HALEY ALDRICH

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2020 – 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

AREA 2 POND, AREA 3 POND, AND AREA 4 POND
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

by Haley & Aldrich, Inc.
Cleveland, Ohio

for Evergy Kansas Central, Inc.
Topeka, Kansas

File No. 129778-037
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This Annual Groundwater Monitoring and Corrective Action Report documents the groundwater monitoring program for the Lawrence Energy Center Area 2 Pond (inactive), Area 3 Pond (inactive), and Area 4 Pond (inactive; collectively, Ash Ponds) consistent with applicable sections of Code of Federal Regulations Title 40 §§ 257.90 through 257.98, and describes activities conducted from July 2020 through June 2021 and documents compliance with the U.S. Environmental Protection Agency Coal Combustion Residual Rule. I certify that the 2020 – 2021 Annual Groundwater Monitoring and Corrective Action Report for the LEC Ash Ponds is, to the best of my knowledge, accurate and complete.

Signed: 

Professional Geologist

Print Name:	Mark Nicholls
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Company:	Haley & Aldrich, Inc.

1. Introduction

This 2020 – 2021 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) addresses the Area 2 Pond (inactive), Area 3 Pond (inactive), and Area 4 Pond (inactive; collectively, Ash Ponds) at the Lawrence Energy Center (LEC), operated by Evergy Kansas Central, Inc. (Evergy). This Annual Report was developed in accordance with the U.S. Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule (Rule) effective October 19, 2015, including subsequent revisions, specifically Code of Federal Regulations Title 40 (40 CFR), § 257.90(e). The Annual Report documents the groundwater monitoring system for the Ash Ponds consistent with applicable sections of 257.90 through 257.98, and describes activities conducted in the prior calendar year (July 2020 through June 2021) and documents compliance with the Rule. The specific requirements for the Annual Report listed in § 257.90(e) of the Rule are provided in Sections 1 and 2 of this Annual Report and are in bold italic font, followed by a narrative describing how each Rule requirement has been met.

Evergy prepared and placed in the facility's operating record a notification of intent to initiate closure of the Ash Ponds by December 17, 2015. Due to the USEPA Extension of Compliance Deadlines for Certain Inactive Surface Impoundments, Response to Partial Vacatur effective October 4, 2016, in accordance with the requirement under § 257.100(e)(1), the alternative reporting timeframes specified in § 257.100(e)(2) through (6) are applicable for the Ash Ponds.

1.1 40 CFR § 257.90(E)(6) SUMMARY

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:

1.1.1 40 CFR § 257.90(e)(6)(i) – Initial Monitoring Program

At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

At the start of the current annual reporting period (July 1, 2020), the Ash Ponds were operating under an assessment monitoring program in compliance with 40 CFR § 257.95.

1.1.2 40 CFR § 257.90(e)(6)(ii) – Final Monitoring Program

At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

At the end of the current annual reporting period (June 30, 2021), the Ash Ponds were operating under an assessment monitoring program in compliance with 40 CFR § 257.95 for all constituents except arsenic, lithium, and molybdenum. An assessment of corrective measures (CMA) was conducted in accordance with 40 CFR § 257.96 for arsenic, lithium, and molybdenum, which continue to be monitored under an assessment monitoring program in accordance with 40 CFR § 257.96(b).

1.1.3 40 CFR § 257.90(e)(6)(iii) – Statistically Significant Increases

If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):

1.1.3.1 40 CFR § 257.90(e)(6)(iii)(a)

Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and

The Ash Ponds are operating under an assessment monitoring program; therefore, no statistical evaluations were completed on Appendix III constituents from July 2020 through June 2021.

1.1.3.2 40 CFR § 257.90(e)(6)(iii)(b)

Provide the date when the assessment monitoring program was initiated for the CCR unit.

An assessment monitoring program was initiated on January 13, 2020 for the Ash Ponds with a notification establishing assessment monitoring provided on February 12, 2020 to meet the requirements of 40 CFR § 257.95. The Ash Ponds remained in assessment monitoring from July 2020 through June 2021, with a corrective measures program implemented for arsenic, lithium, and molybdenum in accordance with 40 CFR § 257.96.

