ID: 60346687004** Collected: 08/24/20 12:00 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**168**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 18:55	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-TP-3D **Lab ID: 60346687005** Collected: 08/24/20 12:32 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**938**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 18:58	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-TP-4D **Lab ID: 60346687006** Collected: 08/24/20 10:25 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**2.3J**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 19:00	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-AM-1S **Lab ID: 60346687007** Collected: 08/25/20 09:53 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 19:15	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-AM-1D **Lab ID: 60346687008** Collected: 08/25/20 09:20 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**376**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 19:18	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-FB-1 **Lab ID: 60346687009** Collected: 08/24/20 12:45 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 19:20	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN -LCPA
Pace Project No.: 60346687

Sample: L-DUP-1 **Lab ID: 60346687010** Collected: 08/24/20 00:00 Received: 08/27/20 04:26 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Molybdenum	**172**	ug/L	20.0	1.7	1	08/31/20 15:38	09/01/20 19:23	7439-98-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
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QUALITY CONTROL DATA

Project: AMEREN -LCPA
Pace Project No.: 60346687

QC Batch: 674313 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: 60346687001, 60346687002, 60346687003, 60346687004, 60346687005, 60346687006, 60346687007, 60346687008, 60346687009, 60346687010

METHOD BLANK: 2727758 Matrix: Water
Associated Lab Samples: 60346687001, 60346687002, 60346687003, 60346687004, 60346687005, 60346687006, 60346687007, 60346687008, 60346687009, 60346687010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Molybdenum	ug/L	<1.7	20.0	1.7	09/01/20 18:43	

LABORATORY CONTROL SAMPLE: 2727759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2727760 2727761

Parameter	Units	60346687006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	2.3J	1000	1000	986	1040	98	104	70-130	5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2727762 2727763

Parameter	Units	60346692001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	117	1000	1000	1170	1150	105	103	70-130	2	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AMEREN -LCPA
Pace Project No.: 60346687

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN -LCPA
Pace Project No.: 60346687

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60346687001	**L-TP-1D**	EPA 200.7	674313	EPA 200.7	674469
60346687002	**L-TP-2M**	EPA 200.7	674313	EPA 200.7	674469
60346687003	**L-TP-2D**	EPA 200.7	674313	EPA 200.7	674469
60346687004	**L-TP-3M**	EPA 200.7	674313	EPA 200.7	674469
60346687005	**L-TP-3D**	EPA 200.7	674313	EPA 200.7	674469
60346687006	**L-TP-4D**	EPA 200.7	674313	EPA 200.7	674469
60346687007	**L-AM-1S**	EPA 200.7	674313	EPA 200.7	674469
60346687008	**L-AM-1D**	EPA 200.7	674313	EPA 200.7	674469
60346687009	**L-FB-1**	EPA 200.7	674313	EPA 200.7	674469
60346687010	**L-DUP-1**	EPA 200.7	674313	EPA 200.7	674469

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60346687

60346687

Client Name: Golder Associates

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

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

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

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

Thermometer Used: T-296 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 0.7 Corr. Factor -0.4 Corrected 0.3

HS

Date and initials of person examining contents: 8.27.20

Temperature should be above freezing to 6°C

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

Client Notificatio COC to Client? Y / N Field Data Required? Y / N

Person Contacted Date/Time:

Comments/ Resol ion:

REVIEWED
By jchurch at 6:41 pm, 8/27/20

Project Manager Review: Date:

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

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — **Required** Client Information:

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

Section B — **Required** Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Ryan Feldman
Purchase Order No.:	
Project Name:	Ameren - LCPA
Project Number:	153140602.0001A

Section C — Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: MO

Section D — **Required** Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Molybdenum	Arsenic	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	L-TP-1D	WT	G			8/24/20	1605		1			1						Y	Y			6034 6687
2	L-TP-2M	WT	G			8/25/20	1122		1			1							Y			* Sample Time = 1605
3	L-TP-2D	WT	G			"	1056															
4	L-TP-3M	WT	G			8/24/20	1200															
5	L-TP-3D	WT	G			"	1232															
6	L-TP-4D	WT	G			"	1025															
7	L-AM-1S	WT	G			8/25/20	0953															
8	L-AM-1D	WT	G			"	0920															
9	L-FB-1	WT	G			8/24/20	1245															
10	L-DUP-1	WT	G				—															
11	L-MS-1 (L-TP-4D)	WT	G				1025															
12	L-MSD-1 (L-TP-4D)	WT	G				1025															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Eric Schnieder/Golder	08/26/20	1315	/Pace	8.27.20	0426	0.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schnieder

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 08/26/20

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

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

MEMORANDUM

DATE September 2, 2020 **Project No.** 153140602

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 – ADDITIONAL CORRECTIVE ACTION SAMPLING AUGUST 2020 - DATA PACKAGE 60346687

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).

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 09/02/2020

Laboratory: Pace Analytical
SDG #: 60346687
Analytical Method (type and no.): EPA 200.7 (Total Metals)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐
Sample Names L-TP-1D, L-TP-2M, L-TP-2D, L-TP-3M, L-TP-3D, L-TP-4D, L-AM-1S, L-AM-1D, L-FB-1, L-DUP-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			08/24/2020 - 08/25/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	**YES**	**NO**	**NA**	**COMMENTS**
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☐	☒	☐	L-FB-1 @ L-TP-3D
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

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

Duplicates	**YES**	**NO**	**NA**	**COMMENTS**
a) Were field duplicates collected (note original and duplicate sample names)?				L-DUP-1 @ L-TP-3M
	☒	☐	☐	
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD 2.4% (<20%)
c) Were lab duplicates analyzed (note original and duplicate samples)?				
	☐	☐	☒	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☒	

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

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

Comments/Notes:

None.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: _____ Ann Muhlfeith _____ Date: 09/02/2020

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

October 08, 2020

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

RE: Project: AMEREN-LCPA
Pace Project No.: 60350167

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: AMEREN-LCPA
Pace Project No.: 60350167

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

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

SAMPLE SUMMARY

Project: AMEREN-LCPA
Pace Project No.: 60350167

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350167001	**L-TP-1D**	Water	09/30/20 12:20	10/02/20 04:08
60350167002	**L-TP-2M**	Water	09/30/20 14:05	10/02/20 04:08
60350167003	**L-TP-2D**	Water	09/30/20 13:40	10/02/20 04:08
60350167004	**L-TP-3M**	Water	09/30/20 10:55	10/02/20 04:08
60350167005	**L-TP-3D**	Water	09/30/20 10:30	10/02/20 04:08
60350167006	**L-TP-4D**	Water	09/30/20 09:15	10/02/20 04:08
60350167007	**L-DUP-1**	Water	09/30/20 08:00	10/02/20 04:08
60350167008	**L-FB-1**	Water	09/30/20 11:00	10/02/20 04:08

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(913)599-5665

SAMPLE ANALYTE COUNT

Project: AMEREN-LCPA
Pace Project No.: 60350167

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350167001	**L-TP-1D**	EPA 200.7	JLH	1	PASI-K
60350167002	**L-TP-2M**	EPA 200.7	JLH	1	PASI-K
60350167003	**L-TP-2D**	EPA 200.7	JLH	1	PASI-K
60350167004	**L-TP-3M**	EPA 200.7	JLH	1	PASI-K
60350167005	**L-TP-3D**	EPA 200.7	JLH	1	PASI-K
60350167006	**L-TP-4D**	EPA 200.7	JLH	1	PASI-K
60350167007	**L-DUP-1**	EPA 200.7	JLH	1	PASI-K
60350167008	**L-FB-1**	EPA 200.7	JLH	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-TP-1D **Lab ID: 60350167001** Collected: 09/30/20 12:20 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**<1.7**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 11:45	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-TP-2M **Lab ID: 60350167002** Collected: 09/30/20 14:05 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**92.9**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 11:47	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-TP-2D **Lab ID: 60350167003** Collected: 09/30/20 13:40 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**149**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 11:50	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-TP-3M **Lab ID: 60350167004** Collected: 09/30/20 10:55 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**167**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 11:52	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-TP-3D **Lab ID: 60350167005** Collected: 09/30/20 10:30 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**918**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 11:59	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-TP-4D **Lab ID: 60350167006** Collected: 09/30/20 09:15 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**3.1J**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 12:01	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-DUP-1 **Lab ID: 60350167007** Collected: 09/30/20 08:00 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**902**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 12:08	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN-LCPA
Pace Project No.: 60350167

Sample: L-FB-1 **Lab ID: 60350167008** Collected: 09/30/20 11:00 Received: 10/02/20 04:08 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**<1.7**	ug/L	20.0	1.7	1	10/07/20 09:00	10/08/20 12:11	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: AMEREN-LCPA
Pace Project No.: 60350167

QC Batch: 681199 — 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: 60350167001, 60350167002, 60350167003, 60350167004, 60350167005, 60350167006, 60350167007, 60350167008

METHOD BLANK: 2753317 — Matrix: Water
Associated Lab Samples: 60350167001, 60350167002, 60350167003, 60350167004, 60350167005, 60350167006, 60350167007, 60350167008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Molybdenum	ug/L	<1.7	20.0	1.7	10/08/20 11:42	

LABORATORY CONTROL SAMPLE: 2753318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2753319 2753320

Parameter	Units	60350167006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	3.1J	1000	1000	1060	1060	106	105	70-130	0	20	

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

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: AMEREN-LCPA
Pace Project No.: 60350167

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN-LCPA
Pace Project No.: 60350167

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350167001	**L-TP-1D**	EPA 200.7	681199	EPA 200.7	681259
60350167002	**L-TP-2M**	EPA 200.7	681199	EPA 200.7	681259
60350167003	**L-TP-2D**	EPA 200.7	681199	EPA 200.7	681259
60350167004	**L-TP-3M**	EPA 200.7	681199	EPA 200.7	681259
60350167005	**L-TP-3D**	EPA 200.7	681199	EPA 200.7	681259
60350167006	**L-TP-4D**	EPA 200.7	681199	EPA 200.7	681259
60350167007	**L-DUP-1**	EPA 200.7	681199	EPA 200.7	681259
60350167008	**L-FB-1**	EPA 200.7	681199	EPA 200.7	681259

Pace Analytical®
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60350167

60350167

Client Name: Golder Associates

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

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

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

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

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

Cooler Temperature (°C): **As-read** 5 **Corr. Factor** +.2 **Corrected** .7

Date and initials of person examining contents: 10/2/20 SK

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 7:49 pm, 10/4/20

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	Golder Associates
Address:	13515 Barrett Parkway 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
Project Number:	153140602.0001A

Section C Invoice Information:

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

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER

UST | RCRA | OTHER _____

Site Location STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Molybdenum	200.8 Arsenic	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	L-TP-1D	WT	G			9/30/20	1220		1			1						N	X			60350167
2	L-TP-2M	WT	G				1405		1			1						N				
3	L-TP-2D	WT	G				1340															
4	L-TP-3M	WT	G				1055															
5	L-TP-3D	WT	G				1030															
6	L-TP-4D	WT	G				0915															
7	L-MS-1	WT	G				0915															
8	L-MSD-1	WT	G				0915															
9	L-DUP-1	WT	G				—															
10	L-FB-1	WT	G				1100		1			1						N	X			
11		WT	G																			
12		WT	G																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] / Golder	10/1/20	1300	[signature] / Pace	10/2/20	0408	.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10/01/20

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

MEMORANDUM

DATE October 12, 2020 **Project No.** 153140602

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 – ADDITIONAL CORRECTIVE ACTION SAMPLING SEPTEMBER 2020 - DATA PACKAGE 60350167

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).

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 10/12/2020

Laboratory: Pace Analytical Services, LLC
SDG #: 60350167
Analytical Method (type and no.): EPA 200.7 (Total Metals)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names L-TP-1D, L-TP-2M, L-TP-2D, L-TP-3M, L-TP-3D, L-TP-4D, L-DUP-1, L-FB-1

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

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			09/30/2020
b) Sampling team indicated?	x			
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☐	☒	☐	L-FB-1 @ L-TP-3M
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?				L-DUP-1 @ L-TP-3D
	☒	☐	☐	
b) Were field dup. precision criteria met (note RPD)?	☒	☐	☐	Max RPD 1.76% (<20%)
c) Were lab duplicates analyzed (note original and duplicate samples)?				
	☐	☐	☒	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☒	

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

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

Comments/Notes:

None.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Ann Muhlfeith Date: 10/12/2020

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

December 04, 2020

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

RE: Project: AMEREN LCPA
Pace Project No.: 60353401

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between November 04, 2020 and November 06, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: AMEREN LCPA
Pace Project No.: 60353401

Pace Analytical Services Pennsylvania

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

Pace Analytical Services Kansas

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

Pace Analytical Services, LLC
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Lenexa, KS 66219
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SAMPLE SUMMARY

Project: AMEREN LCPA
Pace Project No.: 60353401

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60353401001	**L-UMW-2D**	Water	11/02/20 12:45	11/04/20 03:50
60353401002	**L-UMW-8D**	Water	11/02/20 14:12	11/04/20 03:50
60353401003	**L-UMW-9D**	Water	11/02/20 15:08	11/04/20 03:50
60353401004	**L-BMW-1D**	Water	11/02/20 09:42	11/04/20 03:50
60353401005	**L-BMW-2D**	Water	11/02/20 11:10	11/04/20 03:50
60353401006	**L-UMW-DUP-1**	Water	11/02/20 08:00	11/04/20 03:50
60353401007	**L-UMW-9D-MS**	Water	11/02/20 15:08	11/04/20 03:50
60353401008	**L-UMW-9D-MSD**	Water	11/02/20 15:08	11/04/20 03:50
60353401009	**L-UMW-1D**	Water	11/04/20 09:22	11/06/20 04:09
60353401010	**L-UMW-3D**	Water	11/04/20 12:32	11/06/20 04:09
60353401011	**L-UMW-4D**	Water	11/04/20 13:47	11/06/20 04:09
60353401012	**L-UMW-5D**	Water	11/05/20 09:30	11/06/20 04:09
60353401013	**L-UMW-6D**	Water	11/04/20 15:23	11/06/20 04:09
60353401014	**L-UMW-7D**	Water	11/05/20 11:30	11/06/20 04:09
60353401015	**L-UMW-DUP-2**	Water	11/04/20 08:00	11/06/20 04:09
60353401016	**L-UMW-FB-1**	Water	11/04/20 12:30	11/06/20 04:09
60353401017	**L-UMW-FB-2**	Water	11/04/20 13:45	11/06/20 04:09

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60353401

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60353401001	**L-UMW-2D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353401002	**L-UMW-8D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353401003	**L-UMW-9D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353401004	**L-BMW-1D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353401005	**L-BMW-2D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353401006	**L-UMW-DUP-1**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60353401

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353401007	**L-UMW-9D-MS**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60353401008	**L-UMW-9D-MSD**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60353401009	**L-UMW-1D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353401010	**L-UMW-3D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353401011	**L-UMW-4D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353401012	**L-UMW-5D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: AMEREN LCPA
Pace Project No.: 60353401

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60353401013	**L-UMW-6D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353401014	**L-UMW-7D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353401015	**L-UMW-DUP-2**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353401016	**L-UMW-FB-1**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353401017	**L-UMW-FB-2**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K

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

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

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-2D **Lab ID: 60353401001** Collected: 11/02/20 12:45 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**132**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:40	7440-39-3	
Boron	**1570**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:40	7440-42-8	
Calcium	**120000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:40	7440-70-2	
Iron	**3380**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:40	7439-89-6	
Lithium	**23.7**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:40	7439-93-2	
Magnesium	**23500**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:40	7439-95-4	
Manganese	**380**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:40	7439-96-5	
Molybdenum	**33.4**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:40	7439-98-7	
Potassium	**7770**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:40	7440-09-7	
Sodium	**58900**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:40	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:16	7440-36-0	
Arsenic	**2.0**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:16	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:16	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:16	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**376**	mg/L	20.0	8.4	1		11/09/20 12:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**625**	mg/L	10.0	10.0	1		11/05/20 13:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**27.4**	mg/L	2.0	0.78	2		11/28/20 10:53	16887-00-6	
Fluoride	**0.47**	mg/L	0.20	0.075	1		11/28/20 10:37	16984-48-8	
Sulfate	**138**	mg/L	20.0	5.6	20		11/28/20 11:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-8D **Lab ID: 60353401002** Collected: 11/02/20 14:12 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**431**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:42	7440-39-3	
Boron	**2430**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:42	7440-42-8	
Calcium	**201000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:42	7440-70-2	
Iron	**33200**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:42	7439-89-6	
Lithium	**38.2**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:42	7439-93-2	
Magnesium	**48600**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:42	7439-95-4	
Manganese	**1380**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:42	7439-96-5	
Molybdenum	**12.7J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:42	7439-98-7	
Potassium	**6210**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:42	7440-09-7	
Sodium	**26200**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:42	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:19	7440-36-0	
Arsenic	**29.6**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:19	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:19	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:19	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**330**	mg/L	20.0	8.4	1		11/09/20 12:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**996**	mg/L	13.3	13.3	1		11/05/20 13:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.1**	mg/L	1.0	0.39	1		11/28/20 11:24	16887-00-6	
Fluoride	**0.33**	mg/L	0.20	0.075	1		11/28/20 11:24	16984-48-8	
Sulfate	**130**	mg/L	50.0	13.9	50		11/30/20 18:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-9D **Lab ID: 60353401003** Collected: 11/02/20 15:08 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**520**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:45	7440-39-3	
Boron	**96.9J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:45	7440-42-8	
Calcium	**120000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:45	7440-70-2	M1
Iron	**24100**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:45	7439-89-6	
Lithium	**17.5**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:45	7439-93-2	
Magnesium	**32200**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:45	7439-95-4	
Manganese	**376**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:45	7439-96-5	
Molybdenum	**2.2J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:45	7439-98-7	
Potassium	**4240**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:45	7440-09-7	
Sodium	**13800**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:45	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:22	7440-36-0	
Arsenic	**33.2**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:22	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:22	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:22	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**465**	mg/L	20.0	8.4	1		11/09/20 12:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**483**	mg/L	10.0	10.0	1		11/06/20 08:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.9**	mg/L	2.0	0.78	2		11/28/20 12:26	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.075	1		11/28/20 13:13	16984-48-8	
Sulfate	**0.29J**	mg/L	1.0	0.28	1		11/28/20 13:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-BMW-1D **Lab ID: 60353401004** Collected: 11/02/20 09:42 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**1270**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:52	7440-39-3	
Boron	**82.5J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:52	7440-42-8	
Calcium	**147000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:52	7440-70-2	
Iron	**12100**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:52	7439-89-6	
Lithium	**35.3**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:52	7439-93-2	
Magnesium	**33400**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:52	7439-95-4	
Manganese	**672**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:52	7439-96-5	
Molybdenum	**2.6J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:52	7439-98-7	
Potassium	**4770**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:52	7440-09-7	
Sodium	**10400**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:52	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:33	7440-36-0	
Arsenic	**2.2**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:33	7440-38-2	
Chromium	**0.28J**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:33	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:33	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**509**	mg/L	20.0	8.4	1		11/09/20 14:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**586**	mg/L	10.0	10.0	1		11/05/20 13:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**10.3**	mg/L	1.0	0.39	1		11/28/20 14:00	16887-00-6	
Fluoride	**0.31**	mg/L	0.20	0.075	1		11/28/20 14:00	16984-48-8	
Sulfate	**35.1**	mg/L	2.0	0.56	2		11/28/20 14:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-BMW-2D **Lab ID: 60353401005** Collected: 11/02/20 11:10 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**322**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:05	7440-39-3	
Boron	**67.2J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:05	7440-42-8	
Calcium	**138000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:05	7440-70-2	
Iron	**6990**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:05	7439-89-6	
Lithium	**46.0**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:05	7439-93-2	
Magnesium	**27000**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:05	7439-95-4	
Manganese	**271**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:05	7439-96-5	
Molybdenum	**2.4J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:05	7439-98-7	
Potassium	**3820**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:05	7440-09-7	
Sodium	**6190**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:05	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:36	7440-36-0	
Arsenic	**35.0**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:36	7440-38-2	
Chromium	**0.32J**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:36	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**455**	mg/L	20.0	8.4	1		11/09/20 15:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**490**	mg/L	10.0	10.0	1		11/05/20 13:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**6.0**	mg/L	1.0	0.39	1		11/28/20 14:32	16887-00-6	
Fluoride	**0.38**	mg/L	0.20	0.075	1		11/28/20 14:32	16984-48-8	
Sulfate	**35.0**	mg/L	5.0	1.4	5		11/28/20 14:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-DUP-1 **Lab ID: 60353401006** Collected: 11/02/20 08:00 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**131**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:08	7440-39-3	
Boron	**1560**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:08	7440-42-8	
Calcium	**119000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:08	7440-70-2	
Iron	**3370**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:08	7439-89-6	
Lithium	**28.3**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:08	7439-93-2	
Magnesium	**23300**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:08	7439-95-4	
Manganese	**382**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:08	7439-96-5	
Molybdenum	**32.9**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:08	7439-98-7	
Potassium	**7670**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:08	7440-09-7	
Sodium	**58500**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:08	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:39	7440-36-0	
Arsenic	**1.9**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:39	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:39	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:39	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**378**	mg/L	20.0	8.4	1		11/09/20 15:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**612**	mg/L	10.0	10.0	1		11/05/20 13:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**27.9**	mg/L	2.0	0.78	2		11/28/20 15:50	16887-00-6	
Fluoride	**0.46**	mg/L	0.20	0.075	1		11/28/20 15:34	16984-48-8	
Sulfate	**137**	mg/L	20.0	5.6	20		11/28/20 16:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-1D **Lab ID: 60353401009** Collected: 11/04/20 09:22 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**513**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:10	7440-39-3	
Boron	**675**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:10	7440-42-8	
Calcium	**147000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:10	7440-70-2	
Iron	**17000**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:10	7439-89-6	
Lithium	**30.0**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:10	7439-93-2	
Magnesium	**35700**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:10	7439-95-4	
Manganese	**424**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:10	7439-96-5	
Molybdenum	**2.4J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:10	7439-98-7	
Potassium	**6760**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:10	7440-09-7	
Sodium	**29000**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:10	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:42	7440-36-0	
Arsenic	**48.5**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:42	7440-38-2	
Chromium	**0.23J**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:42	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:42	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**518**	mg/L	20.0	8.4	1		11/12/20 09:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**601**	mg/L	10.0	10.0	1		11/10/20 10:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**12.5**	mg/L	1.0	0.39	1		11/25/20 16:08	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.075	1		11/25/20 16:08	16984-48-8	
Sulfate	**53.7**	mg/L	5.0	2.1	5		11/30/20 23:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-3D **Lab ID: 60353401010** Collected: 11/04/20 12:32 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**128**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:13	7440-39-3	
Boron	**10800**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:13	7440-42-8	
Calcium	**161000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:13	7440-70-2	
Iron	**985**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:13	7439-89-6	
Lithium	**25.9**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:13	7439-93-2	
Magnesium	**12600**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:13	7439-95-4	
Manganese	**392**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:13	7439-96-5	
Molybdenum	**154**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:13	7439-98-7	
Potassium	**11500**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:13	7440-09-7	
Sodium	**72200**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:13	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:48	7440-36-0	
Arsenic	**1.3**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:48	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:48	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:48	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**154**	mg/L	20.0	8.4	1		11/12/20 09:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**847**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**17.0**	mg/L	1.0	0.39	1		11/25/20 18:12	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.075	1		11/25/20 18:12	16984-48-8	
Sulfate	**469**	mg/L	50.0	21.0	50		12/01/20 00:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-4D **Lab ID: 60353401011** Collected: 11/04/20 13:47 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**88.0**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:15	7440-39-3	
Boron	**3370**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:15	7440-42-8	
Calcium	**68900**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:15	7440-70-2	
Iron	**381**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:15	7439-89-6	
Lithium	**33.0**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:15	7439-93-2	
Magnesium	**7580**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:15	7439-95-4	
Manganese	**293**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:15	7439-96-5	
Molybdenum	**88.9**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:15	7439-98-7	
Potassium	**9360**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:15	7440-09-7	
Sodium	**106000**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:15	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:51	7440-36-0	
Arsenic	**0.11J**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:51	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:51	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:51	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**68.3**	mg/L	20.0	8.4	1		11/12/20 09:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**613**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.3**	mg/L	2.0	0.71	2		12/01/20 00:59	16887-00-6	
Fluoride	**0.47**	mg/L	0.20	0.075	1		11/25/20 18:59	16984-48-8	
Sulfate	**351**	mg/L	50.0	21.0	50		12/01/20 01:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-5D **Lab ID: 60353401012** Collected: 11/05/20 09:30 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**59.6**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:18	7440-39-3	
Boron	**5290**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:18	7440-42-8	
Calcium	**67500**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:18	7440-70-2	
Iron	**27.1J**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:18	7439-89-6	
Lithium	**22.1**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:18	7439-93-2	
Magnesium	**136**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:18	7439-95-4	
Manganese	**12.8**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:18	7439-96-5	
Molybdenum	**174**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:18	7439-98-7	
Potassium	**11000**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:18	7440-09-7	
Sodium	**70300**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:18	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:54	7440-36-0	
Arsenic	**18.8**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:54	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:54	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:54	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**52.8**	mg/L	20.0	8.4	1		11/16/20 08:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**510**	mg/L	10.0	10.0	1		11/10/20 10:54		
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		11/25/20 19:30	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	0.075	1		11/25/20 19:30	16984-48-8	
Sulfate	**262**	mg/L	50.0	21.0	50		12/01/20 01:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-6D **Lab ID: 60353401013** Collected: 11/04/20 15:23 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**115**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:20	7440-39-3	
Boron	**12100**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:20	7440-42-8	
Calcium	**103000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:20	7440-70-2	
Iron	**178**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:20	7439-89-6	
Lithium	**16.1**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:20	7439-93-2	
Magnesium	**1740**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:20	7439-95-4	
Manganese	**153**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:20	7439-96-5	
Molybdenum	**597**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:20	7439-98-7	
Potassium	**29800**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:20	7440-09-7	
Sodium	**102000**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:20	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 15:57	7440-36-0	
Arsenic	**29.6**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 15:57	7440-38-2	
Chromium	**0.29J**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 15:57	7440-47-3	
Selenium	**0.24J**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 15:57	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**90.2**	mg/L	20.0	8.4	1		11/12/20 10:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**756**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.4**	mg/L	1.0	0.39	1		11/25/20 20:01	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		11/25/20 20:01	16984-48-8	
Sulfate	**455**	mg/L	50.0	13.9	50		11/25/20 20:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-7D **Lab ID: 60353401014** Collected: 11/05/20 11:30 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**69.9**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:23	7440-39-3	
Boron	**7380**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:23	7440-42-8	
Calcium	**201000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:23	7440-70-2	
Iron	**11300**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:23	7439-89-6	
Lithium	**25.8**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:23	7439-93-2	
Magnesium	**27000**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:23	7439-95-4	
Manganese	**1780**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:23	7439-96-5	
Molybdenum	**286**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:23	7439-98-7	
Potassium	**6980**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:23	7440-09-7	
Sodium	**87900**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:23	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:00	7440-36-0	
Arsenic	**26.7**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:00	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:00	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:00	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**386**	mg/L	20.0	8.4	1		11/16/20 09:06		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1030**	mg/L	13.3	13.3	1		11/10/20 10:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**11.0**	mg/L	1.0	0.36	1		12/01/20 01:46	16887-00-6	
Fluoride	**0.24**	mg/L	0.20	0.085	1		12/01/20 01:46	16984-48-8	
Sulfate	**431**	mg/L	50.0	13.9	50		11/25/20 21:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-DUP-2 **Lab ID: 60353401015** Collected: 11/04/20 08:00 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**529**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:36	7440-39-3	
Boron	**693**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:36	7440-42-8	
Calcium	**150000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:36	7440-70-2	
Iron	**17400**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:36	7439-89-6	
Lithium	**28.3**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:36	7439-93-2	
Magnesium	**36500**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:36	7439-95-4	
Manganese	**434**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:36	7439-96-5	
Molybdenum	**2.4J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:36	7439-98-7	
Potassium	**6920**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:36	7440-09-7	
Sodium	**29700**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:36	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:06	7440-36-0	
Arsenic	**51.9**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:06	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:06	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:06	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**523**	mg/L	20.0	8.4	1		11/12/20 10:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**623**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**12.6**	mg/L	1.0	0.39	1		11/25/20 21:35	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.075	1		11/25/20 21:35	16984-48-8	
Sulfate	**54.3**	mg/L	5.0	2.1	5		12/01/20 02:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-FB-1 **Lab ID: 60353401016** Collected: 11/04/20 12:30 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	12/01/20 15:10	12/02/20 22:38	7440-39-3	
Boron	**<11.7**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:38	7440-42-8	
Calcium	**90.5J**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:38	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:38	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:38	7439-93-2	
Magnesium	**28.4J**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:38	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:38	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:38	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:38	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:09	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:09	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:09	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:09	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		11/16/20 09:09		
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		11/10/20 10:55		
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		11/25/20 22:07	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		11/25/20 22:07	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		11/25/20 22:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-FB-2 **Lab ID: 60353401017** Collected: 11/04/20 13:45 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	12/01/20 15:10	12/02/20 22:41	7440-39-3	
Boron	**<11.7**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:41	7440-42-8	
Calcium	**43.6J**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:41	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:41	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:41	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:41	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:41	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:41	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:41	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:41	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:12	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:12	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:12	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:12	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		11/16/20 09:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**6.0**	mg/L	5.0	5.0	1		11/10/20 10:55		
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		11/25/20 22:22	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		11/25/20 22:22	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		11/25/20 22:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 692096
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

METHOD BLANK: 2795363 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/02/20 21:34	
Boron	ug/L	<11.7	100	11.7	12/02/20 21:34	
Calcium	ug/L	<32.4	200	32.4	12/02/20 21:34	
Iron	ug/L	<26.8	50.0	26.8	12/02/20 21:34	
Lithium	ug/L	<4.6	10.0	4.6	12/02/20 21:34	
Magnesium	ug/L	<19.7	50.0	19.7	12/02/20 21:34	
Manganese	ug/L	<0.97	5.0	0.97	12/02/20 21:34	
Molybdenum	ug/L	<1.7	20.0	1.7	12/02/20 21:34	
Potassium	ug/L	<189	500	189	12/02/20 21:34	
Sodium	ug/L	<107	500	107	12/02/20 21:34	

LABORATORY CONTROL SAMPLE: 2795364

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	988	99	85-115	
Boron	ug/L	1000	968	97	85-115	
Calcium	ug/L	10000	9910	99	85-115	
Iron	ug/L	10000	9940	99	85-115	
Lithium	ug/L	1000	1000	100	85-115	
Magnesium	ug/L	10000	9830	98	85-115	
Manganese	ug/L	1000	982	98	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9940	99	85-115	
Sodium	ug/L	10000	9740	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795365 2795366

Parameter	Units	60353401003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	520	1000	1000	1500	1510	98	99	70-130	0	20	
Boron	ug/L	96.9J	1000	1000	1090	1080	99	99	70-130	0	20	
Calcium	ug/L	120000	10000	10000	126000	128000	63	81	70-130	1	20	M1
Iron	ug/L	24100	10000	10000	33300	33600	91	94	70-130	1	20	
Lithium	ug/L	17.5	1000	1000	1030	1030	101	101	70-130	0	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795365 2795366

Parameter	Units	60353401003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	ug/L	32200	10000	10000	41200	41500	90	93	70-130	1	20	
Manganese	ug/L	376	1000	1000	1360	1350	98	98	70-130	0	20	
Molybdenum	ug/L	2.2J	1000	1000	1030	1030	103	103	70-130	0	20	
Potassium	ug/L	4240	10000	10000	14200	14300	100	101	70-130	0	20	
Sodium	ug/L	13800	10000	10000	23200	23400	94	96	70-130	1	20	

MATRIX SPIKE SAMPLE: 2795367

Parameter	Units	60353399027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	160	1000	1160	100	70-130	
Boron	ug/L	3120	1000	4130	101	70-130	
Calcium	ug/L	183000	10000	192000	95	70-130	
Iron	ug/L	5140	10000	15000	98	70-130	
Lithium	ug/L	34.1	1000	1040	101	70-130	
Magnesium	ug/L	30900	10000	40800	99	70-130	
Manganese	ug/L	1730	1000	2730	100	70-130	
Molybdenum	ug/L	20.9	1000	1040	102	70-130	
Potassium	ug/L	6420	10000	16500	100	70-130	
Sodium	ug/L	44600	10000	54500	100	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 692106
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

METHOD BLANK: 2795412 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	12/03/20 14:55	
Arsenic	ug/L	<0.086	1.0	0.086	12/03/20 14:55	
Chromium	ug/L	<0.22	1.0	0.22	12/03/20 14:55	
Selenium	ug/L	<0.18	1.0	0.18	12/03/20 14:55	

LABORATORY CONTROL SAMPLE: 2795413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.2	98	85-115	
Arsenic	ug/L	40	37.1	93	85-115	
Chromium	ug/L	40	37.8	94	85-115	
Selenium	ug/L	40	36.3	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795414 2795415

Parameter	Units	60353401003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	40.9	41.3	102	103	70-130	1	20	
Arsenic	ug/L	33.2	40	40	71.3	72.6	95	99	70-130	2	20	
Chromium	ug/L	<0.22	40	40	37.8	38.2	94	95	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.4	37.8	93	94	70-130	1	20	

MATRIX SPIKE SAMPLE: 2795416

Parameter	Units	60353401017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.097	40	40.7	102	70-130	
Arsenic	ug/L	<0.086	40	38.1	95	70-130	
Chromium	ug/L	<0.22	40	38.9	97	70-130	
Selenium	ug/L	<0.18	40	37.4	94	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 687922
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401001, 60353401002, 60353401003

METHOD BLANK: 2780521 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/09/20 10:05	

LABORATORY CONTROL SAMPLE: 2780522

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	498	100	90-110	

SAMPLE DUPLICATE: 2780523

Parameter	Units	60353696004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	491	486	1	10	

SAMPLE DUPLICATE: 2780524

Parameter	Units	60353401003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	465	455	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 687923
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401004, 60353401005, 60353401006

METHOD BLANK: 2780525 Matrix: Water
Associated Lab Samples: 60353401004, 60353401005, 60353401006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/09/20 14:39	

LABORATORY CONTROL SAMPLE: 2780526

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	516	103	90-110	

SAMPLE DUPLICATE: 2780527

Parameter	Units	60353401004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	509	517	1	10	

SAMPLE DUPLICATE: 2780528

Parameter	Units	60353721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	<8.4		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 688396 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401013, 60353401015

METHOD BLANK: 2782151 Matrix: Water
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401013, 60353401015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/12/20 08:49	

LABORATORY CONTROL SAMPLE: 2782152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	499	100	90-110	

SAMPLE DUPLICATE: 2782153

Parameter	Units	60353399012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	146	146	0	10	

SAMPLE DUPLICATE: 2782154

Parameter	Units	60353401013 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	90.2	91.1	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 689409 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401012, 60353401014, 60353401016, 60353401017

METHOD BLANK: 2785624 Matrix: Water
Associated Lab Samples: 60353401012, 60353401014, 60353401016, 60353401017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/16/20 08:45	

LABORATORY CONTROL SAMPLE: 2785625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	496	99	90-110	

SAMPLE DUPLICATE: 2785626

Parameter	Units	60353401012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	52.8	52.5	1	10	

SAMPLE DUPLICATE: 2785627

Parameter	Units	60354300003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	226	230	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 687484 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401001, 60353401002, 60353401004, 60353401005, 60353401006

METHOD BLANK: 2778180 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401004, 60353401005, 60353401006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/05/20 13:56	

LABORATORY CONTROL SAMPLE: 2778181

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

SAMPLE DUPLICATE: 2778491

Parameter	Units	60353399005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	420	430	2	10	

SAMPLE DUPLICATE: 2778492

Parameter	Units	60353399008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	527	561	6	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 687683
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401003

METHOD BLANK: 2779165 Matrix: Water
Associated Lab Samples: 60353401003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/06/20 08:41	

LABORATORY CONTROL SAMPLE: 2779166

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

SAMPLE DUPLICATE: 2779167

Parameter	Units	60353208001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2330	2350	1	10	

SAMPLE DUPLICATE: 2779168

Parameter	Units	60353401003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	483	486	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 688297 — Analysis Method: SM 2540C
QC Batch Method: SM 2540C — Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

METHOD BLANK: 2781788 — Matrix: Water
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/10/20 10:52	

LABORATORY CONTROL SAMPLE: 2781789

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

SAMPLE DUPLICATE: 2781790

Parameter	Units	60353401009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	601	613	2	10	

SAMPLE DUPLICATE: 2781791

Parameter	Units	60353399032 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	670	622	7	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 691514
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

METHOD BLANK: 2793489 Matrix: Water
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.59J	1.0	0.39	11/25/20 15:37	
Fluoride	mg/L	<0.075	0.20	0.075	11/25/20 15:37	
Sulfate	mg/L	<0.42	1.0	0.42	11/25/20 15:37	

METHOD BLANK: 2794508 Matrix: Water
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/30/20 09:10	
Fluoride	mg/L	<0.075	0.20	0.075	11/30/20 09:10	
Sulfate	mg/L	<0.42	1.0	0.42	11/30/20 09:10	

METHOD BLANK: 2795690 Matrix: Water
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	12/01/20 08:26	
Fluoride	mg/L	<0.075	0.20	0.075	12/01/20 08:26	
Sulfate	mg/L	<0.42	1.0	0.42	12/01/20 08:26	

LABORATORY CONTROL SAMPLE: 2793490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 2794509

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

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

LABORATORY CONTROL SAMPLE: 2794509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

LABORATORY CONTROL SAMPLE: 2795691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2793491 2793492

Parameter	Units	60353401009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.5	5	5	16.9	17.3	88	95	80-120	2	15	
Fluoride	mg/L	0.32	2.5	2.5	2.3	2.5	81	87	80-120	7	15	
Sulfate	mg/L	53.7	25	25	81.5	81.6	111	112	80-120	0	15	

MATRIX SPIKE SAMPLE: 2793493

Parameter	Units	60353399023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.9	5	18.3	107	80-120	
Fluoride	mg/L	0.33	2.5	2.7	94	80-120	
Sulfate	mg/L	126	100	233	107	80-120	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 691620
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006

METHOD BLANK: 2793768 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/28/20 09:40	
Fluoride	mg/L	<0.075	0.20	0.075	11/28/20 09:40	
Sulfate	mg/L	<0.28	1.0	0.28	11/28/20 09:40	

METHOD BLANK: 2794492 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/30/20 09:07	
Fluoride	mg/L	<0.075	0.20	0.075	11/30/20 09:07	
Sulfate	mg/L	<0.28	1.0	0.28	11/30/20 09:07	

METHOD BLANK: 2795696 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	12/01/20 08:27	
Fluoride	mg/L	<0.075	0.20	0.075	12/01/20 08:27	
Sulfate	mg/L	<0.28	1.0	0.28	12/01/20 08:27	

LABORATORY CONTROL SAMPLE: 2793769

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	2.4	94	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 2794493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

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QUALITY CONTROL DATA

Project: AMEREN LCPA
Pace Project No.: 60353401

LABORATORY CONTROL SAMPLE: 2795697

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	2.4	95	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2793770 2793771

Parameter	Units	60353401003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.9	10	10	33.1	33.4	112	115	80-120	1	15	
Fluoride	mg/L	0.36	2.5	2.5	2.7	2.7	95	93	80-120	1	15	
Sulfate	mg/L	0.29J	5	5	5.1	5.0	97	95	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2793772 2793773

Parameter	Units	60354416002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	33.2J	100	100	103	103	70	69	80-120	1	15	M1
Fluoride	mg/L	8.3J	50	50	51.3	50.9	86	85	80-120	1	15	
Sulfate	mg/L	624	250	250	737	731	45	43	80-120	1	15	M1

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-2D **Lab ID: 60353401001** Collected: 11/02/20 12:45 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.206 ± 0.428 (0.772) C:NA T:75%**	pCi/L	12/01/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.94 ± 0.812 (1.25) C:64% T:81%**	pCi/L	11/30/20 16:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-8D **Lab ID: 60353401002** Collected: 11/02/20 14:12 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.234 ± 0.305 (0.503) C:NA T:93%**	pCi/L	12/01/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**3.84 ± 1.22 (1.67) C:54% T:63%**	pCi/L	11/30/20 15:23	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-9D **Lab ID: 60353401003** Collected: 11/02/20 15:08 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0741 ± 0.230 (0.445) C:NA T:85%**	pCi/L	12/01/20 13:29	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.695 ± 0.612 (1.25) C:51% T:87%**	pCi/L	11/30/20 15:24	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-BMW-1D **Lab ID: 60353401004** Collected: 11/02/20 09:42 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.33 ± 0.576 (0.531) C:NA T:82%**	pCi/L	12/01/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.81 ± 0.815 (0.905) C:61% T:85%**	pCi/L	11/30/20 13:24	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-BMW-2D **Lab ID: 60353401005** Collected: 11/02/20 11:10 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0485 ± 0.252 (0.523) C:NA T:86%**	pCi/L	12/01/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.22 ± 0.755 (1.39) C:59% T:83%**	pCi/L	11/30/20 16:05	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-DUP-1 **Lab ID: 60353401006** Collected: 11/02/20 08:00 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.304 ± 0.373 (0.608) C:NA T:77%**	pCi/L	12/01/20 13:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.69 ± 0.691 (1.10) C:55% T:80%**	pCi/L	11/30/20 11:54	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-9D-MS **Lab ID: 60353401007** Collected: 11/02/20 15:08 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**96.64 %REC ± NA (NA) C:NA T:NA%**	pCi/L	12/01/20 14:08	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**104.44 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/30/20 15:24	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-9D-MSD **Lab ID: 60353401008** Collected: 11/02/20 15:08 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**124.10 %REC 24.88 RPD ± NA (NA) C:NA T:NA%**	pCi/L	12/01/20 14:08	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**131.09 %REC 22.63 RPD ± NA (NA) C:NA T:NA**	pCi/L	11/30/20 15:24	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-1D **Lab ID: 60353401009** Collected: 11/04/20 09:22 Received: 11/06/20 04:09 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	**-0.0169 ± 0.656 (1.28) C:NA T:90%**	pCi/L	12/04/20 14:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.66 ± 0.557 (0.778) C:75% T:94%**	pCi/L	12/03/20 14:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-3D **Lab ID: 60353401010** Collected: 11/04/20 12:32 Received: 11/06/20 04:09 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	**0.194 ± 0.510 (0.933) C:NA T:82%**	pCi/L	12/04/20 14:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.92 ± 0.707 (1.07) C:73% T:73%**	pCi/L	12/03/20 14:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-4D **Lab ID: 60353401011** Collected: 11/04/20 13:47 Received: 11/06/20 04:09 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	**0.287 ± 0.709 (1.23) C:NA T:87%**	pCi/L	12/04/20 14:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.980 ± 0.533 (0.965) C:71% T:78%**	pCi/L	12/03/20 14:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-5D **Lab ID: 60353401012** Collected: 11/05/20 09:30 Received: 11/06/20 04:09 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 ± 0.411 (0.852) C:NA T:79%**	pCi/L	12/04/20 14:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.361 ± 0.436 (1.06) C:72% T:84%**	pCi/L	12/03/20 14:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-6D **Lab ID: 60353401013** Collected: 11/04/20 15:23 Received: 11/06/20 04:09 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	**0.439 ± 0.434 (0.591) C:NA T:85%**	pCi/L	12/04/20 14:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.159 ± 0.496 (1.11) C:74% T:75%**	pCi/L	12/03/20 14:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-7D **Lab ID: 60353401014** Collected: 11/05/20 11:30 Received: 11/06/20 04:09 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	**0.490 ± 0.571 (0.883) C:NA T:76%**	pCi/L	12/04/20 14:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.66 ± 0.626 (0.957) C:72% T:80%**	pCi/L	12/03/20 14:19	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-DUP-2 **Lab ID: 60353401015** Collected: 11/04/20 08:00 Received: 11/06/20 04:09 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	**0.628 ± 0.550 (0.770) C:NA T:92%**	pCi/L	12/04/20 14:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.96 ± 0.777 (0.804) C:74% T:89%**	pCi/L	12/03/20 14:19	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-FB-1 **Lab ID: 60353401016** Collected: 11/04/20 12:30 Received: 11/06/20 04:09 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	**0.341 ± 0.382 (0.554) C:NA T:89%**	pCi/L	12/04/20 14:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.27 ± 0.679 (0.838) C:70% T:89%**	pCi/L	12/03/20 14:20	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

Sample: L-UMW-FB-2 **Lab ID: 60353401017** Collected: 11/04/20 13:45 Received: 11/06/20 04:09 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	**-0.0300 ± 0.359 (0.743) C:NA T:89%**	pCi/L	12/04/20 14:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.57 ± 0.630 (1.00) C:72% T:79%**	pCi/L	12/03/20 14:20	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 423077
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

METHOD BLANK: 2044946 Matrix: Water
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.596 ± 0.418 (0.806) C:76% T:82%	pCi/L	12/03/20 14:19	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 422539 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: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401007, 60353401008

METHOD BLANK: 2042457 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401007, 60353401008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0381 ± 0.198 (0.410) C:NA T:90%	pCi/L	12/01/20 13:29	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 422540 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: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401007, 60353401008

METHOD BLANK: 2042458 Matrix: Water
Associated Lab Samples: 60353401001, 60353401002, 60353401003, 60353401004, 60353401005, 60353401006, 60353401007, 60353401008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.23 ± 0.561 (0.925) C:64% T:73%	pCi/L	11/30/20 11:53	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA
Pace Project No.: 60353401

QC Batch: 423076
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

METHOD BLANK: 2044944 Matrix: Water
Associated Lab Samples: 60353401009, 60353401010, 60353401011, 60353401012, 60353401013, 60353401014, 60353401015, 60353401016, 60353401017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0493 ± 0.378 (0.795) C:NA T:86%	pCi/L	12/04/20 14:27	

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QUALIFIERS

Project: AMEREN LCPA
Pace Project No.: 60353401

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.

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 (%)

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 422540

[1] The MB is reportable for Ra-228 batch 57312 w/all non-DW samples.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60353401

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353401001	L-UMW-2D	EPA 200.7	692096	EPA 200.7	692181
60353401002	L-UMW-8D	EPA 200.7	692096	EPA 200.7	692181
60353401003	L-UMW-9D	EPA 200.7	692096	EPA 200.7	692181
60353401004	L-BMW-1D	EPA 200.7	692096	EPA 200.7	692181
60353401005	L-BMW-2D	EPA 200.7	692096	EPA 200.7	692181
60353401006	L-UMW-DUP-1	EPA 200.7	692096	EPA 200.7	692181
60353401009	L-UMW-1D	EPA 200.7	692096	EPA 200.7	692181
60353401010	L-UMW-3D	EPA 200.7	692096	EPA 200.7	692181
60353401011	L-UMW-4D	EPA 200.7	692096	EPA 200.7	692181
60353401012	L-UMW-5D	EPA 200.7	692096	EPA 200.7	692181
60353401013	L-UMW-6D	EPA 200.7	692096	EPA 200.7	692181
60353401014	L-UMW-7D	EPA 200.7	692096	EPA 200.7	692181
60353401015	L-UMW-DUP-2	EPA 200.7	692096	EPA 200.7	692181
60353401016	L-UMW-FB-1	EPA 200.7	692096	EPA 200.7	692181
60353401017	L-UMW-FB-2	EPA 200.7	692096	EPA 200.7	692181
60353401001	L-UMW-2D	EPA 200.8	692106	EPA 200.8	692448
60353401002	L-UMW-8D	EPA 200.8	692106	EPA 200.8	692448
60353401003	L-UMW-9D	EPA 200.8	692106	EPA 200.8	692448
60353401004	L-BMW-1D	EPA 200.8	692106	EPA 200.8	692448
60353401005	L-BMW-2D	EPA 200.8	692106	EPA 200.8	692448
60353401006	L-UMW-DUP-1	EPA 200.8	692106	EPA 200.8	692448
60353401009	L-UMW-1D	EPA 200.8	692106	EPA 200.8	692448
60353401010	L-UMW-3D	EPA 200.8	692106	EPA 200.8	692448
60353401011	L-UMW-4D	EPA 200.8	692106	EPA 200.8	692448
60353401012	L-UMW-5D	EPA 200.8	692106	EPA 200.8	692448
60353401013	L-UMW-6D	EPA 200.8	692106	EPA 200.8	692448
60353401014	L-UMW-7D	EPA 200.8	692106	EPA 200.8	692448
60353401015	L-UMW-DUP-2	EPA 200.8	692106	EPA 200.8	692448
60353401016	L-UMW-FB-1	EPA 200.8	692106	EPA 200.8	692448
60353401017	L-UMW-FB-2	EPA 200.8	692106	EPA 200.8	692448
60353401001	L-UMW-2D	EPA 903.1	422539		
60353401002	L-UMW-8D	EPA 903.1	422539		
60353401003	L-UMW-9D	EPA 903.1	422539		
60353401004	L-BMW-1D	EPA 903.1	422539		
60353401005	L-BMW-2D	EPA 903.1	422539		
60353401006	L-UMW-DUP-1	EPA 903.1	422539		
60353401007	L-UMW-9D-MS	EPA 903.1	422539		
60353401008	L-UMW-9D-MSD	EPA 903.1	422539		
60353401009	L-UMW-1D	EPA 903.1	423076		
60353401010	L-UMW-3D	EPA 903.1	423076		
60353401011	L-UMW-4D	EPA 903.1	423076		
60353401012	L-UMW-5D	EPA 903.1	423076		
60353401013	L-UMW-6D	EPA 903.1	423076		
60353401014	L-UMW-7D	EPA 903.1	423076		
60353401015	L-UMW-DUP-2	EPA 903.1	423076		
60353401016	L-UMW-FB-1	EPA 903.1	423076		
60353401017	L-UMW-FB-2	EPA 903.1	423076		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60353401

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353401001	**L-UMW-2D**	EPA 904.0	422540		
60353401002	**L-UMW-8D**	EPA 904.0	422540		
60353401003	**L-UMW-9D**	EPA 904.0	422540		
60353401004	**L-BMW-1D**	EPA 904.0	422540		
60353401005	**L-BMW-2D**	EPA 904.0	422540		
60353401006	**L-UMW-DUP-1**	EPA 904.0	422540		
60353401007	**L-UMW-9D-MS**	EPA 904.0	422540		
60353401008	**L-UMW-9D-MSD**	EPA 904.0	422540		
60353401009	**L-UMW-1D**	EPA 904.0	423077		
60353401010	**L-UMW-3D**	EPA 904.0	423077		
60353401011	**L-UMW-4D**	EPA 904.0	423077		
60353401012	**L-UMW-5D**	EPA 904.0	423077		
60353401013	**L-UMW-6D**	EPA 904.0	423077		
60353401014	**L-UMW-7D**	EPA 904.0	423077		
60353401015	**L-UMW-DUP-2**	EPA 904.0	423077		
60353401016	**L-UMW-FB-1**	EPA 904.0	423077		
60353401017	**L-UMW-FB-2**	EPA 904.0	423077		
60353401001	**L-UMW-2D**	SM 2320B	687922		
60353401002	**L-UMW-8D**	SM 2320B	687922		
60353401003	**L-UMW-9D**	SM 2320B	687922		
60353401004	**L-BMW-1D**	SM 2320B	687923		
60353401005	**L-BMW-2D**	SM 2320B	687923		
60353401006	**L-UMW-DUP-1**	SM 2320B	687923		
60353401009	**L-UMW-1D**	SM 2320B	688396		
60353401010	**L-UMW-3D**	SM 2320B	688396		
60353401011	**L-UMW-4D**	SM 2320B	688396		
60353401012	**L-UMW-5D**	SM 2320B	689409		
60353401013	**L-UMW-6D**	SM 2320B	688396		
60353401014	**L-UMW-7D**	SM 2320B	689409		
60353401015	**L-UMW-DUP-2**	SM 2320B	688396		
60353401016	**L-UMW-FB-1**	SM 2320B	689409		
60353401017	**L-UMW-FB-2**	SM 2320B	689409		
60353401001	**L-UMW-2D**	SM 2540C	687484		
60353401002	**L-UMW-8D**	SM 2540C	687484		
60353401003	**L-UMW-9D**	SM 2540C	687683		
60353401004	**L-BMW-1D**	SM 2540C	687484		
60353401005	**L-BMW-2D**	SM 2540C	687484		
60353401006	**L-UMW-DUP-1**	SM 2540C	687484		
60353401009	**L-UMW-1D**	SM 2540C	688297		
60353401010	**L-UMW-3D**	SM 2540C	688297		
60353401011	**L-UMW-4D**	SM 2540C	688297		
60353401012	**L-UMW-5D**	SM 2540C	688297		

Pace Analytical Services, LLC
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Lenexa, KS 66219
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA
Pace Project No.: 60353401

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353401013	**L-UMW-6D**	SM 2540C	688297		
60353401014	**L-UMW-7D**	SM 2540C	688297		
60353401015	**L-UMW-DUP-2**	SM 2540C	688297		
60353401016	**L-UMW-FB-1**	SM 2540C	688297		
60353401017	**L-UMW-FB-2**	SM 2540C	688297		
60353401001	**L-UMW-2D**	EPA 300.0	691620		
60353401002	**L-UMW-8D**	EPA 300.0	691620		
60353401003	**L-UMW-9D**	EPA 300.0	691620		
60353401004	**L-BMW-1D**	EPA 300.0	691620		
60353401005	**L-BMW-2D**	EPA 300.0	691620		
60353401006	**L-UMW-DUP-1**	EPA 300.0	691620		
60353401009	**L-UMW-1D**	EPA 300.0	691514		
60353401010	**L-UMW-3D**	EPA 300.0	691514		
60353401011	**L-UMW-4D**	EPA 300.0	691514		
60353401012	**L-UMW-5D**	EPA 300.0	691514		
60353401013	**L-UMW-6D**	EPA 300.0	691514		
60353401014	**L-UMW-7D**	EPA 300.0	691514		
60353401015	**L-UMW-DUP-2**	EPA 300.0	691514		
60353401016	**L-UMW-FB-1**	EPA 300.0	691514		
60353401017	**L-UMW-FB-2**	EPA 300.0	691514		

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Sample Condition Upon Receipt

WO# : 60353401

60353401

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 ☒ Ztpic

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

Cooler Temperature (°C): **As-read** 18.1 **Corr. Factor** +0.2 **Corrected** 18.3

Date and initials of person examining contents: 11-4-2020 KH

Temperature should be above freezing to 6°C 20.1, 19.6, 18.8, 0.7, 1.4, 2.7, 0.9, 20.3, 19.8, 19.0, 0.9, 1.6, 2-5-8, 1.1 11-5-20

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 9:18 am, 11/5/20

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

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 Labadie Energy Center
Project Number: 153-140602.0001A (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 (circled) | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WP, AR, OT, TS

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Chloride/Fluoride/Sulfate (N)	App III and Cat/An Metals (N)	Alkalinity (N)	TDS (N)	Appendix IV Metals ** (N)	Mercury (N)	Radium 226 (N)	Radium 228 (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60353401
1	L-UMW-1D	WT	G																									
2	L-UMW-2D	WT	G			11/2/20	1245		5	1		4							X	X	X	X	X		X	X		
3	L-UMW-3D	WT	G																									
4	L-UMW-4D	WT	G																									
5	L-UMW-5D	WT	G																									
6	L-UMW-6D	WT	G																									
7	L-UMW-7D	WT	G																									
8	L-UMW-8D	WT	G			11/2/20	1412		5	1		4							X	X	X	X	X		X	X		
9	L-UMW-9D	WT	G				1508		5	1		4																L-UMW-MS/MSD-1
10	L-BMW-1D	WT	G			11/2/20	0942		5	1		4																
11	L-BMW-2D	WT	G				1110		5	1		4																
12	L-UMW-DUP-1	WT	G			11/2/20	—		5	1		4																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[signature] / Golder	11/3/20	1650	[signature] / Pace	11.4.20	0350	18.3, 20.3, 19.8, 19.0, 0.9, 1.6, 2.4, 1.1	N, Y	Y	Y
**EPA 200.7: Ba, Li, Mo **EPA 200.8: Sb, As, Cr, Se										

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Eric Schneider
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 11/03/20

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Sample Condition Upon Receipt

WO# : 60353401

60353401

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 ☒ zip ic

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

Cooler Temperature (°C): As-read 18.4 Corr. Factor +0.2 Corrected 18.6

Date and initials of person examining contents: 11.6.2020 JL

Temperature should be above freezing to 6°C 17.7, 16.6, 0.9, 0.7, 0.6 17.9, 16.8, 1.1, 0.9, 0.8

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	All coolers out of temp had only radium samples
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 602173	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 4:43 pm, 11/6/20

Project Manager Review: _____ Date: _____

Pace Analytical

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 Labadie Energy Center
Project Number:	153-140602.0001A (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 STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	N	N	N		60353401
1	L-UMW-1D	WT	G			11/4/20	0927		5	1		4							X	X	X	X	X		X	X		
2	L-UMW-2D	WT	G																									
3	L-UMW-3D	WT	G			11/4/20	1232		5	1		4							X	X	X	X	X		X	X		
4	L-UMW-4D	WT	G			11/4/20	1347		5	1		4							X	X	X	X	X		X	X		
5	L-UMW-5D	WT	G			11/5/20	0930		5	1		4							X	X	X	X	X		X	X		
6	L-UMW-6D	WT	G			11/4/20	1523		5	1		4							X	X	X	X	X		X	X		
7	L-UMW-7D	WT	G			11/5/20	1130		5	1		4							X	X	X	X	X	(5)	X	X		
8	L-UMW-8D	WT	G																									
9	L-UMW-9D	WT	G																									
10	L-BMW-1D	WT	G																									
11	L-BMW-2D	WT	G																									
12	L-UMW-DUP-1	WT	G																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B		11/5/20	1420		11/5/20	1425	
**EPA 200.7: Ba, Li, Mo **EPA 200.8: Sb, As, Cr, Se		11/5/20	1425		11-6-20	0409	18.6 17.7 16.8 1.1 0.8 / N / Y / Y / Y

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/05/20

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B Required Project Information:

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Purchase Order No.:	
Project Name:	Ameren LCPA Labadie Energy Center
Project Number:	153-140602.0001A (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 STATE: MO

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other
1	L-UMW-DUP-2	WT	G			11/4/20	—		5	1		4					
2	L-UMW-FB-1	WT	G			11/5/20	1230		5	1		4					
3	L-UMW-FB-2	WT	G			11/5/20	1345		5	1		4					
4	L-UMW-MS-1	WT	G														
5	L-UMW-MSD-1	WT	G														
6		WT	G														
7		WT	G														
8		WT	G														
9		WT	G														
10		WT	G														
11		WT	G														
12		WT	G														

Requested Analysis Filtered (Y/N)

Y/N	Analysis Test	1	2	3	4	5	6	7	8	9	10	11	12
N	Chloride/Fluoride/Sulfate	X	X	X									
N	App III and Cat/An Metals	X	X	X									
N	Alkalinity	X	X	X									
N	TDS	X	X	X									
N	Appendix IV Metals **	X	X	X									
N	Mercury												
N	Radium 226	X	X	X									
N	Radium 228	X	X	X									

Residual Chlorine (Y/N)

6035 3401

Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B		11/5/20	1420		11/5/20	14:25	
**EPA 200.7: Ba, Li, Mo **EPA 200.8: Sb, As, Cr, Se		11/5/20	14:25		11.6.20	0409	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: | DATE Signed (MM/DD/YY): 11/05/20

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

MEMORANDUM

DATE December 7, 2020 **Project No.** 153140602

TO Project File
Golder Associates

CC Amanda Derhake, Jeff Ingram

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

DATA VALIDATION SUMMARY, LABADIE ENERGY CENTER – LCPA – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60353401

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 matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J).
- When duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).

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13515 Barrett Parkway Drive, Suite 260,
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QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 12/07/2020

Laboratory: Pace Analytical Services, LLC
SDG #: 60353401
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-2D, L-UMW-8D, L-UMW-9D, L-BMW-1D, L-BMW-2D, L-UMW-DUP-1, L-UMW-9D-MS, L-UMW-9D-MSD, L-UMW-1D, L-UMW-3D, L-UMW-4D, L-UMW-5D, L-UMW-6D, L-UMW-7D, L-UMW-DUP-2, L-UMW-FB-1, 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?	x			11/02/2020 -11/05/2020
b) Sampling team indicated?	x			EMS
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			See Notes
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?	x			Max RPD: 7% (<10%)

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

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

Comments/Notes:

All coolers out of temperature range only had radium.

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

Method Blanks:

2793489: Chloride (0.59J), associated with samples -009 through -017. Results in associated samples >10x blank result or non-detect, no qualification necessary.

2042458: Radium-228 (1.23 ± 0.561), associated with samples -001 through -008. Detects qualified.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Field Blanks:

L-UMW-FB-1 @ L-UMW-3D: Calcium (90.5J), Magnesium (28.4J), TDS (14.0), Radium-228 (2.27 ± 0.679) (QUAL RAD)

L-UMW-FB-2 @ L-UMW-4D: Calcium (43.6J), TDS (6.0), Radium-228 (1.57 ± 0.630)(QUAL RAD)

Duplicates:

L-UMW-DUP-1 @ L-UMW-2D: Max RPD: 17.7% (<20%).

L-UMW-DUP-2 @ L-UMW-1D: Chromium detected in sample, non-detect in DUP, RPD exceeds limit (<20%) for Fluoride, Radium-228.

MS/MSD:

2795365/2795366: Calcium MS % recovery low. Associated with sample -003.

2793772/2793773: MS/MSD % recovery low for Chloride, Sulfate. MS/MSD performed on unrelated sample, no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-UMW-2D	Radium-228	1.94 ± 0.812	J	Detected in MB
L-UMW-8D	Radium-228	3.84 ± 1.22	J	"
L-BMW-1D	Radium-228	2.81 ± 0.815	J	"
L-UMW-DUP-1	Radium-228	1.69 ± 0.691	J	"
L-UMW-3D	Radium-228	1.92 ± 0.707	J	Detected in FB
L-UMW-4D	Radium-228	0.980 ± 0.533	J	"
L-UMW-1D	Chromium	0.23	J	Detected in sample, ND in DUP
"	Fluoride	0.32	J	Dup RPD exceeds limits
"	Radium-228	1.66 ± 0.557	J	"
L-UMW-DUP-2	Chromium	0.22	UJ	Detected in sample, ND in DUP
"	Fluoride	0.11	J	Dup RPD exceeds limits
"	Radium-228	2.96 ± 0.777	J	"
L-UMW-9D	Calcium	120000	J	MS % recovery low

Signature: Ann Muehlfarth Date: 12/07/2020

Pace Analytical Services, LLC
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December 09, 2020

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

RE: Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory between November 04, 2020 and November 06, 2020. 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, 12/9/20: Sample ID correction.

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

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 #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

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

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60353399001	L-AMW-8	Water	11/03/20 13:35	11/04/20 03:50
60353399002	L-BMW-1S	Water	11/02/20 10:20	11/04/20 03:50
60353399003	L-BMW-2S	Water	11/02/20 11:53	11/04/20 03:50
60353399004	L-MW-24	Water	11/02/20 10:35	11/04/20 03:50
60353399005	L-MW-26	Water	11/02/20 11:50	11/04/20 03:50
60353399006	L-MW-35(D)	Water	11/02/20 09:35	11/04/20 03:50
60353399007	L-S-1	Water	11/02/20 15:10	11/04/20 03:50
60353399008	L-TP-1D	Water	11/02/20 13:25	11/04/20 03:50
60353399009	L-TP-2M	Water	11/03/20 11:38	11/04/20 03:50
60353399010	L-TP-2D	Water	11/03/20 12:30	11/04/20 03:50
60353399011	L-AM-1S	Water	11/03/20 13:57	11/04/20 03:50
60353399012	L-AM-1D	Water	11/03/20 14:55	11/04/20 03:50
60353399013	L-CA-DUP-1	Water	11/02/20 08:00	11/04/20 03:50
60353399014	L-CA-DUP-2	Water	11/03/20 08:00	11/04/20 03:50
60353399015	L-CA-DUP-3	Water	11/03/20 08:00	11/04/20 03:50
60353399016	L-CA-FB-1	Water	11/03/20 14:10	11/04/20 03:50
60353399017	L-CA-FB-2	Water	11/03/20 14:42	11/04/20 03:50
60353399018	L-CA-FB-3	Water	11/03/20 13:58	11/04/20 03:50
60353399019	L-MW-26-MS-1	Water	11/02/20 11:50	11/04/20 03:50
60353399020	L-MW-26-MSD-1	Water	11/02/20 11:50	11/04/20 03:50
60353399021	L-TP-1D-MS-2	Water	11/02/20 13:25	11/04/20 03:50
60353399022	L-TP-1D-MSD-2	Water	11/02/20 13:25	11/04/20 03:50
60353399023	L-TP-3M	Water	11/04/20 12:55	11/06/20 04:09
60353399024	L-TP-3D	Water	11/04/20 12:15	11/06/20 04:09
60353399025	L-TP-4D	Water	11/04/20 10:35	11/06/20 04:09
60353399026	L-LMW-2S	Water	11/05/20 10:15	11/06/20 04:09
60353399027	L-LMW-4S	Water	11/04/20 10:35	11/06/20 04:09
60353399028	L-LMW-7S	Water	11/05/20 11:05	11/06/20 04:09
60353399029	L-LMW-8S	Water	11/05/20 12:15	11/06/20 04:09
60353399030	L-LMW-1S	Water	11/05/20 12:15	11/06/20 04:09
60353399031	L-MW-33(D)	Water	11/04/20 13:45	11/06/20 04:09
60353399032	L-MW-34(D)	Water	11/04/20 14:50	11/06/20 04:09

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60353399001	**L-AMW-8**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399002	**L-BMW-1S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399003	**L-BMW-2S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399004	**L-MW-24**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399005	**L-MW-26**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399006	**L-MW-35(D)**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399007	**L-S-1**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399008	**L-TP-1D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399009	**L-TP-2M**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353399010	**L-TP-2D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399011	**L-AM-1S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399012	**L-AM-1D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399013	**L-CA-DUP-1**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399014	**L-CA-DUP-2**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399015	**L-CA-DUP-3**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399016	**L-CA-FB-1**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	CRN2	3	PASI-K
60353399017	**L-CA-FB-2**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399018	**L-CA-FB-3**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60353399019	**L-MW-26-MS-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60353399020	**L-MW-26-MSD-1**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60353399021	**L-TP-1D-MS-2**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60353399022	**L-TP-1D-MSD-2**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60353399023	**L-TP-3M**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399024	**L-TP-3D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60353399025	**L-TP-4D**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399026	**L-LMW-2S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399027	**L-LMW-4S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353399028	**L-LMW-7S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399029	**L-LMW-8S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353399030	**L-LMW-1S**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60353399031	**L-MW-33(D)**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K
60353399032	**L-MW-34(D)**	EPA 200.7	JLH	10	PASI-K
		EPA 200.8	JDE	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BLA	1	PASI-K
		SM 2540C	MAP	1	PASI-K
		EPA 300.0	CRN2, LDB	3	PASI-K

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

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-AMW-8 **Lab ID: 60353399001** Collected: 11/03/20 13:35 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**102**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:08	7440-39-3	
Boron	**6360**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:08	7440-42-8	
Calcium	**56900**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:08	7440-70-2	
Iron	**2000**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:08	7439-89-6	
Lithium	**18.9**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:08	7439-93-2	
Magnesium	**9690**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:08	7439-95-4	
Manganese	**264**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:08	7439-96-5	
Molybdenum	**310**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:08	7439-98-7	
Potassium	**5390**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:08	7440-09-7	
Sodium	**88900**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:08	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 13:50	7440-36-0	
Arsenic	**0.15J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 13:50	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 13:50	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 13:50	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**92.4**	mg/L	20.0	8.4	1		11/09/20 16:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**541**	mg/L	10.0	10.0	1		11/06/20 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**20.5**	mg/L	5.0	1.9	5		11/25/20 19:08	16887-00-6	
Fluoride	**0.44**	mg/L	0.20	0.075	1		11/25/20 18:53	16984-48-8	
Sulfate	**261**	mg/L	20.0	5.6	20		11/25/20 19:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-BMW-1S **Lab ID: 60353399002** Collected: 11/02/20 10:20 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**368**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:11	7440-39-3	
Boron	**99.0J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:11	7440-42-8	
Calcium	**216000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:11	7440-70-2	
Iron	**26000**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:11	7439-89-6	
Lithium	**18.2**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:11	7439-93-2	
Magnesium	**44600**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:11	7439-95-4	
Manganese	**2600**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:11	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:11	7439-98-7	
Potassium	**5350**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:11	7440-09-7	
Sodium	**15600**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 13:53	7440-36-0	
Arsenic	**29.8**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 13:53	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 13:53	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 13:53	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**742**	mg/L	20.0	8.4	1		11/06/20 14:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**780**	mg/L	13.3	13.3	1		11/05/20 13:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**6.4**	mg/L	1.0	0.39	1		11/25/20 19:37	16887-00-6	
Fluoride	**0.17J**	mg/L	0.20	0.075	1		11/25/20 19:37	16984-48-8	
Sulfate	**66.5**	mg/L	5.0	1.4	5		11/25/20 19:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-BMW-2S **Lab ID: 60353399003** Collected: 11/02/20 11:53 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**253**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:13	7440-39-3	
Boron	**45.2J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:13	7440-42-8	
Calcium	**142000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:13	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:13	7439-89-6	
Lithium	**18.9**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:13	7439-93-2	
Magnesium	**20900**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:13	7439-95-4	
Manganese	**2.1J**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:13	7439-96-5	
Molybdenum	**2.0J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:13	7439-98-7	
Potassium	**5040**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:13	7440-09-7	
Sodium	**3570**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:13	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.22J**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 13:56	7440-36-0	
Arsenic	**0.43J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 13:56	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 13:56	7440-47-3	
Selenium	**5.1**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 13:56	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**359**	mg/L	20.0	8.4	1		11/06/20 14:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**524**	mg/L	10.0	10.0	1		11/05/20 13:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.4**	mg/L	1.0	0.39	1		11/25/20 20:06	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		11/25/20 20:06	16984-48-8	
Sulfate	**73.4**	mg/L	5.0	1.4	5		11/25/20 20:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-24 **Lab ID: 60353399004** Collected: 11/02/20 10:35 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**230**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:16	7440-39-3	
Boron	**104**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:16	7440-42-8	
Calcium	**149000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:16	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:16	7439-89-6	
Lithium	**21.6**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:16	7439-93-2	
Magnesium	**29700**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:16	7439-95-4	
Manganese	**21.0**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:16	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:16	7439-98-7	
Potassium	**6120**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:16	7440-09-7	
Sodium	**8710**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:16	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.22J**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:02	7440-36-0	
Arsenic	**0.46J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:02	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:02	7440-47-3	
Selenium	**9.4**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:02	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**496**	mg/L	20.0	8.4	1		11/06/20 14:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**511**	mg/L	10.0	10.0	1		11/05/20 13:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**5.1**	mg/L	1.0	0.39	1		11/25/20 21:04	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		11/25/20 21:04	16984-48-8	
Sulfate	**32.4**	mg/L	5.0	1.4	5		11/25/20 21:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-26 **Lab ID: 60353399005** Collected: 11/02/20 11:50 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**174**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:18	7440-39-3	
Boron	**63.6J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:18	7440-42-8	
Calcium	**119000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:18	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:18	7439-89-6	
Lithium	**23.9**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:18	7439-93-2	
Magnesium	**21700**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:18	7439-95-4	
Manganese	**127**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:18	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:18	7439-98-7	
Potassium	**3900**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:18	7440-09-7	
Sodium	**5210**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:18	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.18J**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:05	7440-36-0	
Arsenic	**0.51J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:05	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:05	7440-47-3	
Selenium	**0.65J**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:05	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**374**	mg/L	20.0	8.4	1		11/06/20 15:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**420**	mg/L	10.0	10.0	1		11/05/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**5.9**	mg/L	1.0	0.39	1		11/25/20 21:33	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		11/25/20 21:33	16984-48-8	
Sulfate	**29.8**	mg/L	2.0	0.56	2		11/25/20 22:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-35(D) **Lab ID: 60353399006** Collected: 11/02/20 09:35 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**46.2**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:36	7440-39-3	
Boron	**8590**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:36	7440-42-8	
Calcium	**154000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:36	7440-70-2	
Iron	**6360**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:36	7439-89-6	
Lithium	**27.2**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:36	7439-93-2	
Magnesium	**32400**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:36	7439-95-4	
Manganese	**462**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:36	7439-96-5	
Molybdenum	**591**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:36	7439-98-7	
Potassium	**5980**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:36	7440-09-7	
Sodium	**106000**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:36	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:13	7440-36-0	
Arsenic	**0.13J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:13	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:13	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:13	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**154**	mg/L	20.0	8.4	1		11/06/20 15:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1020**	mg/L	13.3	13.3	1		11/05/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**17.5**	mg/L	1.0	0.39	1		11/25/20 23:57	16887-00-6	
Fluoride	**0.34**	mg/L	0.20	0.075	1		11/25/20 23:57	16984-48-8	
Sulfate	**579**	mg/L	100	27.8	100		11/26/20 00:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-S-1 **Lab ID: 60353399007** Collected: 11/02/20 15:10 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**352**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:38	7440-39-3	
Boron	**82.7J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:38	7440-42-8	
Calcium	**143000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:38	7440-70-2	
Iron	**85.3**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:38	7439-89-6	
Lithium	**22.4**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:38	7439-93-2	
Magnesium	**20000**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:38	7439-95-4	
Manganese	**583**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:38	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:38	7439-98-7	
Potassium	**27400**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:38	7440-09-7	
Sodium	**2780**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.13J**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:19	7440-36-0	
Arsenic	**0.57J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:19	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:19	7440-47-3	
Selenium	**0.23J**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:19	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**484**	mg/L	20.0	8.4	1		11/06/20 15:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**486**	mg/L	10.0	10.0	1		11/05/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.1**	mg/L	1.0	0.39	1		11/26/20 00:26	16887-00-6	
Fluoride	**0.22**	mg/L	0.20	0.075	1		11/26/20 00:26	16984-48-8	
Sulfate	**17.6**	mg/L	1.0	0.28	1		11/26/20 00:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-1D **Lab ID: 60353399008** Collected: 11/02/20 13:25 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**1430**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:41	7440-39-3	
Boron	**67.9J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:41	7440-42-8	
Calcium	**141000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:41	7440-70-2	M1
Iron	**8540**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:41	7439-89-6	
Lithium	**25.0**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:41	7439-93-2	
Magnesium	**35200**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:41	7439-95-4	
Manganese	**242**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:41	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:41	7439-98-7	
Potassium	**4420**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:41	7440-09-7	
Sodium	**12900**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:41	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:22	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:22	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:22	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:22	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**528**	mg/L	20.0	8.4	1		11/06/20 15:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**527**	mg/L	10.0	10.0	1		11/05/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.4**	mg/L	1.0	0.39	1		11/30/20 13:27	16887-00-6	
Fluoride	**0.31**	mg/L	0.20	0.075	1		11/30/20 13:27	16984-48-8	
Sulfate	**11.5**	mg/L	1.0	0.28	1		11/30/20 13:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-2M **Lab ID: 60353399009** Collected: 11/03/20 11:38 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**114**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:48	7440-39-3	
Boron	**1720**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:48	7440-42-8	
Calcium	**88000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:48	7440-70-2	
Iron	**2670**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:48	7439-89-6	
Lithium	**32.2**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:48	7439-93-2	
Magnesium	**12800**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:48	7439-95-4	
Manganese	**378**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:48	7439-96-5	
Molybdenum	**88.0**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:48	7439-98-7	
Potassium	**6300**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:48	7440-09-7	
Sodium	**63800**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:48	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:31	7440-36-0	
Arsenic	**0.60J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:31	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:31	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:31	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**252**	mg/L	20.0	8.4	1		11/09/20 16:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**498**	mg/L	10.0	10.0	1		11/06/20 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.6**	mg/L	10.0	3.9	10		11/30/20 13:09	16887-00-6	
Fluoride	**0.51**	mg/L	0.20	0.075	1		11/26/20 00:41	16984-48-8	
Sulfate	**159**	mg/L	20.0	5.6	20		11/26/20 00:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-2D **Lab ID: 60353399010** Collected: 11/03/20 12:30 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**118**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 20:51	7440-39-3	
Boron	**3140**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 20:51	7440-42-8	
Calcium	**95000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 20:51	7440-70-2	
Iron	**3700**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 20:51	7439-89-6	
Lithium	**42.1**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 20:51	7439-93-2	
Magnesium	**16600**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 20:51	7439-95-4	
Manganese	**318**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 20:51	7439-96-5	
Molybdenum	**153**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 20:51	7439-98-7	
Potassium	**5760**	ug/L	500	189	1	12/01/20 15:10	12/02/20 20:51	7440-09-7	
Sodium	**59400**	ug/L	500	107	1	12/01/20 15:10	12/02/20 20:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:37	7440-36-0	
Arsenic	**11.6**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:37	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:37	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:37	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**264**	mg/L	20.0	8.4	1		11/09/20 16:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**518**	mg/L	10.0	10.0	1		11/06/20 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.6**	mg/L	2.0	0.78	2		11/30/20 16:55	16887-00-6	
Fluoride	**0.47**	mg/L	0.20	0.075	1		11/30/20 16:39	16984-48-8	
Sulfate	**154**	mg/L	10.0	2.8	10		11/30/20 17:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-AM-1S **Lab ID: 60353399011** Collected: 11/03/20 13:57 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**660**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:03	7440-39-3	
Boron	**299**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:03	7440-42-8	
Calcium	**203000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:03	7440-70-2	
Iron	**13200**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:03	7439-89-6	
Lithium	**35.7**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:03	7439-93-2	
Magnesium	**42400**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:03	7439-95-4	
Manganese	**2510**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:03	7439-96-5	
Molybdenum	**4.2J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:03	7439-98-7	
Potassium	**6680**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:03	7440-09-7	
Sodium	**47900**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:03	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:40	7440-36-0	
Arsenic	**7.5**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:40	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:40	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:40	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**633**	mg/L	20.0	8.4	1		11/09/20 16:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**844**	mg/L	13.3	13.3	1		11/06/20 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**116**	mg/L	10.0	3.9	10		11/30/20 17:57	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	0.075	1		11/30/20 17:26	16984-48-8	
Sulfate	**14.1**	mg/L	1.0	0.28	1		11/30/20 17:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-AM-1D **Lab ID: 60353399012** Collected: 11/03/20 14:55 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**70.3**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:06	7440-39-3	
Boron	**7660**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:06	7440-42-8	
Calcium	**104000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:06	7440-70-2	
Iron	**4870**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:06	7439-89-6	
Lithium	**40.5**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:06	7439-93-2	
Magnesium	**13700**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:06	7439-95-4	
Manganese	**262**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:06	7439-96-5	
Molybdenum	**346**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:06	7439-98-7	
Potassium	**8450**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:06	7440-09-7	
Sodium	**111000**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:06	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:43	7440-36-0	
Arsenic	**3.6**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:43	7440-38-2	
Chromium	**0.27J**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:43	7440-47-3	B
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:43	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**146**	mg/L	20.0	8.4	1		11/12/20 09:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**796**	mg/L	10.0	10.0	1		11/06/20 08:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**18.3**	mg/L	5.0	1.9	5		11/30/20 18:29	16887-00-6	
Fluoride	**0.40**	mg/L	0.20	0.075	1		11/30/20 18:13	16984-48-8	
Sulfate	**425**	mg/L	50.0	13.9	50		11/30/20 18:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-DUP-1 **Lab ID: 60353399013** Collected: 11/02/20 08:00 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**341**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:09	7440-39-3	
Boron	**79.4J**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:09	7440-42-8	
Calcium	**139000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:09	7440-70-2	
Iron	**56.4**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:09	7439-89-6	
Lithium	**18.9**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:09	7439-93-2	
Magnesium	**19600**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:09	7439-95-4	
Manganese	**516**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:09	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:09	7439-98-7	
Potassium	**27200**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:09	7440-09-7	
Sodium	**2770**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.11J**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:46	7440-36-0	
Arsenic	**0.56J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:46	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:46	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:46	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**467**	mg/L	20.0	8.4	1		11/06/20 15:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**512**	mg/L	10.0	10.0	1		11/05/20 13:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**2.2**	mg/L	1.0	0.39	1		11/30/20 15:01	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	0.075	1		11/30/20 15:01	16984-48-8	
Sulfate	**17.2**	mg/L	1.0	0.28	1		11/30/20 15:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-DUP-2 **Lab ID: 60353399014** Collected: 11/03/20 08:00 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**113**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:11	7440-39-3	
Boron	**1740**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:11	7440-42-8	
Calcium	**89000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:11	7440-70-2	
Iron	**2710**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:11	7439-89-6	
Lithium	**32.9**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:11	7439-93-2	
Magnesium	**12800**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:11	7439-95-4	
Manganese	**382**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:11	7439-96-5	
Molybdenum	**88.5**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:11	7439-98-7	
Potassium	**6430**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:11	7440-09-7	
Sodium	**64700**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 14:49	7440-36-0	
Arsenic	**0.61J**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 14:49	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 14:49	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 14:49	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**240**	mg/L	20.0	8.4	1		11/12/20 09:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**532**	mg/L	10.0	10.0	1		11/06/20 08:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**21.3**	mg/L	2.0	0.78	2		11/30/20 19:47	16887-00-6	
Fluoride	**0.52**	mg/L	0.20	0.075	1		11/30/20 19:31	16984-48-8	
Sulfate	**177**	mg/L	20.0	5.6	20		11/30/20 20:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-DUP-3 **Lab ID: 60353399015** Collected: 11/03/20 08:00 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**118**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:14	7440-39-3	
Boron	**3170**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:14	7440-42-8	
Calcium	**95600**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:14	7440-70-2	
Iron	**3720**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:14	7439-89-6	
Lithium	**43.1**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:14	7439-93-2	
Magnesium	**16700**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:14	7439-95-4	
Manganese	**322**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:14	7439-96-5	
Molybdenum	**154**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:14	7439-98-7	
Potassium	**5820**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:14	7440-09-7	
Sodium	**59800**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:14	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 15:01	7440-36-0	
Arsenic	**12.0**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 15:01	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 15:01	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 15:01	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**264**	mg/L	20.0	8.4	1		11/12/20 09:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**542**	mg/L	10.0	10.0	1		11/06/20 08:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.1**	mg/L	2.0	0.78	2		11/30/20 20:34	16887-00-6	
Fluoride	**0.47**	mg/L	0.20	0.075	1		11/30/20 20:18	16984-48-8	
Sulfate	**172**	mg/L	50.0	13.9	50		11/30/20 20:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-FB-1 **Lab ID: 60353399016** Collected: 11/03/20 14:10 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:16	7440-39-3	
Boron	**<11.7**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:16	7440-42-8	
Calcium	**179J**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:16	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:16	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:16	7439-93-2	
Magnesium	**25.6J**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:16	7439-95-4	B
Manganese	**<0.97**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:16	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:16	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:16	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:16	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 15:04	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 15:04	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 15:04	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 15:04	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		11/12/20 09:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/06/20 08:49		
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		11/30/20 21:05	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		11/30/20 21:05	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		11/30/20 21:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-FB-2 **Lab ID: 60353399017** Collected: 11/03/20 14:42 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:19	7440-39-3	
Boron	**<11.7**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:19	7440-42-8	
Calcium	**103J**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:19	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:19	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:19	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:19	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:19	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:19	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:19	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:19	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 15:07	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 15:07	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 15:07	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 15:07	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		11/12/20 09:21		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**9.0**	mg/L	5.0	5.0	1		11/06/20 08:49		
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		11/30/20 21:21	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		11/30/20 21:21	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		11/30/20 21:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-FB-3 **Lab ID: 60353399018** Collected: 11/03/20 13:58 Received: 11/04/20 03:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<1.8**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 21:21	7440-39-3	
Boron	**<11.7**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 21:21	7440-42-8	
Calcium	**54.4J**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 21:21	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 21:21	7439-89-6	
Lithium	**<4.6**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 21:21	7439-93-2	
Magnesium	**<19.7**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 21:21	7439-95-4	
Manganese	**<0.97**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 21:21	7439-96-5	
Molybdenum	**<1.7**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 21:21	7439-98-7	
Potassium	**<189**	ug/L	500	189	1	12/01/20 15:10	12/02/20 21:21	7440-09-7	
Sodium	**<107**	ug/L	500	107	1	12/01/20 15:10	12/02/20 21:21	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 08:43	12/03/20 15:13	7440-36-0	
Arsenic	**<0.086**	ug/L	1.0	0.086	1	12/02/20 08:43	12/03/20 15:13	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 08:43	12/03/20 15:13	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 08:43	12/03/20 15:13	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<8.4**	mg/L	20.0	8.4	1		11/12/20 09:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/06/20 08:49		
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		11/30/20 21:36	16887-00-6	
Fluoride	**<0.075**	mg/L	0.20	0.075	1		11/30/20 21:36	16984-48-8	
Sulfate	**<0.28**	mg/L	1.0	0.28	1		11/30/20 21:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-3M **Lab ID: 60353399023** Collected: 11/04/20 12:55 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**283**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:44	7440-39-3	
Boron	**3780**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:44	7440-42-8	
Calcium	**126000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:44	7440-70-2	
Iron	**9830**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:44	7439-89-6	
Lithium	**37.4**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:44	7439-93-2	
Magnesium	**27300**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:44	7439-95-4	
Manganese	**1690**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:44	7439-96-5	
Molybdenum	**201**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:44	7439-98-7	
Potassium	**5290**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:44	7440-09-7	
Sodium	**36000**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:44	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:18	7440-36-0	
Arsenic	**0.51J**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:18	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:18	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:18	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**394**	mg/L	20.0	8.4	1		11/12/20 10:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**597**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**12.9**	mg/L	1.0	0.39	1		11/25/20 22:38	16887-00-6	
Fluoride	**0.33**	mg/L	0.20	0.075	1		11/25/20 22:38	16984-48-8	
Sulfate	**126**	mg/L	20.0	5.6	20		11/25/20 23:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-3D **Lab ID: 60353399024** Collected: 11/04/20 12:15 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**72.2**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:46	7440-39-3	
Boron	**10200**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:46	7440-42-8	
Calcium	**93000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:46	7440-70-2	
Iron	**4500**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:46	7439-89-6	
Lithium	**27.3**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:46	7439-93-2	
Magnesium	**21100**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:46	7439-95-4	
Manganese	**163**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:46	7439-96-5	
Molybdenum	**649**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:46	7439-98-7	
Potassium	**6650**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:46	7440-09-7	
Sodium	**116000**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:24	7440-36-0	
Arsenic	**7.4**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:24	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:24	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:24	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**130**	mg/L	20.0	8.4	1		11/12/20 10:21		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**804**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**25.0**	mg/L	2.0	0.71	2		12/01/20 02:18	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	0.075	1		11/26/20 00:12	16984-48-8	
Sulfate	**412**	mg/L	100	27.8	100		11/26/20 00:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-4D **Lab ID: 60353399025** Collected: 11/04/20 10:35 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**416**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:49	7440-39-3	
Boron	**5830**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:49	7440-42-8	
Calcium	**121000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:49	7440-70-2	
Iron	**5370**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:49	7439-89-6	
Lithium	**26.0**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:49	7439-93-2	
Magnesium	**32000**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:49	7439-95-4	
Manganese	**325**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:49	7439-96-5	
Molybdenum	**2.4J**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:49	7439-98-7	
Potassium	**4670**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:49	7440-09-7	
Sodium	**25800**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:49	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:27	7440-36-0	
Arsenic	**8.3**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:27	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:27	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:27	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**329**	mg/L	20.0	8.4	1		11/12/20 10:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**600**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.6**	mg/L	1.0	0.39	1		11/26/20 00:59	16887-00-6	
Fluoride	**0.34**	mg/L	0.20	0.075	1		11/26/20 00:59	16984-48-8	
Sulfate	**163**	mg/L	20.0	5.6	20		11/26/20 01:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-2S **Lab ID: 60353399026** Collected: 11/05/20 10:15 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**40.6**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:51	7440-39-3	
Boron	**3150**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:51	7440-42-8	
Calcium	**61900**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:51	7440-70-2	
Iron	**<26.8**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:51	7439-89-6	
Lithium	**9.5J**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:51	7439-93-2	
Magnesium	**111**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:51	7439-95-4	
Manganese	**1.1J**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:51	7439-96-5	
Molybdenum	**135**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:51	7439-98-7	
Potassium	**9230**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:51	7440-09-7	
Sodium	**62800**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:51	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:30	7440-36-0	
Arsenic	**46.8**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:30	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:30	7440-47-3	
Selenium	**0.18J**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:30	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**31.8**	mg/L	20.0	8.4	1		11/16/20 09:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**445**	mg/L	10.0	10.0	1		11/10/20 10:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**19.2**	mg/L	1.0	0.39	1		11/26/20 01:30	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	0.075	1		11/26/20 01:30	16984-48-8	
Sulfate	**243**	mg/L	20.0	5.6	20		11/26/20 01:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-4S **Lab ID: 60353399027** Collected: 11/04/20 10:35 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**160**	ug/L	5.0	1.8	1	12/01/20 15:10	12/02/20 22:54	7440-39-3	
Boron	**3120**	ug/L	100	11.7	1	12/01/20 15:10	12/02/20 22:54	7440-42-8	
Calcium	**183000**	ug/L	200	32.4	1	12/01/20 15:10	12/02/20 22:54	7440-70-2	
Iron	**5140**	ug/L	50.0	26.8	1	12/01/20 15:10	12/02/20 22:54	7439-89-6	
Lithium	**34.1**	ug/L	10.0	4.6	1	12/01/20 15:10	12/02/20 22:54	7439-93-2	
Magnesium	**30900**	ug/L	50.0	19.7	1	12/01/20 15:10	12/02/20 22:54	7439-95-4	
Manganese	**1730**	ug/L	5.0	0.97	1	12/01/20 15:10	12/02/20 22:54	7439-96-5	
Molybdenum	**20.9**	ug/L	20.0	1.7	1	12/01/20 15:10	12/02/20 22:54	7439-98-7	
Potassium	**6420**	ug/L	500	189	1	12/01/20 15:10	12/02/20 22:54	7440-09-7	
Sodium	**44600**	ug/L	500	107	1	12/01/20 15:10	12/02/20 22:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 12:55	12/03/20 16:33	7440-36-0	
Arsenic	**16.1**	ug/L	1.0	0.086	1	12/02/20 12:55	12/03/20 16:33	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 12:55	12/03/20 16:33	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 12:55	12/03/20 16:33	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**566**	mg/L	20.0	8.4	1		11/12/20 10:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**717**	mg/L	10.0	10.0	1		11/10/20 10:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**41.7**	mg/L	5.0	1.8	5		12/01/20 09:58	16887-00-6	
Fluoride	**0.11J**	mg/L	0.20	0.075	1		11/26/20 02:01	16984-48-8	
Sulfate	**83.5**	mg/L	5.0	2.1	5		12/01/20 09:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-7S **Lab ID: 60353399028** Collected: 11/05/20 11:05 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**297**	ug/L	5.0	1.8	1	12/01/20 17:41	12/02/20 23:15	7440-39-3	
Boron	**7010**	ug/L	100	11.7	1	12/01/20 17:41	12/02/20 23:15	7440-42-8	
Calcium	**173000**	ug/L	200	32.4	1	12/01/20 17:41	12/02/20 23:15	7440-70-2	M1
Iron	**3900**	ug/L	50.0	26.8	1	12/01/20 17:41	12/02/20 23:15	7439-89-6	
Lithium	**43.1**	ug/L	10.0	4.6	1	12/01/20 17:41	12/02/20 23:15	7439-93-2	
Magnesium	**37600**	ug/L	50.0	19.7	1	12/01/20 17:41	12/02/20 23:15	7439-95-4	
Manganese	**1580**	ug/L	5.0	0.97	1	12/01/20 17:41	12/02/20 23:15	7439-96-5	
Molybdenum	**81.2**	ug/L	20.0	1.7	1	12/01/20 17:41	12/02/20 23:15	7439-98-7	
Potassium	**7650**	ug/L	500	189	1	12/01/20 17:41	12/02/20 23:15	7440-09-7	
Sodium	**54500**	ug/L	500	107	1	12/01/20 17:41	12/02/20 23:15	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 13:16	12/04/20 14:30	7440-36-0	
Arsenic	**11.6**	ug/L	1.0	0.086	1	12/02/20 13:16	12/04/20 14:30	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 13:16	12/04/20 14:30	7440-47-3	
Selenium	**0.20J**	ug/L	1.0	0.18	1	12/02/20 13:16	12/04/20 14:30	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**511**	mg/L	20.0	8.4	1		11/16/20 09:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**808**	mg/L	10.0	10.0	1		11/10/20 10:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**14.4**	mg/L	1.0	0.39	1		11/26/20 03:04	16887-00-6	
Fluoride	**0.31**	mg/L	0.20	0.075	1		11/26/20 03:04	16984-48-8	
Sulfate	**176**	mg/L	20.0	5.6	20		11/26/20 03:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-8S **Lab ID: 60353399029** Collected: 11/05/20 12:15 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**73.2**	ug/L	5.0	1.8	1	12/01/20 17:41	12/02/20 23:20	7440-39-3	
Boron	**2570**	ug/L	100	11.7	1	12/01/20 17:41	12/02/20 23:20	7440-42-8	
Calcium	**70800**	ug/L	200	32.4	1	12/01/20 17:41	12/02/20 23:20	7440-70-2	
Iron	**1850**	ug/L	50.0	26.8	1	12/01/20 17:41	12/02/20 23:20	7439-89-6	
Lithium	**15.8**	ug/L	10.0	4.6	1	12/01/20 17:41	12/02/20 23:20	7439-93-2	
Magnesium	**12700**	ug/L	50.0	19.7	1	12/01/20 17:41	12/02/20 23:20	7439-95-4	
Manganese	**744**	ug/L	5.0	0.97	1	12/01/20 17:41	12/02/20 23:20	7439-96-5	
Molybdenum	**179**	ug/L	20.0	1.7	1	12/01/20 17:41	12/02/20 23:20	7439-98-7	
Potassium	**5310**	ug/L	500	189	1	12/01/20 17:41	12/02/20 23:20	7440-09-7	
Sodium	**50800**	ug/L	500	107	1	12/01/20 17:41	12/02/20 23:20	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 13:16	12/04/20 14:31	7440-36-0	
Arsenic	**6.0**	ug/L	1.0	0.086	1	12/02/20 13:16	12/04/20 14:31	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 13:16	12/04/20 14:31	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 13:16	12/04/20 14:31	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**273**	mg/L	20.0	8.4	1		11/16/20 09:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**440**	mg/L	10.0	10.0	1		11/10/20 10:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**4.7**	mg/L	1.0	0.39	1		11/26/20 03:35	16887-00-6	B
Fluoride	**0.53**	mg/L	0.20	0.075	1		11/26/20 03:35	16984-48-8	
Sulfate	**80.4**	mg/L	5.0	2.1	5		12/01/20 10:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-1S **Lab ID: 60353399030** Collected: 11/05/20 12:15 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**79.2**	ug/L	5.0	1.8	1	12/01/20 17:41	12/02/20 23:22	7440-39-3	
Boron	**4390**	ug/L	100	11.7	1	12/01/20 17:41	12/02/20 23:22	7440-42-8	
Calcium	**158000**	ug/L	200	32.4	1	12/01/20 17:41	12/02/20 23:22	7440-70-2	
Iron	**2570**	ug/L	50.0	26.8	1	12/01/20 17:41	12/02/20 23:22	7439-89-6	
Lithium	**16.9**	ug/L	10.0	4.6	1	12/01/20 17:41	12/02/20 23:22	7439-93-2	
Magnesium	**28300**	ug/L	50.0	19.7	1	12/01/20 17:41	12/02/20 23:22	7439-95-4	
Manganese	**1090**	ug/L	5.0	0.97	1	12/01/20 17:41	12/02/20 23:22	7439-96-5	
Molybdenum	**6.6J**	ug/L	20.0	1.7	1	12/01/20 17:41	12/02/20 23:22	7439-98-7	
Potassium	**4830**	ug/L	500	189	1	12/01/20 17:41	12/02/20 23:22	7440-09-7	
Sodium	**10400**	ug/L	500	107	1	12/01/20 17:41	12/02/20 23:22	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 13:16	12/04/20 14:32	7440-36-0	
Arsenic	**6.8**	ug/L	1.0	0.086	1	12/02/20 13:16	12/04/20 14:32	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 13:16	12/04/20 14:32	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 13:16	12/04/20 14:32	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**402**	mg/L	20.0	8.4	1		11/16/20 09:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**635**	mg/L	10.0	10.0	1		11/12/20 08:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**3.9**	mg/L	1.0	0.39	1		11/26/20 04:06	16887-00-6	B
Fluoride	**0.32**	mg/L	0.20	0.075	1		11/26/20 04:06	16984-48-8	
Sulfate	**142**	mg/L	20.0	5.6	20		11/26/20 04:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-33(D) **Lab ID: 60353399031** Collected: 11/04/20 13:45 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	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	**106**	ug/L	5.0	1.8	1	12/01/20 17:41	12/02/20 23:25	7440-39-3	
Boron	**9860**	ug/L	100	11.7	1	12/01/20 17:41	12/02/20 23:25	7440-42-8	
Calcium	**83000**	ug/L	200	32.4	1	12/01/20 17:41	12/02/20 23:25	7440-70-2	
Iron	**4260**	ug/L	50.0	26.8	1	12/01/20 17:41	12/02/20 23:25	7439-89-6	
Lithium	**33.5**	ug/L	10.0	4.6	1	12/01/20 17:41	12/02/20 23:25	7439-93-2	
Magnesium	**17700**	ug/L	50.0	19.7	1	12/01/20 17:41	12/02/20 23:25	7439-95-4	
Manganese	**217**	ug/L	5.0	0.97	1	12/01/20 17:41	12/02/20 23:25	7439-96-5	
Molybdenum	**1030**	ug/L	20.0	1.7	1	12/01/20 17:41	12/02/20 23:25	7439-98-7	
Potassium	**6780**	ug/L	500	189	1	12/01/20 17:41	12/02/20 23:25	7440-09-7	
Sodium	**93800**	ug/L	500	107	1	12/01/20 17:41	12/02/20 23:25	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 13:16	12/04/20 14:34	7440-36-0	
Arsenic	**3.2**	ug/L	1.0	0.086	1	12/02/20 13:16	12/04/20 14:34	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 13:16	12/04/20 14:34	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 13:16	12/04/20 14:34	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**118**	mg/L	20.0	8.4	1		11/12/20 10:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**713**	mg/L	10.0	10.0	1		11/10/20 10:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.7**	mg/L	2.0	0.71	2		12/01/20 10:30	16887-00-6	
Fluoride	**0.38**	mg/L	0.20	0.075	1		11/26/20 04:38	16984-48-8	
Sulfate	**365**	mg/L	50.0	21.0	50		12/01/20 10:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-34(D) **Lab ID: 60353399032** Collected: 11/04/20 14:50 Received: 11/06/20 04:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**82.8**	ug/L	5.0	1.8	1	12/01/20 17:41	12/03/20 07:42	7440-39-3	
Boron	**10400**	ug/L	100	11.7	1	12/01/20 17:41	12/03/20 07:42	7440-42-8	
Calcium	**83200**	ug/L	200	32.4	1	12/01/20 17:41	12/03/20 07:42	7440-70-2	
Iron	**4680**	ug/L	50.0	26.8	1	12/01/20 17:41	12/03/20 07:42	7439-89-6	
Lithium	**36.2**	ug/L	10.0	4.6	1	12/01/20 17:41	12/03/20 07:42	7439-93-2	
Magnesium	**19800**	ug/L	50.0	19.7	1	12/01/20 17:41	12/03/20 07:42	7439-95-4	
Manganese	**211**	ug/L	5.0	0.97	1	12/01/20 17:41	12/03/20 07:42	7439-96-5	
Molybdenum	**1020**	ug/L	20.0	1.7	1	12/01/20 17:41	12/03/20 07:42	7439-98-7	
Potassium	**6470**	ug/L	500	189	1	12/01/20 17:41	12/03/20 07:42	7440-09-7	
Sodium	**73500**	ug/L	500	107	1	12/01/20 17:41	12/03/20 07:42	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.097**	ug/L	1.0	0.097	1	12/02/20 13:16	12/04/20 14:35	7440-36-0	
Arsenic	**3.5**	ug/L	1.0	0.086	1	12/02/20 13:16	12/04/20 14:35	7440-38-2	
Chromium	**<0.22**	ug/L	1.0	0.22	1	12/02/20 13:16	12/04/20 14:35	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	12/02/20 13:16	12/04/20 14:35	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**181**	mg/L	20.0	8.4	1		11/12/20 10:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**670**	mg/L	10.0	10.0	1		11/10/20 10:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**20.3**	mg/L	2.0	0.71	2		12/01/20 11:02	16887-00-6	
Fluoride	**0.33**	mg/L	0.20	0.075	1		11/26/20 04:53	16984-48-8	
Sulfate	**110**	mg/L	20.0	8.4	20		12/01/20 11:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 692094
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399009, 60353399010, 60353399011, 60353399012, 60353399013, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

METHOD BLANK: 2795352 Matrix: Water
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399009, 60353399010, 60353399011, 60353399012, 60353399013, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/02/20 20:03	
Boron	ug/L	<11.7	100	11.7	12/02/20 20:03	
Calcium	ug/L	<32.4	200	32.4	12/02/20 20:03	
Iron	ug/L	<26.8	50.0	26.8	12/02/20 20:03	
Lithium	ug/L	<4.6	10.0	4.6	12/02/20 20:03	
Magnesium	ug/L	35.6J	50.0	19.7	12/02/20 20:03	
Manganese	ug/L	<0.97	5.0	0.97	12/02/20 20:03	
Molybdenum	ug/L	<1.7	20.0	1.7	12/02/20 20:03	
Potassium	ug/L	<189	500	189	12/02/20 20:03	
Sodium	ug/L	<107	500	107	12/02/20 20:03	

LABORATORY CONTROL SAMPLE: 2795353

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	994	99	85-115	
Boron	ug/L	1000	978	98	85-115	
Calcium	ug/L	10000	10000	100	85-115	
Iron	ug/L	10000	9920	99	85-115	
Lithium	ug/L	1000	1000	100	85-115	
Magnesium	ug/L	10000	9960	100	85-115	
Manganese	ug/L	1000	990	99	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	9850	99	85-115	
Sodium	ug/L	10000	9840	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795354 2795355

Parameter	Units	60353399005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	174	1000	1000	1180	1180	100	100	70-130	0	20	
Boron	ug/L	63.6J	1000	1000	1080	1080	101	101	70-130	0	20	
Calcium	ug/L	119000	10000	10000	129000	130000	93	103	70-130	1	20	
Iron	ug/L	<26.8	10000	10000	10100	10000	101	100	70-130	0	20	
Lithium	ug/L	23.9	1000	1000	1050	1050	102	102	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.: 60353399

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795354 2795355

Parameter	Units	60353399005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	ug/L	21700	10000	10000	31600	31600	98	99	70-130	0	20	
Manganese	ug/L	127	1000	1000	1130	1120	100	100	70-130	0	20	
Molybdenum	ug/L	<1.7	1000	1000	1040	1040	104	104	70-130	0	20	
Potassium	ug/L	3900	10000	10000	14000	14100	102	102	70-130	0	20	
Sodium	ug/L	5210	10000	10000	15100	15200	99	100	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795356 2795357

Parameter	Units	60353399008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	1430	1000	1000	2420	2400	98	97	70-130	1	20	
Boron	ug/L	67.9J	1000	1000	1060	1070	100	100	70-130	0	20	
Calcium	ug/L	141000	10000	10000	150000	147000	87	65	70-130	1	20	M1
Iron	ug/L	8540	10000	10000	18400	18100	98	96	70-130	1	20	
Lithium	ug/L	25.0	1000	1000	1040	1040	102	101	70-130	1	20	
Magnesium	ug/L	35200	10000	10000	44700	44500	95	94	70-130	0	20	
Manganese	ug/L	242	1000	1000	1220	1220	98	98	70-130	0	20	
Molybdenum	ug/L	<1.7	1000	1000	1030	1030	103	103	70-130	0	20	
Potassium	ug/L	4420	10000	10000	14500	14400	100	100	70-130	0	20	
Sodium	ug/L	12900	10000	10000	22700	22500	98	96	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 692096
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027

METHOD BLANK: 2795363 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/02/20 21:34	
Boron	ug/L	<11.7	100	11.7	12/02/20 21:34	
Calcium	ug/L	<32.4	200	32.4	12/02/20 21:34	
Iron	ug/L	<26.8	50.0	26.8	12/02/20 21:34	
Lithium	ug/L	<4.6	10.0	4.6	12/02/20 21:34	
Magnesium	ug/L	<19.7	50.0	19.7	12/02/20 21:34	
Manganese	ug/L	<0.97	5.0	0.97	12/02/20 21:34	
Molybdenum	ug/L	<1.7	20.0	1.7	12/02/20 21:34	
Potassium	ug/L	<189	500	189	12/02/20 21:34	
Sodium	ug/L	<107	500	107	12/02/20 21:34	

LABORATORY CONTROL SAMPLE: 2795364

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	988	99	85-115	
Boron	ug/L	1000	968	97	85-115	
Calcium	ug/L	10000	9910	99	85-115	
Iron	ug/L	10000	9940	99	85-115	
Lithium	ug/L	1000	1000	100	85-115	
Magnesium	ug/L	10000	9830	98	85-115	
Manganese	ug/L	1000	982	98	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9940	99	85-115	
Sodium	ug/L	10000	9740	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795365 2795366

Parameter	Units	60353401003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	520	1000	1000	1500	1510	98	99	70-130	0	20	
Boron	ug/L	96.9J	1000	1000	1090	1080	99	99	70-130	0	20	
Calcium	ug/L	120000	10000	10000	126000	128000	63	81	70-130	1	20	M1
Iron	ug/L	24100	10000	10000	33300	33600	91	94	70-130	1	20	
Lithium	ug/L	17.5	1000	1000	1030	1030	101	101	70-130	0	20	
Magnesium	ug/L	32200	10000	10000	41200	41500	90	93	70-130	1	20	
Manganese	ug/L	376	1000	1000	1360	1350	98	98	70-130	0	20	
Molybdenum	ug/L	2.2J	1000	1000	1030	1030	103	103	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.: 60353399

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795365 2795366

Parameter	Units	60353401003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	4240	10000	10000	14200	14300	100	101	70-130	0	20	
Sodium	ug/L	13800	10000	10000	23200	23400	94	96	70-130	1	20	

MATRIX SPIKE SAMPLE: 2795367

Parameter	Units	60353399027 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	160	1000	1160	100	70-130	
Boron	ug/L	3120	1000	4130	101	70-130	
Calcium	ug/L	183000	10000	192000	95	70-130	
Iron	ug/L	5140	10000	15000	98	70-130	
Lithium	ug/L	34.1	1000	1040	101	70-130	
Magnesium	ug/L	30900	10000	40800	99	70-130	
Manganese	ug/L	1730	1000	2730	100	70-130	
Molybdenum	ug/L	20.9	1000	1040	102	70-130	
Potassium	ug/L	6420	10000	16500	100	70-130	
Sodium	ug/L	44600	10000	54500	100	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 692098
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

METHOD BLANK: 2795371 Matrix: Water
Associated Lab Samples: 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<1.8	5.0	1.8	12/02/20 23:10	
Boron	ug/L	<11.7	100	11.7	12/02/20 23:10	
Calcium	ug/L	40.5J	200	32.4	12/02/20 23:10	
Iron	ug/L	<26.8	50.0	26.8	12/02/20 23:10	
Lithium	ug/L	<4.6	10.0	4.6	12/02/20 23:10	
Magnesium	ug/L	<19.7	50.0	19.7	12/02/20 23:10	
Manganese	ug/L	<0.97	5.0	0.97	12/02/20 23:10	
Molybdenum	ug/L	<1.7	20.0	1.7	12/02/20 23:10	
Potassium	ug/L	<189	500	189	12/02/20 23:10	
Sodium	ug/L	<107	500	107	12/02/20 23:10	

LABORATORY CONTROL SAMPLE: 2795372

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1020	102	85-115	
Boron	ug/L	1000	994	99	85-115	
Calcium	ug/L	10000	10100	101	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lithium	ug/L	1000	1020	102	85-115	
Magnesium	ug/L	10000	10200	102	85-115	
Manganese	ug/L	1000	1020	102	85-115	
Molybdenum	ug/L	1000	1030	103	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	9930	99	85-115	

MATRIX SPIKE SAMPLE: 2795373

Parameter	Units	60353399028 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	297	1000	1300	100	70-130	
Boron	ug/L	7010	1000	7950	95	70-130	
Calcium	ug/L	173000	10000	180000	68	70-130	M1
Iron	ug/L	3900	10000	13600	97	70-130	
Lithium	ug/L	43.1	1000	1060	102	70-130	
Magnesium	ug/L	37600	10000	47200	96	70-130	
Manganese	ug/L	1580	1000	2560	99	70-130	
Molybdenum	ug/L	81.2	1000	1120	103	70-130	
Potassium	ug/L	7650	10000	17600	100	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

MATRIX SPIKE SAMPLE: 2795373

Parameter	Units	60353399028 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sodium	ug/L	54500	10000	64000	95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795374 2795375

Parameter	Units	60354082002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	155	1000	1000	1160	1150	101	100	70-130	1	20	
Boron	ug/L	9060	1000	1000	10000	9780	98	72	70-130	3	20	
Calcium	ug/L	239000	10000	10000	246000	239000	67	-3	70-130	3	20	M1
Iron	ug/L	24700	10000	10000	33900	33100	92	84	70-130	2	20	
Lithium	ug/L	49.6	1000	1000	1070	1060	102	102	70-130	0	20	
Magnesium	ug/L	59400	10000	10000	69500	67400	101	80	70-130	3	20	
Manganese	ug/L	954	1000	1000	1960	1920	101	96	70-130	2	20	
Molybdenum	ug/L	236	1000	1000	1260	1250	102	102	70-130	1	20	
Potassium	ug/L	7360	10000	10000	17500	17200	101	99	70-130	1	20	
Sodium	ug/L	40600	10000	10000	50600	49500	101	89	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 692105
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399009, 60353399010, 60353399011, 60353399012, 60353399013, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

METHOD BLANK: 2795406 Matrix: Water
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399009, 60353399010, 60353399011, 60353399012, 60353399013, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	12/03/20 13:44	
Arsenic	ug/L	<0.086	1.0	0.086	12/03/20 13:44	
Chromium	ug/L	0.23J	1.0	0.22	12/03/20 13:44	
Selenium	ug/L	<0.18	1.0	0.18	12/03/20 13:44	

LABORATORY CONTROL SAMPLE: 2795407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	37.9	95	85-115	
Arsenic	ug/L	40	36.8	92	85-115	
Chromium	ug/L	40	36.9	92	85-115	
Selenium	ug/L	40	36.3	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795408 2795409

Parameter	Units	60353399005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.18J	40	40	39.1	38.5	97	96	70-130	2	20	
Arsenic	ug/L	0.51J	40	40	38.5	38.1	95	94	70-130	1	20	
Chromium	ug/L	<0.22	40	40	37.0	36.6	92	91	70-130	1	20	
Selenium	ug/L	0.65J	40	40	37.3	37.0	92	91	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795410 2795411

Parameter	Units	60353399008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	38.4	39.1	96	98	70-130	2	20	
Arsenic	ug/L	1.1	40	40	38.2	38.7	93	94	70-130	1	20	
Chromium	ug/L	<0.22	40	40	36.1	36.5	90	91	70-130	1	20	
Selenium	ug/L	<0.18	40	40	36.0	36.4	90	91	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 692106
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027

METHOD BLANK: 2795412 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	12/03/20 14:55	
Arsenic	ug/L	<0.086	1.0	0.086	12/03/20 14:55	
Chromium	ug/L	<0.22	1.0	0.22	12/03/20 14:55	
Selenium	ug/L	<0.18	1.0	0.18	12/03/20 14:55	

LABORATORY CONTROL SAMPLE: 2795413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.2	98	85-115	
Arsenic	ug/L	40	37.1	93	85-115	
Chromium	ug/L	40	37.8	94	85-115	
Selenium	ug/L	40	36.3	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795414 2795415

Parameter	Units	60353401003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	40.9	41.3	102	103	70-130	1	20	
Arsenic	ug/L	33.2	40	40	71.3	72.6	95	99	70-130	2	20	
Chromium	ug/L	<0.22	40	40	37.8	38.2	94	95	70-130	1	20	
Selenium	ug/L	<0.18	40	40	37.4	37.8	93	94	70-130	1	20	

MATRIX SPIKE SAMPLE: 2795416

Parameter	Units	60353401017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.097	40	40.7	102	70-130	
Arsenic	ug/L	<0.086	40	38.1	95	70-130	
Chromium	ug/L	<0.22	40	38.9	97	70-130	
Selenium	ug/L	<0.18	40	37.4	94	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 692107 | 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: 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

METHOD BLANK: 2795417 Matrix: Water
Associated Lab Samples: 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.097	1.0	0.097	12/04/20 14:27	
Arsenic	ug/L	<0.086	1.0	0.086	12/04/20 14:27	
Chromium	ug/L	<0.22	1.0	0.22	12/04/20 14:27	
Selenium	ug/L	<0.18	1.0	0.18	12/04/20 14:27	

LABORATORY CONTROL SAMPLE: 2795418

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	38.2	96	85-115	
Arsenic	ug/L	40	35.5	89	85-115	
Chromium	ug/L	40	36.7	92	85-115	
Selenium	ug/L	40	36.3	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2795419 2795420

Parameter	Units	60354082002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.097	40	40	38.8	39.7	97	99	70-130	3	20	
Arsenic	ug/L	11.7	40	40	48.9	49.8	93	95	70-130	2	20	
Chromium	ug/L	<0.22	40	40	35.4	36.3	88	90	70-130	2	20	
Selenium	ug/L	<0.18	40	40	36.7	36.8	92	92	70-130	0	20	

MATRIX SPIKE SAMPLE: 2795421

Parameter	Units	60354082008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	<0.097	40	38.6	96	70-130	
Arsenic	ug/L	<0.086	40	36.4	91	70-130	
Chromium	ug/L	0.26J	40	37.3	93	70-130	
Selenium	ug/L	<0.18	40	36.0	90	70-130	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 687540 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013

METHOD BLANK: 2778511 — Matrix: Water
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/06/20 13:23	

LABORATORY CONTROL SAMPLE: 2778512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	510	102	90-110	

SAMPLE DUPLICATE: 2778513

Parameter	Units	60353399005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	374	371	1	10	

SAMPLE DUPLICATE: 2778514

Parameter	Units	60353399008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	528	547	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 687923 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011

METHOD BLANK: 2780525 Matrix: Water
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/09/20 14:39	

LABORATORY CONTROL SAMPLE: 2780526

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	516	103	90-110	

SAMPLE DUPLICATE: 2780527

Parameter	Units	60353401004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	509	517	1	10	

SAMPLE DUPLICATE: 2780528

Parameter	Units	60353721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	<8.4		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 688396 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018, 60353399023, 60353399024, 60353399025, 60353399027, 60353399031, 60353399032

METHOD BLANK: 2782151 — Matrix: Water
Associated Lab Samples: 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018, 60353399023, 60353399024, 60353399025, 60353399027, 60353399031, 60353399032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/12/20 08:49	

LABORATORY CONTROL SAMPLE: 2782152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	499	100	90-110	

SAMPLE DUPLICATE: 2782153

Parameter	Units	60353399012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	146	146	0	10	

SAMPLE DUPLICATE: 2782154

Parameter	Units	60353401013 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	90.2	91.1	1	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 689409 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399026, 60353399028, 60353399029, 60353399030

METHOD BLANK: 2785624 Matrix: Water
Associated Lab Samples: 60353399026, 60353399028, 60353399029, 60353399030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<8.4	20.0	8.4	11/16/20 08:45	

LABORATORY CONTROL SAMPLE: 2785625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	496	99	90-110	

SAMPLE DUPLICATE: 2785626

Parameter	Units	60353401012 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	52.8	52.5	1	10	

SAMPLE DUPLICATE: 2785627

Parameter	Units	60354300003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	226	230	2	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 687484 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013

METHOD BLANK: 2778180 Matrix: Water
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/05/20 13:56	

LABORATORY CONTROL SAMPLE: 2778181

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

SAMPLE DUPLICATE: 2778491

Parameter	Units	60353399005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	420	430	2	10	

SAMPLE DUPLICATE: 2778492

Parameter	Units	60353399008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	527	561	6	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 687684
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011, 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

METHOD BLANK: 2779174 Matrix: Water
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011, 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/06/20 08:46	

LABORATORY CONTROL SAMPLE: 2779175

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

SAMPLE DUPLICATE: 2779176

Parameter	Units	60353402001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	296	300	2	10	

SAMPLE DUPLICATE: 2779177

Parameter	Units	60353404001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	579	562	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 688297
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399031, 60353399032

METHOD BLANK: 2781788 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399031, 60353399032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/10/20 10:52	

LABORATORY CONTROL SAMPLE: 2781789

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

SAMPLE DUPLICATE: 2781790

Parameter	Units	60353401009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	601	613	2	10	

SAMPLE DUPLICATE: 2781791

Parameter	Units	60353399032 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	670	622	7	10	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 688790
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399030

METHOD BLANK: 2783368 Matrix: Water
Associated Lab Samples: 60353399030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/12/20 08:31	

LABORATORY CONTROL SAMPLE: 2783369

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	994	99	80-120	

SAMPLE DUPLICATE: 2783370

Parameter	Units	60353629001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	11700	10800	8	10	

SAMPLE DUPLICATE: 2783371

Parameter	Units	60353711008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	366	371	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 691503
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399009

METHOD BLANK: 2793442 Matrix: Water
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/25/20 16:29	
Fluoride	mg/L	<0.075	0.20	0.075	11/25/20 16:29	
Sulfate	mg/L	<0.28	1.0	0.28	11/25/20 16:29	

METHOD BLANK: 2794765 Matrix: Water
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/30/20 09:10	
Fluoride	mg/L	<0.075	0.20	0.075	11/30/20 09:10	
Sulfate	mg/L	<0.28	1.0	0.28	11/30/20 09:10	

METHOD BLANK: 2794769 Matrix: Water
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/30/20 09:07	
Fluoride	mg/L	<0.075	0.20	0.075	11/30/20 09:07	
Sulfate	mg/L	<0.28	1.0	0.28	11/30/20 09:07	

METHOD BLANK: 2796664 Matrix: Water
Associated Lab Samples: 60353399001, 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/18/20 16:09	
Fluoride	mg/L	<0.075	0.20	0.075	11/18/20 16:09	
Sulfate	mg/L	<0.28	1.0	0.28	11/18/20 16:09	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

LABORATORY CONTROL SAMPLE: 2793443

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	98	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 2794766

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	5.3	106	90-110	

LABORATORY CONTROL SAMPLE: 2794770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 2796665

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	2.5	98	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2793444 2793445

Parameter	Units	60353386001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.1	5	5	17.0	16.8	98	94	80-120	1	15	
Fluoride	mg/L	0.34	2.5	2.5	2.5	2.5	88	86	80-120	2	15	
Sulfate	mg/L	121	50	50	176	174	110	107	80-120	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2793456 2793457

Parameter	Units	60353399005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.9	5	5	10.5	10	90	81	80-120	5	15	
Fluoride	mg/L	0.22	2.5	2.5	2.5	2.3	89	81	80-120	8	15	

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2793456 2793457

Parameter	Units	60353399005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	29.8	10	10	41.3	41.5	115	117	80-120	0	15	E

SAMPLE DUPLICATE: 2793458

Parameter	Units	60353399005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	5.9	5.9	0	15	
Fluoride	mg/L	0.22	0.23	1	15	
Sulfate	mg/L	29.8	29.5	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 691514
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

METHOD BLANK: 2793489 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.59J	1.0	0.39	11/25/20 15:37	
Fluoride	mg/L	<0.075	0.20	0.075	11/25/20 15:37	
Sulfate	mg/L	<0.28	1.0	0.28	11/25/20 15:37	

METHOD BLANK: 2794508 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/30/20 09:10	
Fluoride	mg/L	<0.075	0.20	0.075	11/30/20 09:10	
Sulfate	mg/L	<0.28	1.0	0.28	11/30/20 09:10	

METHOD BLANK: 2795690 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	12/01/20 08:26	
Fluoride	mg/L	<0.075	0.20	0.075	12/01/20 08:26	
Sulfate	mg/L	<0.28	1.0	0.28	12/01/20 08:26	

LABORATORY CONTROL SAMPLE: 2793490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	99	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 2794509

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

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

LABORATORY CONTROL SAMPLE: 2794509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

LABORATORY CONTROL SAMPLE: 2795691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2793491 2793492

Parameter	Units	60353401009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.5	5	5	16.9	17.3	88	95	80-120	2	15	
Fluoride	mg/L	0.32	2.5	2.5	2.3	2.5	81	87	80-120	7	15	
Sulfate	mg/L	53.7	25	25	81.5	81.6	111	112	80-120	0	15	

MATRIX SPIKE SAMPLE: 2793493

Parameter	Units	60353399023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.9	5	18.3	107	80-120	
Fluoride	mg/L	0.33	2.5	2.7	94	80-120	
Sulfate	mg/L	126	100	233	107	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 691823
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60353399008, 60353399010, 60353399011, 60353399012, 60353399013, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

METHOD BLANK: 2794551 Matrix: Water
Associated Lab Samples: 60353399008, 60353399010, 60353399011, 60353399012, 60353399013, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	11/30/20 12:56	
Fluoride	mg/L	<0.075	0.20	0.075	11/30/20 12:56	
Sulfate	mg/L	<0.28	1.0	0.28	11/30/20 12:56	

METHOD BLANK: 2795679 Matrix: Water
Associated Lab Samples: 60353399008, 60353399010, 60353399011, 60353399012, 60353399013, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.39	1.0	0.39	12/01/20 08:27	
Fluoride	mg/L	<0.075	0.20	0.075	12/01/20 08:27	
Sulfate	mg/L	<0.28	1.0	0.28	12/01/20 08:27	

LABORATORY CONTROL SAMPLE: 2794552

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	2.4	97	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

LABORATORY CONTROL SAMPLE: 2795680

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	2.4	95	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2794553 2794554

Parameter	Units	60353399008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.4	5	5	9.0	9.2	93	98	80-120	2	15	
Fluoride	mg/L	0.31	2.5	2.5	2.7	2.8	96	100	80-120	4	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2794553 2794554

Parameter	Units	60353399008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	11.5	5	5	16.6	16.8	101	105	80-120	1	15	

MATRIX SPIKE SAMPLE: 2794555

Parameter	Units	60353399018 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	<0.39	5	4.6	92	80-120	
Fluoride	mg/L	<0.075	2.5	2.3	93	80-120	
Sulfate	mg/L	<0.28	5	4.9	97	80-120	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-AMW-8 **Lab ID: 60353399001** Collected: 11/03/20 13:35 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.432 ± 0.413 (0.630) C:NA T:87%**	pCi/L	12/02/20 11:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.46 ± 0.929 (1.75) C:51% T:79%**	pCi/L	11/30/20 17:38	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-BMW-1S **Lab ID: 60353399002** Collected: 11/02/20 10:20 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.640 ± 0.404 (0.457) C:NA T:85%**	pCi/L	12/01/20 13:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.21 ± 0.802 (1.20) C:58% T:78%**	pCi/L	11/30/20 15:24	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-BMW-2S **Lab ID: 60353399003** Collected: 11/02/20 11:53 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.144 ± 0.312 (0.575) C:NA T:85%**	pCi/L	12/01/20 13:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.514 ± 0.638 (1.36) C:57% T:78%**	pCi/L	11/30/20 15:25	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-24 **Lab ID: 60353399004** Collected: 11/02/20 10:35 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.136 ± 0.406 (0.753) C:NA T:92%**	pCi/L	12/01/20 13:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.92 ± 0.740 (1.13) C:58% T:77%**	pCi/L	11/30/20 15:24	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-26 **Lab ID: 60353399005** Collected: 11/02/20 11:50 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.165 ± 0.280 (0.495) C:NA T:83%**	pCi/L	12/01/20 13:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.31 ± 0.604 (1.03) C:60% T:87%**	pCi/L	11/30/20 15:24	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-35(D) **Lab ID: 60353399006** Collected: 11/02/20 09:35 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.137 ± 0.297 (0.548) C:NA T:87%**	pCi/L	12/01/20 13:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.87 ± 0.802 (1.34) C:58% T:73%**	pCi/L	11/30/20 15:24	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-S-1 **Lab ID: 60353399007** Collected: 11/02/20 15:10 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.785 ± 0.395 (0.133) C:NA T:88%**	pCi/L	12/01/20 13:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.08 ± 0.723 (1.42) C:64% T:81%**	pCi/L	11/30/20 15:28	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-1D **Lab ID: 60353399008** Collected: 11/02/20 13:25 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**1.17 ± 0.404 (0.0877) C:NA T:95%**	pCi/L	12/01/20 13:56	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**4.17 ± 1.12 (1.33) C:62% T:83%**	pCi/L	11/30/20 15:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-2M **Lab ID: 60353399009** Collected: 11/03/20 11:38 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.497 ± 0.394 (0.535) C:NA T:89%**	pCi/L	12/02/20 11:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.71 ± 1.19 (2.06) C:59% T:82%**	pCi/L	11/30/20 19:01	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-2D **Lab ID: 60353399010** Collected: 11/03/20 12:30 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.203 ± 0.398 (0.714) C:NA T:80%**	pCi/L	12/02/20 11:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.97 ± 1.17 (2.26) C:61% T:81%**	pCi/L	11/30/20 19:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-AM-1S **Lab ID: 60353399011** Collected: 11/03/20 13:57 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.130 ± 0.198 (0.319) C:NA T:98%**	pCi/L	12/02/20 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.13 ± 0.876 (1.41) C:58% T:83%**	pCi/L	11/30/20 17:39	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-AM-1D **Lab ID: 60353399012** Collected: 11/03/20 14:55 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.104 ± 0.250 (0.482) C:NA T:84%**	pCi/L	12/02/20 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.17 ± 0.734 (1.39) C:62% T:77%**	pCi/L	11/30/20 17:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-DUP-1 **Lab ID: 60353399013** Collected: 11/02/20 08:00 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.247 ± 0.227 (0.134) C:NA T:89%**	pCi/L	12/01/20 13:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.707 ± 0.506 (0.981) C:57% T:85%**	pCi/L	11/30/20 15:24	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-DUP-2 **Lab ID: 60353399014** Collected: 11/03/20 08:00 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.361 ± 0.377 (0.591) C:NA T:92%**	pCi/L	12/02/20 11:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**3.10 ± 1.19 (1.92) C:62% T:84%**	pCi/L	11/30/20 19:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-DUP-3 **Lab ID: 60353399015** Collected: 11/03/20 08:00 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.325 ± 0.370 (0.583) C:NA T:83%**	pCi/L	12/02/20 11:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**5.10 ± 1.51 (1.99) C:60% T:81%**	pCi/L	11/30/20 19:01	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-FB-1 **Lab ID: 60353399016** Collected: 11/03/20 14:10 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0541 ± 0.247 (0.583) C:NA T:80%**	pCi/L	12/02/20 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.105 ± 0.628 (1.43) C:57% T:85%**	pCi/L	11/30/20 17:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-FB-2 **Lab ID: 60353399017** Collected: 11/03/20 14:42 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0896 ± 0.278 (0.538) C:NA T:91%**	pCi/L	12/02/20 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.559 ± 0.698 (1.48) C:53% T:86%**	pCi/L	11/30/20 17:41	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-CA-FB-3 **Lab ID: 60353399018** Collected: 11/03/20 13:58 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.102 ± 0.282 (0.666) C:NA T:95%**	pCi/L	12/02/20 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.980 ± 0.759 (1.51) C:56% T:81%**	pCi/L	11/30/20 17:40	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-26-MS-1 **Lab ID: 60353399019** Collected: 11/02/20 11:50 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**108.24 %REC ± NA (NA) C:NA T:NA%**	pCi/L	12/01/20 13:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**92.96 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/30/20 15:24	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-26-MSD-1 **Lab ID: 60353399020** Collected: 11/02/20 11:50 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**114.32 %REC 5.46 RPD ± NA (NA) C:NA T:NA%**	pCi/L	12/01/20 13:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**129.53 %REC 32.87RPD ± NA (NA) C:NA T:NA**	pCi/L	11/30/20 15:24	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-1D-MS-2 **Lab ID: 60353399021** Collected: 11/02/20 13:25 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**97.54 %REC ± NA (NA) C:NA T:NA%**	pCi/L	12/01/20 13:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**108.44 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/30/20 15:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-1D-MSD-2 **Lab ID: 60353399022** Collected: 11/02/20 13:25 Received: 11/04/20 03:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**97.62 %REC 0.08 RPD ± NA (NA) C:NA T:NA%**	pCi/L	12/01/20 13:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**82.58 %REC 27.07RPD ± NA (NA) C:NA T:NA**	pCi/L	11/30/20 15:28	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-3M **Lab ID: 60353399023** Collected: 11/04/20 12:55 Received: 11/06/20 04:09 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	**0.779 ± 0.536 (0.573) C:NA T:61%**	pCi/L	12/03/20 13:06	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.99 ± 0.791 (1.25) C:71% T:57%**	pCi/L	12/01/20 10:46	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-3D **Lab ID: 60353399024** Collected: 11/04/20 12:15 Received: 11/06/20 04:09 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	**0.206 ± 0.672 (1.24) C:NA T:65%**	pCi/L	12/03/20 13:06	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.519 ± 0.536 (1.11) C:68% T:65%**	pCi/L	12/01/20 10:49	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-TP-4D **Lab ID: 60353399025** Collected: 11/04/20 10:35 Received: 11/06/20 04:09 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	**1.42 ± 0.856 (1.12) C:NA T:61%**	pCi/L	12/03/20 13:23	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.351 ± 0.955 (2.14) C:72% T:31%**	pCi/L	12/01/20 10:46	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-2S **Lab ID: 60353399026** Collected: 11/05/20 10:15 Received: 11/06/20 04:09 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	**0.150 ± 0.261 (0.466) C:NA T:83%**	pCi/L	12/03/20 13:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.668 ± 0.495 (0.967) C:72% T:66%**	pCi/L	12/01/20 10:46	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-4S **Lab ID: 60353399027** Collected: 11/04/20 10:35 Received: 11/06/20 04:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.129 ± 0.309 (0.772) C:NA T:70%**	pCi/L	12/03/20 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.511 ± 0.480 (0.989) C:70% T:80%**	pCi/L	12/01/20 10:46	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-7S **Lab ID: 60353399028** Collected: 11/05/20 11:05 Received: 11/06/20 04:09 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	**0.368 ± 0.480 (0.792) C:NA T:62%**	pCi/L	12/03/20 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.325 ± 0.449 (0.963) C:70% T:74%**	pCi/L	12/01/20 10:46	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-8S **Lab ID: 60353399029** Collected: 11/05/20 12:15 Received: 11/06/20 04:09 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	**0.593 ± 0.548 (0.798) C:NA T:61%**	pCi/L	12/03/20 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.586 ± 0.452 (0.900) C:72% T:79%**	pCi/L	12/01/20 10:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-LMW-1S **Lab ID: 60353399030** Collected: 11/05/20 12:15 Received: 11/06/20 04:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.116 ± 0.322 (0.760) C:NA T:81%**	pCi/L	12/03/20 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.602 ± 0.537 (1.09) C:67% T:67%**	pCi/L	12/01/20 10:48	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-33(D) **Lab ID: 60353399031** Collected: 11/04/20 13:45 Received: 11/06/20 04:09 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	**0.170 ± 0.295 (0.526) C:NA T:80%**	pCi/L	12/03/20 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.591 ± 0.640 (1.57) C:65% T:57%**	pCi/L	12/01/20 10:48	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Sample: L-MW-34(D) **Lab ID: 60353399032** Collected: 11/04/20 14:50 Received: 11/06/20 04:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.127 ± 0.609 (1.15) C:NA T:74%**	pCi/L	12/03/20 13:23	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.816 ± 0.701 (1.43) C:65% T:62%**	pCi/L	12/01/20 10:50	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 422539
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013, 60353399019, 60353399020, 60353399021, 60353399022

METHOD BLANK: 2042457 Matrix: Water
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013, 60353399019, 60353399020, 60353399021, 60353399022

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0381 ± 0.198 (0.410) C:NA T:90%	pCi/L	12/01/20 13:29	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 422540
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013, 60353399019, 60353399020, 60353399021, 60353399022

METHOD BLANK: 2042458 Matrix: Water
Associated Lab Samples: 60353399002, 60353399003, 60353399004, 60353399005, 60353399006, 60353399007, 60353399008, 60353399013, 60353399019, 60353399020, 60353399021, 60353399022

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.23 ± 0.561 (0.925) C:64% T:73%	pCi/L	11/30/20 11:53	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 422670
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011, 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

METHOD BLANK: 2042878 Matrix: Water
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011, 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	1.51 ± 0.610 (0.953) C:66% T:75%	pCi/L	11/30/20 15:21	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 423052
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

METHOD BLANK: 2044897 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0853 ± 0.335 (0.640) C:NA T:80%	pCi/L	12/03/20 13:06	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 422668
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011, 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

METHOD BLANK: 2042870 Matrix: Water
Associated Lab Samples: 60353399001, 60353399009, 60353399010, 60353399011, 60353399012, 60353399014, 60353399015, 60353399016, 60353399017, 60353399018

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.117 ± 0.231 (0.552) C:NA T:85%	pCi/L	12/02/20 11:54	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

QC Batch: 423054
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

METHOD BLANK: 2044898 Matrix: Water
Associated Lab Samples: 60353399023, 60353399024, 60353399025, 60353399026, 60353399027, 60353399028, 60353399029, 60353399030, 60353399031, 60353399032

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.139 ± 0.338 (0.754) C:76% T:73%	pCi/L	12/01/20 10:45	

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QUALIFIERS

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

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.

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.

BATCH QUALIFIERS

Batch: 422540

[1] The MB is reportable for Ra-228 batch 57312 w/all non-DW samples.

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353399001	L-AMW-8	EPA 200.7	692094	EPA 200.7	692180
60353399002	L-BMW-1S	EPA 200.7	692094	EPA 200.7	692180
60353399003	L-BMW-2S	EPA 200.7	692094	EPA 200.7	692180
60353399004	L-MW-24	EPA 200.7	692094	EPA 200.7	692180
60353399005	L-MW-26	EPA 200.7	692094	EPA 200.7	692180
60353399006	L-MW-35(D)	EPA 200.7	692094	EPA 200.7	692180
60353399007	L-S-1	EPA 200.7	692094	EPA 200.7	692180
60353399008	L-TP-1D	EPA 200.7	692094	EPA 200.7	692180
60353399009	L-TP-2M	EPA 200.7	692094	EPA 200.7	692180
60353399010	L-TP-2D	EPA 200.7	692094	EPA 200.7	692180
60353399011	L-AM-1S	EPA 200.7	692094	EPA 200.7	692180
60353399012	L-AM-1D	EPA 200.7	692094	EPA 200.7	692180
60353399013	L-CA-DUP-1	EPA 200.7	692094	EPA 200.7	692180
60353399014	L-CA-DUP-2	EPA 200.7	692094	EPA 200.7	692180
60353399015	L-CA-DUP-3	EPA 200.7	692094	EPA 200.7	692180
60353399016	L-CA-FB-1	EPA 200.7	692094	EPA 200.7	692180
60353399017	L-CA-FB-2	EPA 200.7	692094	EPA 200.7	692180
60353399018	L-CA-FB-3	EPA 200.7	692094	EPA 200.7	692180
60353399023	L-TP-3M	EPA 200.7	692096	EPA 200.7	692181
60353399024	L-TP-3D	EPA 200.7	692096	EPA 200.7	692181
60353399025	L-TP-4D	EPA 200.7	692096	EPA 200.7	692181
60353399026	L-LMW-2S	EPA 200.7	692096	EPA 200.7	692181
60353399027	L-LMW-4S	EPA 200.7	692096	EPA 200.7	692181
60353399028	L-LMW-7S	EPA 200.7	692098	EPA 200.7	692249
60353399029	L-LMW-8S	EPA 200.7	692098	EPA 200.7	692249
60353399030	L-LMW-1S	EPA 200.7	692098	EPA 200.7	692249
60353399031	L-MW-33(D)	EPA 200.7	692098	EPA 200.7	692249
60353399032	L-MW-34(D)	EPA 200.7	692098	EPA 200.7	692249
60353399001	L-AMW-8	EPA 200.8	692105	EPA 200.8	692333
60353399002	L-BMW-1S	EPA 200.8	692105	EPA 200.8	692333
60353399003	L-BMW-2S	EPA 200.8	692105	EPA 200.8	692333
60353399004	L-MW-24	EPA 200.8	692105	EPA 200.8	692333
60353399005	L-MW-26	EPA 200.8	692105	EPA 200.8	692333
60353399006	L-MW-35(D)	EPA 200.8	692105	EPA 200.8	692333
60353399007	L-S-1	EPA 200.8	692105	EPA 200.8	692333
60353399008	L-TP-1D	EPA 200.8	692105	EPA 200.8	692333
60353399009	L-TP-2M	EPA 200.8	692105	EPA 200.8	692333
60353399010	L-TP-2D	EPA 200.8	692105	EPA 200.8	692333
60353399011	L-AM-1S	EPA 200.8	692105	EPA 200.8	692333
60353399012	L-AM-1D	EPA 200.8	692105	EPA 200.8	692333
60353399013	L-CA-DUP-1	EPA 200.8	692105	EPA 200.8	692333
60353399014	L-CA-DUP-2	EPA 200.8	692105	EPA 200.8	692333
60353399015	L-CA-DUP-3	EPA 200.8	692105	EPA 200.8	692333
60353399016	L-CA-FB-1	EPA 200.8	692105	EPA 200.8	692333
60353399017	L-CA-FB-2	EPA 200.8	692105	EPA 200.8	692333
60353399018	L-CA-FB-3	EPA 200.8	692105	EPA 200.8	692333
60353399023	L-TP-3M	EPA 200.8	692106	EPA 200.8	692448

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353399024	L-TP-3D	EPA 200.8	692106	EPA 200.8	692448
60353399025	L-TP-4D	EPA 200.8	692106	EPA 200.8	692448
60353399026	L-LMW-2S	EPA 200.8	692106	EPA 200.8	692448
60353399027	L-LMW-4S	EPA 200.8	692106	EPA 200.8	692448
60353399028	L-LMW-7S	EPA 200.8	692107	EPA 200.8	692451
60353399029	L-LMW-8S	EPA 200.8	692107	EPA 200.8	692451
60353399030	L-LMW-1S	EPA 200.8	692107	EPA 200.8	692451
60353399031	L-MW-33(D)	EPA 200.8	692107	EPA 200.8	692451
60353399032	L-MW-34(D)	EPA 200.8	692107	EPA 200.8	692451
60353399001	L-AMW-8	EPA 903.1	422668		
60353399002	L-BMW-1S	EPA 903.1	422539		
60353399003	L-BMW-2S	EPA 903.1	422539		
60353399004	L-MW-24	EPA 903.1	422539		
60353399005	L-MW-26	EPA 903.1	422539		
60353399006	L-MW-35(D)	EPA 903.1	422539		
60353399007	L-S-1	EPA 903.1	422539		
60353399008	L-TP-1D	EPA 903.1	422539		
60353399009	L-TP-2M	EPA 903.1	422668		
60353399010	L-TP-2D	EPA 903.1	422668		
60353399011	L-AM-1S	EPA 903.1	422668		
60353399012	L-AM-1D	EPA 903.1	422668		
60353399013	L-CA-DUP-1	EPA 903.1	422539		
60353399014	L-CA-DUP-2	EPA 903.1	422668		
60353399015	L-CA-DUP-3	EPA 903.1	422668		
60353399016	L-CA-FB-1	EPA 903.1	422668		
60353399017	L-CA-FB-2	EPA 903.1	422668		
60353399018	L-CA-FB-3	EPA 903.1	422668		
60353399019	L-MW-26-MS-1	EPA 903.1	422539		
60353399020	L-MW-26-MSD-1	EPA 903.1	422539		
60353399021	L-TP-1D-MS-2	EPA 903.1	422539		
60353399022	L-TP-1D-MSD-2	EPA 903.1	422539		
60353399023	L-TP-3M	EPA 903.1	423052		
60353399024	L-TP-3D	EPA 903.1	423052		
60353399025	L-TP-4D	EPA 903.1	423052		
60353399026	L-LMW-2S	EPA 903.1	423052		
60353399027	L-LMW-4S	EPA 903.1	423052		
60353399028	L-LMW-7S	EPA 903.1	423052		
60353399029	L-LMW-8S	EPA 903.1	423052		
60353399030	L-LMW-1S	EPA 903.1	423052		
60353399031	L-MW-33(D)	EPA 903.1	423052		
60353399032	L-MW-34(D)	EPA 903.1	423052		
60353399001	L-AMW-8	EPA 904.0	422670		
60353399002	L-BMW-1S	EPA 904.0	422540		
60353399003	L-BMW-2S	EPA 904.0	422540		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353399004	L-MW-24	EPA 904.0	422540		
60353399005	L-MW-26	EPA 904.0	422540		
60353399006	L-MW-35(D)	EPA 904.0	422540		
60353399007	L-S-1	EPA 904.0	422540		
60353399008	L-TP-1D	EPA 904.0	422540		
60353399009	L-TP-2M	EPA 904.0	422670		
60353399010	L-TP-2D	EPA 904.0	422670		
60353399011	L-AM-1S	EPA 904.0	422670		
60353399012	L-AM-1D	EPA 904.0	422670		
60353399013	L-CA-DUP-1	EPA 904.0	422540		
60353399014	L-CA-DUP-2	EPA 904.0	422670		
60353399015	L-CA-DUP-3	EPA 904.0	422670		
60353399016	L-CA-FB-1	EPA 904.0	422670		
60353399017	L-CA-FB-2	EPA 904.0	422670		
60353399018	L-CA-FB-3	EPA 904.0	422670		
60353399019	L-MW-26-MS-1	EPA 904.0	422540		
60353399020	L-MW-26-MSD-1	EPA 904.0	422540		
60353399021	L-TP-1D-MS-2	EPA 904.0	422540		
60353399022	L-TP-1D-MSD-2	EPA 904.0	422540		
60353399023	L-TP-3M	EPA 904.0	423054		
60353399024	L-TP-3D	EPA 904.0	423054		
60353399025	L-TP-4D	EPA 904.0	423054		
60353399026	L-LMW-2S	EPA 904.0	423054		
60353399027	L-LMW-4S	EPA 904.0	423054		
60353399028	L-LMW-7S	EPA 904.0	423054		
60353399029	L-LMW-8S	EPA 904.0	423054		
60353399030	L-LMW-1S	EPA 904.0	423054		
60353399031	L-MW-33(D)	EPA 904.0	423054		
60353399032	L-MW-34(D)	EPA 904.0	423054		
60353399001	L-AMW-8	SM 2320B	687923		
60353399002	L-BMW-1S	SM 2320B	687540		
60353399003	L-BMW-2S	SM 2320B	687540		
60353399004	L-MW-24	SM 2320B	687540		
60353399005	L-MW-26	SM 2320B	687540		
60353399006	L-MW-35(D)	SM 2320B	687540		
60353399007	L-S-1	SM 2320B	687540		
60353399008	L-TP-1D	SM 2320B	687540		
60353399009	L-TP-2M	SM 2320B	687923		
60353399010	L-TP-2D	SM 2320B	687923		
60353399011	L-AM-1S	SM 2320B	687923		
60353399012	L-AM-1D	SM 2320B	688396		
60353399013	L-CA-DUP-1	SM 2320B	687540		
60353399014	L-CA-DUP-2	SM 2320B	688396		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353399015	L-CA-DUP-3	SM 2320B	688396		
60353399016	L-CA-FB-1	SM 2320B	688396		
60353399017	L-CA-FB-2	SM 2320B	688396		
60353399018	L-CA-FB-3	SM 2320B	688396		
60353399023	L-TP-3M	SM 2320B	688396		
60353399024	L-TP-3D	SM 2320B	688396		
60353399025	L-TP-4D	SM 2320B	688396		
60353399026	L-LMW-2S	SM 2320B	689409		
60353399027	L-LMW-4S	SM 2320B	688396		
60353399028	L-LMW-7S	SM 2320B	689409		
60353399029	L-LMW-8S	SM 2320B	689409		
60353399030	L-LMW-1S	SM 2320B	689409		
60353399031	L-MW-33(D)	SM 2320B	688396		
60353399032	L-MW-34(D)	SM 2320B	688396		
60353399001	L-AMW-8	SM 2540C	687684		
60353399002	L-BMW-1S	SM 2540C	687484		
60353399003	L-BMW-2S	SM 2540C	687484		
60353399004	L-MW-24	SM 2540C	687484		
60353399005	L-MW-26	SM 2540C	687484		
60353399006	L-MW-35(D)	SM 2540C	687484		
60353399007	L-S-1	SM 2540C	687484		
60353399008	L-TP-1D	SM 2540C	687484		
60353399009	L-TP-2M	SM 2540C	687684		
60353399010	L-TP-2D	SM 2540C	687684		
60353399011	L-AM-1S	SM 2540C	687684		
60353399012	L-AM-1D	SM 2540C	687684		
60353399013	L-CA-DUP-1	SM 2540C	687484		
60353399014	L-CA-DUP-2	SM 2540C	687684		
60353399015	L-CA-DUP-3	SM 2540C	687684		
60353399016	L-CA-FB-1	SM 2540C	687684		
60353399017	L-CA-FB-2	SM 2540C	687684		
60353399018	L-CA-FB-3	SM 2540C	687684		
60353399023	L-TP-3M	SM 2540C	688297		
60353399024	L-TP-3D	SM 2540C	688297		
60353399025	L-TP-4D	SM 2540C	688297		
60353399026	L-LMW-2S	SM 2540C	688297		
60353399027	L-LMW-4S	SM 2540C	688297		
60353399028	L-LMW-7S	SM 2540C	688297		
60353399029	L-LMW-8S	SM 2540C	688297		
60353399030	L-LMW-1S	SM 2540C	688790		
60353399031	L-MW-33(D)	SM 2540C	688297		
60353399032	L-MW-34(D)	SM 2540C	688297		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN LCPA-CA
Pace Project No.: 60353399

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60353399001	**L-AMW-8**	EPA 300.0	691503		
60353399002	**L-BMW-1S**	EPA 300.0	691503		
60353399003	**L-BMW-2S**	EPA 300.0	691503		
60353399004	**L-MW-24**	EPA 300.0	691503		
60353399005	**L-MW-26**	EPA 300.0	691503		
60353399006	**L-MW-35(D)**	EPA 300.0	691503		
60353399007	**L-S-1**	EPA 300.0	691503		
60353399008	**L-TP-1D**	EPA 300.0	691823		
60353399009	**L-TP-2M**	EPA 300.0	691503		
60353399010	**L-TP-2D**	EPA 300.0	691823		
60353399011	**L-AM-1S**	EPA 300.0	691823		
60353399012	**L-AM-1D**	EPA 300.0	691823		
60353399013	**L-CA-DUP-1**	EPA 300.0	691823		
60353399014	**L-CA-DUP-2**	EPA 300.0	691823		
60353399015	**L-CA-DUP-3**	EPA 300.0	691823		
60353399016	**L-CA-FB-1**	EPA 300.0	691823		
60353399017	**L-CA-FB-2**	EPA 300.0	691823		
60353399018	**L-CA-FB-3**	EPA 300.0	691823		
60353399023	**L-TP-3M**	EPA 300.0	691514		
60353399024	**L-TP-3D**	EPA 300.0	691514		
60353399025	**L-TP-4D**	EPA 300.0	691514		
60353399026	**L-LMW-2S**	EPA 300.0	691514		
60353399027	**L-LMW-4S**	EPA 300.0	691514		
60353399028	**L-LMW-7S**	EPA 300.0	691514		
60353399029	**L-LMW-8S**	EPA 300.0	691514		
60353399030	**L-LMW-1S**	EPA 300.0	691514		
60353399031	**L-MW-33(D)**	EPA 300.0	691514		
60353399032	**L-MW-34(D)**	EPA 300.0	691514		

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Sample Condition Upon Receipt

WO# : 60353399

60353399

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 ☒ Ice pic

Thermometer Used: T199 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 18.1 **Corr. Factor** +0.2 **Corrected** 18.3

Date and initials of person examining contents: 11-4-2020 KH

Temperature should be above freezing to 6°C 20.1, 19.6, 18.8, 0.7, 1.4, 2.7, 0920.3, 19.8, 19.0, 0.9, 1.6, 2-8-8, 1.1 KH 11-4-20

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED
By jchurch at 9:59 am, 11/5/20

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Golder Associates
Address:	13515 Barrett Parkway 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 Labadie Energy Center
Project Number:	153-140602.0001A (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

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N	N						6035 3399
1	L-AMW-8	WT	G			11/3/20	1330		5	1		4							X	X	X	X	X		X	X						
2	L-BMW-1S	WT	G			11/2/20	1020		5	1		4							X	X	X	X	X		X	X						
3	L-BMW-2S	WT	G			11/2/20	1153		5	1		4							X	X	X	X	X		X	X						
4	L-LMW-1S	WT	G																												
5	L-LMW-2S	WT	G																												
6	L-LMW-4S	WT	G																												
7	L-LMW-7S	WT	G																												
8	L-LMW-8S	WT	G																												
9	L-MW-24	WT	G			11/2/20	1035		5	1		4							X	X	X	X	X		X	X						
10	L-MW-26	WT	G			11/2/20	1150		5	1		4							X	X	X	X	X		X	X						L-GW-MS/MSD-1
11	L-MW-33(D)	WT	G																												
12	L-MW-34 (D)	WT	G																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B		11/3/20	1650		11-4-20	0350	18.3	N	Y	Y
**EPA 200.7: Ba, Li, Mo **EPA 200.8: Sb, As, Cr, Se							20.8 19.0	N		
							0.4 1.6	Y		
							1.5			

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/3/20

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical
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Page: 2 of 3

Section A Required Client Information:

Company:	Golder Associates
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	Ballwin, MO 63021
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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 Labadie Energy Center
Project Number:	153-140602.0001A (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 (circled) | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N): N for all listed analyses

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride/Fluoride/Sulfate	App III and Cat/An Metals*	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60353399
1	L-MW-35 (D)	WT	G			11/2/20	0935		5	1		4							X	X	X	X	X		X	X		
2	L-S-1	WT	G			↓	1510		5	1		4							X	X	X	X	X		X	X		
3	L-TP-1D	WT	G			↓	1325		5	1		4							X	X	X	X	X		X	X		L-CA-MS/MSD-2
4	L-TP-2M	WT	G			11/3/20	1138		5	1		4							X	X	X	X	X		X	X		
5	L-TP-2D	WT	G			↓	1230		5	1		4							X	X	X	X	X		X	X		
6	L-TP-3M	WT	G																									
7	L-TP-3D	WT	G																									
8	L-TP-4D	WT	G																									
9	L-AM-1S	WT	G			11/3/20	1357		5	1		4							X	X	X	X	X		X	X		
10	L-AM-1D	WT	G			↓	1455		5	1		4							X	X	X	X	X		X	X		
11	L-CA-DUP-1	WT	G			11/2/20	—		5	1		4							X	X	X	X	X		X	X		
12	L-CA-DUP-2	WT	G			11/3/20	—		3	1		4							X	X	X	X	X		X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[signature] / Golder	11/3/20	1650	[signature] / Pace	11.4.20	0250	Temp 18.3, 20.3, 19.8, 19.0, 0.9, 1.6, 1.1, 2.9; Received on Ice: N/Y; Custody Sealed Cooler: Y; Samples Intact: Y
**EPA 200.7: Ba, Li, Mo **EPA 200.8: Sb, As, Cr, Se							

Sample conditions annotation: 11/4/20

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Eric Schneider
SIGNATURE of SAMPLER:	[signature]
DATE Signed (MM/DD/YY):	11/03/20

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 3

Section A Required Client Information		Section B Required Project Information:		Section C Invoice Information:	
Company:	Golder Associates	Report To:	Jeffrey Ingram	Attention:	
Address:	13515 Barrett Parkway Drive, Ste 260	Copy To:	Ryan Feldmann/Eric Schneider	Company Name:	
	Ballwin, MO 63021			Address:	
Email To:	jeffrey_ingram@golder.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	636-724-9191 Fax: 636-724-9323	Project Name:	Ameren LCPA-CA Labadie Energy Center	Pace Project Manager:	Jamie Church
Requested Due Date/TAT:	Standard	Project Number:	153-140602.0001A (COC #2)	Pace Profile #:	9285

REGULATORY AGENCY: NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | OTHER _____

Site Location STATE: MO

Requested Analysis Filtered (Y/N)

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WP; AR; OT; TS

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N	N	N	N	N	N			60353399
1	L-CA-DUP-3	WT	G			11/3/20	—		5	1		4							X	X	X	X	X		X	X		
2	L-CA-FB-1	WT	G				1410		5	1		4							X	X	X	X	X		X	X		
3	L-CA-FB-2	WT	G				1447		5	1		4							X	X	X	X	X		X	X		
4	L-CA-FB-3	WT	G				1358		5	1		4							X	X	X	X	X		X	X		
5	L-MS-1	WT	G			11/2/20	1150		5	1		4							X	X	X	X	X		X	X		L-MW-26
6	L-MSD-1	WT	G				1150		1	1		1							X	X	X	X	X		X	X		L-MW-26
7	L-MS-2	WT	G				1335		1	1		1							X	X	X	X	X		X	X		L-TP-10
8	L-MSD-2	WT	G				1335		1	1		1							X	X	X	X	X		X	X		L-TP-10
9		WT	G																									
10		WT	G																									
11		WT	G																									
12		WT	G																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	[signature] Golder	11/3/20	1650	[signature] WSP/PW	11.4.20	0350	Y/N: Y / Y
**EPA 200.7: Ba, Li, Mo							
**EPA 200.8: Sb, As, Cr, Se							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/03/20

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

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Sample Condition Upon Receipt

WO# : 60353399

60353399

Client Name: Colder 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 ☒ Ziplc

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

Cooler Temperature (°C): As-read 18.4 Corr. Factor +0.2 Corrected 18.6

Date and initials of person examining contents: 11.6.2020 JL

Temperature should be above freezing to 6°C 17.7, 16.6, 0.9, 0.7, 0.6 17.9, 16.8, 1.1, 0.9, 0.8

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	All coolers out of temp had only radium samples
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# 602173	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

REVIEWED
By jchurch at 4:45 pm, 11/6/20

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

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 Labadie Energy Center
Project Number:	153-140602.0001A (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 (circled) | DRINKING WATER
UST | RCRA | OTHER ______

Site Location STATE: MO

Section D
Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate (N)	App III and Cat/An Metals * (N)	Alkalinity (N)	TDS (N)	Appendix IV Metals ** (N)	Mercury (N)	Radium 226 (N)	Radium 228 (N)				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	L-MW-35 (D)	WT	G																												60353599
2	L-S-1	WT	G																												
3	L-TP-1D	WT	G																												
4	L-TP-2M	WT	G																												
5	L-TP-2D	WT	G																												
6	L-TP-3M	WT	G			11/4/20	1255		5	1		4							/	/	/	/	/		/	/					
7	L-TP-3D	WT	G			〃	1215		〃	〃		〃							/	/	/	/	/		/	/					
8	L-TP-4D	WT	G			〃	1035		〃	〃		〃							/	/	/	/	/		/	/					
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	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert/Golder	11/5/20	1420	Angela Mims	11/5	1425				
**EPA 200.7: Ba, Li, Mo **EPA 200.8: Sb, As, Cr, Se	Angela Mims	11/5/20	1425	[illegible]	11-6-20	0800	18.6	N	Y	Y
							15.9			
							16.8			
							1.1	Y		
							0.9			
							0.8			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/5/2020

Pace Analytical
www.pacelabs.com

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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 Labadie Energy Center
Project Number:	153-140602.0001A (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

Requested Analysis Filtered (Y/N)

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N	N	N	N	N	N					
1	L-AMW-8	WT	G																											
2	~~L-BMW-1S~~	WT	G			11/2/20	1020		5	1		4						/	/	/	/	/		/	/					
3	~~L-BMW-2S~~	WT	G			11/2/20	1153		5	1		4						/	/	/	/	/		/	/					
4	~~L-LMW-1S~~	WT	G			11/5/20	1045		5	1		4						/	/	/	/	/		/	/					
5	L-LMW-2S	WT	G			11/5/20	1015		5	1		4						/	/	/	/	/		/	/					
6	L-LMW-4S	WT	G			11/4/20	1035		5	1		4						/	/	/	/	/		/	/					
7	L-LMW-7S	WT	G			11/5/20	1105		5	1		4						/	/	/	/	/		/	/					
8	L-LMW-8S	WT	G			11/5/20	1215		5	1		4						/	/	/	/	/		/	/					
9	~~L-MW-2~~ L-LMW-1S	WT	G			11/5/20	1215		5	1		4						/	/	/	/	/		/	/					
10	L-MW-26	WT	G																											
11	L-MW-33(D)	WT	G			11/4/20	1345		5	1		4						/	/	/	/	/		/	/					
12	L-MW-34 (D)	WT	G			11/4/20	1450		5	1		4						/	/	/	/	/		/	/					

6035 3399

Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B	Brendan Talbert/Golder	11/5/20	1420	Angela McM	11/5	1435	
**EPA 200.7: Ba, Li, Mo **EPA 200.8: Sb, As, Cr, Se	Angela McM	11/5/20	1435	Wright/Pace	11-6-20	0409	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brendan Talbert

SIGNATURE of SAMPLER: Brendan Talbert

DATE Signed (MM/DD/YY): 11/5/2020

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

MEMORANDUM

DATE December 9, 2020 **Project No.** 153140602

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 – DETECTION MONITORING AND ASSESSMENT MONITORING - DATA PACKAGE 60353399REV1

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 matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J).
- When duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).

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QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates Inc.
Project Manager: J. Ingram
Project Name: Ameren - LEC - LCPA
Project Number: 153140602
Reviewer: A. Muehlfarth
Validation Date: 12/09/2020

Laboratory: Pace Analytical Services, LLC
SDG #: 60353399rev1
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-AMW-8, L-BMW-1S, L-BMW-2S, L-MW-24, L-MW-26, L-MW-35(D), L-S-1, L-TP-1D, L-TP-2M, L-TP-2D, L-AM-1S, L-AM-1D, L-CA-DUP-1, L-CA-DUP-2, L-CA-DUP-3, L-CA-FB-1, L-CA-FB-2, L-CA-FB-3, L-MW-26-MS-1, L-MW-26-MSD-1, L-TP-1D-MS-2, L-TP-1D-MSD-2, L-TP-3M, L-TP-3D, L-TP-4D, L-LMW-2S, L-LMW-4S, L-LMW-7S, L-LMW-8S, L-LMW-1S, L-LMW-33(D), L-LMW-34(D)

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?	☒	☐	☐	11/02/2020 - 11/05/2020
b) Sampling team indicated?	☒	☐	☐	EMS/BTT
c) Sample location noted?	☒	☐	☐	
d) Sample depth indicated (Soils)?	☐	☐	☒	
e) Sample type indicated (grab/composite)?	☒	☐	☐	Grab
f) Field QC noted?	☒	☐	☐	See Notes
g) Field parameters collected (note types)?	☒	☐	☐	pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	☒	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☒	☐	
j) Does the laboratory narrative indicate deficiencies?	☐	☐	☒	

Note Deficiencies:

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

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

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

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

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

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			See Notes
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			
d) Were lab dup. precision criteria met (note RPD)?	x			Max RPD: 8% (<10%)

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

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

Comments/Notes:

All coolers out of temperature range only had radium.

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

Method Blanks:

2795352: Magnesium (35.6J), associated with samples -001 through -018.

2795371: Calcium (40.5J), associated with samples -028 through -032. Sample results >10x blank, no qualification necessary.

2795406: Chromium (0.23 J), associated with samples -001 through -018.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

(Method Blank continued)

2793489: Chloride (0.59J), associated with samples -023 through -032.

2042878: Radium-228 (1.51 ± 0.610), associated with samples -001, -009 through -012, -014 through -018.

2042458: Radium-228 (1.23 ± 0.561), associated with samples -002 through -008, -013, -019 through -022.

Field Blanks:

L-CA-FB-1 @ L-AM-1S: Calcium (179J), Magnesium (25.6J). Sample results >10x blank, no qualification necessary.

L-CA-FB-2 @ L-AM-1D: Calcium (103J), TDS (9.0). Sample results >10x blank, no qualification necessary.

L-CA-FB-3 @ L-AMW-8: Calcium (54.4J). Sample results >10x blank, no qualification necessary.

Duplicates:

L-CA-DUP-1 @ L-S-1: Selenium detected in sample, ND in dup, RPD exceeds limit (20%) for Iron, Fluoride, Radium-226.

L-CA-DUP-2 @ L-TP-2M: Max RPD: 14.4% (<20%).

L-CA-DUP-3 @ L-TP-2D: Radium-228 detected in dup, ND in sample.

MS/MSD:

2795356/2795357: MSD % recovery low for Calcium, associated with sample -008.

2795365/2795366: MS % recovery low for Calcium. MS/MSD performed on unrelated sample, no qualification necessary.

2795374/2795375: MS/MSD % recovery low for Calcium. MS/MSD performed on unrelated sample, no qualification necessary.

2795373L MS % recovery low for Calcium, associated with sample -028.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
L-CA-FB-1	Magnesium	50.0	U	Detected in MB, detected in sample <RL
L-AM-1D	Chromium	1.0	U	"
L-AMW-8	Radium-228	1.46 ± 0.929	UJ	"
L-BMW-2S	"	0.514 ± 0.638	UJ	"
L-S-1	"	1.08 ± 0.723	UJ	"
L-AM-1D	"	1.17 ± 0.734	UJ	"
L-CA-DUP-1	"	0.707 ± 0.506	UJ	"
L-CA-FB-1	"	0.105 ± 0.628	UJ	"
L-CA-FB-2	"	0.559 ± 0.698	UJ	"
L-CA-FB-3	"	0.980 ± 0.759	UJ	"
L-BMW-1S	"	2.21 ± 0.802	J	Detected in MB
L-MW-24	"	1.92 ± 0.740	J	"
L-MW-26	"	1.31 ± 0.604	J	"
L-MW-35(D)	"	1.87 ± 0.802	J	"
L-TP-1D	"	4.17 ± 1.12	J	"
L-CA-DUP-2	"	3.10 ± 1.19	J	"
L-CA-DUP-3	Radium-228	5.10 ± 1.51	J	Detected in method blank; detected in dup, ND in sample
L-S-1	Selenium	0.23	J	Detected in sample, ND in dup
"	Iron	85.3	J	Dup RPD exceeds limit
"	Fluoride	0.22	J	"
"	Radium-226	0.785 ± 0.395	J	"
L-CA-DUP-1	Selenium	0.18	UJ	Detected in sample, ND in dup
"	Iron	56.4	J	Dup RPD exceeds limit
"	Fluoride	0.28	J	"
"	Radium-226	0.247 ± 0.227	J	"
L-TP-1D	Calcium	141000	J	MSD % recovery low
L-TP-2D	Radium-228	1.97 ± 1.17	UJ	Detected in dup, ND in sample
L-LMW-7S	Calcium	173000	J	MS % recovery low

Signature:  Date: 12/09/2020

APPENDIX B

November 2019 Assessment Monitoring Statistical Evaluation

TECHNICAL MEMORANDUM

DATE March 2, 2020 **Project No.** 153-140601

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Paul Pike, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock **EMAIL Jingram@Golder.com**

ASSESSMENT MONITORING STATISTICAL EVALUATION FOR THE LCPA SURFACE IMPOUNDMENT, LABADIE ENERGY CENTER, FRANKLIN COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the November 2019 sampling event at the LCPA Surface Impoundment of 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**).

During the May 2019 sampling event, monitoring wells AM-1D (UMW-10D) and AM-1S (UMW-10S) were added to the Detection and Assessment monitoring well networks to satisfy the requirements of §257.95(g)(1) of the CCR Rule, which require at least one (1) additional monitoring well be installed at the downgradient facility boundary. The November 2019 sampling event is the first event during which monitoring wells AM-1D (UMW-10D) and AM-1S (UMW-10S) were statistically evaluated to determine whether SSLs are present. As outlined in the Statistical Analysis Plan (SAP) for this site, which is a portion of the Groundwater Monitoring Plan (GMP), a minimum of four (4) samples are required to complete an SSL evaluation.

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the SAP. The following outliers were removed prior to the calculation of confidence limits:

- Lithium
  - UMW-1D at 32.6 micrograms per liter (µg/L) on 11/7/2018: Result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
- Radium (226+228)
  - UMW-4D at 1.84 picocuries per liter (pCi/L) on 9/13/2016: result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
  - UMW-5D at 2.01 pCi/L on 9/9/2016: result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.

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One new SSLs was identified in the November 2019 sampling event for Molybdenum at monitoring well AM-1D (UMW-10D). A summary of SSLs for the November 2019 sampling event is as follows:

- Molybdenum at UMW-3D, UMW-4D, UMW-5D, UMW-6D, UMW-7D, and AM-1D (UMW-10D)

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, R.G.
Project Geologist

Sean Paulsen, P.G.
Associate, Senior Consultant

JSI/SCP

Enclosures:
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	42.6	42.6
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	0.2999
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	51.96	52.55
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:

Prepared by: JSI 8/1/2019
Checked by: LMS 8/27/2019
Reviewed by: MNH 9/5/2019

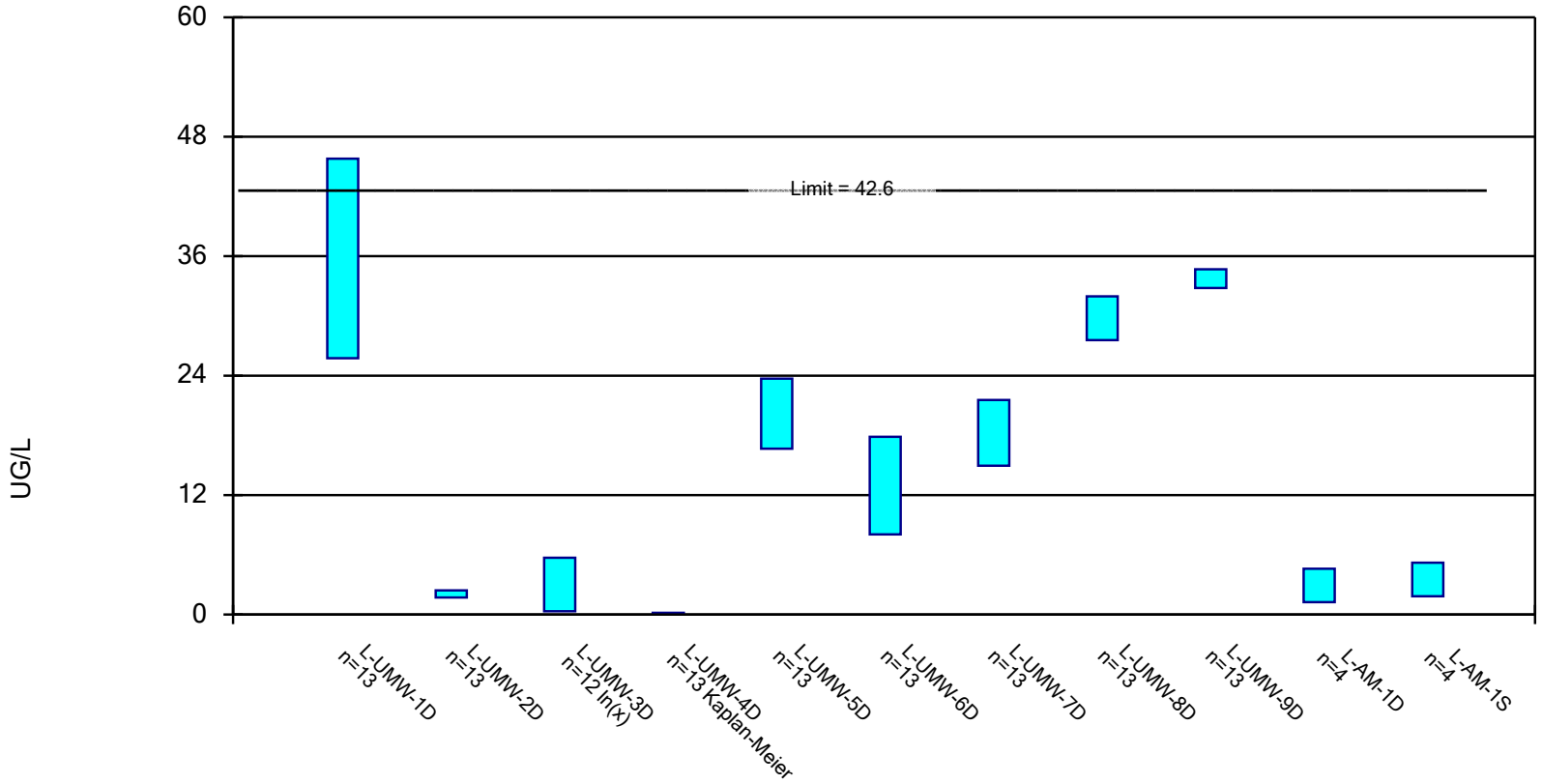
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Spring 2012. http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results collected through May 2019 from monitoring wells BMW-1D and BMW-2D.

APPENDIX A

Sanitas Confidence Interval Statistical Output

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

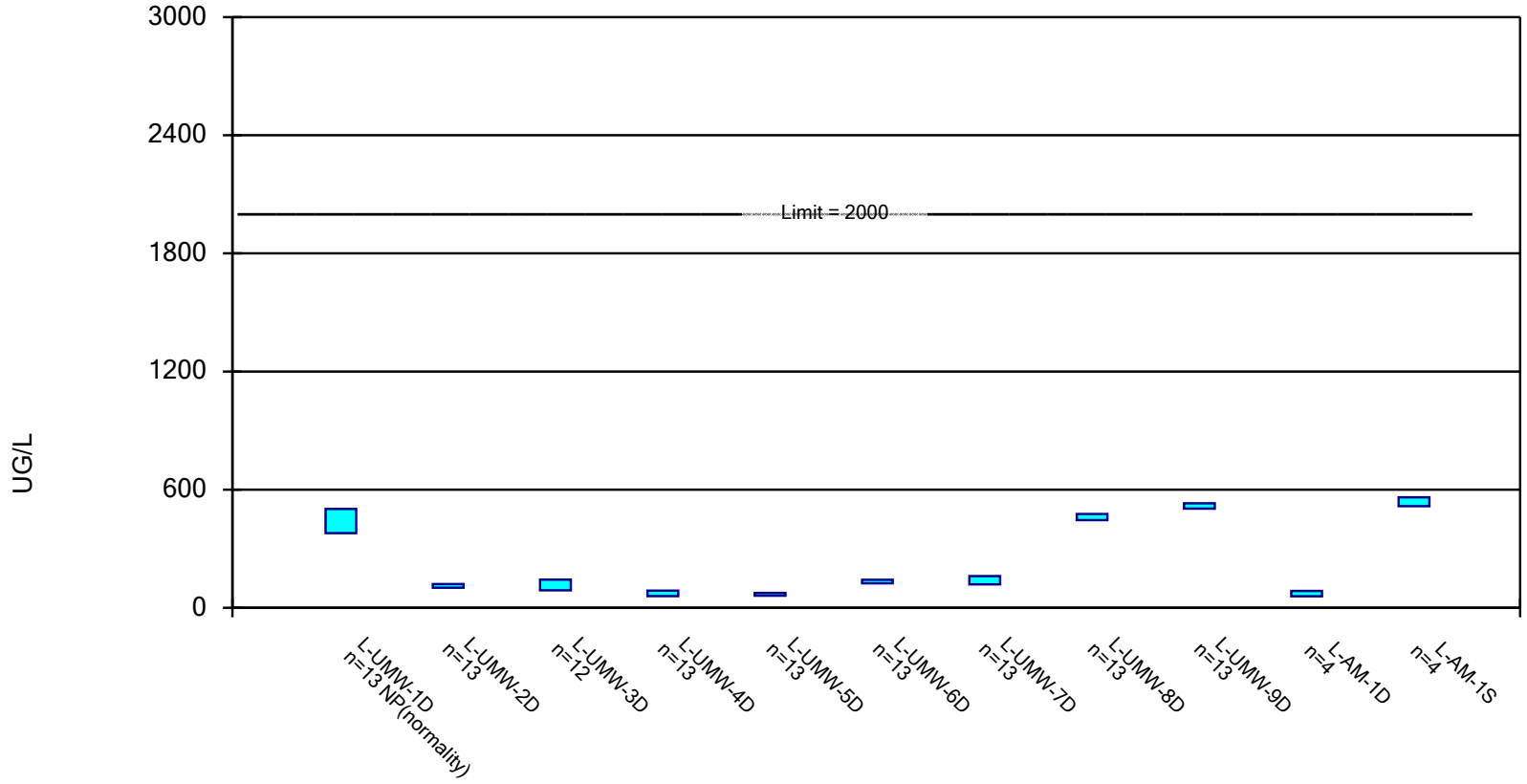


Constituent: ARSENIC, TOTAL Analysis Run 2/17/2020 4:30 PM

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.

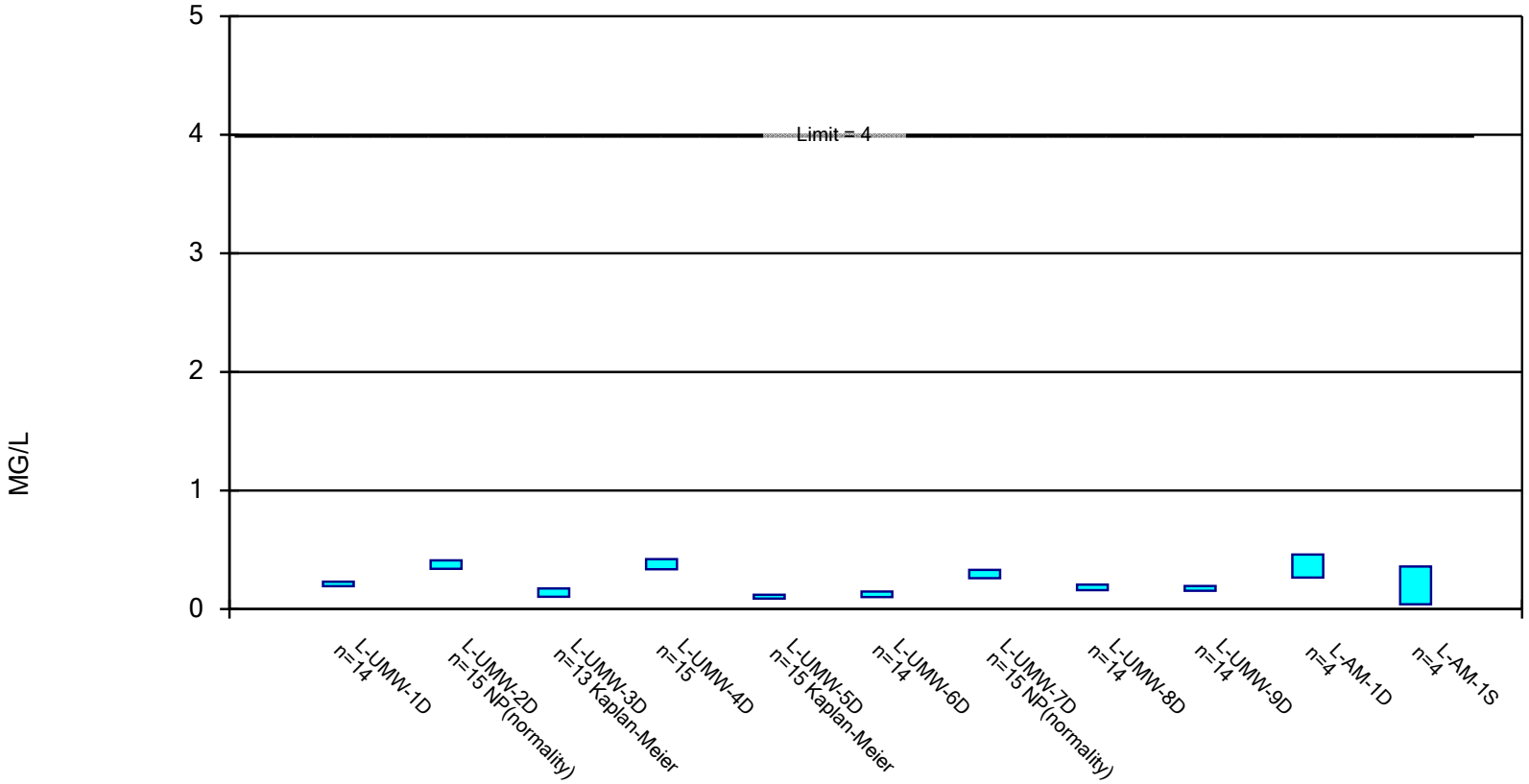


Constituent: BARIUM, TOTAL Analysis Run 2/17/2020 4:30 PM

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.

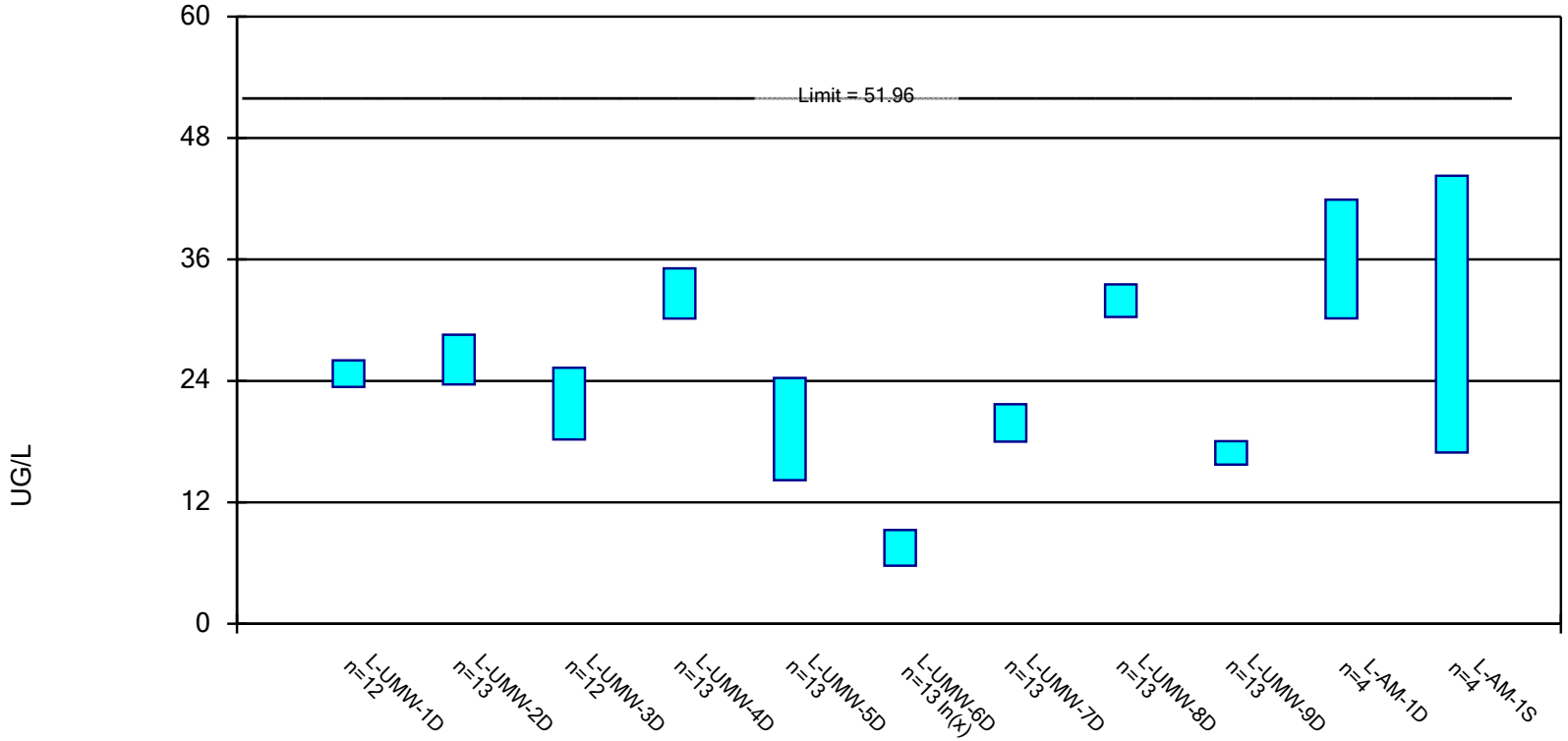


Constituent: FLUORIDE, TOTAL Analysis Run 2/17/2020 4:30 PM

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.

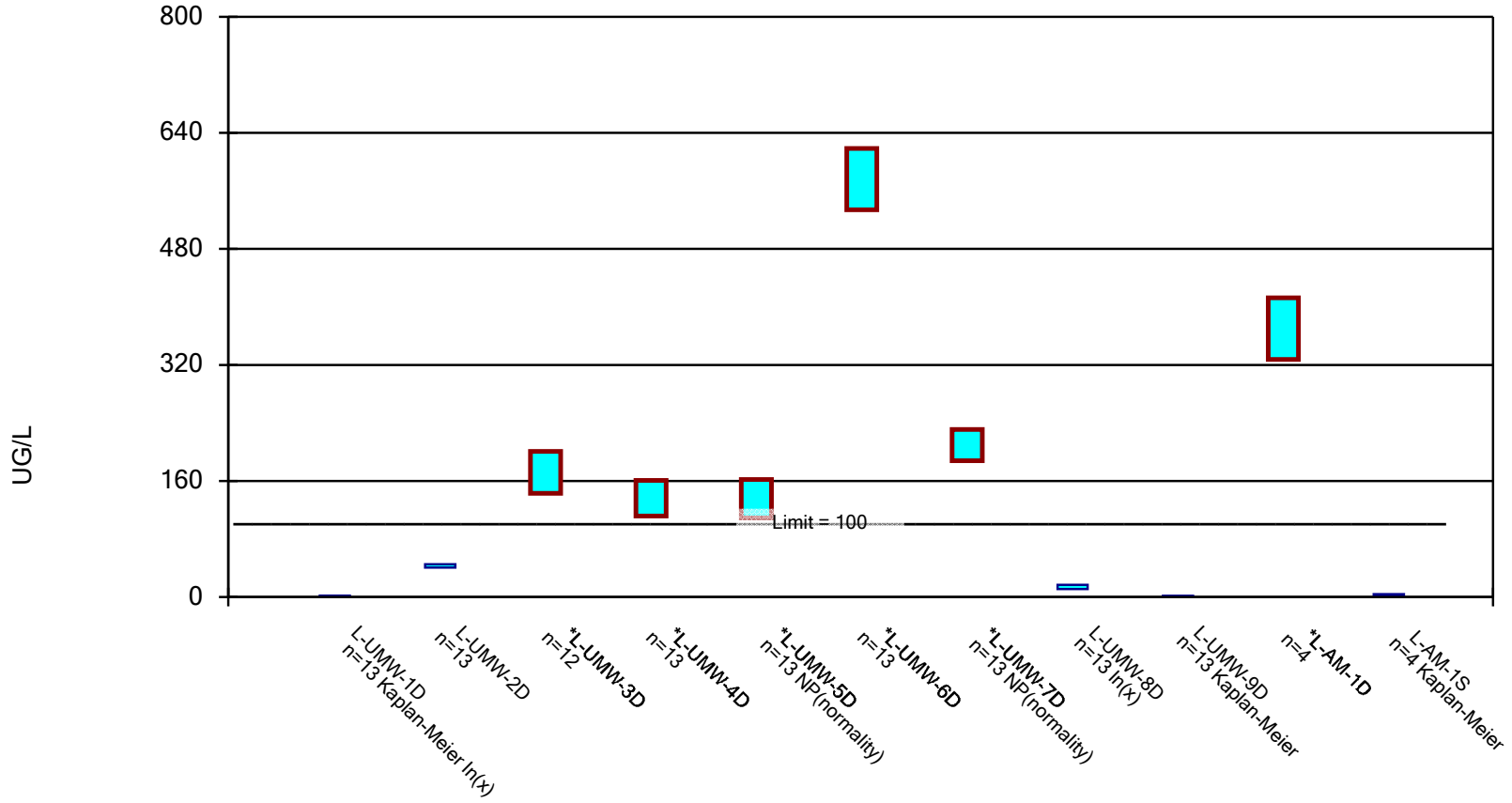


Constituent: LITHIUM, TOTAL Analysis Run 2/17/2020 4:30 PM

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.

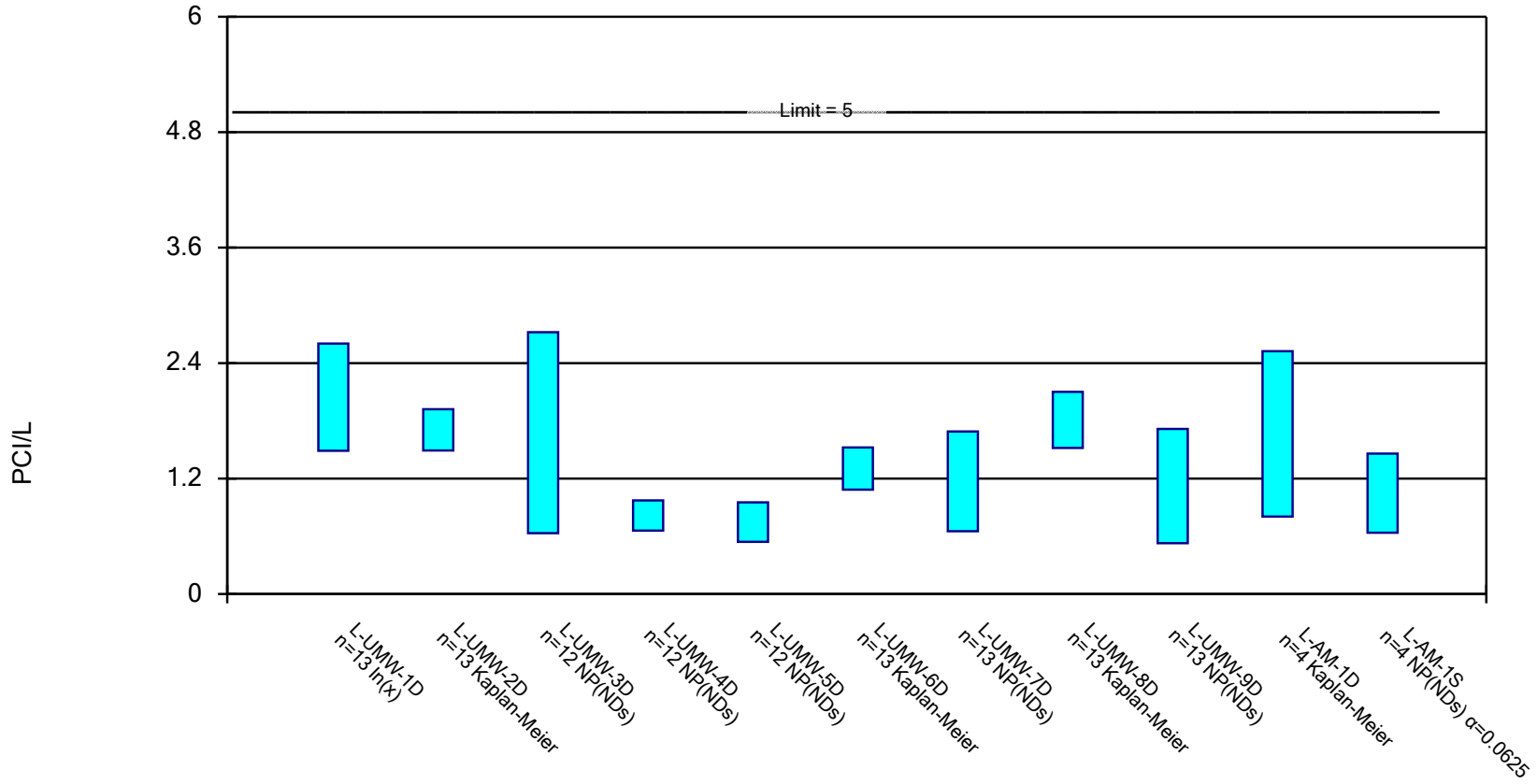


Constituent: MOLYBDENUM, TOTAL Analysis Run 2/17/2020 4:30 PM

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 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Radium [226 + 228] Analysis Run 2/17/2020 4:30 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 2/17/2020, 4:31 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ARSENIC, TOTAL (UG/L)	L-UMW-1D	45.79	25.75	42.6	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-2D	2.425	1.713	42.6	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-3D	5.7	0.3292	42.6	No	12	8.333	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.179	0.09432	42.6	No	13	30.77	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-5D	23.7	16.65	42.6	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-6D	17.85	8.055	42.6	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-7D	21.55	14.95	42.6	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-8D	31.96	27.56	42.6	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-9D	34.69	32.8	42.6	No	13	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1D	4.607	1.243	42.6	No	4	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-AM-1S	5.207	1.843	42.6	No	4	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-1D	502	379	2000	No	13	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	L-UMW-2D	120.2	102	2000	No	13	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-3D	143	88.66	2000	No	12	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-4D	87.12	59.28	2000	No	13	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-5D	75.08	61.79	2000	No	13	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-6D	142.3	124.2	2000	No	13	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-7D	161.1	119	2000	No	13	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-8D	476.5	445.5	2000	No	13	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-9D	530.6	503.2	2000	No	13	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1D	85.37	58.73	2000	No	4	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-AM-1S	560.9	516.1	2000	No	4	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.2306	0.1937	4	No	14	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0.41	0.34	4	No	15	0	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.1737	0.1035	4	No	13	15.38	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.4205	0.3355	4	No	15	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.1201	0.0877	4	No	15	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0.1479	0.1005	4	No	14	14.29	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0.33	0.26	4	No	15	0	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.2057	0.16	4	No	14	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.1939	0.1547	4	No	14	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AM-1D	0.4595	0.2655	4	No	4	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-AM-1S	0.3595	0.04054	4	No	4	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-1D	26.03	23.41	51.96	No	12	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-2D	28.57	23.66	51.96	No	13	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-3D	25.3	18.21	51.96	No	12	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-4D	35.12	30.17	51.96	No	13	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-5D	24.28	14.19	51.96	No	13	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-6D	9.269	5.743	51.96	No	13	0	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-7D	21.7	18	51.96	No	13	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-8D	33.54	30.32	51.96	No	13	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-9D	18.04	15.73	51.96	No	13	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1D	41.91	30.19	51.96	No	4	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-AM-1S	44.27	16.93	51.96	No	4	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	1.886	0.6143	100	No	13	30.77	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	45.2	40.6	100	No	13	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-3D**	**200.9**	**142.9**	**100**	**Yes**	**12**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-4D**	**160.9**	**111.6**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**162**	**109**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**NP (normality)**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-6D**	**618.5**	**534**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**Param.**

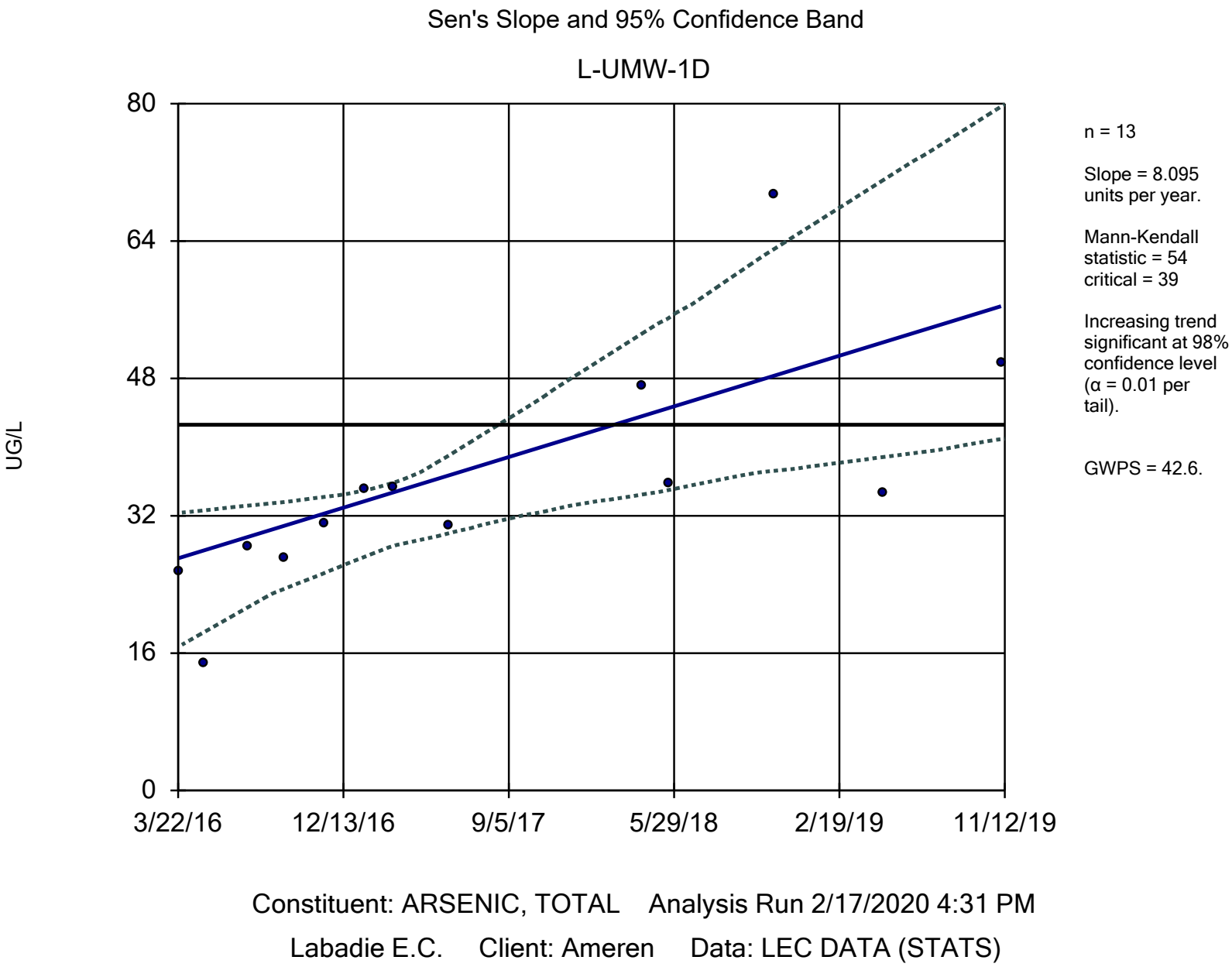
Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 2/17/2020, 4:31 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-7D**	**231**	**188**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**NP (normality)**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	16.85	11.1	100	No	13	0	ln(x)	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	1.759	0.7267	100	No	13	38.46	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-AM-1D**	**412.5**	**327.5**	**100**	**Yes**	**4**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	3.852	1.998	100	No	4	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-1D	2.602	1.488	5	No	13	7.692	ln(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-2D	1.921	1.492	5	No	13	30.77	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-3D	2.721	0.632	5	No	12	66.67	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.973	0.659	5	No	12	83.33	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.952	0.542	5	No	12	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-6D	1.523	1.085	5	No	13	46.15	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-7D	1.689	0.6525	5	No	13	84.62	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-8D	2.101	1.518	5	No	13	38.46	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-9D	1.716	0.529	5	No	13	84.62	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-AM-1D	2.524	0.8053	5	No	4	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-AM-1S	1.46	0.637	5	No	4	75	No	0.0625	NP (NDs)

APPENDIX B

Sanitas Trending Confidence Bands Statistical Output

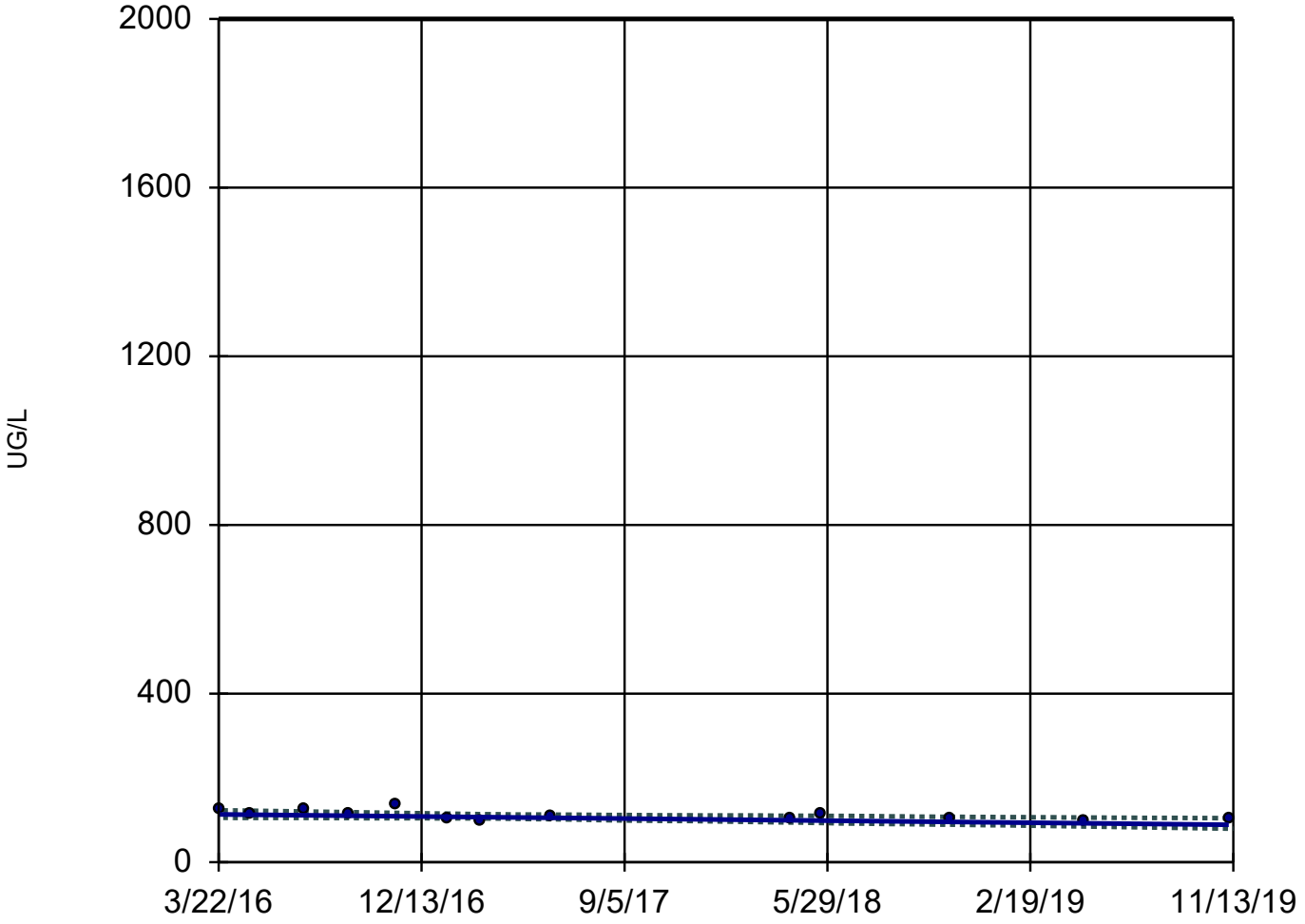


Constituent: ARSENIC, TOTAL Analysis Run 2/17/2020 4:31 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 13

Slope = -6.691 units per year.

Mann-Kendall statistic = -43 critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

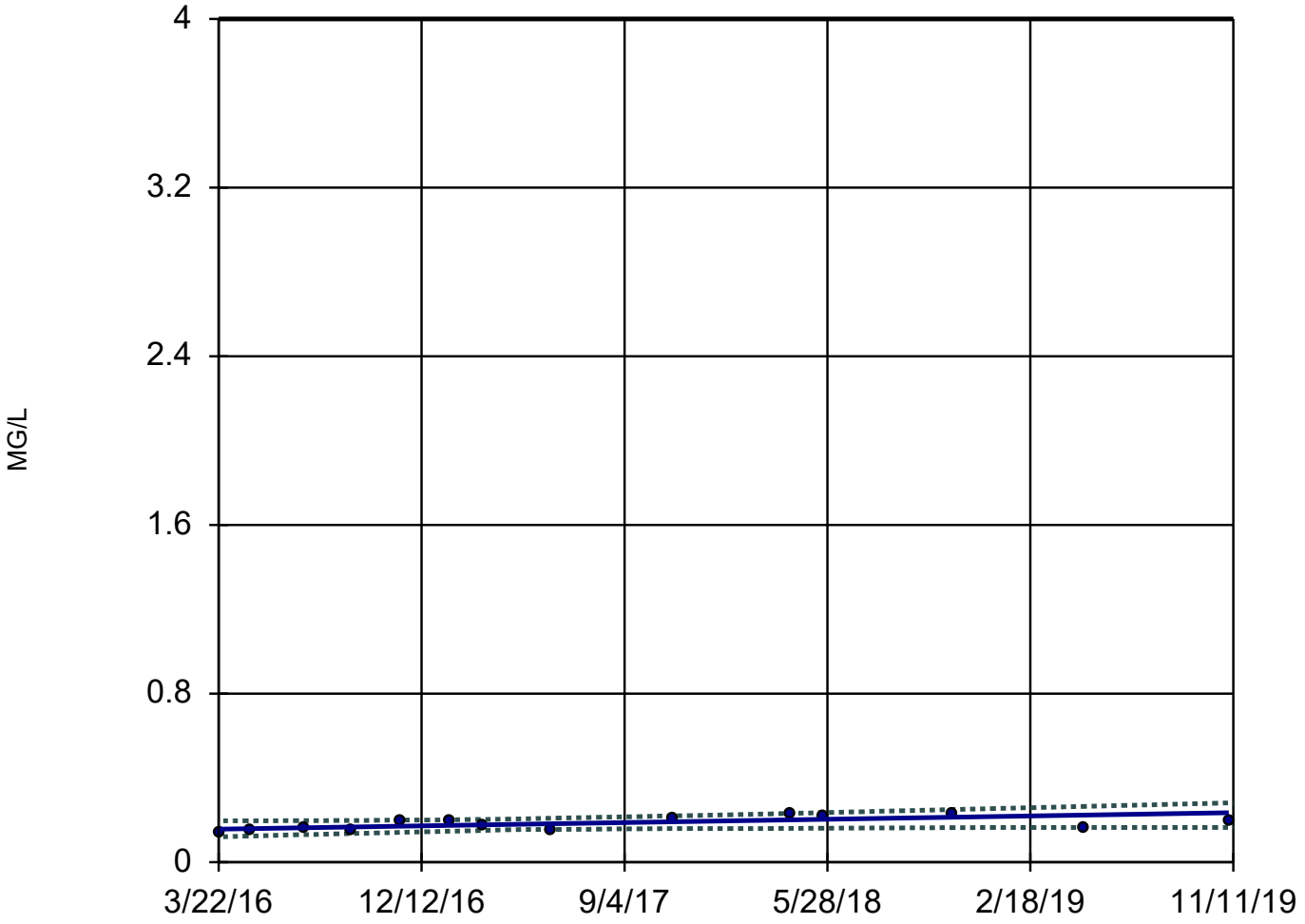
GWPS = 2000.

Constituent: BARIUM, TOTAL Analysis Run 2/17/2020 4:31 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-8D



n = 14

Slope = 0.02143 units per year.

Mann-Kendall statistic = 45 critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

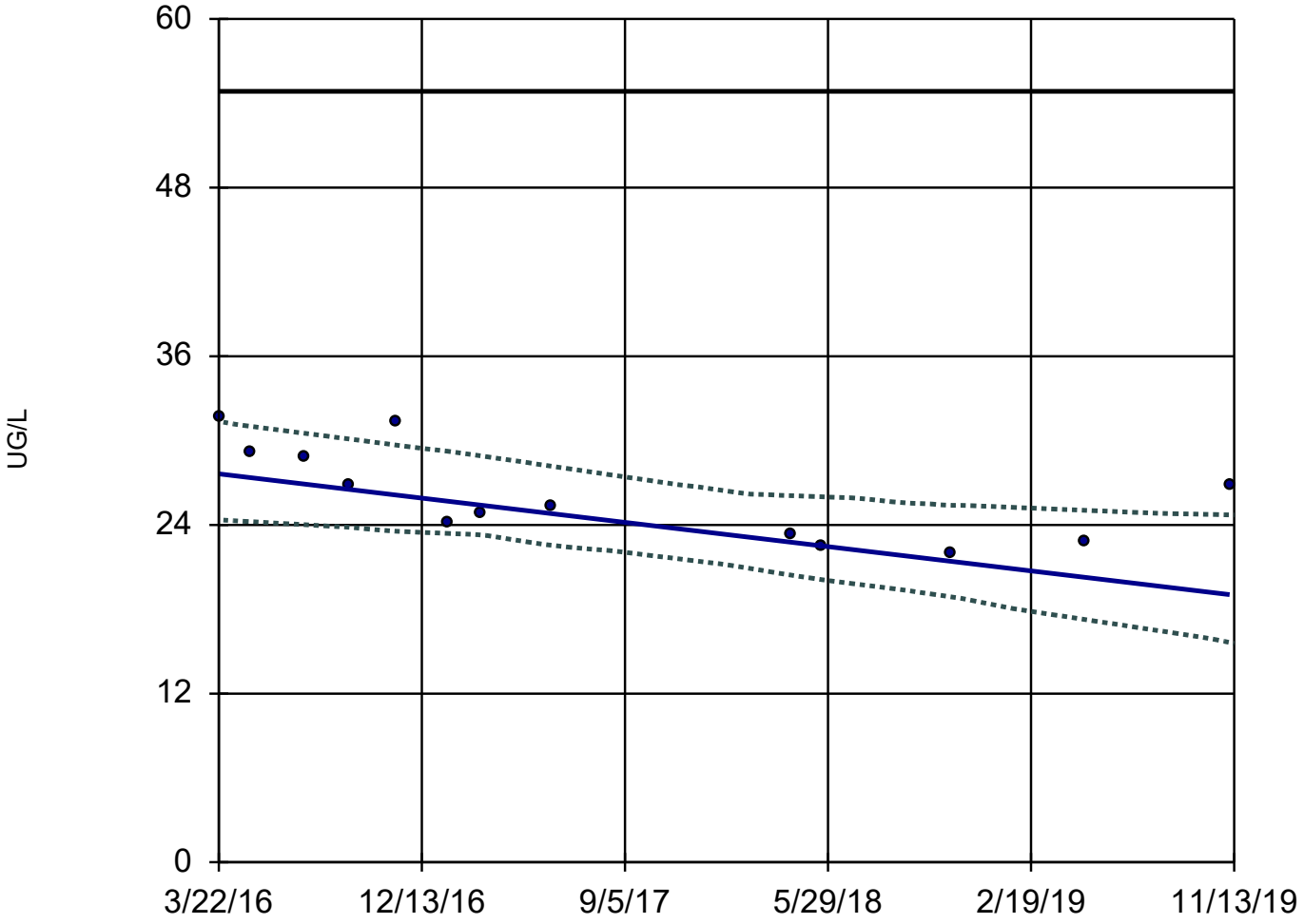
GWPS = 4.

Constituent: FLUORIDE, TOTAL Analysis Run 2/17/2020 4:32 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 13

Slope = -2.367 units per year.

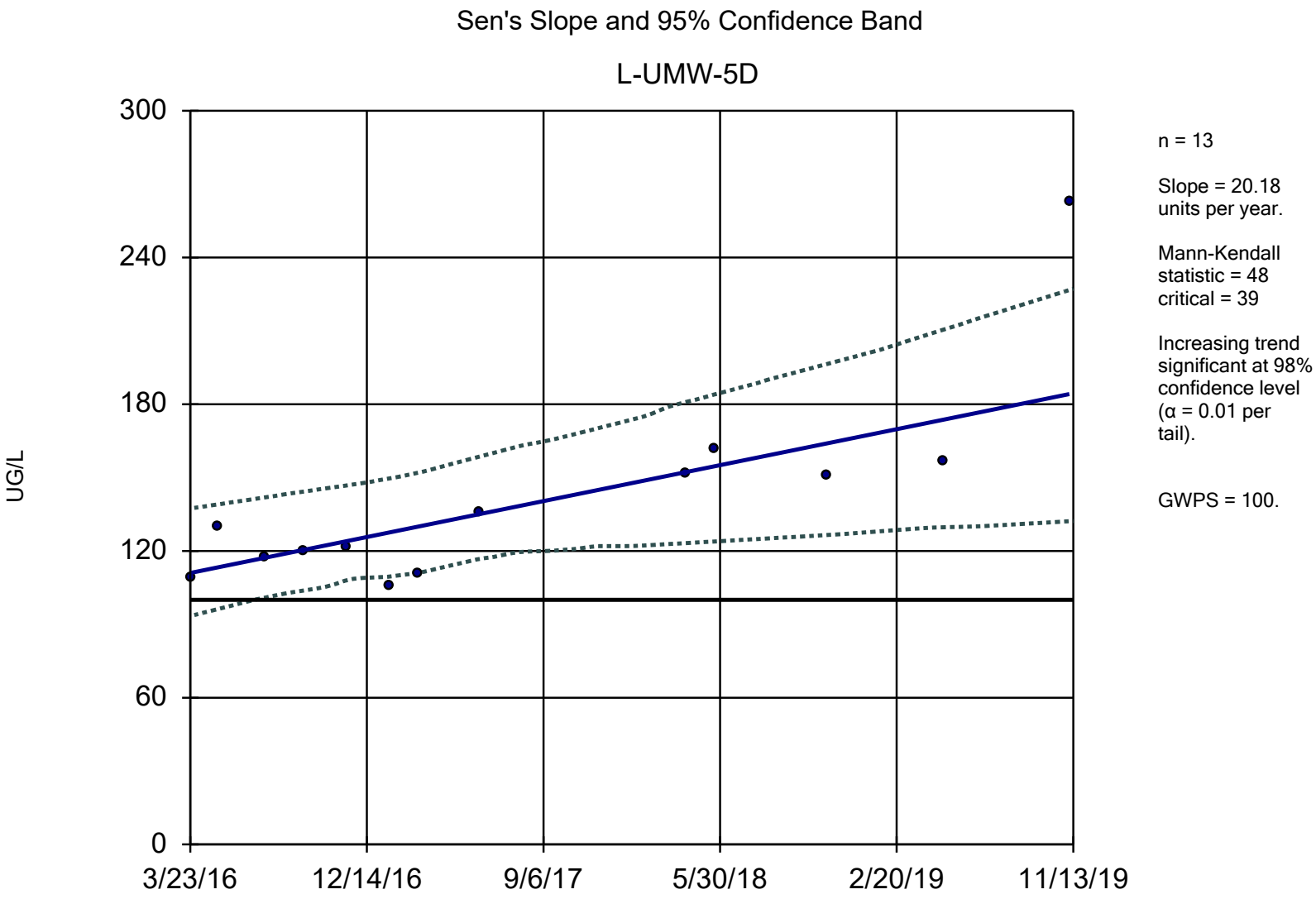
Mann-Kendall statistic = -48 critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 54.85.

Constituent: LITHIUM, TOTAL Analysis Run 2/17/2020 4:32 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)



Constituent: MOLYBDENUM, TOTAL Analysis Run 2/17/2020 4:32 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 2/17/2020, 4:33 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ARSENIC, TOTAL (UG/L)	**L-UMW-1D**	**8.095**	**54**	**39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-UMW-2D	-0.07912	-13	-39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-3D	1.484	32	35	No	12	8.333	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.006044	6	39	No	13	30.77	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-5D	-1.156	-18	-39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-6D	3.785	34	39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-7D	2.498	21	39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-8D	-0.1891	-9	-39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-9D	0.3943	14	39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AM-1D	0.6536	1	8	No	4	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-AM-1S	-0.2888	0	8	No	4	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-1D	28.23	36	39	No	13	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-2D**	**-6.691**	**-43**	**-39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-3D	-3.488	-4	-35	No	12	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-4D	7.398	29	39	No	13	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-5D	0.05748	1	39	No	13	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-6D	0.6112	3	39	No	13	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-7D	-10.76	-12	-39	No	13	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-8D	-13.28	-38	-39	No	13	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-9D	-3.256	-19	-39	No	13	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AM-1D	9.8	0	8	No	4	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-AM-1S	-21.9	-4	-8	No	4	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.00827	16	44	No	14	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0	8	48	No	15	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.006516	5	39	No	13	15.38	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.01185	11	48	No	15	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.006697	23	48	No	15	20	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	-0.00...	-17	-44	No	14	14.29	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	-0.01522	-19	-48	No	15	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	**L-UMW-8D**	**0.02143**	**45**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.02152	39	44	No	14	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-AM-1D	-0.09017	-4	-8	No	4	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-AM-1S	-0.07103	-2	-8	No	4	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-1D	-0.8849	-15	-35	No	12	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-UMW-2D**	**-2.367**	**-48**	**-39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-UMW-3D	-0.9895	-19	-35	No	12	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-4D	-0.9549	-21	-39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-5D	-1.728	-18	-39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-6D	-0.4346	-10	-39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-7D	0.1919	4	39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-8D	-0.1328	-6	-39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-9D	-0.6001	-28	-39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AM-1D	5.56	6	8	No	4	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-AM-1S	-10.01	-4	-8	No	4	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	0.04728	5	39	No	13	30.77	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	-1.2	-28	-39	No	13	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	3.006	7	35	No	12	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	-15.1	-25	-39	No	13	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**20.18**	**48**	**39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	-26.17	-26	-39	No	13	0	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 2/17/2020, 4:33 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	L-UMW-7D	8.925	36	39	No	13	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	0.7972	13	39	No	13	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	-0.04274	-7	-39	No	13	38.46	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-AM-1D	2.472	0	8	No	4	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-AM-1S	-2.387	-5	-8	No	4	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-1D	0.1269	23	39	No	13	7.692	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-2D	-0.01139	-2	-39	No	13	30.77	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-3D	-0.00797	-6	-35	No	12	66.67	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.02814	8	35	No	12	83.33	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-5D	-0.0269	-8	-35	No	12	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-6D	0.02895	4	39	No	13	46.15	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-7D	-0.0366	-14	-39	No	13	84.62	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-8D	-0.2458	-20	-39	No	13	38.46	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-9D	-0.08887	-30	-39	No	13	84.62	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AM-1D	0.1362	0	8	No	4	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-AM-1S	-0.7046	0	8	No	4	75	n/a	n/a	0.02	NP

APPENDIX C

April 2020 Assessment Monitoring Statistical Evaluation

TECHNICAL MEMORANDUM

DATE August 10, 2020 **Project No.** 153-140602

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Paul Pike, Charlie Henderson

FROM Jeffrey Ingram, Sean Paulsen, Mark Haddock **EMAIL Jingram@Golder.com**

ASSESSMENT MONITORING STATISTICAL EVALUATION FOR THE LCPA SURFACE IMPOUNDMENT, LABADIE ENERGY CENTER, FRANKLIN COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the April 2020 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**).

As a part of the updated Corrective Action Plan, monitoring wells AM-1S and AM-1D were removed from the Detection and Assessment monitoring well network and added to the Corrective Action Network. Statistical analysis for these wells will now be completed as a part of the Corrective Action statistical analysis and not the Assessment Monitoring statistical analysis. All other monitoring wells in the network have remained the same.

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-3D at 52.1 micrograms per liter (µg/L) on 11/7/2019: result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
  - UMW-6D at 1.8 (µg/L) on 3/23/2016: result is statistically lower than other values at the same well. The low result has not been confirmed during subsequent sampling events.
- Chromium
  - UMW-1D at 2.4 (µg/L) on 9/9/2016: Result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
  - UMW-4D at 1.8 (µg/L) on 3/3/2017: result is statistically higher than other values at the same well. The high result has not been confirmed in subsequent sampling events.

- Molybdenum
  - UMW-5D at 263 (µg/L) on 11/7/2019: Result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.
  - UMW-8D at 29.1 (µg/L) on 11/5/2019: Result is statistically higher than other values at the same well. The high result has not been confirmed during subsequent sampling events.

No new SSLs were identified in the April 2020 sampling event. A summary of SSLs for the April 2020 sampling event is as follows:

- Molybdenum at UMW-3D, 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,

Jeffrey Ingram, R.G.
Project Geologist

Sean Paulsen, P.G.
Associate, Senior Consultant

JSI/SCP

Enclosures:
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	42.6	42.6
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	0.2999
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	51.96	52.55
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:

Prepared by: JSI 8/1/2019
Checked by: LMS 8/27/2019
Reviewed by: MNH 9/5/2019

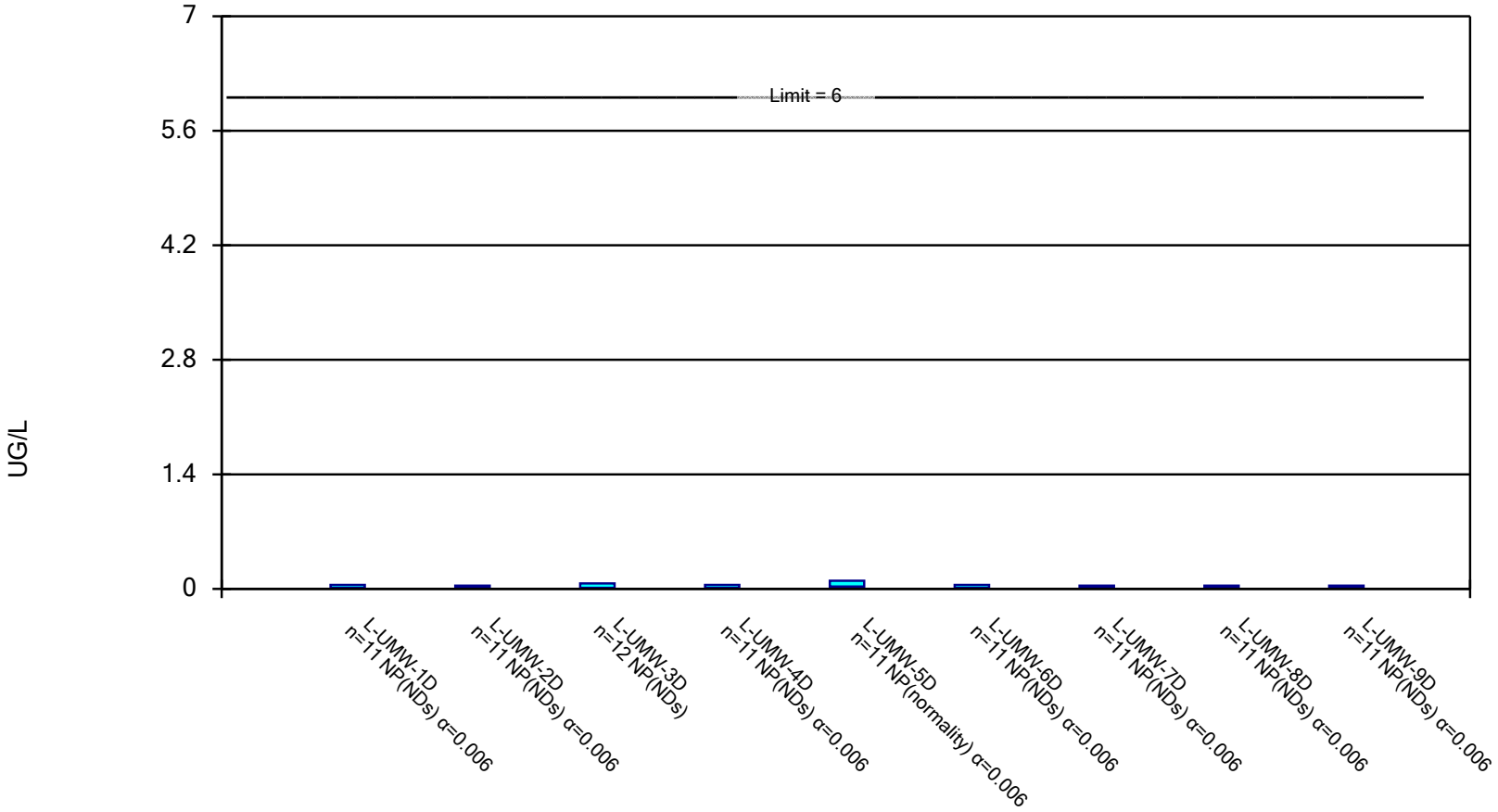
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Spring 2012. http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis Plan.
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results collected through May 2019 from monitoring wells BMW-1D and BMW-2D.

APPENDIX A

Sanitas Confidence Interval Statistical Output

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

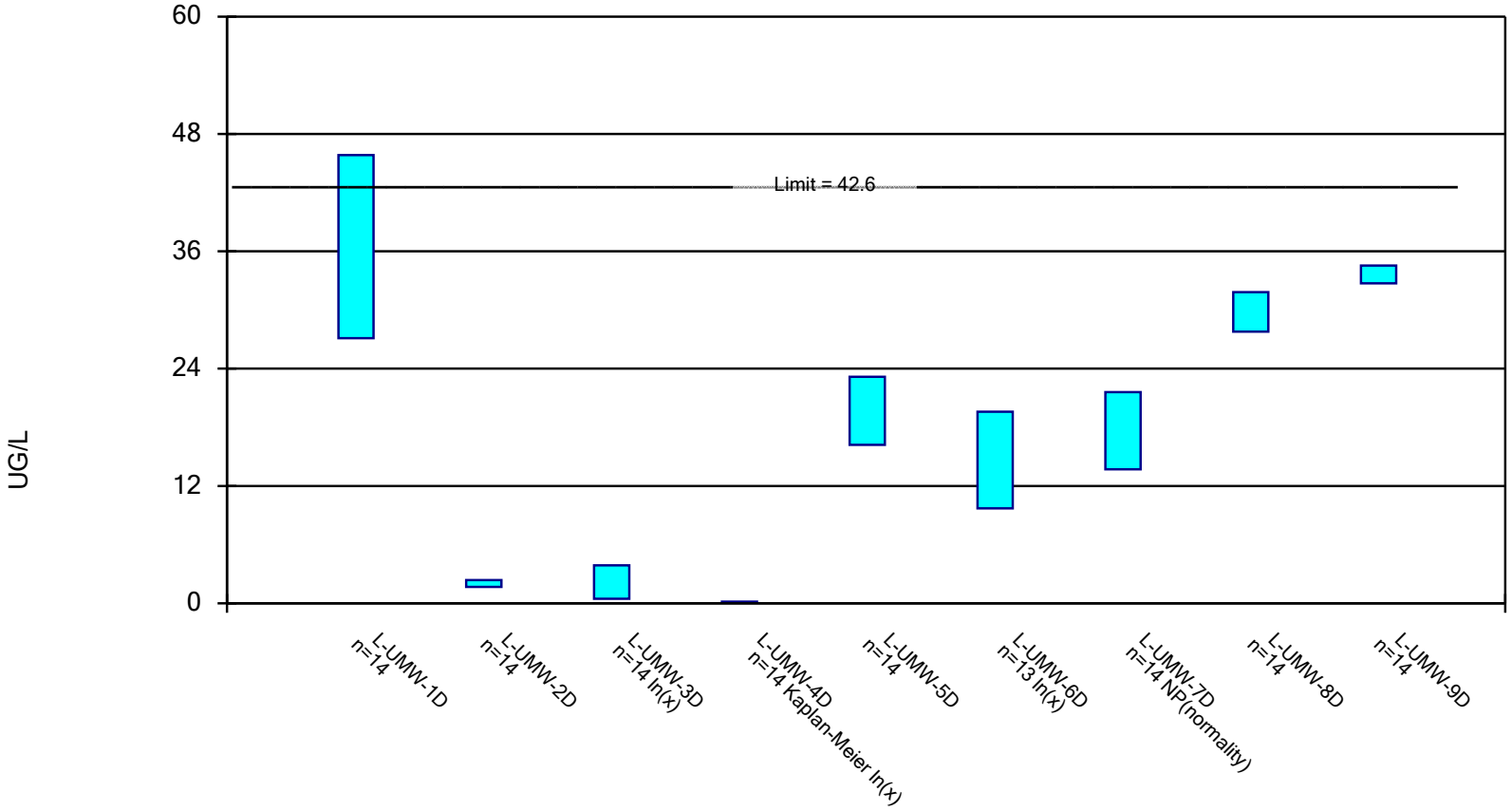


Constituent: ANTIMONY, TOTAL Analysis Run 7/6/2020 4:15 PM

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.

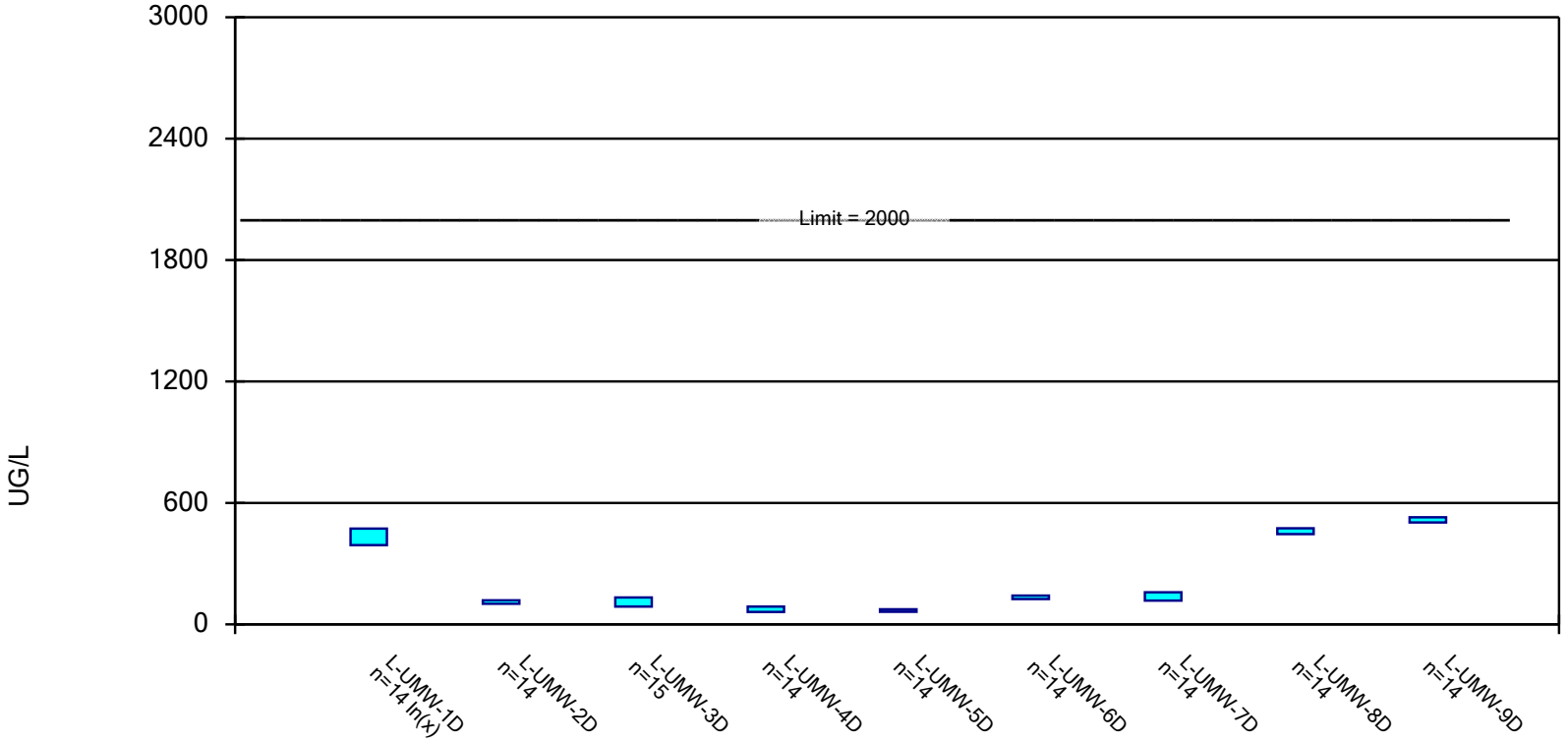


Constituent: ARSENIC, TOTAL Analysis Run 7/6/2020 4:15 PM

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.

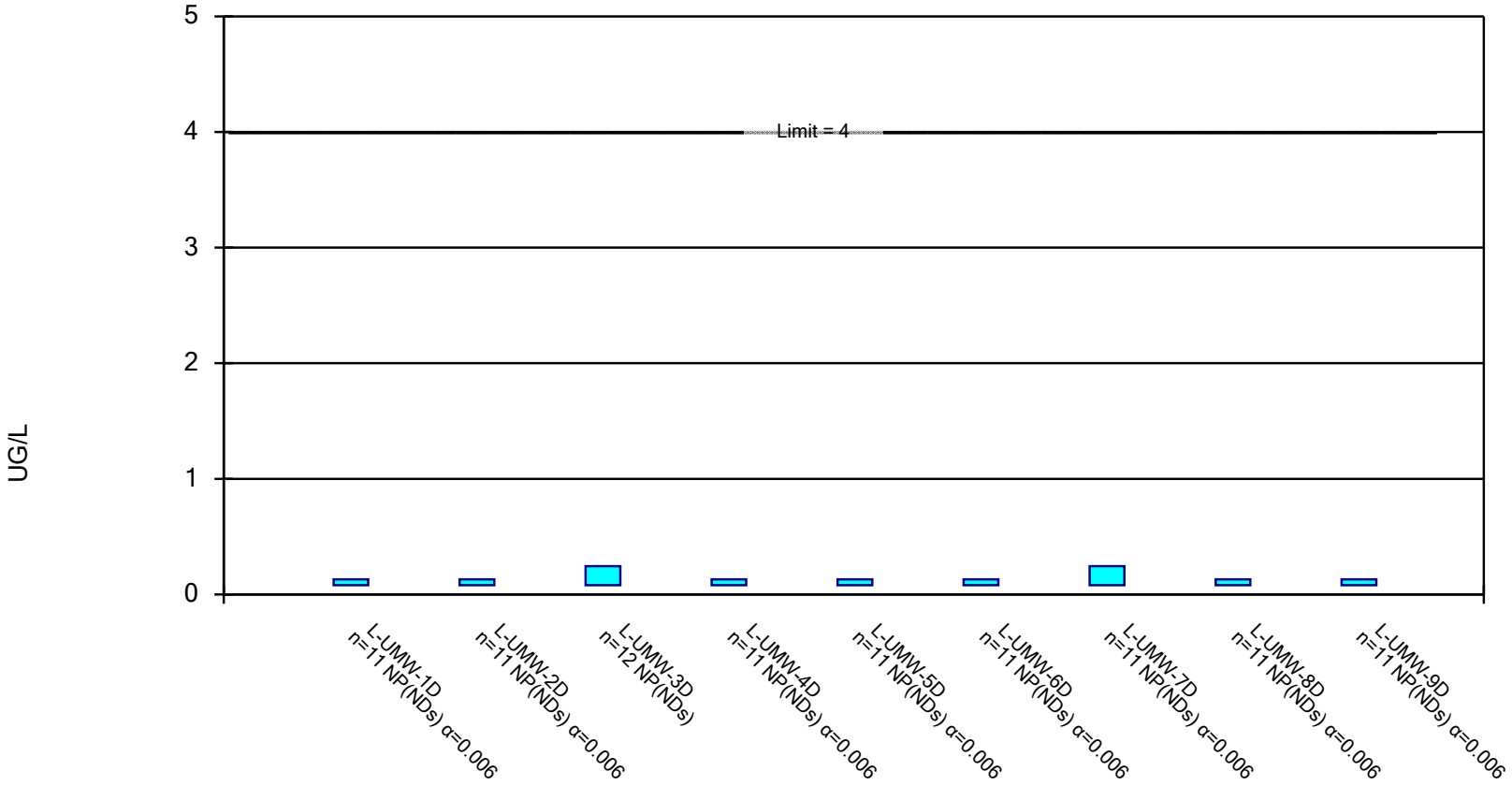


Constituent: BARIUM, TOTAL Analysis Run 7/6/2020 4:15 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

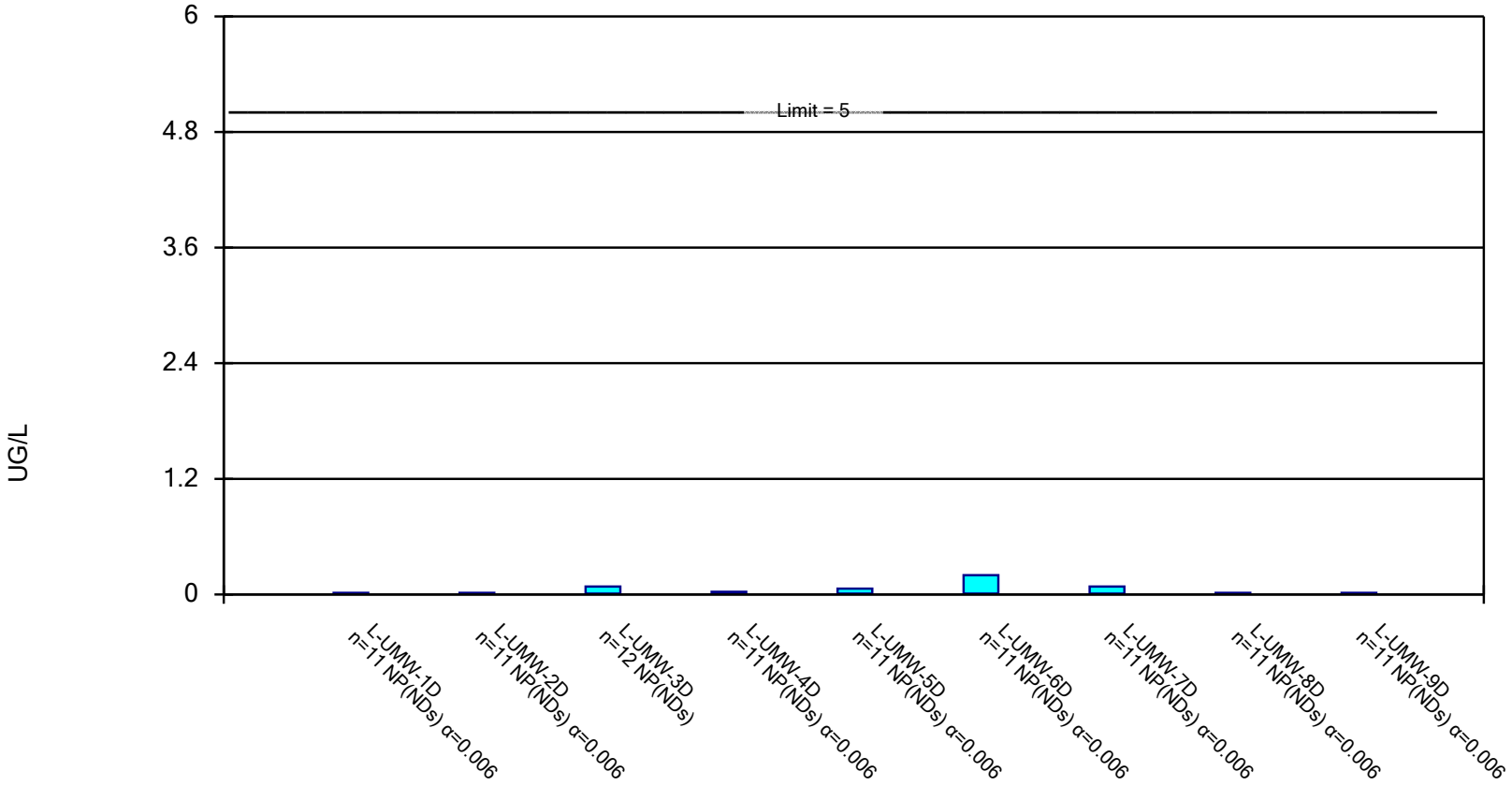


Constituent: BERYLLIUM, TOTAL Analysis Run 7/6/2020 4:15 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

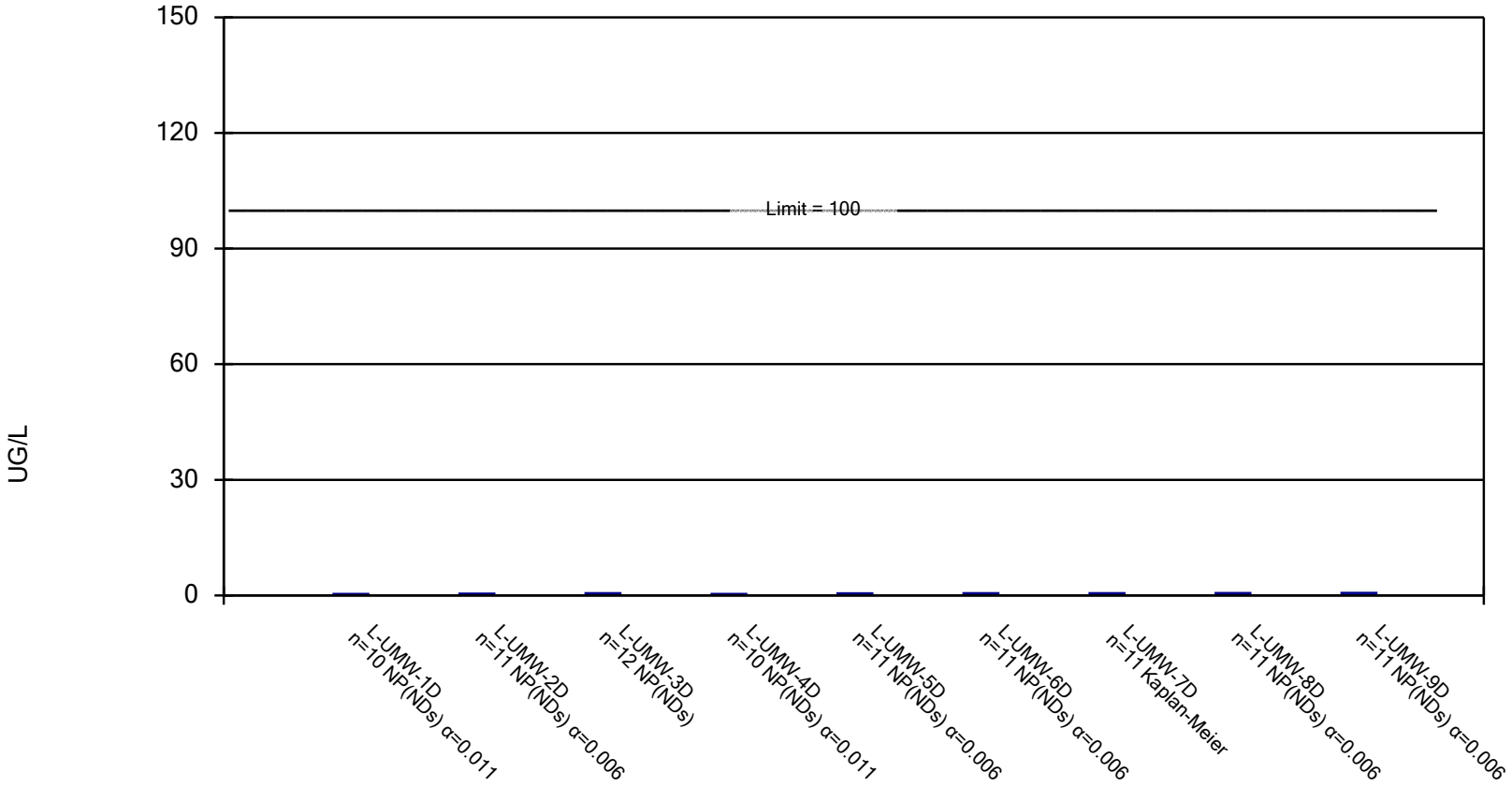


Constituent: CADMIUM, TOTAL Analysis Run 7/6/2020 4:15 PM

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 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

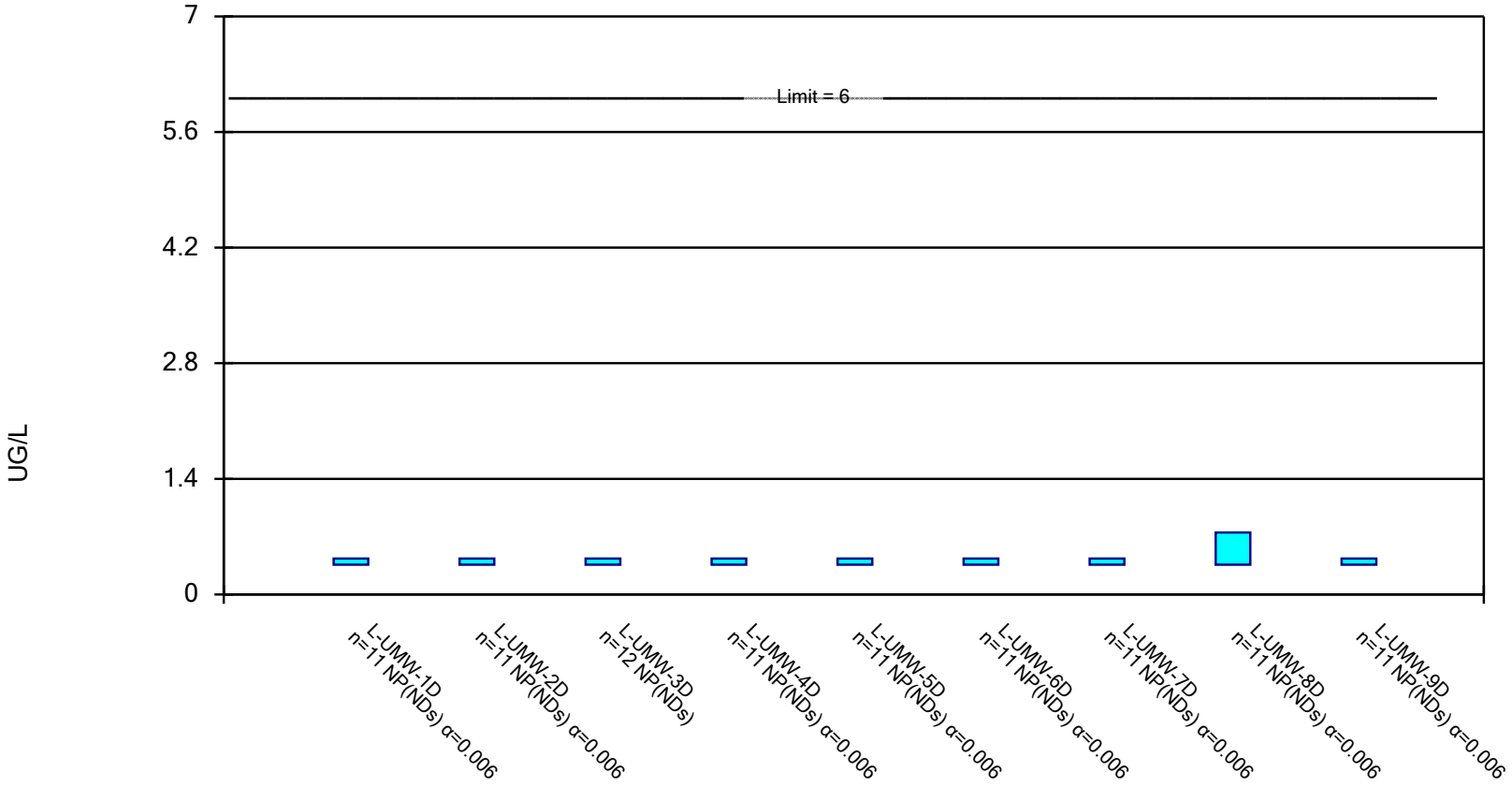


Constituent: CHROMIUM, TOTAL Analysis Run 7/6/2020 4:15 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

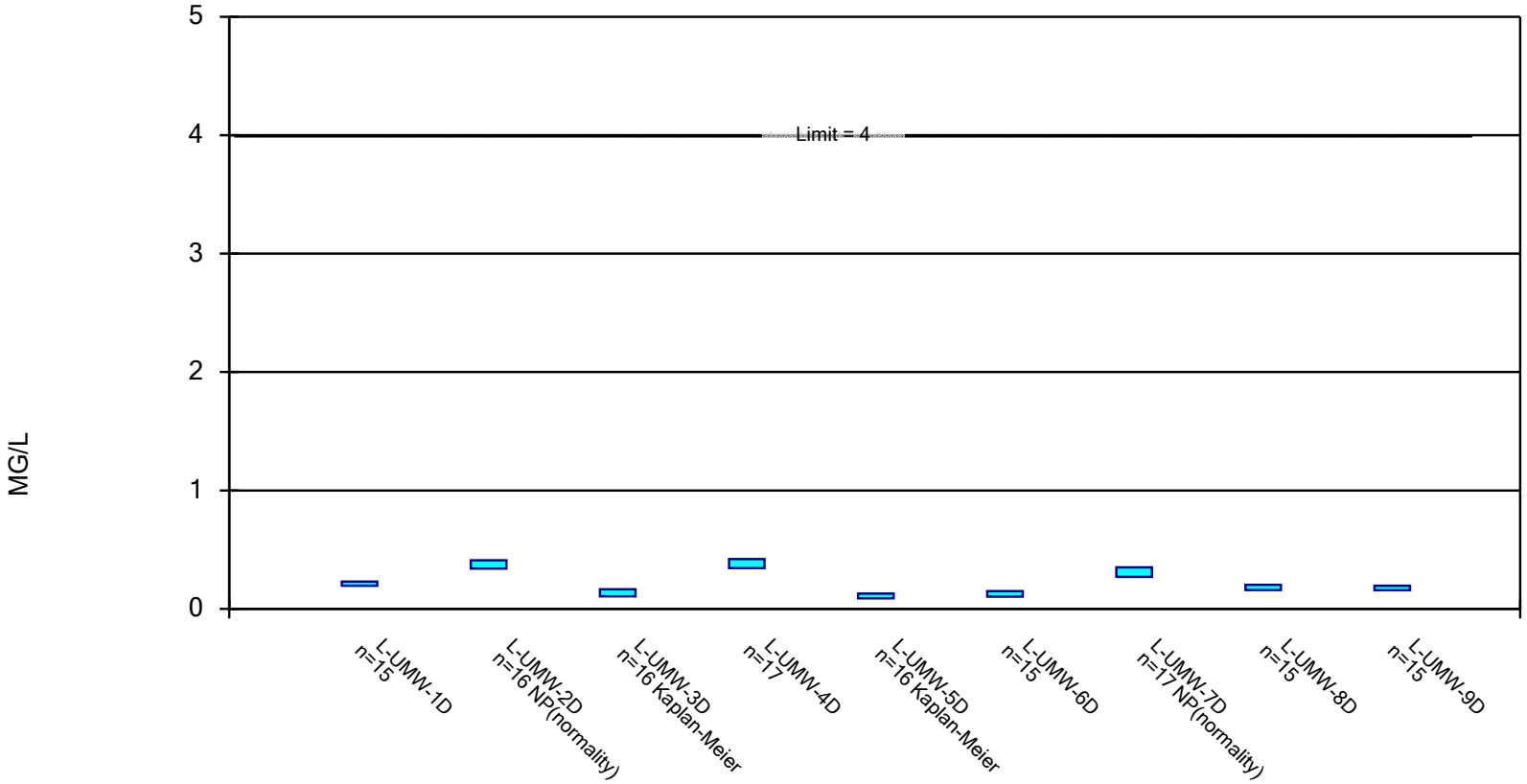


Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:15 PM

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.

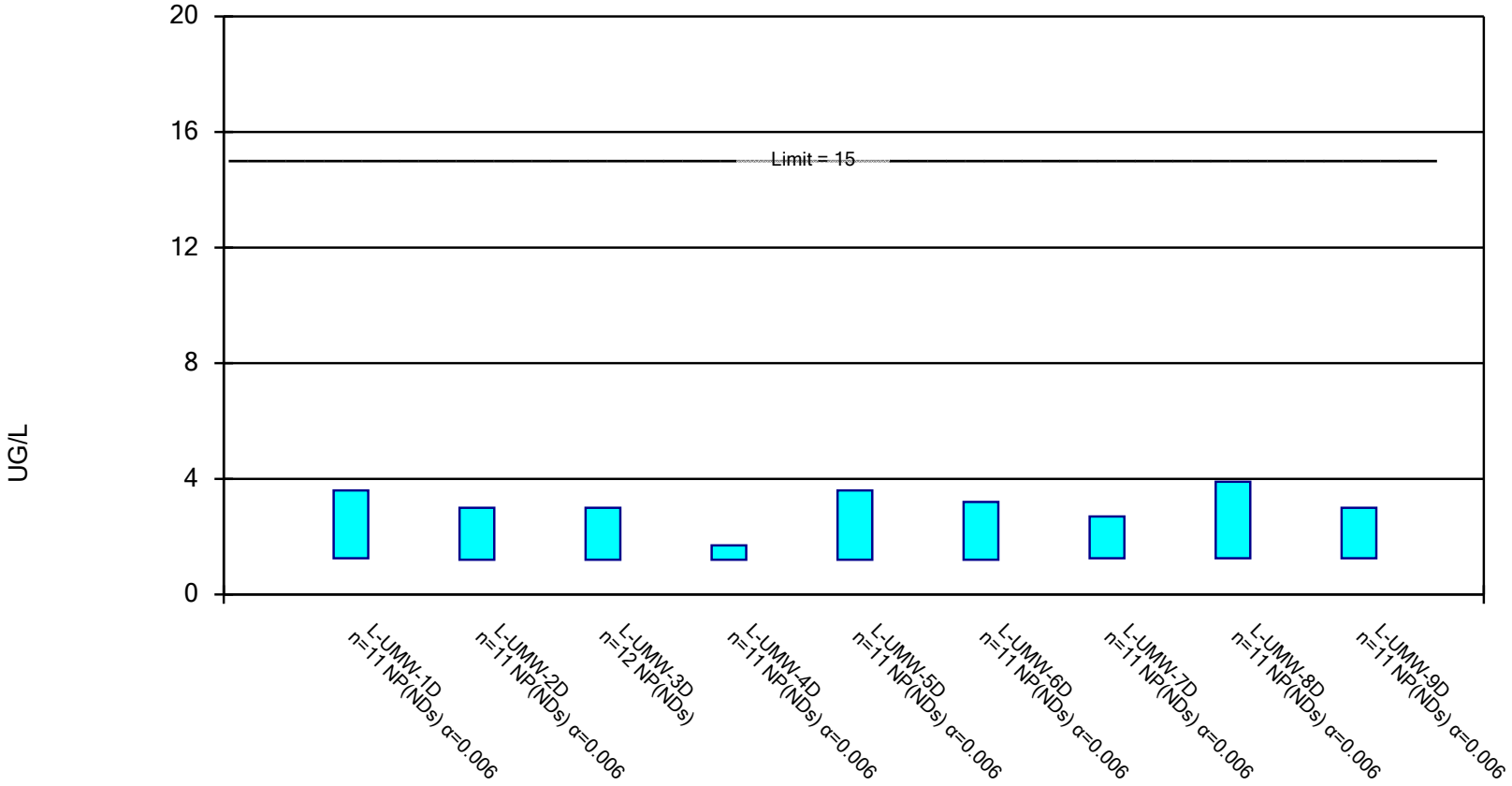


Constituent: FLUORIDE, TOTAL Analysis Run 7/6/2020 4:15 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

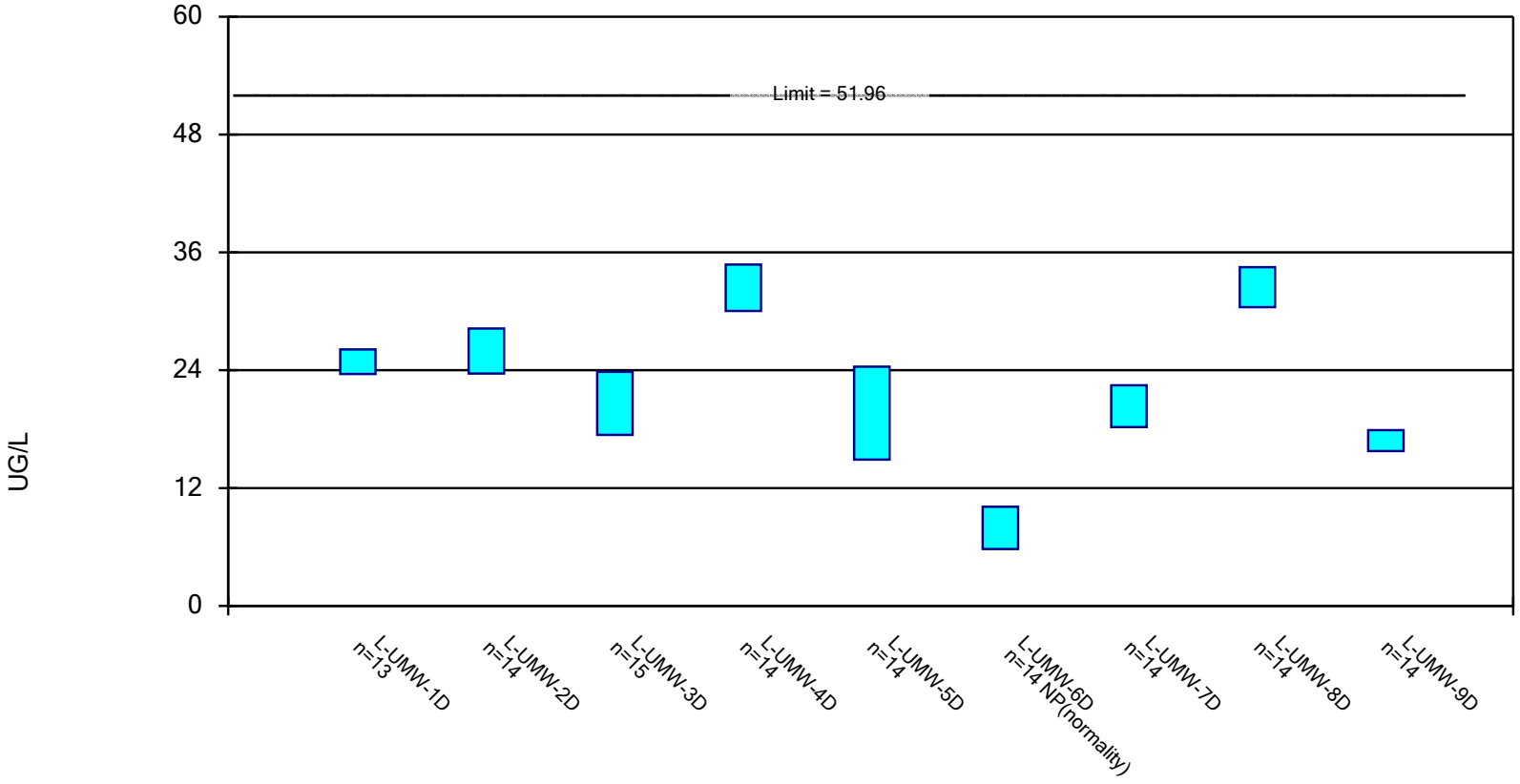


Constituent: LEAD, TOTAL Analysis Run 7/6/2020 4:15 PM

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.

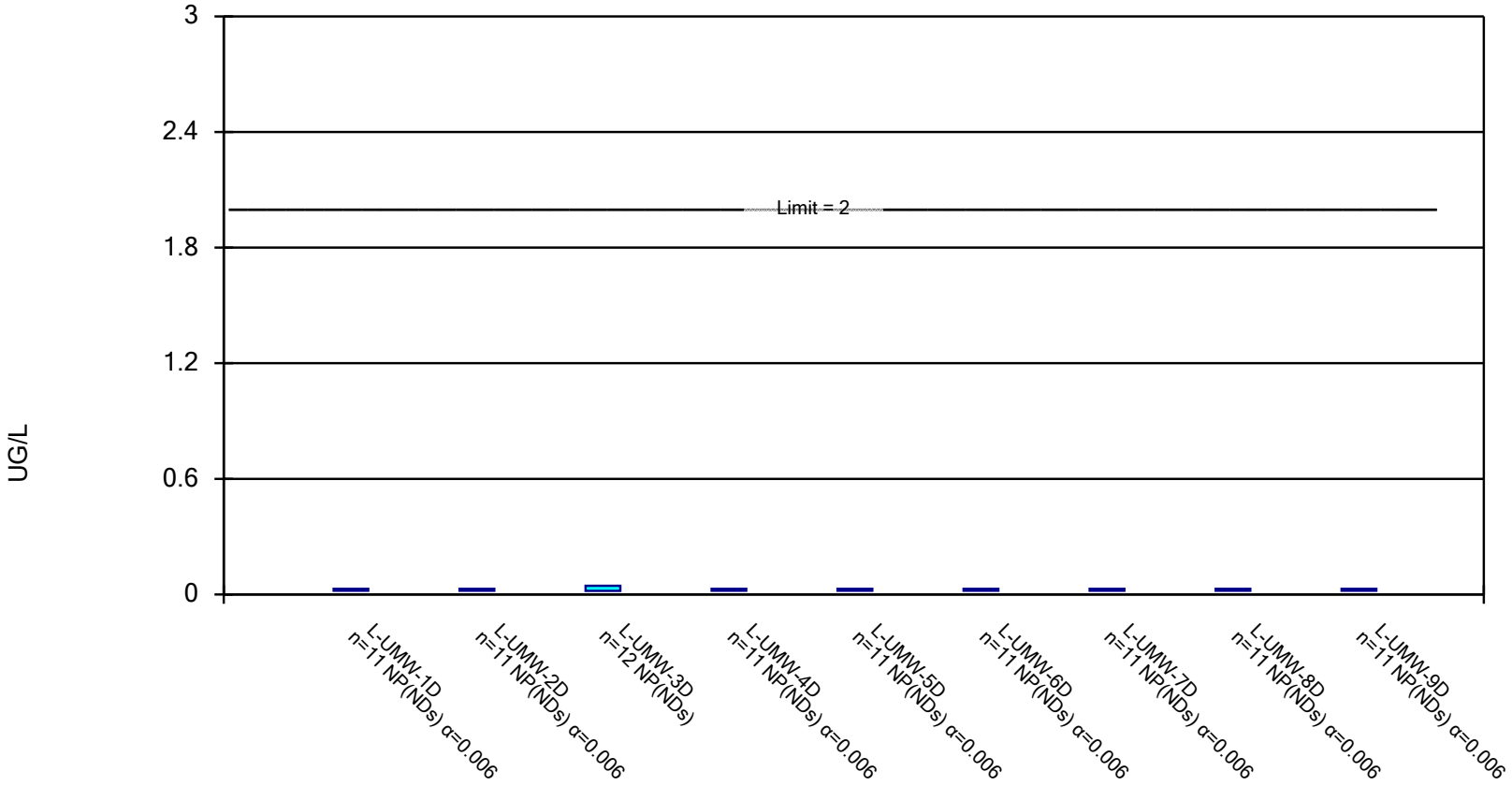


Constituent: LITHIUM, TOTAL Analysis Run 7/6/2020 4:15 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

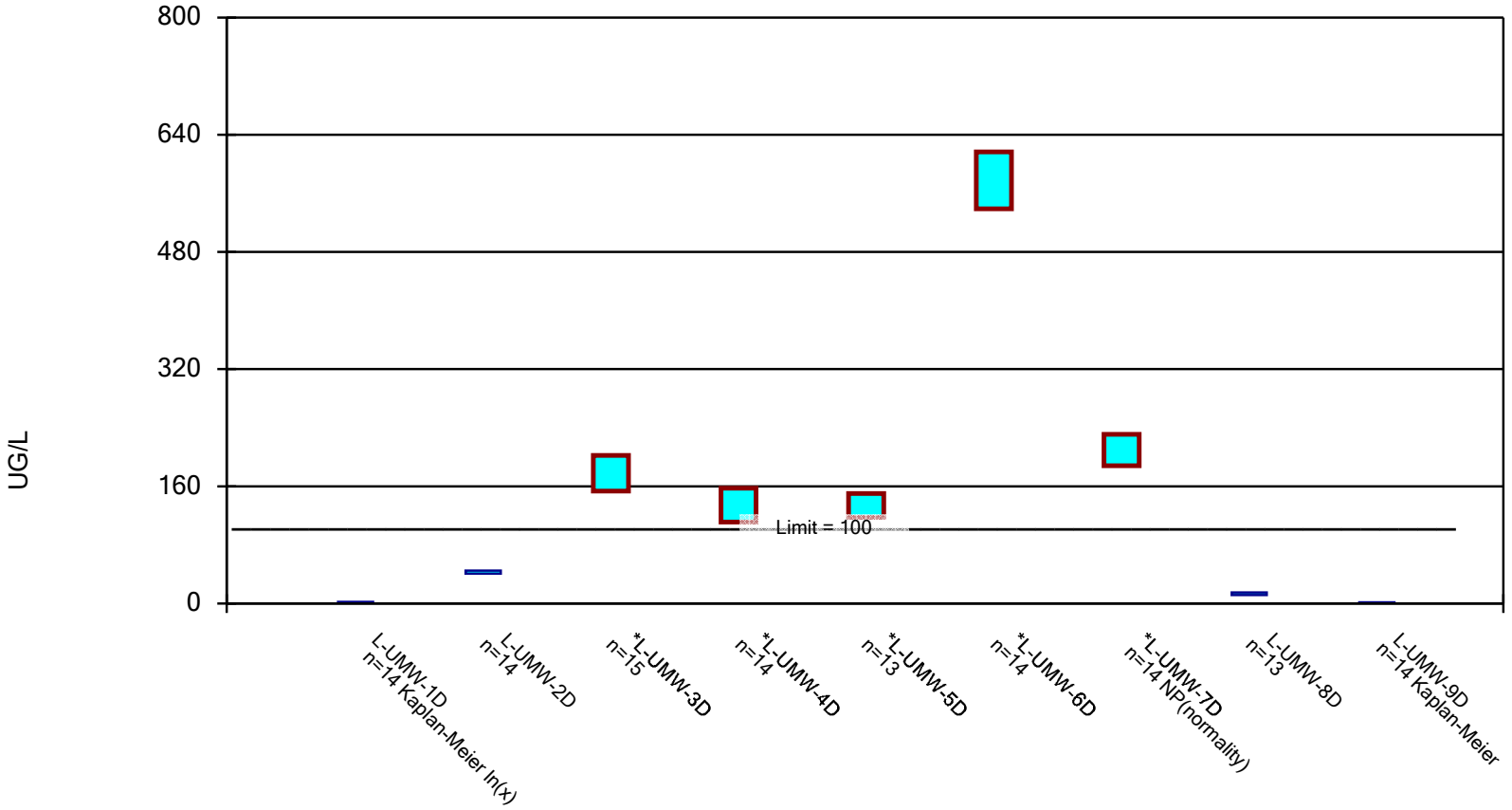


Constituent: MERCURY, TOTAL Analysis Run 7/6/2020 4:15 PM

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.

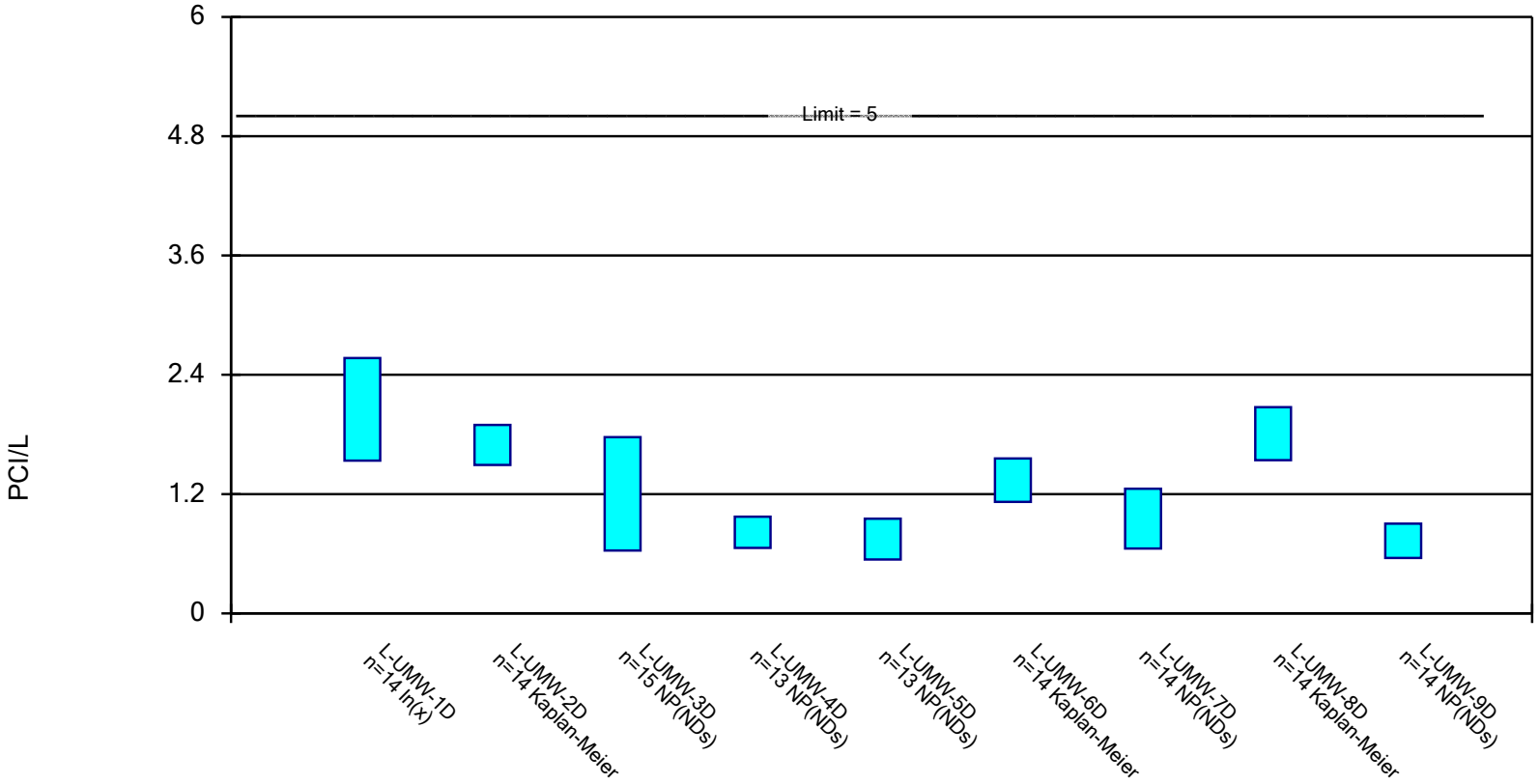


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/6/2020 4:15 PM

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.

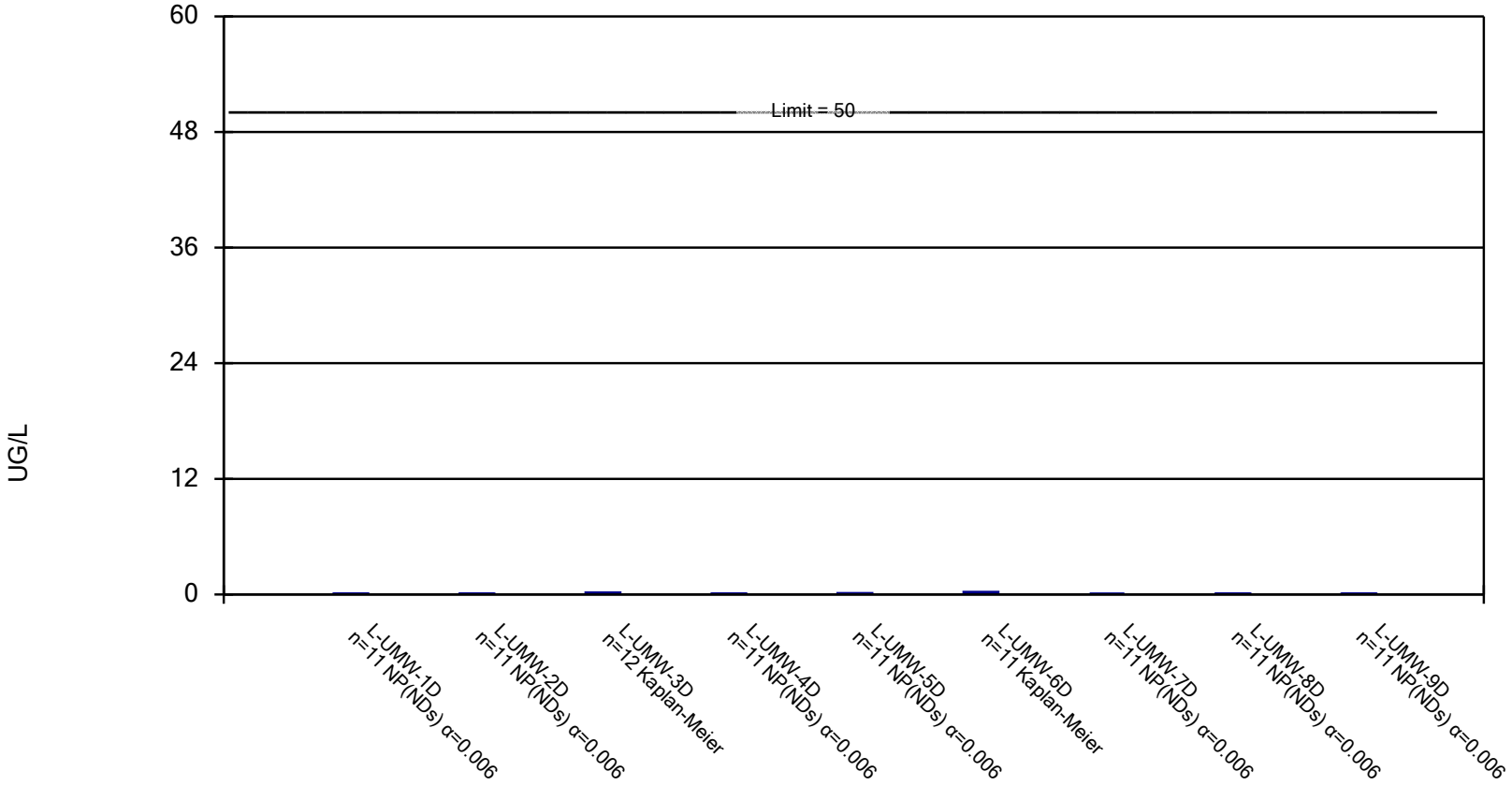


Constituent: Radium [226 + 228] Analysis Run 7/6/2020 4:15 PM

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 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

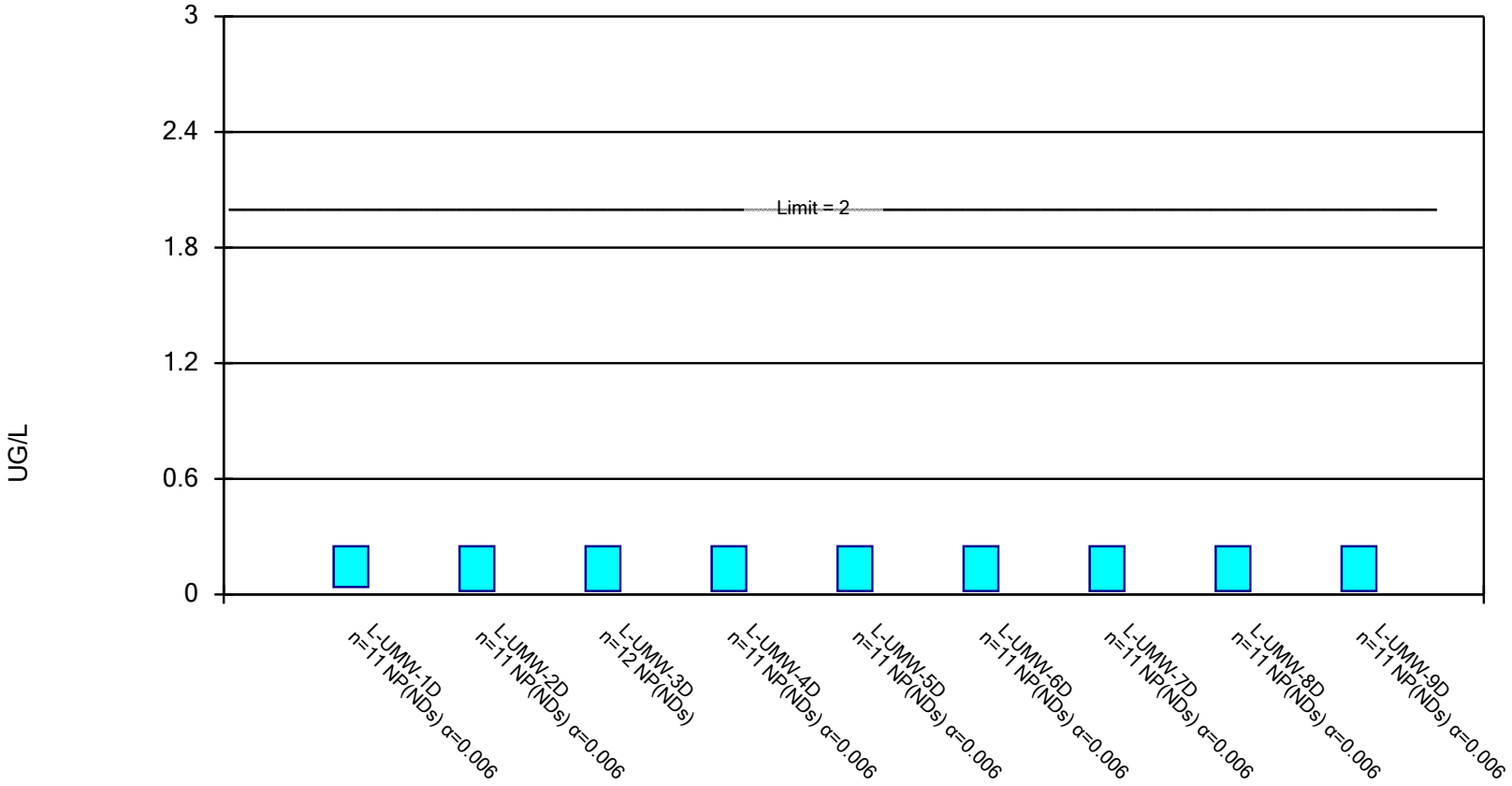


Constituent: SELENIUM, TOTAL Analysis Run 7/6/2020 4:15 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: THALLIUM, TOTAL Analysis Run 7/6/2020 4:15 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/6/2020, 4:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0.0485	0.013	6	No	11	81.82	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0.039	0.013	6	No	11	100	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0.066	0.013	6	No	12	83.33	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0.0485	0.013	6	No	11	90.91	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.1	0.029	6	No	11	45.45	No	0.006	NP (normality)
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0.0485	0.013	6	No	11	90.91	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0.039	0.013	6	No	11	100	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0.039	0.013	6	No	11	100	No	0.006	NP (NDs)
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0.039	0.013	6	No	11	90.91	No	0.006	NP (NDs)
ARSENIC, TOTAL (UG/L)	L-UMW-1D	45.83	27.11	42.6	No	14	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-2D	2.371	1.672	42.6	No	14	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-3D	3.884	0.4652	42.6	No	14	7.143	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.16	0.09707	42.6	No	14	28.57	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-5D	23.16	16.21	42.6	No	14	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-6D	19.6	9.71	42.6	No	13	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-7D	21.6	13.7	42.6	No	14	0	No	0.01	NP (normality)
ARSENIC, TOTAL (UG/L)	L-UMW-8D	31.82	27.78	42.6	No	14	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	L-UMW-9D	34.55	32.73	42.6	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-1D	472.8	391.8	2000	No	14	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-2D	119	102	2000	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-3D	132.8	87.38	2000	No	15	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-4D	88	61.35	2000	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-5D	74.15	61.7	2000	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-6D	141.9	125.3	2000	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-7D	157.9	116.8	2000	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-8D	474.7	446.2	2000	No	14	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	L-UMW-9D	528.7	503.1	2000	No	14	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0.245	0.08	4	No	11	90.91	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0.13	0.08	4	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0.0165	0.009	5	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0.0165	0.009	5	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.082	0.009	5	No	12	66.67	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0.028	0.009	5	No	11	90.91	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0.06	0.009	5	No	11	81.82	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.2	0.009	5	No	11	63.64	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0.082	0.009	5	No	11	81.82	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0.0165	0.009	5	No	11	100	No	0.006	NP (NDs)
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0.0165	0.009	5	No	11	100	No	0.006	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0.36	0.027	100	No	10	70	No	0.011	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	0.47	0.027	100	No	11	63.64	No	0.006	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	0.57	0.027	100	No	12	83.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-4D	0.36	0.039	100	No	10	70	No	0.011	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	0.54	0.027	100	No	11	72.73	No	0.006	NP (NDs)

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/6/2020, 4:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	0.56	0.027	100	No	11	54.55	No	0.006	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	0.5582	0.08136	100	No	11	45.45	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	0.62	0.027	100	No	11	63.64	No	0.006	NP (NDs)
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	0.65	0.027	100	No	11	72.73	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-1D	0.435	0.36	6	No	11	100	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-2D	0.435	0.36	6	No	11	100	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-3D	0.435	0.36	6	No	12	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-4D	0.435	0.36	6	No	11	100	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-5D	0.435	0.36	6	No	11	100	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-6D	0.435	0.36	6	No	11	100	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-7D	0.435	0.36	6	No	11	100	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-8D	0.75	0.36	6	No	11	90.91	No	0.006	NP (NDs)
COBALT, TOTAL (UG/L)	L-UMW-9D	0.435	0.36	6	No	11	100	No	0.006	NP (NDs)
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.2297	0.1956	4	No	15	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0.41	0.34	4	No	16	0	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0.1653	0.106	4	No	16	25	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.4207	0.344	4	No	17	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.129	0.08966	4	No	16	18.75	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0.1493	0.1039	4	No	15	13.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0.35	0.27	4	No	17	0	No	0.01	NP (normality)
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.2025	0.1589	4	No	15	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.1946	0.1574	4	No	15	0	No	0.01	Param.
LEAD, TOTAL (UG/L)	L-UMW-1D	3.6	1.25	15	No	11	63.64	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-2D	3	1.2	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-3D	3	1.2	15	No	12	83.33	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-4D	1.7	1.2	15	No	11	100	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-5D	3.6	1.2	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-6D	3.2	1.2	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-7D	2.7	1.25	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-8D	3.9	1.25	15	No	11	81.82	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	L-UMW-9D	3	1.25	15	No	11	54.55	No	0.006	NP (NDs)
LITHIUM, TOTAL (UG/L)	L-UMW-1D	26.11	23.61	51.96	No	13	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-2D	28.24	23.67	51.96	No	14	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-3D	23.84	17.42	51.96	No	15	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-4D	34.76	30.03	51.96	No	14	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-5D	24.36	14.9	51.96	No	14	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-6D	10.1	5.8	51.96	No	14	0	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	L-UMW-7D	22.47	18.2	51.96	No	14	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-8D	34.49	30.43	51.96	No	14	0	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	L-UMW-9D	17.9	15.77	51.96	No	14	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	L-UMW-1D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-2D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.045	0.0185	2	No	12	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-4D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-5D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-6D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-7D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-8D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MERCURY, TOTAL (UG/L)	L-UMW-9D	0.029	0.0195	2	No	11	100	No	0.006	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	2.131	0.6692	100	No	14	28.57	ln(x)	0.01	Param.

Confidence Interval

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/6/2020, 4:17 PM

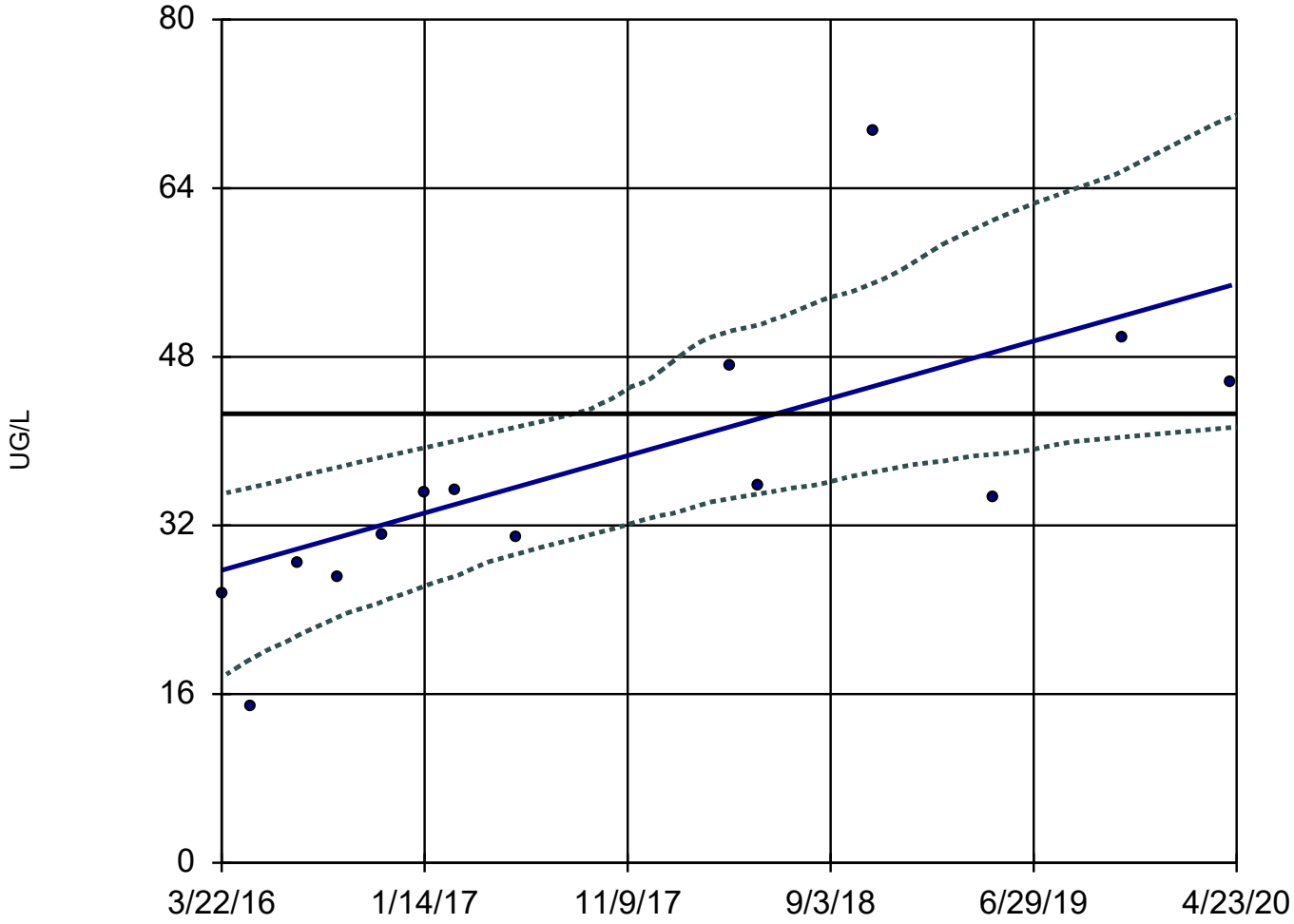
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	44.96	40.74	100	No	14	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-3D**	**202.2**	**153.6**	**100**	**Yes**	**15**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-4D**	**157.4**	**111.2**	**100**	**Yes**	**14**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**150.3**	**117.7**	**100**	**Yes**	**13**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-6D**	**616.6**	**538.8**	**100**	**Yes**	**14**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-7D**	**231**	**188**	**100**	**Yes**	**14**	**0**	**No**	**0.01**	**NP (normality)**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	15.12	11.54	100	No	13	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	1.698	0.7313	100	No	14	42.86	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-1D	2.568	1.536	5	No	14	7.143	ln(x)	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-2D	1.895	1.493	5	No	14	35.71	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-3D	1.772	0.632	5	No	15	73.33	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.973	0.659	5	No	13	84.62	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-5D	0.952	0.542	5	No	13	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-6D	1.558	1.122	5	No	14	42.86	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-7D	1.254	0.6525	5	No	14	85.71	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	L-UMW-8D	2.075	1.541	5	No	14	35.71	No	0.01	Param.
Radium [226 + 228] (PCI/L)	L-UMW-9D	0.9025	0.5575	5	No	14	85.71	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0.09	0.043	50	No	11	90.91	No	0.006	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0.09	0.043	50	No	11	90.91	No	0.006	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0.1942	0.1158	50	No	12	50	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0.09	0.043	50	No	11	100	No	0.006	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0.14	0.09	50	No	11	63.64	No	0.006	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0.2649	0.19	50	No	11	18.18	No	0.01	Param.
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0.09	0.089	50	No	11	72.73	No	0.006	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0.09	0.043	50	No	11	90.91	No	0.006	NP (NDs)
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0.09	0.043	50	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-1D	0.25	0.039	2	No	11	81.82	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-2D	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-3D	0.25	0.018	2	No	12	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-4D	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-5D	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-6D	0.25	0.018	2	No	11	90.91	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-7D	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-8D	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)
THALLIUM, TOTAL (UG/L)	L-UMW-9D	0.25	0.018	2	No	11	100	No	0.006	NP (NDs)

APPENDIX B

Sanitas Trending Confidence Bands Statistical Output

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 14

Slope = 6.644 units per year.

Mann-Kendall statistic = 61
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 42.6.

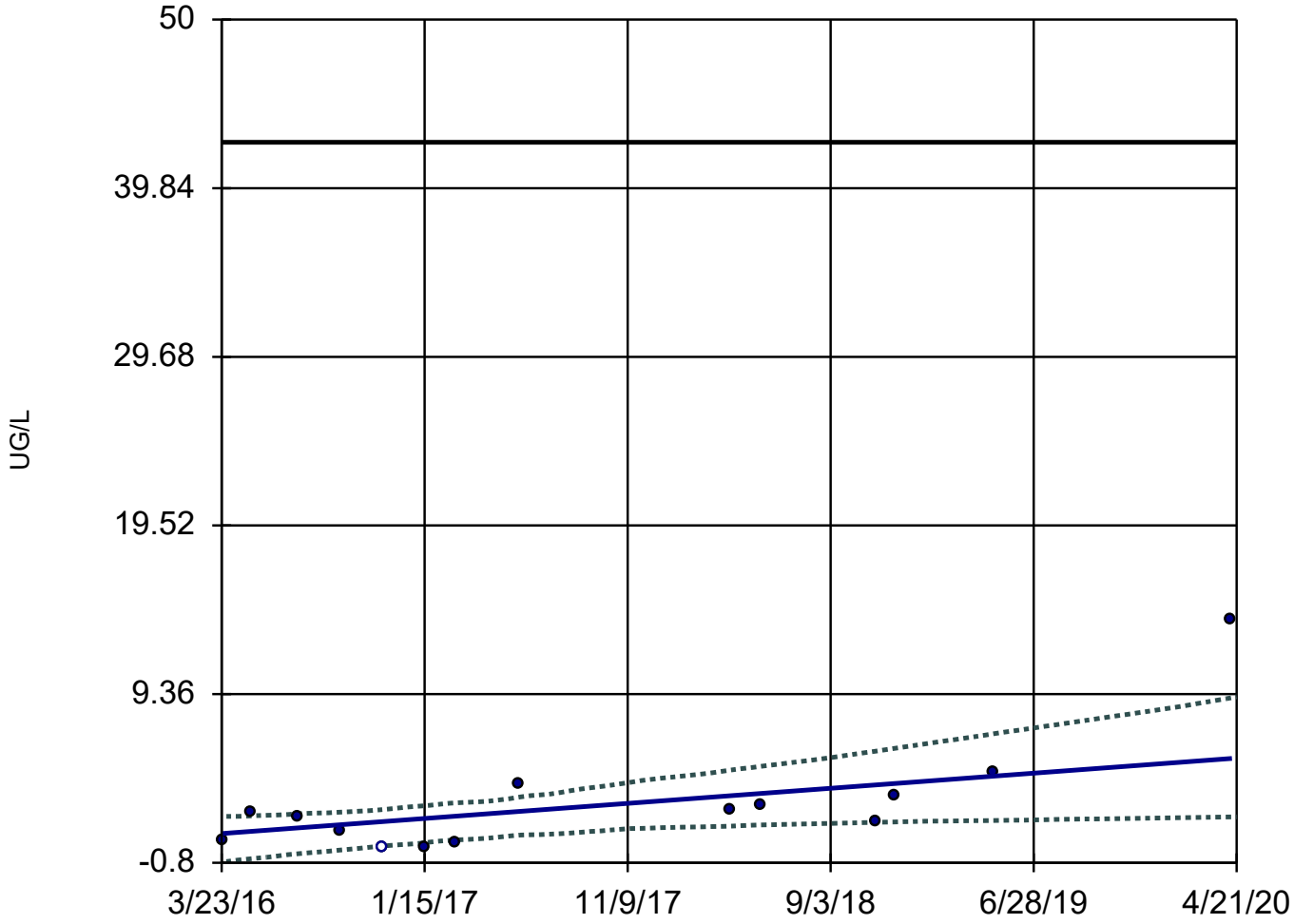
Constituent: ARSENIC, TOTAL Analysis Run 7/6/2020 4:18 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-3D



n = 14

Slope = 1.112 units per year.

Mann-Kendall statistic = 45
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

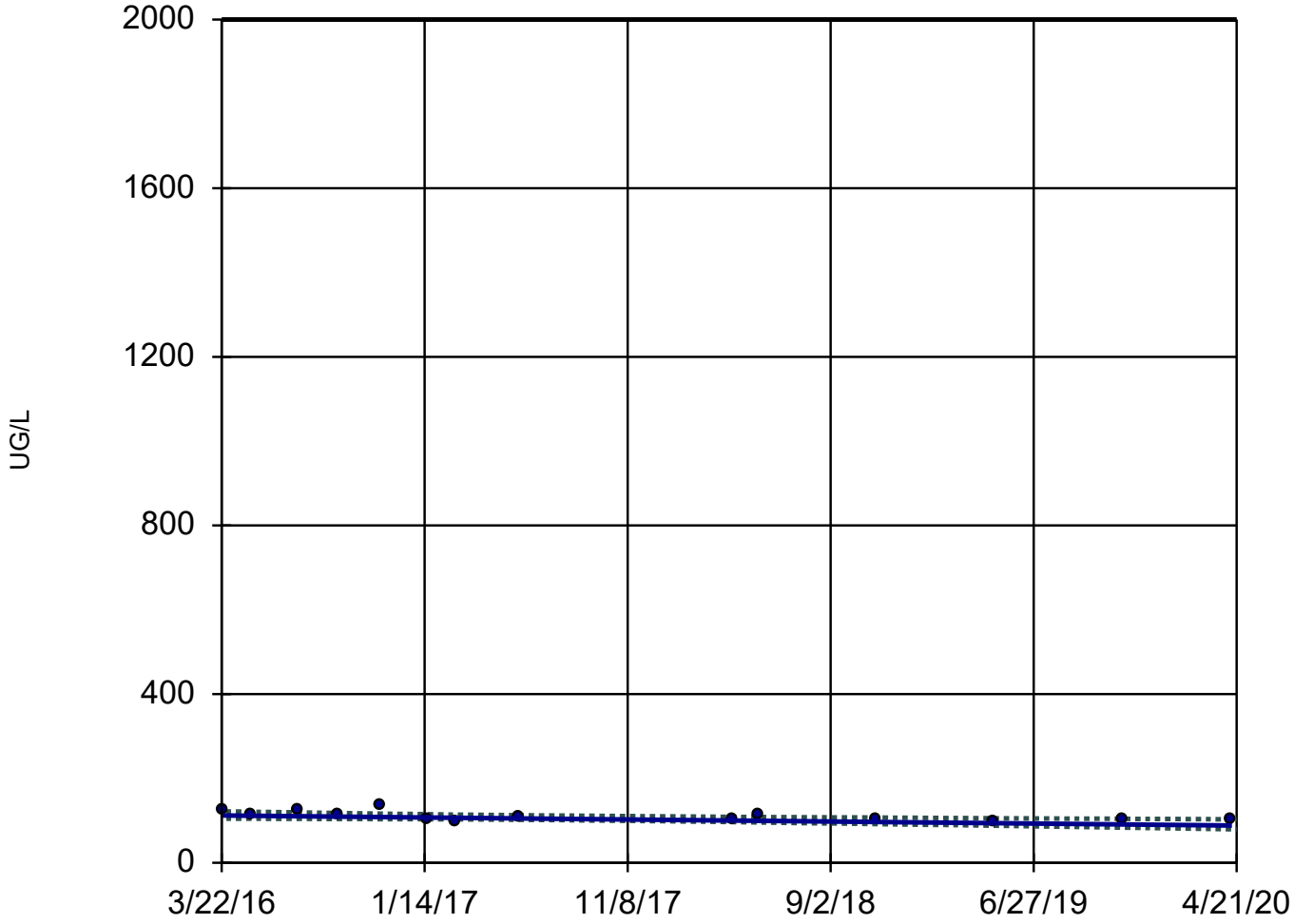
GWPS = 42.6.

Constituent: ARSENIC, TOTAL Analysis Run 7/6/2020 4:18 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 14

Slope = -5.849 units per year.

Mann-Kendall statistic = -50
critical = -44

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 2000.

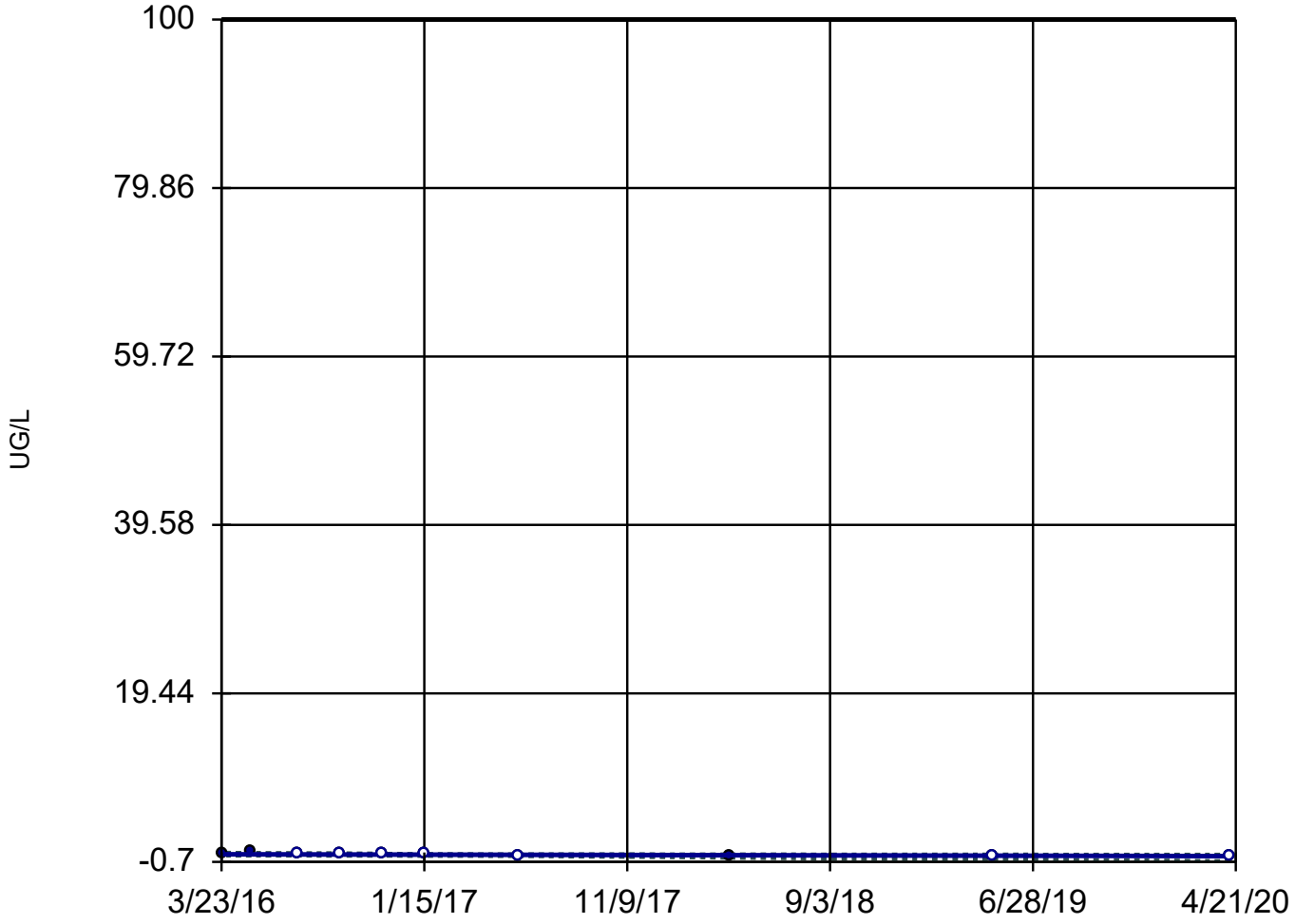
Constituent: BARIUM, TOTAL Analysis Run 7/6/2020 4:18 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 10

Slope = -0.05331 units per year.

Mann-Kendall statistic = -28
critical = -27

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

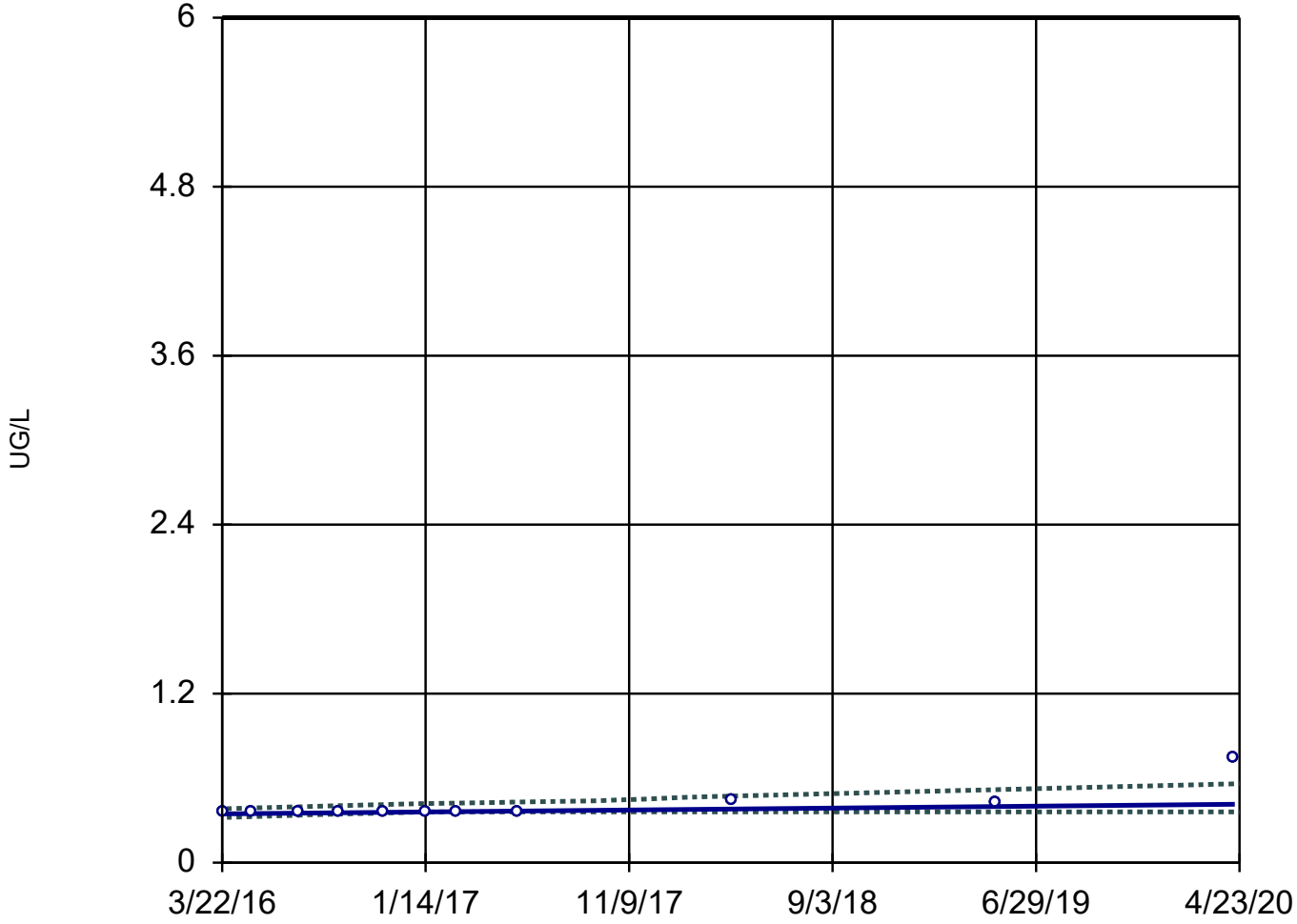
Constituent: CHROMIUM, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sanitas™ v.9.6.26 For the statistical analyses of ground water by Golder Associates only. UG
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-1D



n = 11

Slope = 0.0169 units per year.

Mann-Kendall statistic = 37
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

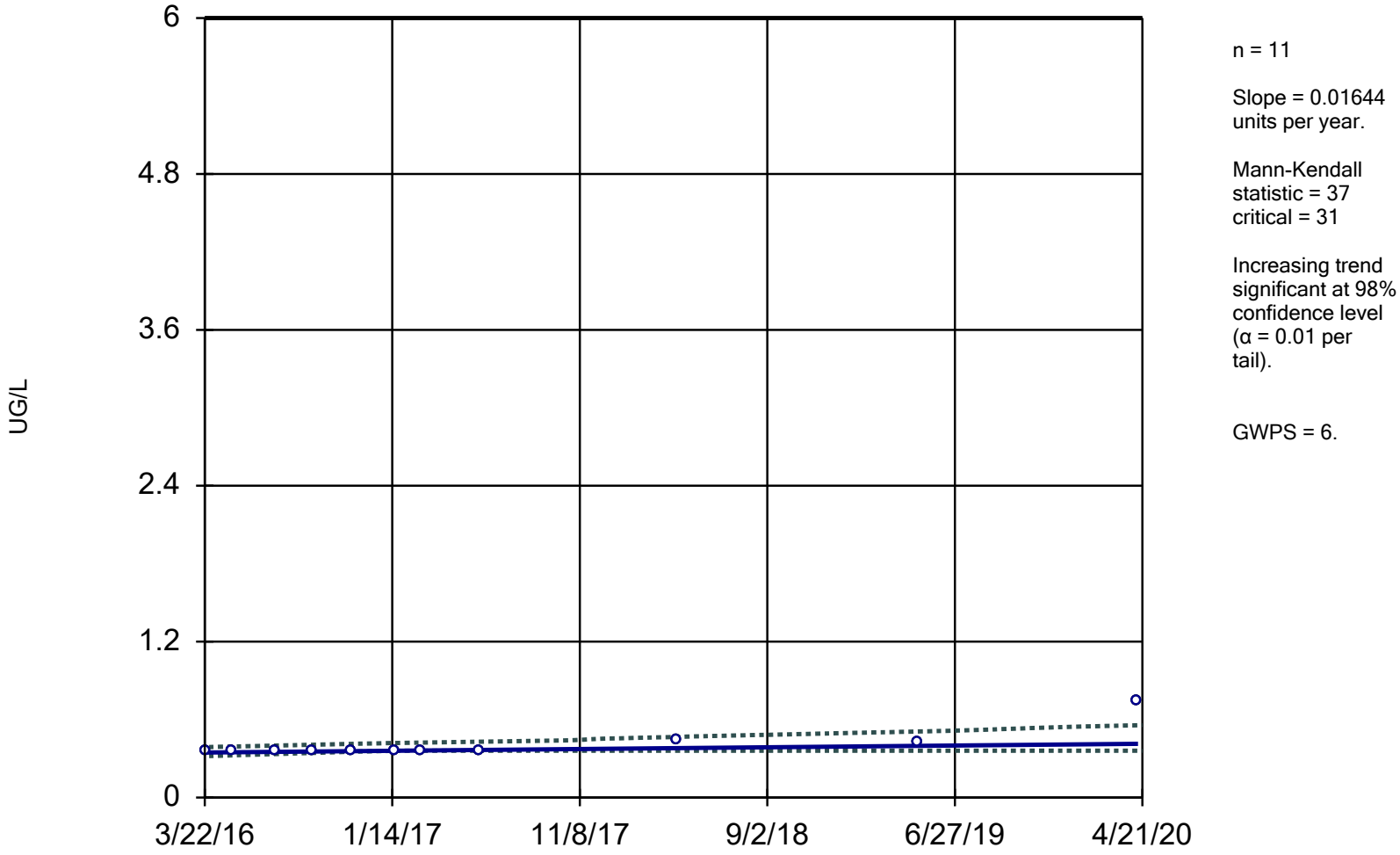
Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 11

Slope = 0.01644 units per year.

Mann-Kendall statistic = 37
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

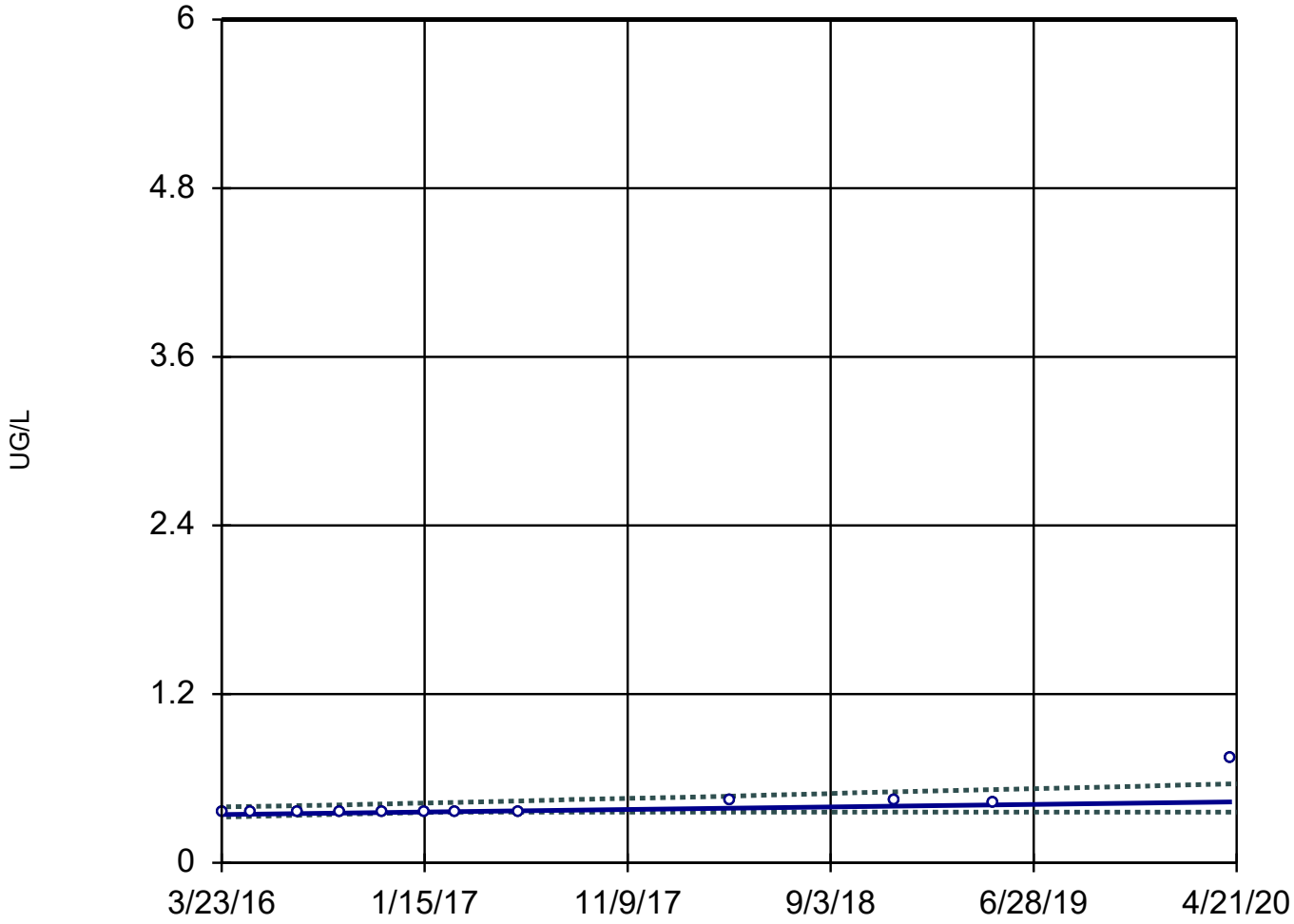
Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sanitas™ v.9.6.26 For the statistical analyses of ground water by Golder Associates only. UG

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-3D



n = 12

Slope = 0.02213 units per year.

Mann-Kendall statistic = 45
critical = 35

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

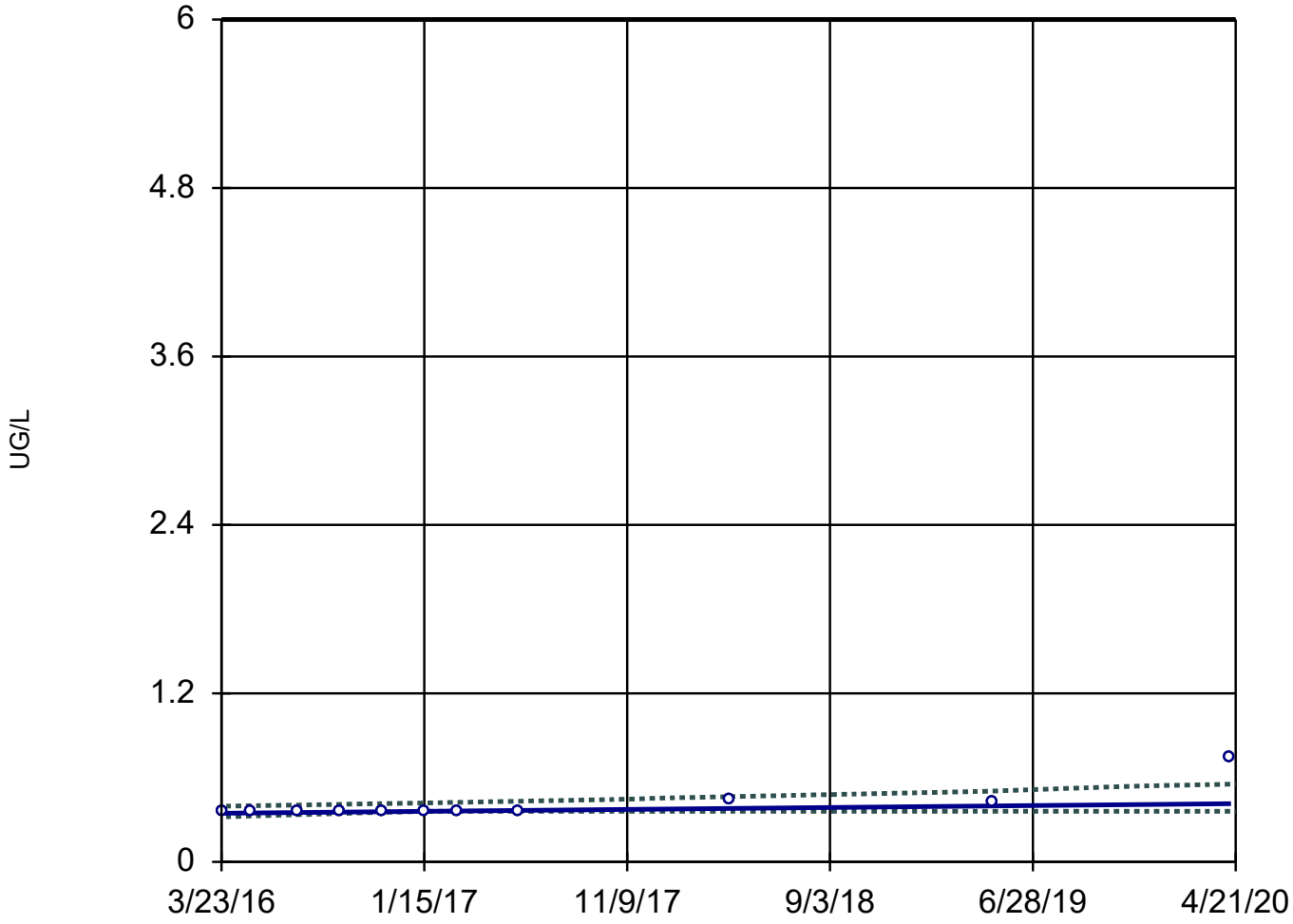
Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-4D



n = 11

Slope = 0.01674 units per year.

Mann-Kendall statistic = 37
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

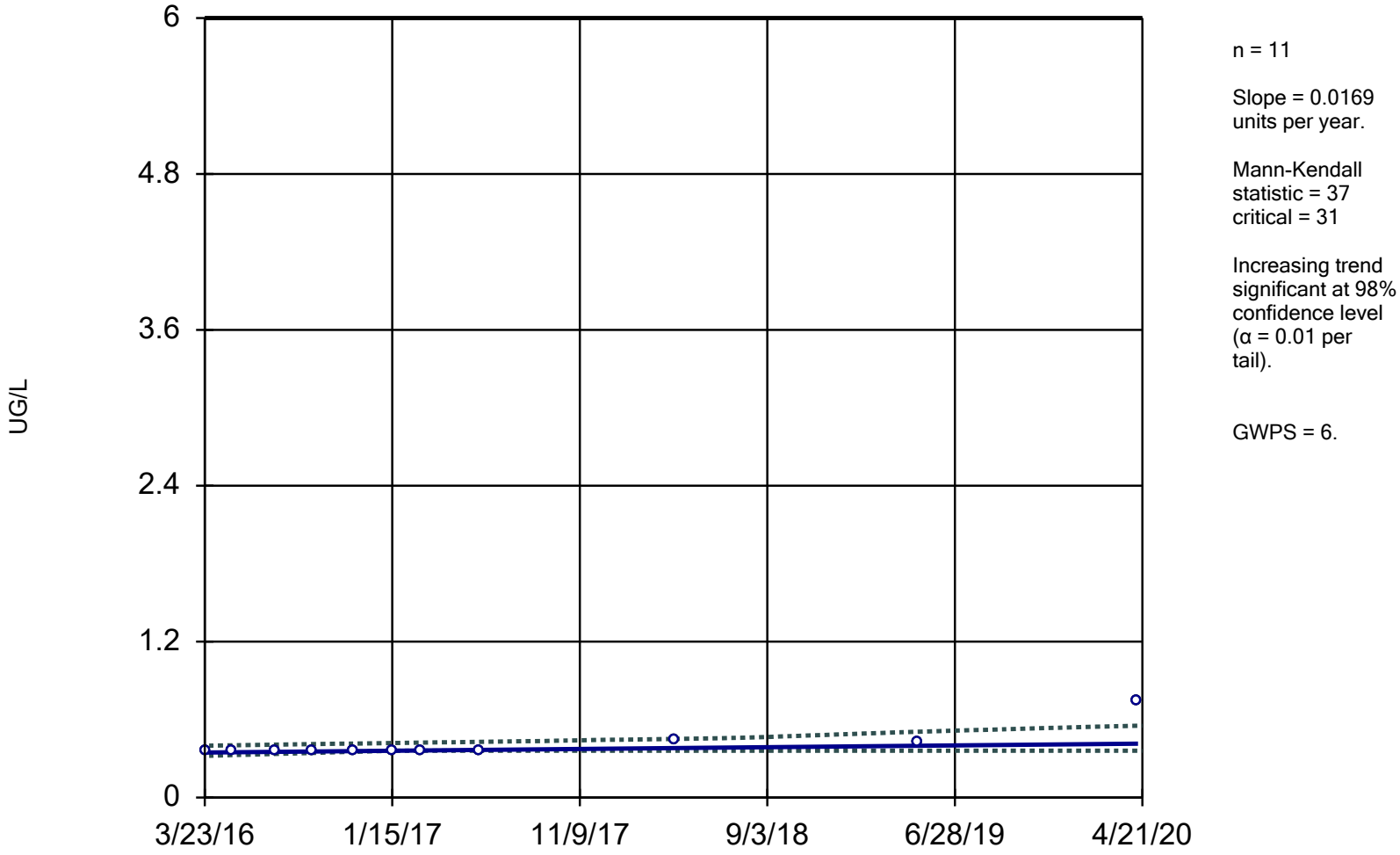
Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 11

Slope = 0.0169 units per year.

Mann-Kendall statistic = 37
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

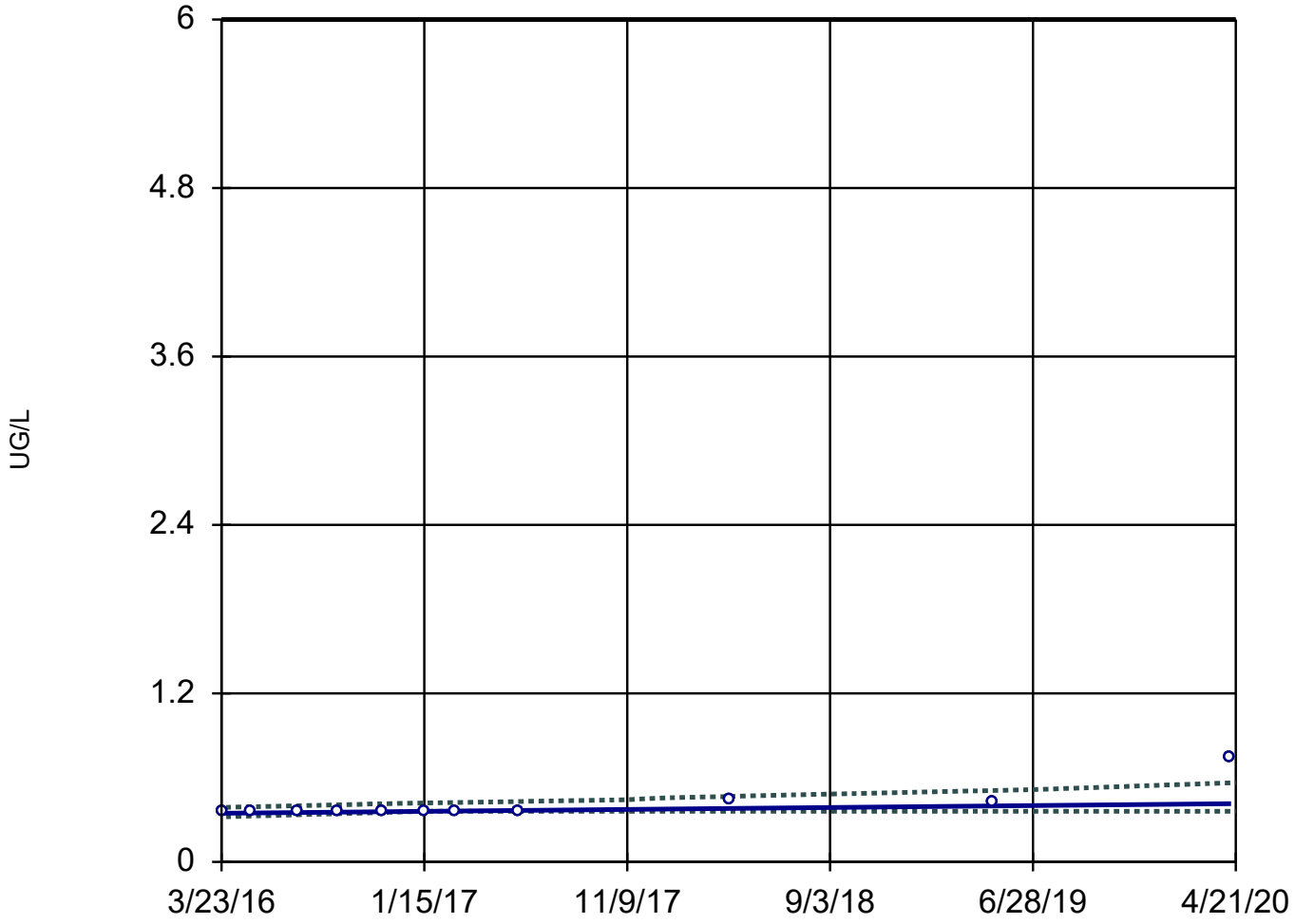
Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-6D



n = 11

Slope = 0.0169 units per year.

Mann-Kendall statistic = 37
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

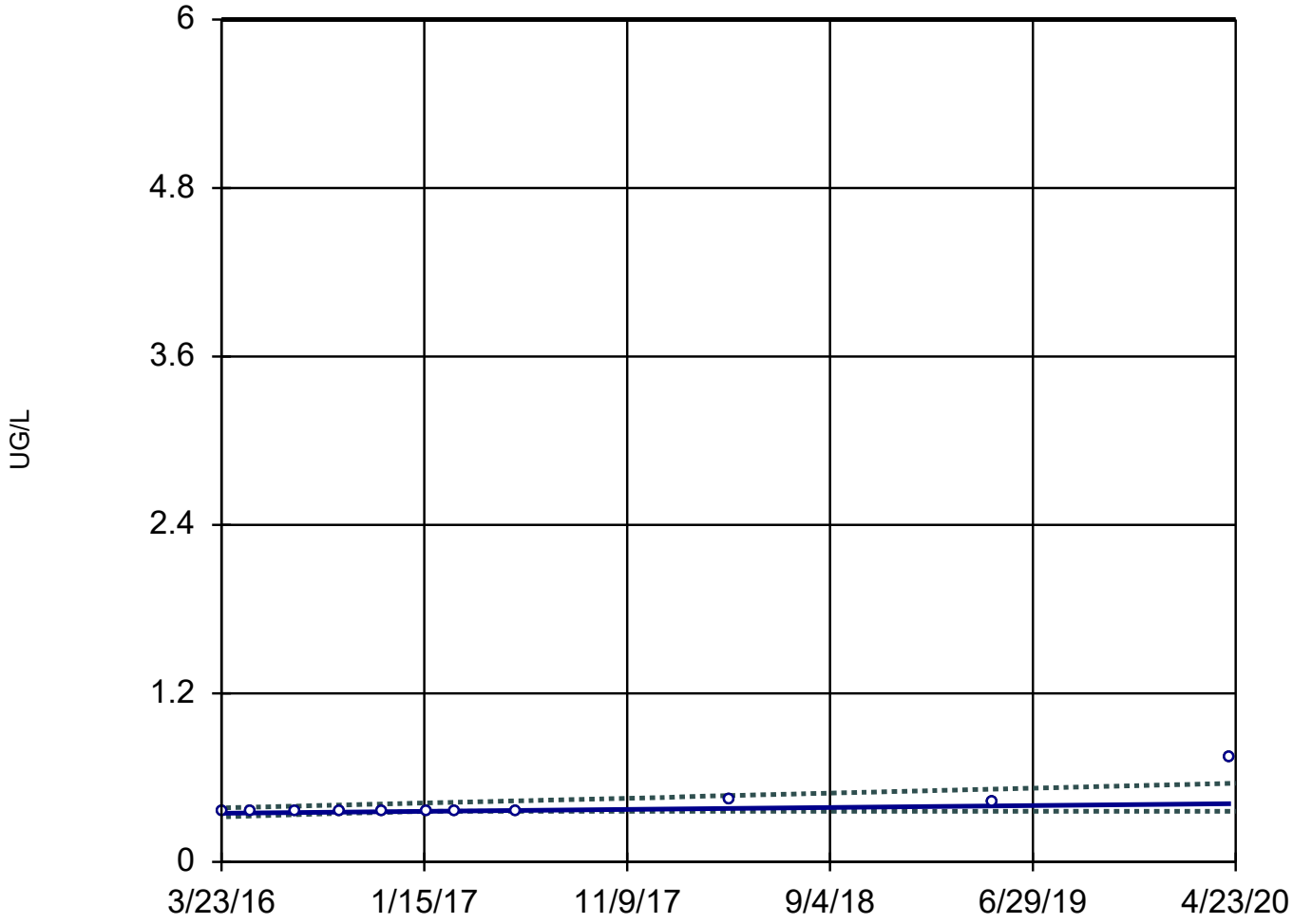
Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 11

Slope = 0.0169 units per year.

Mann-Kendall statistic = 37
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 6.

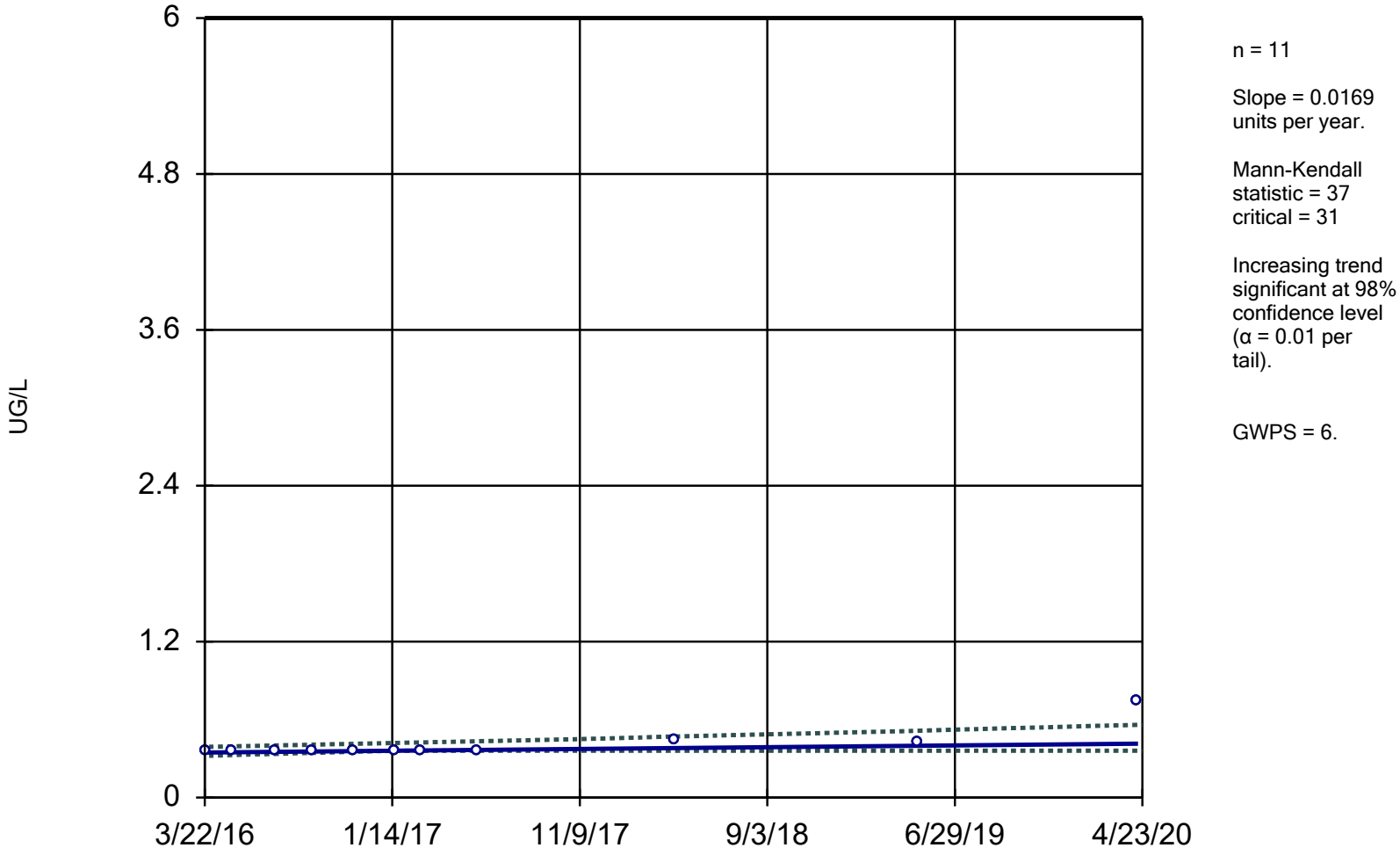
Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

L-UMW-9D



n = 11

Slope = 0.0169 units per year.

Mann-Kendall statistic = 37
critical = 31

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

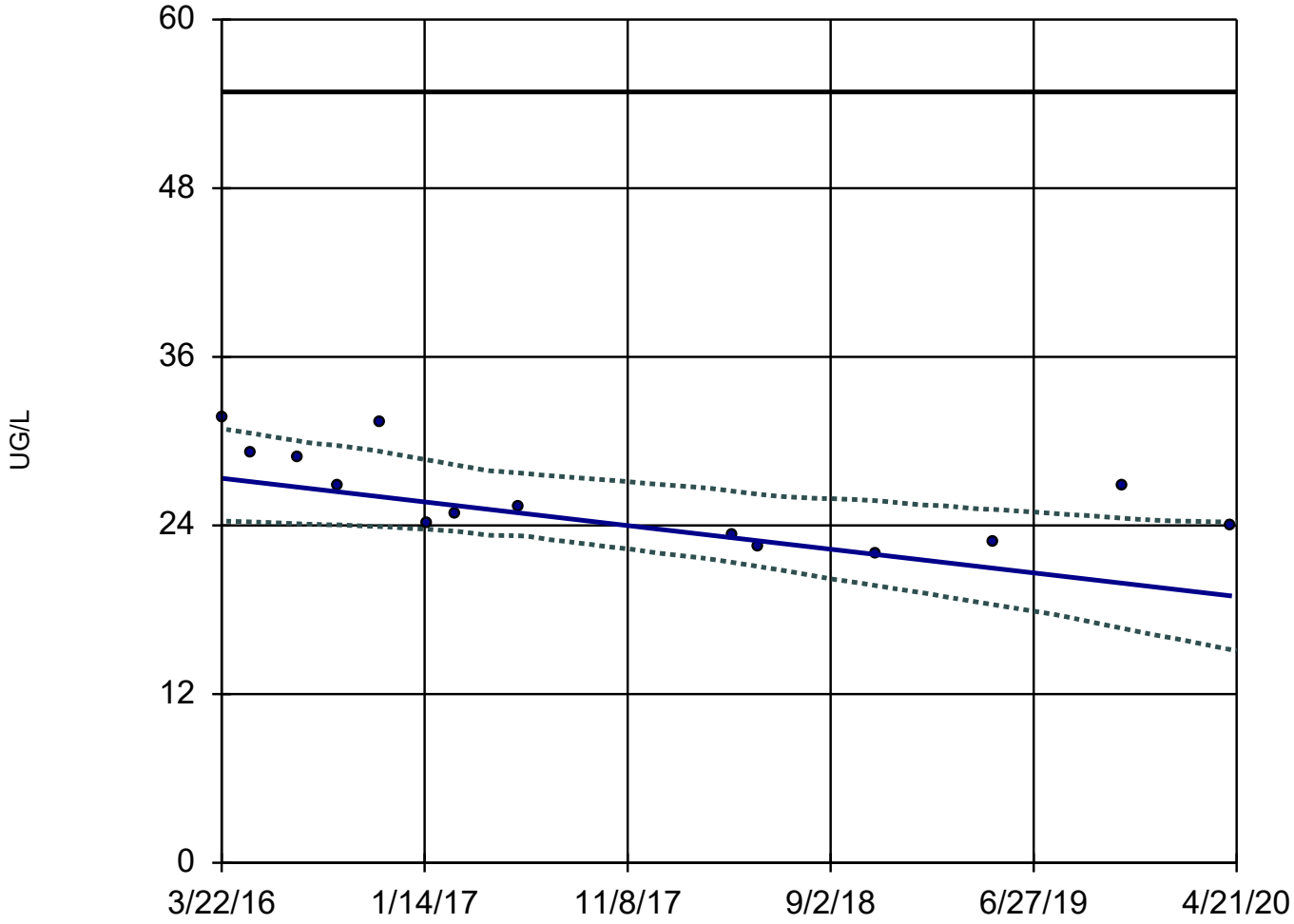
GWPS = 6.

Constituent: COBALT, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-2D



n = 14

Slope = -2.058 units per year.

Mann-Kendall statistic = -53
critical = -44

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

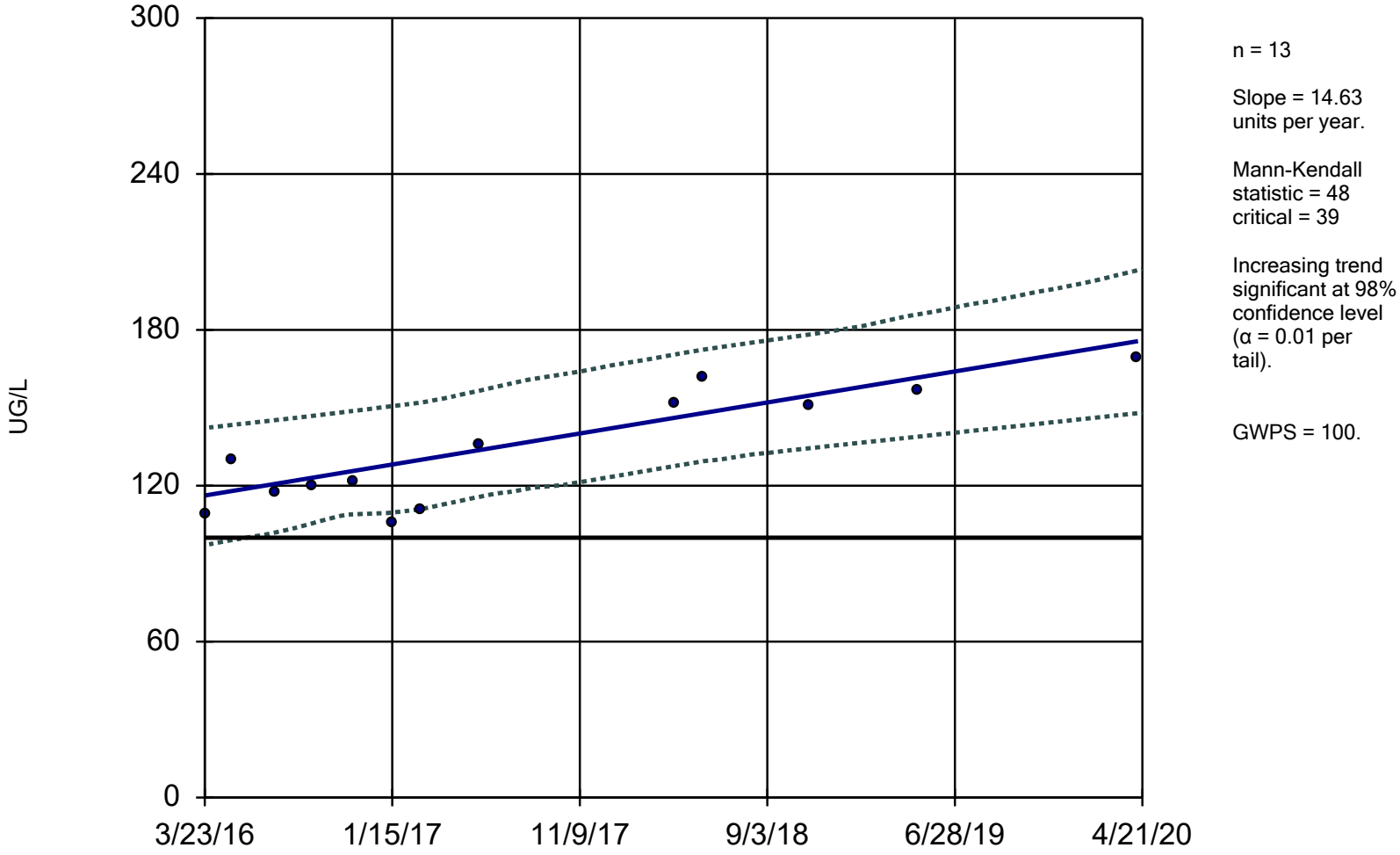
GWPS = 54.85.

Constituent: LITHIUM, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-5D



n = 13

Slope = 14.63 units per year.

Mann-Kendall statistic = 48
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

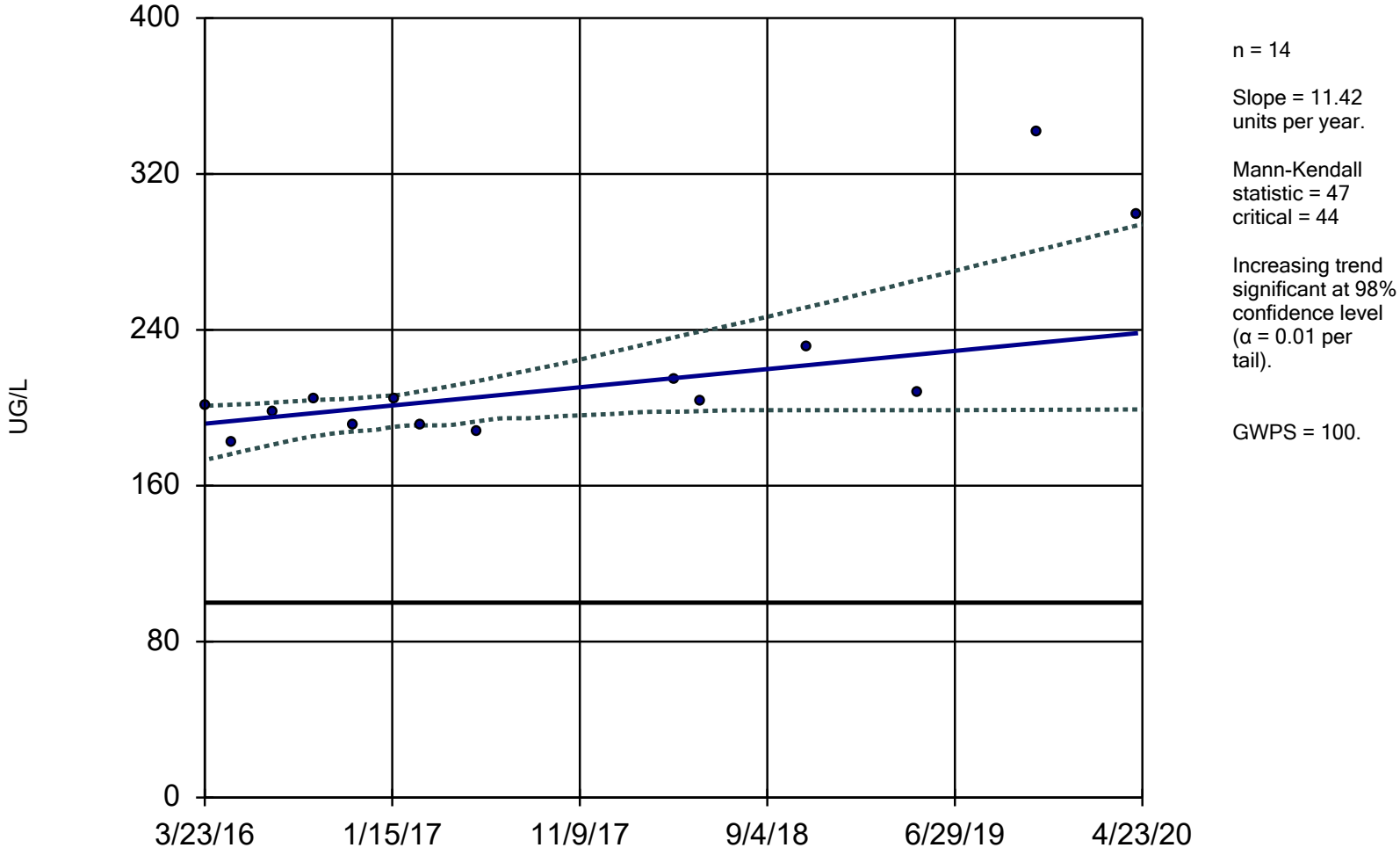
GWPS = 100.

Constituent: MOLYBDENUM, TOTAL Analysis Run 7/6/2020 4:19 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Sen's Slope and 95% Confidence Band

L-UMW-7D



n = 14

Slope = 11.42 units per year.

Mann-Kendall statistic = 47
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

GWPS = 100.

Constituent: MOLYBDENUM, TOTAL Analysis Run 7/6/2020 4:20 PM

Labadie E.C. Client: Ameren Data: LEC DATA (STATS)

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/6/2020, 4:21 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	L-UMW-1D	0	5	31	No	11	81.82	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-2D	0	1	31	No	11	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-3D	0	1	35	No	12	83.33	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-4D	0	-2	-31	No	11	90.91	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-5D	0.003222	9	31	No	11	45.45	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-6D	0	-8	-31	No	11	90.91	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-7D	0	1	31	No	11	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-8D	0	1	31	No	11	100	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	L-UMW-9D	0	15	31	No	11	90.91	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**L-UMW-1D**	**6.644**	**61**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-UMW-2D	-0.1476	-25	-44	No	14	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**L-UMW-3D**	**1.112**	**45**	**44**	**Yes**	**14**	**7.143**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	L-UMW-4D	0.002788	6	44	No	14	28.57	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-5D	-1.309	-29	-44	No	14	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-6D	3.901	34	39	No	13	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-7D	2.201	32	44	No	14	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-8D	-0.1673	-8	-44	No	14	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	L-UMW-9D	0.06331	4	44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-1D	25.59	43	44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**L-UMW-2D**	**-5.849**	**-50**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	L-UMW-3D	-8.536	-21	-48	No	15	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-4D	6.825	40	44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-5D	-0.8066	-7	-44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-6D	0.671	6	44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-7D	-12.01	-23	-44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-8D	-10.33	-39	-44	No	14	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	L-UMW-9D	-3.38	-28	-44	No	14	0	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-1D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-2D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-3D	0	-15	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-4D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-5D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-6D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-7D	0	-1	-31	No	11	90.91	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-8D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	L-UMW-9D	0	-11	-31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-1D	0	1	31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-2D	0	1	31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-3D	0.01299	22	35	No	12	66.67	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-4D	0	-1	-31	No	11	90.91	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-5D	0	-1	-31	No	11	81.82	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-6D	0.01121	16	31	No	11	63.64	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-7D	0	1	31	No	11	81.82	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-8D	0	1	31	No	11	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	L-UMW-9D	0	1	31	No	11	100	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-1D	0	-7	-27	No	10	70	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-2D	-0.0903	-21	-31	No	11	63.64	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-3D	-0.00...	-16	-35	No	12	83.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	**L-UMW-4D**	**-0.05331**	**-28**	**-27**	**Yes**	**10**	**70**	**n/a**	**n/a**	**0.02**	**NP**
CHROMIUM, TOTAL (UG/L)	L-UMW-5D	-0.07357	-30	-31	No	11	72.73	n/a	n/a	0.02	NP

Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/6/2020, 4:21 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
CHROMIUM, TOTAL (UG/L)	L-UMW-6D	-0.1342	-23	-31	No	11	54.55	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-7D	-0.06956	-13	-31	No	11	45.45	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-8D	-0.129	-27	-31	No	11	63.64	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	L-UMW-9D	-0.07571	-30	-31	No	11	72.73	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**L-UMW-1D**	**0.0169**	**37**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-2D**	**0.01644**	**37**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-3D**	**0.02213**	**45**	**35**	**Yes**	**12**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-4D**	**0.01674**	**37**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-5D**	**0.0169**	**37**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-6D**	**0.0169**	**37**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**L-UMW-7D**	**0.0169**	**37**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	L-UMW-8D	0.01067	24	31	No	11	90.91	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**L-UMW-9D**	**0.0169**	**37**	**31**	**Yes**	**11**	**100**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	L-UMW-1D	0.006398	21	48	No	15	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-2D	0	10	53	No	16	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-3D	0	-3	-53	No	16	25	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-4D	0.01286	23	58	No	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-5D	0.01355	38	53	No	16	18.75	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-6D	0	-6	-48	No	15	13.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-7D	0	6	58	No	17	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-8D	0.01567	36	48	No	15	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	L-UMW-9D	0.01736	46	48	No	15	0	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-1D	0	3	31	No	11	63.64	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-2D	0.1447	12	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-3D	0.1081	17	35	No	12	83.33	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-4D	0	15	31	No	11	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-5D	0	4	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-6D	0	4	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-7D	0.1432	16	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-8D	0.1448	17	31	No	11	81.82	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	L-UMW-9D	0	-3	-31	No	11	54.55	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-1D	-0.103	-7	-39	No	13	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**L-UMW-2D**	**-2.058**	**-53**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	L-UMW-3D	-1.29	-36	-48	No	15	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-4D	-1.025	-32	-44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-5D	-0.8588	-9	-44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-6D	0.2299	3	44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-7D	0.9522	17	44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-8D	0.185	7	44	No	14	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	L-UMW-9D	-0.4913	-33	-44	No	14	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-1D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-2D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-3D	0.002006	18	35	No	12	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-4D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-5D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-6D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-7D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-8D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	L-UMW-9D	0	12	31	No	11	100	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-1D	0.2098	16	44	No	14	28.57	n/a	n/a	0.02	NP

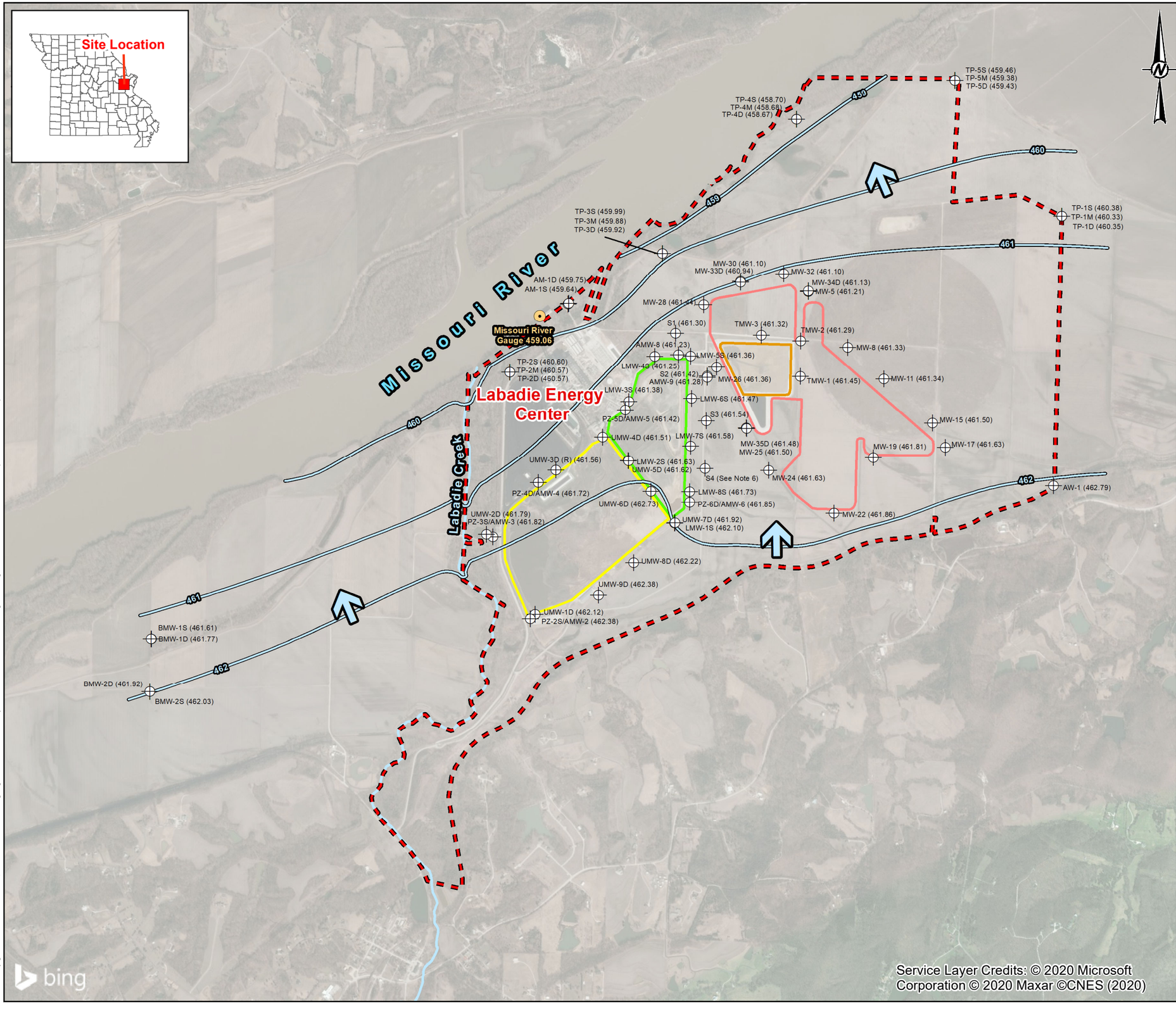
Trend Test

Labadie E.C. Client: Ameren Data: LEC DATA (STATS) Printed 7/6/2020, 4:21 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
MOLYBDENUM, TOTAL (UG/L)	L-UMW-2D	-1.049	-31	-44	No	14	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-3D	6.012	20	48	No	15	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-4D	-13.11	-32	-44	No	14	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-5D**	**14.63**	**48**	**39**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-6D	-17.08	-19	-44	No	14	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**L-UMW-7D**	**11.42**	**47**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	L-UMW-8D	0.5986	13	39	No	13	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	L-UMW-9D	-0.1075	-12	-44	No	14	42.86	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-1D	0.1234	30	44	No	14	7.143	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-2D	-0.05543	-9	-44	No	14	35.71	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-3D	-0.01851	-9	-48	No	15	73.33	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-4D	0.01708	6	39	No	13	84.62	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-5D	-0.02433	-8	-39	No	13	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-6D	0.106	15	44	No	14	42.86	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-7D	-0.05199	-27	-44	No	14	85.71	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-8D	-0.08287	-21	-44	No	14	35.71	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	L-UMW-9D	-0.08049	-33	-44	No	14	85.71	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-1D	0	-7	-31	No	11	90.91	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-2D	0	-7	-31	No	11	90.91	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-3D	0	-1	-35	No	12	50	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-4D	0	-23	-31	No	11	100	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-5D	0	18	31	No	11	63.64	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-6D	0.01338	14	31	No	11	18.18	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-7D	0	-9	-31	No	11	72.73	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-8D	0	-21	-31	No	11	90.91	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	L-UMW-9D	0	-23	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-1D	-0.05648	-30	-31	No	11	81.82	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-2D	-0.05414	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-3D	-0.05544	-29	-35	No	12	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-4D	-0.05418	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-5D	-0.05418	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-6D	-0.05657	-29	-31	No	11	90.91	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-7D	-0.05402	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-8D	-0.05406	-25	-31	No	11	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	L-UMW-9D	-0.05406	-25	-31	No	11	100	n/a	n/a	0.02	NP

APPENDIX D

2020 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)

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. MONITORING WELL S4 WAS NOT USED FOR POTENTIOMETRIC SURFACE CONTOURING DUE TO MEASUREMENT ERROR.

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.

0 1,000 2,000 3,000 4,000 5,000 6,000

Feet

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
JANUARY 6, 2020 POTENTIOMETRIC SURFACE MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-02-06
PREPARED	EMS
DESIGN	JSI
REVIEW	BTT
APPROVED	MNH

PROJECT No. 153-140602
PHASE 0001
FIGURE **D1**

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

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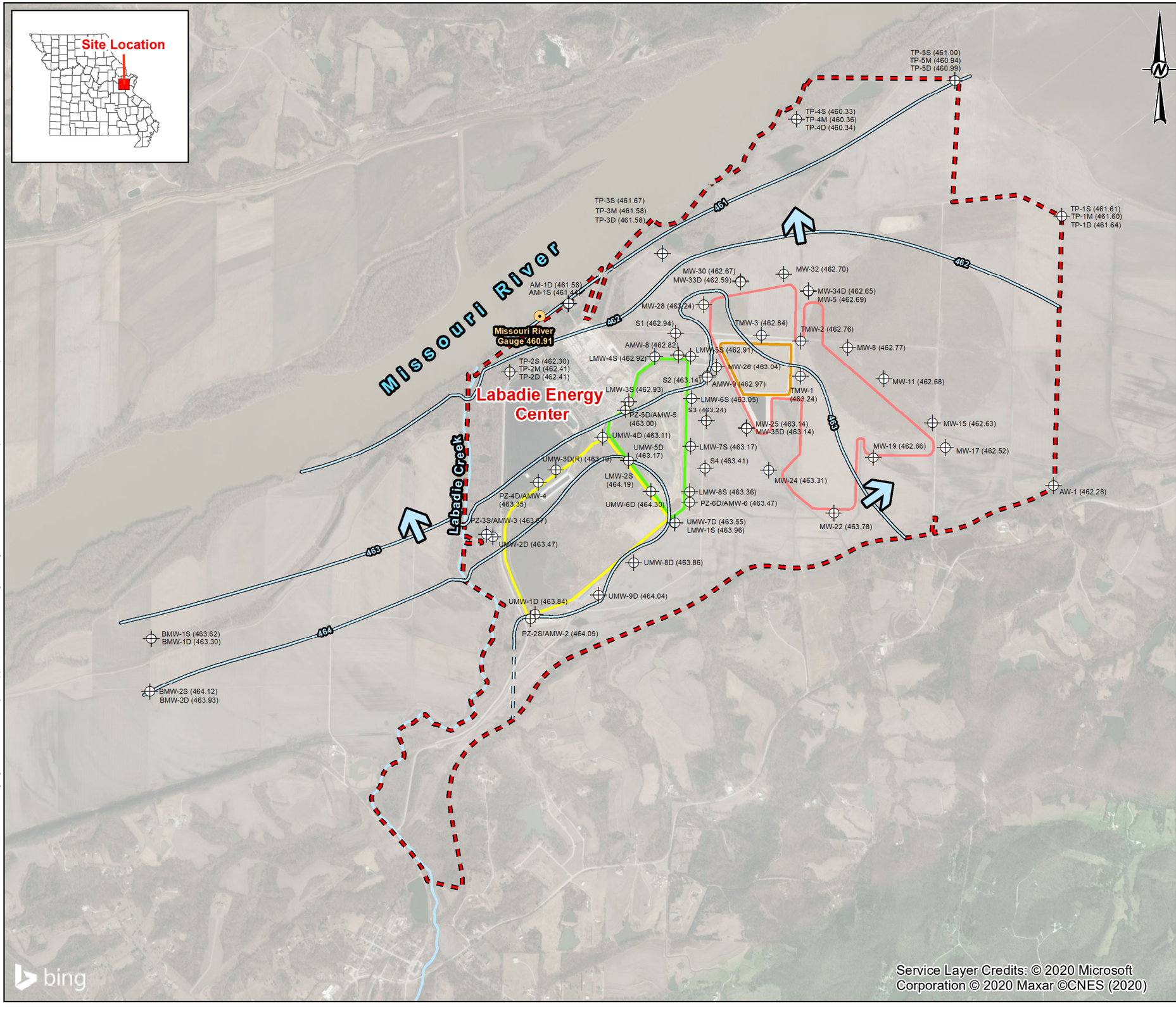

LEGEND

- 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.

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.

0 1,000 2,000 3,000 4,000 5,000 6,000

Feet

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
APRIL 13, 2020 POTENTIOMETRIC SURFACE MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-13
PREPARED	BTT
DESIGN	JSI
REVIEW	KAB
APPROVED	MNH

PROJECT No. 153-140602
PHASE 0001
FIGURE **D2**

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

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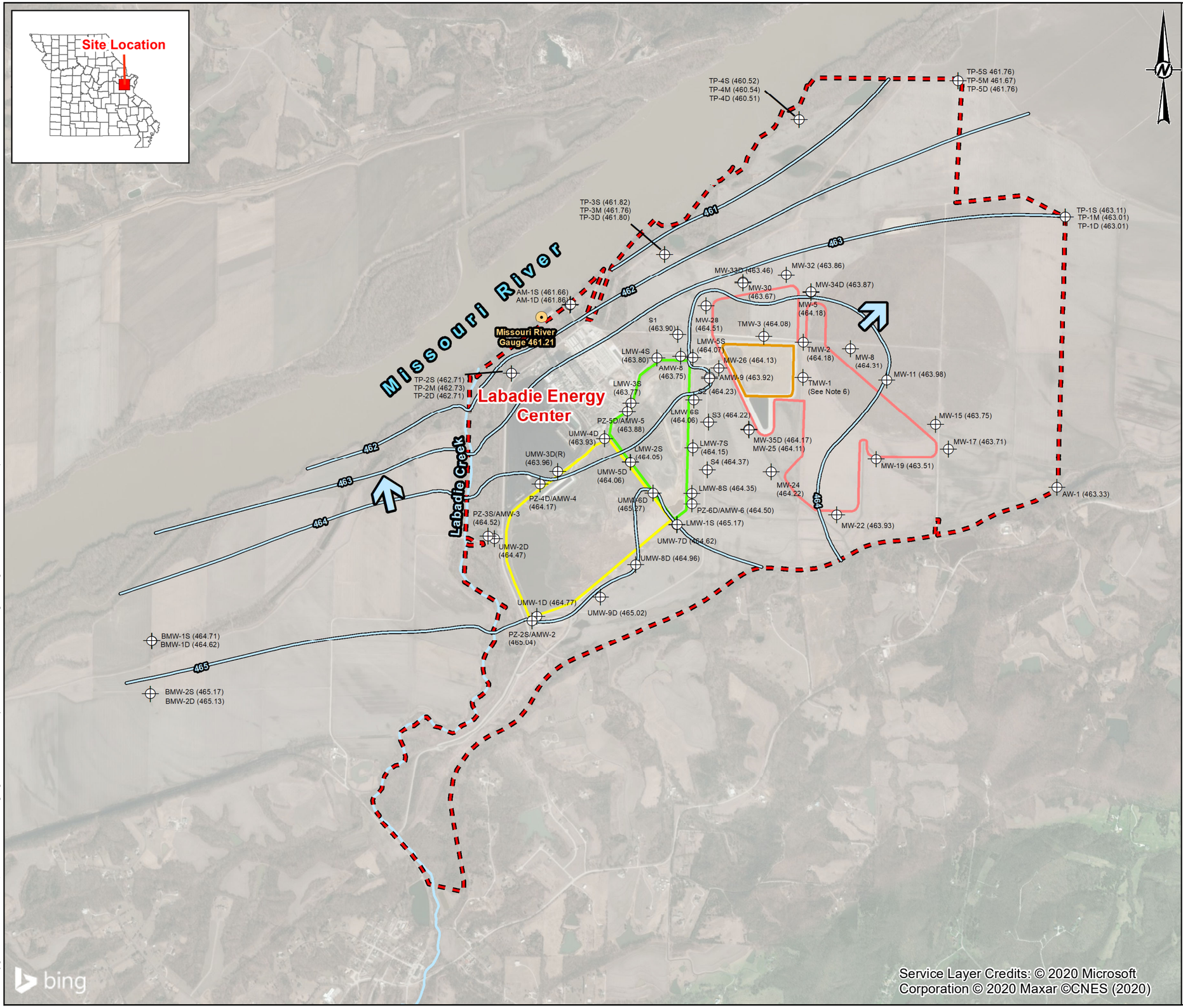


LEGEND

- 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)
- 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. TMW-1 WAS NOT USED IN POTENTIOMETRIC SURFACE CONTOURING DUE TO MEASUREMENT ERROR.

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.

0 1,000 2,000 3,000 4,000 5,000 6,000

Feet

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
MAY 26, 2020 POTENTIOMETRIC SURFACE MAP

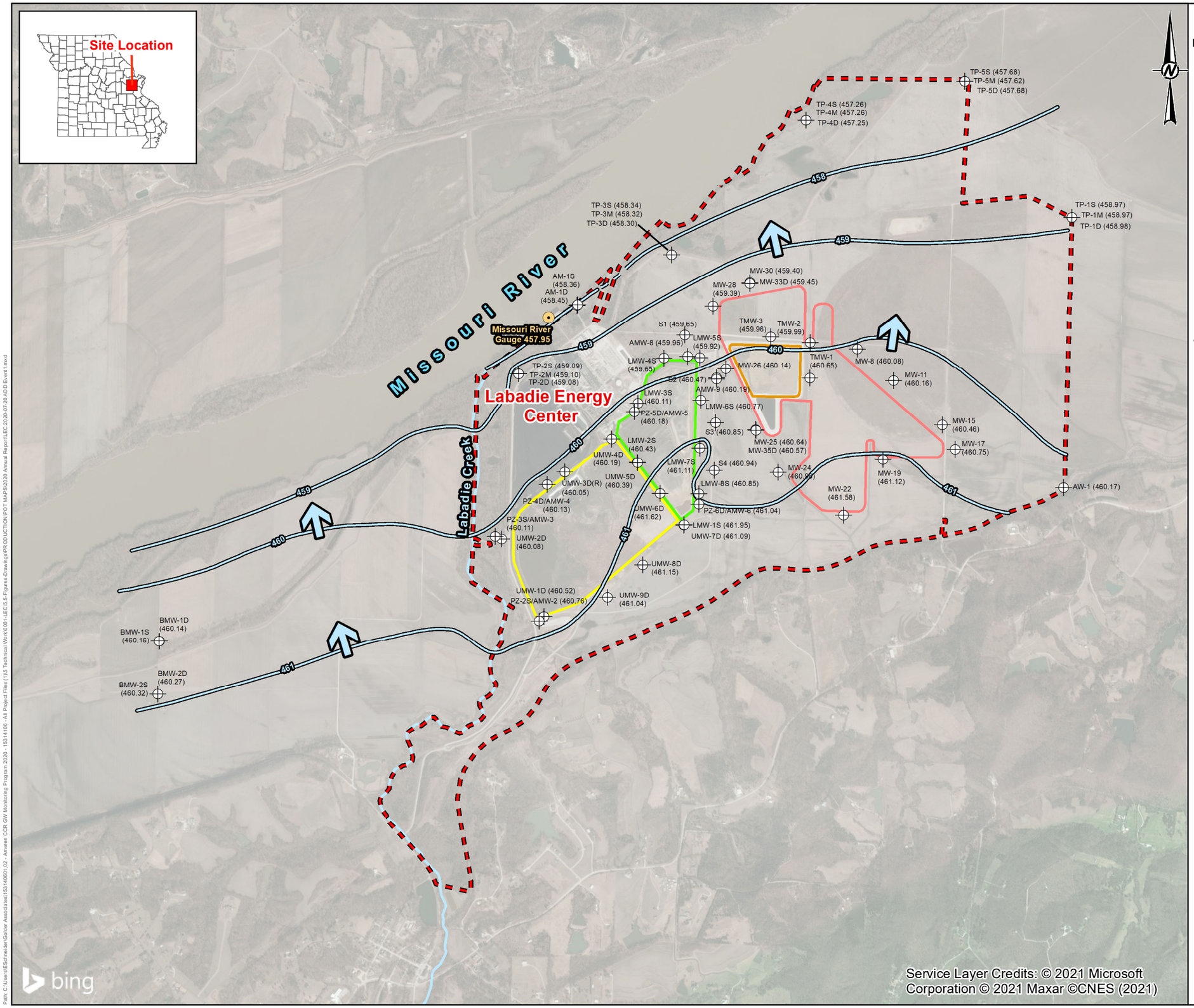
CONSULTANT
GOLDER

YYYY-MM-DD	2020-06-03
PREPARED	BTT
DESIGN	JSI
REVIEW	KAB
APPROVED	MNH

PROJECT No. 153-140602
PHASE 0001
FIGURE **D3**

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

Path: C:\Users\jingram\Golder Associates\153140\0001.02 - Ameren CCR GW Monitoring Program 2020 - 153141061 - All Project Files\5 Technical Work\0001-EC\5.5-Figures-Drawings\PRODUCTION\POT MAP\2020 Annual Report_LEC 2020-05-26 VS Event Pnt Map.mxd



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

- Inferred Groundwater Elevation Contour (FT MSL)
- 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. WATER LEVELS WERE NOT COLLECTED AT MW-5, MW-32, AND MW-34(D).

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.

0 1,000 2,000 3,000 4,000 5,000 6,000

Feet

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
JULY 20, 2020 POTENTIOMETRIC SURFACE MAP

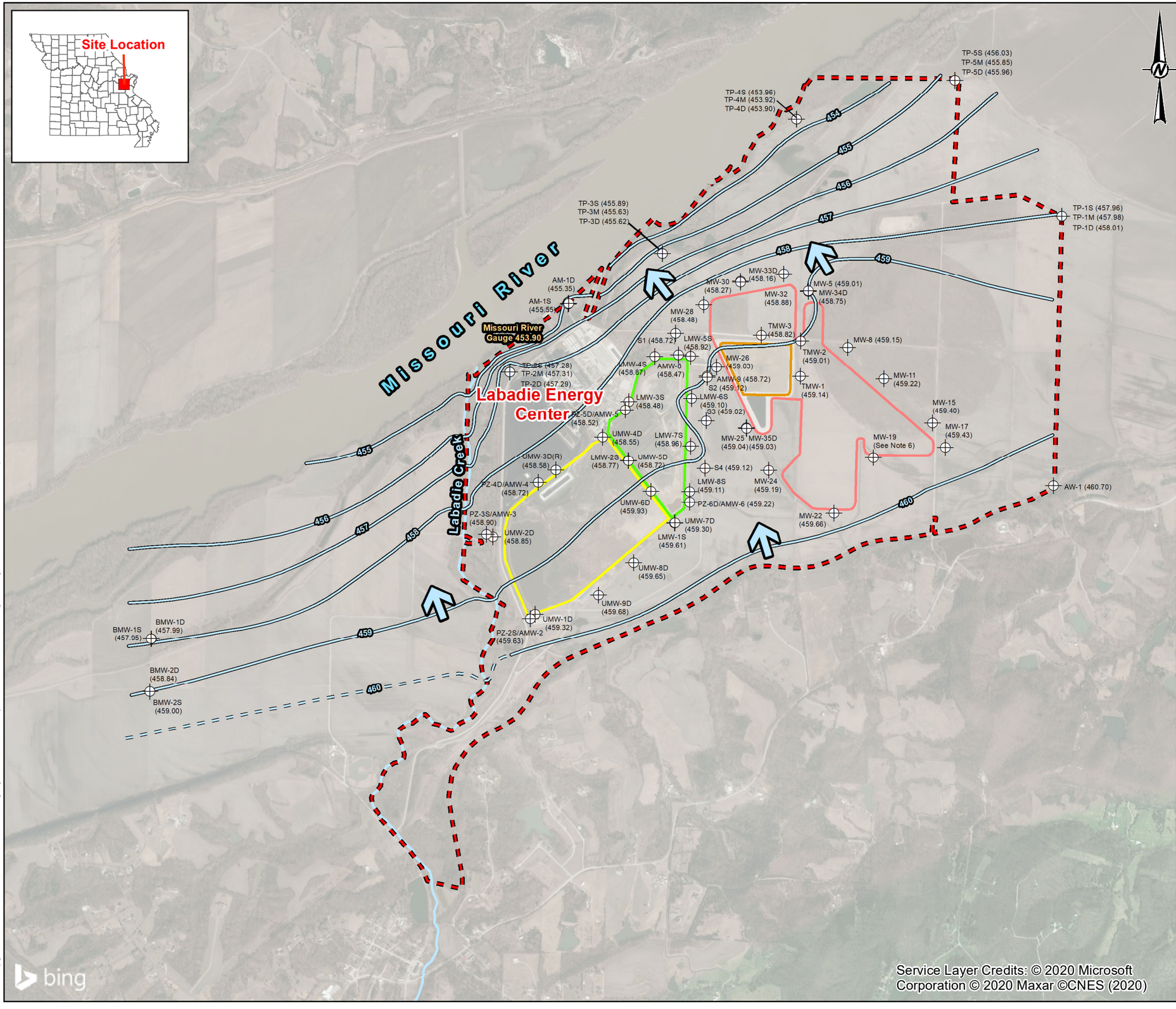
CONSULTANT
GOLDER

YYYY-MM-DD	2020-07-28
PREPARED	EMS
DESIGN	JSI
REVIEW	BTT
APPROVED	MNH

PROJECT No. 153-140602
PHASE 0001
FIGURE **D4**

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

Path: C:\Users\ESchmieder\Golder Associates\153140601-02 - Ameren CCR GW Monitoring Program 2020 - 153141108 - All Project Files (1)\5 Technical Work\01001-LEC\5.5-Figures-Drawings\PRODUCTION\POT MAPS\2020 AD Event1.mxd



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

- Inferred Groundwater Elevation Contour (FT MSL)
- 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. MW-19 WAS NOT USED IN POTENTIONMETRIC SURFACE CONTOURING DUE TO MEASUREMENT ERROR.

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.

0 1,000 2,000 3,000 4,000 5,000 6,000

Feet

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
AUGUST 24, 2020 POTENTIOMETRIC SURFACE MAP

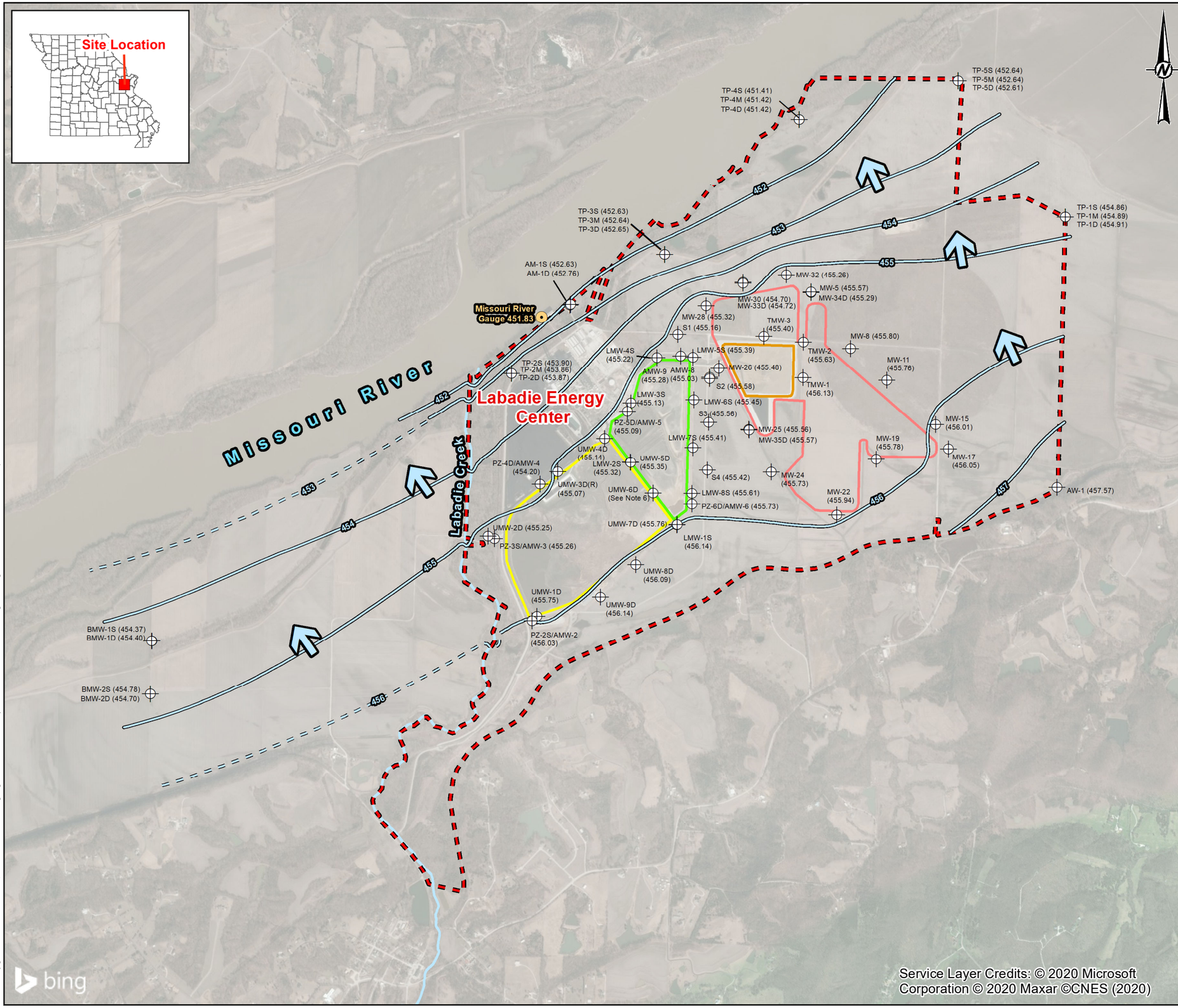
CONSULTANT
GOLDER

YYYY-MM-DD	2020-08-24
PREPARED	EMS
DESIGN	JSI
REVIEW	BTT
APPROVED	MNH

PROJECT No. 153-140602
PHASE 0001
FIGURE **D5**

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

Path: C:\Users\jingram\Golder Associates\153140601-02 - Ameren CCR GW Monitoring Program 2020 - 153141061 - All Project Files\5 Technical Work\0001-LEC\5.5-Figures-Drawings\PRODUCTION\POT MAPS\2020 Annual Report\LEC 2020-08-24 ADD Event2 .mxd



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

- Inferred Groundwater Elevation Contour (FT MSL)
- 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. UMW-6D WAS NOT USED IN POTENTIONMETRIC SURFACE CONTOURING DUE TO MEASUREMENT ERROR.

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.

0 1,000 2,000 3,000 4,000 5,000 6,000

Feet

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
SEPTEMBER 30, 2020 POTENTIOMETRIC SURFACE MAP

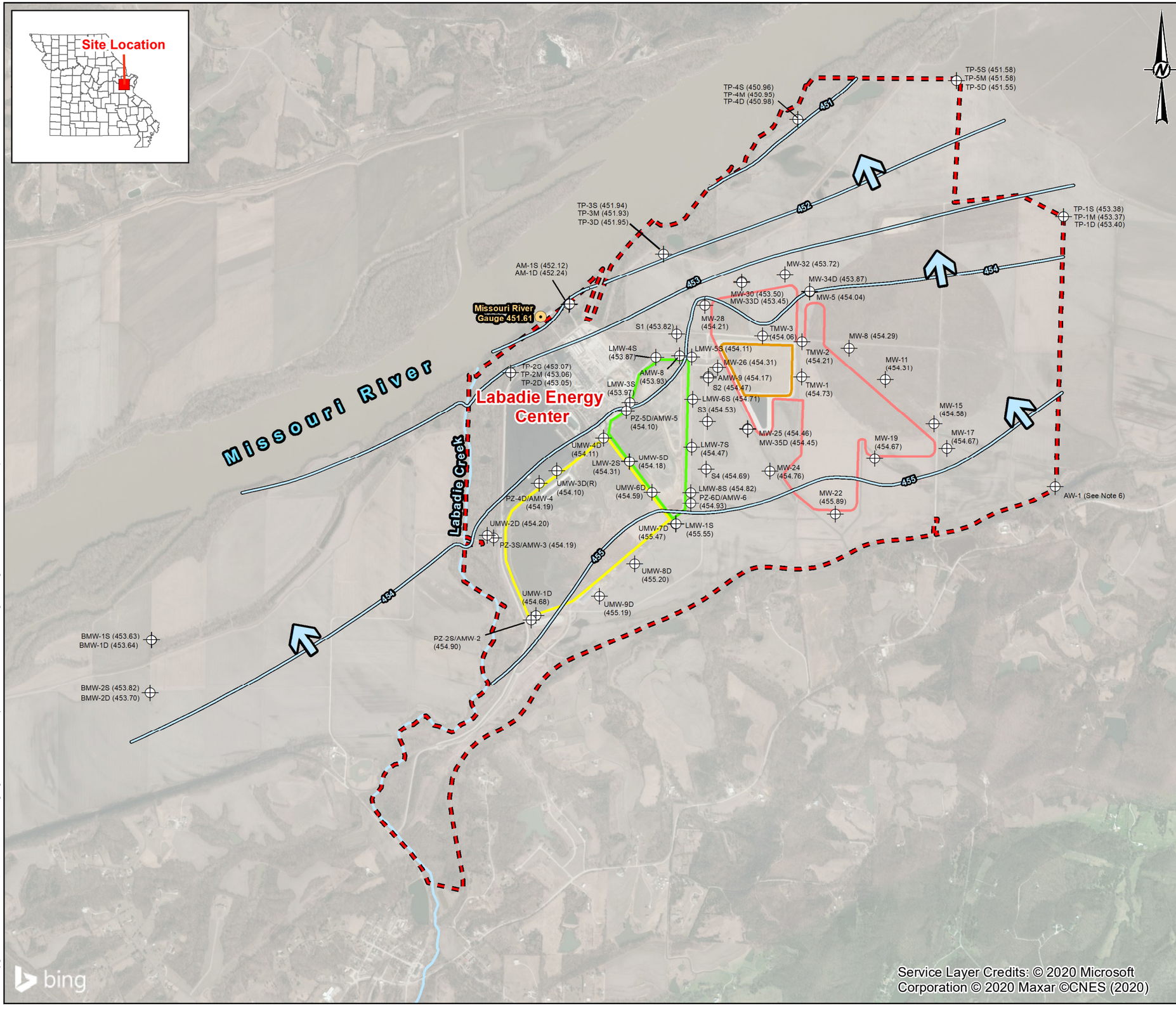
CONSULTANT
GOLDER

YYYY-MM-DD	2020-10-14
PREPARED	BTT
DESIGN	JSI
REVIEW	EMS
APPROVED	MNH

PROJECT No. 153-140602
PHASE 0001
FIGURE **D6**

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

Path: C:\Users\jingram\Golder Associates\153140601.02 - Ameren CCR GW Monitoring Program 2020 - 153141061 - All Project Files\5 Technical Work\0001-EC\5.5-Figures-Drawings\PRODUCTION\POT MAPS\2020 Annual Report_LEC 2020-09-30 ADD Event3 .mxd



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)

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 MEASUREMENT ERROR.

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.

0 1,000 2,000 3,000 4,000 5,000 6,000 Feet

CLIENT
AMEREN MISSOURI
LABADIE ENERGY CENTER

PROJECT
CCR GROUNDWATER MONITORING PROGRAM

TITLE
OCTOBER 30, 2020 POTENTIOMETRIC SURFACE MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-11-25
PREPARED	BTT
DESIGN	JSI
REVIEW	EMS
APPROVED	MNH

PROJECT No. 153-140602
PHASE 0001
FIGURE D7

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

Path: C:\Users\jlygrum\Golder Associates\153140601\02 - Ameren CCR GW Monitoring Program 2020 - 153141061 - All Project Files\5 Technical Work\60001-LEC\5.5-Figures\D-drawings\PRODUCTION\POT MAPS\2020 ONPOT MAPS\2020 Annual Report\LEC 2020-10-30 Event Pot Map.mxd

APPENDIX E

Well Modification Records

MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI GEOLOGICAL SURVEY
RECONSTRUCTION RECORD

OFFICE USE ONLY

REF NO	DATE RECEIVED
00549982	12/02/2020

ROUTE	APPROVED	DATE	ENTERED	STATE CERT NO	CHECK NO.	REVENUE NO.
PCD4	NRSMITK4	12/29/2020	NRSMITK4	R010896	2184	120220

INFORMATION SUPPLIED BY WELL OR PUMP INSTALLATION CONTRACTOR

OWNER NAME	TELEPHONE
AMEREN MISSOURI	314-621-3222

OWNER ADDRESS	CITY	STATE	ZIP CODE
1901 CHOUTEAU AVENUE	ST LOUIS	MO	63103

ADDRESS OF WELL SITE (IF DIFFERENT THAN ABOVE)	CITY	STATE	ZIP CODE
2261 LABADIE POWER PLANT ROAD	LABADIE	MO	

SITE NAME	WELL NUMBER	ORIGINAL DRILLER	DATE ORIGINALLY DRILLED
	UMW 6D		

TYPE OF REPAIR
- ☐ RAISED CASING
- ☐ LINING OF WELL
- ☐ DEEPENING OF WELL
- ☒ MONITORING

DATE WELL WAS RECONTRUCTED	WELL CERTIFICATION NUMBER OR REFERENCE NUMBER	VARIANCE NUMBER
10/28/2020		

LOCATION OF WELL

LAT. 38 ° 33' 20.85"

LONG 90 ° 49' 51.29"

AREA AREA 1

ELEV 0

LEGAL LOCATION

1/4 1/4 SW 1/4 SEC. 18 TWN. 44 RNG. 2 E

COUNTY FRANKLIN

DRILLER NOTES

RECONSTRUCTION INFORMATION

USE OF WELL
- ☐ DOMESTIC
- ☐ IRRIGATION BEDROCK
- ☐ IRRIGATION UNCONONSOLIDATED
- ☒ MONITORING
- ☐ MULTI-FAMILY
- ☐ PUBLIC WATER SUPPLY
- ☐ OPEN LOOP WATER

CASING DIAMETER	STATIC WATER LEVEL	WELL CHLORINATED AFTER RECONSTRUCTION
0.0		☐ YES ☒ NO

MONITORING WELL INFORMATION

TYPE OF REPAIR	LENGTH OF RISER ADDED	RISER MATERIAL	ORIGINAL RISER MATERIAL	METHOD OF ATTACHMENT	TYPE OF SURFACE COMPLETION
☐ OVER-DRILL AND RECONSTRUCTED*				☐ THREADED ☐ WELD	
☐ INSTALL OR REPLACE SURFACE COMPLETION		☒ PLASTIC	☒ PLASTIC	☐ COUPLE ☐ FUSE	☒ ABOVE GROUND
☐ RAISE OR LOWER SURFACE ELAVATION	2.6 FT.	☐ STAINLESS STEEL	☐ STAINLESS STEEL	☐ GLUE ☒ OTHER	☐ FLUSH MOUNT

LINER INFORMATION

PURPOSE OF LINER
- ☐ USED ONLY TO HOLD BACK THE FORMATION
- ☐ USED TO SEAL OUT CONTAMINATION OR OTHER CONDITIONS
- ☐ USED TO SEAL OUT RUST

LENGTH	OUTSIDE DIAMETER	WEIGHT OR SDR #	MATERIAL
FT.	IN.		☐ STEEL ☐ PLASTIC

DEPTH TO TOP OF LINER	PACKER USED ON PVC LINER	DEPTH PACKERS SET
FT.	☐ NONE ☐ RUBBER BOOT	

POSITION OF SEAL	GROUT TYPE	NUMBER OF SACKS USED LBS PER SACK	METHOD OF GROUT INSTALLATION
☐ FULL LENGTH ☐ BOTTOM	CEMENT ☐ TYPE 1 ☐ HI-EARLY BENTONITE ☐ CHIPS ☐ GRANULAR ☐ PELLETS ☐ SLURRY		☐ AS LINER IS INSTALLED ☐ TREMIE

DEEPENING OF WELL INFORMATION

DEPTH FROM	DEPTH TO	FORMATION AND YIELD DESCRIPTION

RAISED CASING INFORMATION

LENGTH ADDED	CASING MATERIAL	ORGINAL CASING MATERIAL	METHOD OF ATTACHMENT
FT.	☐ PLASTIC ☐ STEEL	☐ PLASTIC ☐ STEEL	☐ THREADED ☐ WELD ☐ COUPLE ☐ GLUE

I HEREBY CERTIFY THAT THE WELL HEREIN DESCRIBED WAS RECONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT OF NATURAL RESOURCES REQUIREMENTS FOR THE RECONSTRUCTION OF WELLS.

	PERMIT NUMBER	DATE
PRIMARY CONTRACTOR SIGNATURE x ERIC SCHNEIDER	006557	
CONTRACTOR SIGNATURE x JOSHUA EDWARDS	PERMIT NUMBER 006329	DATE
APPRENTICE SIGNATURE x	PERMIT NUMBER	DATE

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

RECONSTRUCTION REGISTRATION REPORT

FOR OFFICE USE ONLY

REF NO.	DATE RECEIVED

ROUTE	APPROVED	DATE	ENTERED	STATE CERT. NO.	CHECK NO.	REVENUE NO.
/ /						

WELL OWNER INFORMATION

NAME	TELEPHONE NUMBER WITH AREA CODE
AMEREN Missouri	(314) 621-3222

MAILING ADDRESS	CITY	STATE	ZIP CODE
1901 Chouteau Ave.	St. Louis	MO	63103

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MAILING ADDRESS)	CITY	EMAIL ADDRESS
226 Labadie Power Plant Rd.	Labadie	wkutosky@ameren.com

GENERAL WELL INFORMATION

DATE WELL WAS RECONSTRUCTED	WELL CERTIFICATION OR REFERENCE NUMBER (IF KNOWN)	WELL NUMBER	VARIANCE NUMBER (IF ISSUED)	ORIGINAL DRILLER (If known)	DATE ORIGINALLY DRILLED (IF KNOWN)
10/15/2020	00512864	UMW-6D	6605	J Drabek	11/22/2015

TYPE OF REPAIR
- ☑ ~~Raised~~ casing Lower
- ☐ Deepening of well
- ☐ Well conversion
- ☐ Lining of well
- ☑ Monitoring well

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT: Labadie Energy Center

REGULATORY SITE ID NUMBER OF DNR/EPA PROJECT (IF APPLICABLE): N/A

LOCATION INFORMATION

Lat. 38 · 33 · 20.85 "
Long. 90 · 49 · 51.29 "

COUNTY: Franklin

SE ¼ SW ¼ SW ¼ Section 18 Township 44 N Range 2 ☑ E ☐ W

DRILL AREA (OFFICE USE ONLY)

WATER WELL INFORMATION

TYPE OF WELL

☐ Domestic ☐ High yield bedrock ☐ High yield unconsolidated ☐ Multi-family ☐ Public water supply ☐ Open loop water ☐ Oil/gas well conversion to water well

CASING DIAMETER	CASING LENGTH (IF KNOWN)	WELL CASING SEAL OR CONNECTION	STATIC WATER LEVEL (IF KNOWN)	WELL CHLORINATED AFTER RECONSTRUCTION	DRILLER NOTES
in.	ft.	☐ Well seal ☐ Pitless unit ☐ Pitless adaptor	ft.	☐ Yes ☐ No	

MONITORING WELL INFORMATION

TYPE OF REPAIR	LENGTH OF RISER ADDED	RISER MATERIAL	ORIGINAL RISER MATERIAL	METHOD OF ATTACHMENT	TYPE OF SURFACE COMPLETION
☐ Over-drill and reconstructed* ☑ Install or replace surface completion ☑ Raise or lower surface elevation *Attach diagram showing well reconstruction details	-2.60 ft.	☑ Plastic ☐ Stainless steel	☑ Plastic ☐ Stainless steel	☐ Thread ☐ Weld ☐ Couple ☐ Fuse ☐ Glue ☑ Other	☑ Above ground ☐ Flush mount

LINER INFORMATION

USE (Choose one)	LENGTH	OUTSIDE DIAMETER	WEIGHT (LB.) OR SDR#, SCH#	MATERIAL
☐ Hold back formation ☐ Prevent rust ☐ Seal out undesirable conditions	ft.	in.		☐ Plastic ☐ Steel

DEPTH TO TOP OF LINER	PACKER USED ON PVC LINER	DEPTH PACKERS SET
ft.	☐ Yes ☐ No	/ / ft.

POSITION OF SEAL	GROUT TYPE (CHOOSE ONE)	NUMBER OF SACKS USED	METHOD OF GROUT INSTALLATION
☐ Full length ☐ Bottom	CEMENT ☐ Type I ☐ Type III BENTONITE ☐ Chips ☐ Granular ☐ Pellets ☐ Slurry	LBS PER SACK	☐ Gravity ☐ Pressure tremie ☐ As liner is installed

RAISED CASING INFORMATION

LENGTH ADDED	CASING MATERIAL	ORIGINAL CASING MATERIAL	METHOD OF ATTACHMENT
ft.	☐ Plastic ☐ Steel	☐ Plastic ☐ Steel	☐ Thread ☐ Weld ☐ Couple ☐ Glue

DEEPENING OF WELL INFORMATION

DEPTH TO	DEPTH FROM	FORMATION AND YIELD DESCRIPTION**

☐ **BORING LOG/WELL DIAGRAM ATTACHED

I hereby certify that the information herein described for this well is in accordance with the department of natural resources requirements. (All fields must be completed but only one signature is required.)

PRIMARY CONTRACTOR (If different than installation contractor)	PERMIT NUMBER	DATE
[signature]	006557-M	10/28/2020
WELL OR PUMP INSTALLATION CONTRACTOR [signature]	006329-M	10/28/2020
WELL OR PUMP INSTALLATION APPRENTICE	PERMIT NUMBER	DATE

MO 780-1414 (09-20) SEND FORM WITH FEE (FEE WAIVED FOR RAISING CASING ONLY) TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, PO BOX 250, ROLLA, MO 65402-0250

FOR REGISTRATTION FEES, PLEASE SEE: https://dnr.mo.gov/pubs/pub2494.htm

PHONE: 573-368-2165 FAX: 573-368-2317 EMAIL: welldrillers@dnr.mo.gov

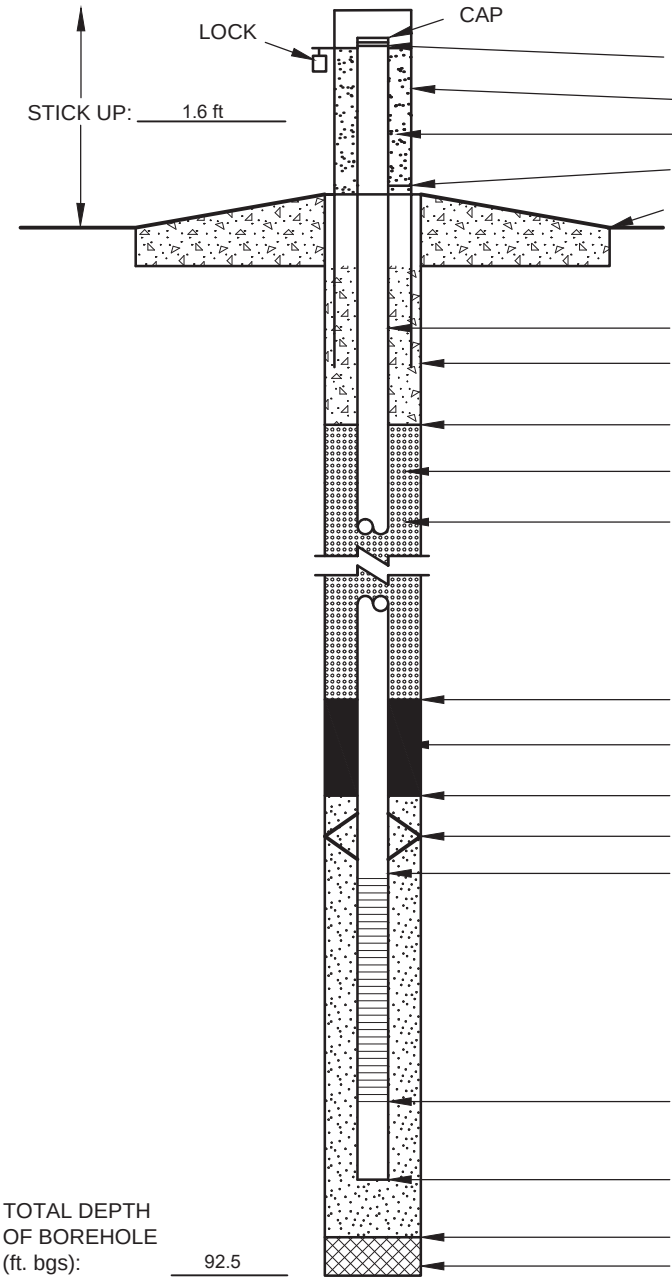
RECORD (AND FEE) MAY BE SUBMITTED ONLINE: https://dnr.mo.gov/mowells/

GOLDER

ABOVE GROUND MONITORING WELL CONSTRUCTION LOG

UMW-6D

PROJECT NAME: AMEREN CCR GW MONITORING	PROJECT NUMBER: 153-140602.0001A	
SITE NAME: LABADIE ENERGY CENTER	LOCATION: UMW-6D	
CLIENT: AMEREN MISSOURI	SURFACE ELEVATION: 492.0 FT MSL	
GEOLOGIST: J. SUOZZI	NORTHING: 991382.6	EASTING: 725540.8
DRILLER: J. DRABEK	STATIC WATER LEVEL: 32.90 FT BTOC	COMPLETION DATE: 11/22/2015
DRILLING COMPANY: CASCADE	DRILLING METHODS: SONIC	



TOP OF CASING ELEVATION: 493.59 FT. MSL

PROTECTIVE CASING (yes/ no): 4" X 5' ALUMINUM

PEA GRAVEL OR SAND

WEEP HOLE

GROUND SURFACE ELEVATION: 492.0 FT. MSL

DIAMETER OF RISER PIPE (in.): 2.0

DIAMETER OF BOREHOLE (in.): 6.0

CONCRETE SEAL DEPTH (ft. bgs): 2.5

TYPE AND AMOUNT OF ANNULAR SEAL: 3/8" BENTONITE CHIPS - 6 BAGS

TYPE AND AMOUNT OF ANNULAR SEAL: HIGH SOLIDS BENTONITE 5 BAGS

TOP OF BENTONITE SEAL DEPTH (ft. bgs): 71.5

TYPE AND AMOUNT OF BENTONITE SEAL: 3/8" BENTONITE CHIPS - 1 BAG

TOP OF SAND PACK DEPTH (ft. bgs): COARSE: 79.5 FINE: 78.5

CENTRALIZER (yes/ no) - TYPE: STAINLESS STEEL (TOP AND BOTTOM)

TOP OF SCREEN DEPTH (ft. bgs): 81.6

TYPE OF SCREEN: 2" x 9.8' SCHEDULE 40 PVC

SCREEN SLOT SIZE (in.): 0.010 IN.

SIZE OF SAND PACK: COARSE: #1 FINE: #0

AMOUNT OF SAND: COARSE: 3 BAGS FINE: 1/3 BAG

BOTTOM OF SCREEN DEPTH (ft. bgs): 91.4

BOTTOM OF WELL DEPTH (ft. bgs): 91.8

BOTTOM OF FILTER PACK (ft. bgs): 91.8

TYPE AND AMOUNT OF BACKFILL: 0.7 FT. - NATURAL CAVE IN

ADDITIONAL NOTES: FT. BGS = FEET BELOW GROUND SURFACE. FT. MSL = FEET ABOVE MEAN SEA LEVEL. IN. = INCHES. 450 GALLONS OF WATER USED DURING DRILLING. HORIZONTAL DATUM: STATE PLANE COORDINATES NAD83 US SURVEY FEET (2000) MISSOURI EAST ZONE. VERTICAL DATUM: NAVD88. UPDATED WELL SURVEY COMPLETED ON 11/11/2020. FT. BTOC = FEET BELOW TOP OF CASING. SAND AND BENTONITE BAGS WEIGH 50 LBS EACH. MODIFIED BY BULLDOG DRILLING ON 10/15/2020.

CHECKED BY: E. SCHNEIDER

DATE CHECKED: 1/22/2021

PREPARED BY: B. TALBERT