1.1.4 40 CFR § 257.90(e)(6)(iv) – Statistically Significant Levels

If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:

1.1.4.1 40 CFR § 257.90(e)(6)(iv)(A) – Statistically Significant Level Constituents

Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase;

Statistically significant levels (SSL) above the groundwater protection standard (GWPS) identified from July 2020 through June 2021 for the March 2020 and September 2020 semi-annual assessment monitoring sampling events are listed in Table I.

1.1.4.2 40 CFR § 257.90(e)(6)(iv)(B) – Initiation of the Assessment of Corrective Measures

Provide the date when the assessment of corrective measures was initiated for the CCR unit;

A CMA was initiated on October 12, 2020 for arsenic, lithium, and molybdenum at the Ash Ponds.

1.1.4.3 40 CFR § 257.90(e)(6)(iv)(C) – Assessment of Corrective Measures Public Meeting

Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and

A public meeting was not held from July 2020 through June 2021. A public meeting to discuss the results of the CMA will be held at least 30 days prior to the selection of remedy in accordance with § 257.96(e).

1.1.4.4 40 CFR § 257.90(e)(6)(iv)(D) – Completion of the Assessment of Corrective Measures

Provide the date when the assessment of corrective measures was completed for the CCR unit.

The assessment of corrective measures was completed on March 11, 2021 for the Ash Ponds.

1.1.5 40 CFR § 257.90(e)(6)(v) – Selection of Remedy

Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and

A remedy was not selected during the July 2020 through June 2021 reporting period for arsenic, lithium, and molybdenum at the Ash Ponds.

1.1.6 40 CFR § 257.90(e)(6)(vi) – Remedial Activities

Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

No remedial activities have been initiated from July 2020 through June 2021; therefore, no demonstration or certification is applicable for this unit.

2. 40 CFR § 257.90 Applicability

2.1 40 CFR § 257.90(a)

All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under §§ 257.90 through 257.98, except as provided in paragraph (g) of this section.

Evergy has installed and certified a multi-unit groundwater monitoring system at the LEC Ash Ponds. The Ash Ponds are subject to the groundwater monitoring and corrective action requirements described under 40 CFR §§ 257.90 through 257.98. This document addresses the requirement for the Owner/Operator to prepare an Annual Report per § 257.90(e).

2.2 40 CFR § 257.90(e) – SUMMARY

Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1).

This Annual Report describes monitoring completed and actions taken for the groundwater monitoring system at the LEC Ash Ponds as required by the Rule. Groundwater sampling and analysis was conducted per the requirements described in § 257.93, and the status of the groundwater monitoring program described in § 257.94 and § 257.95 is also provided in this report. This Annual Report documents the applicable groundwater-related activities completed from July 2020 through June 2021.

2.2.1 Status of the Groundwater Monitoring Program

Appendix IV SSLs were detected above the GWPS for arsenic, lithium, and molybdenum during the March 2020 and September 2020 semi-annual assessment monitoring sampling events. Therefore, a CMA was initiated. The selection of remedy required under § 257.97 was ongoing from July 2020 through June 2021. Evergy is currently implementing an assessment monitoring program for all other constituents.

2.2.2 Key Actions Completed

The 2019 – 2020 Annual Groundwater Monitoring and Corrective Action Report was completed in July 2020 for the period of July 2019 through June 2020. Statistical evaluation was completed in July 2020

on analytical data from the March 2020 semi-annual assessment monitoring sampling event. The statistical evaluation indicated Appendix IV SSLs above the GWPS for arsenic, fluoride, lithium, and molybdenum at select downgradient monitoring wells. Evergy pursued an alternate source demonstration (ASD) dated October 2020 to determine if a source other than the CCR units caused the SSLs, which was not successful for arsenic, lithium, and molybdenum. A successful ASD was completed for fluoride.

A semi-annual assessment monitoring sampling event was completed in September 2020 for detected Appendix IV constituents identified from the December 2019 annual assessment monitoring sampling event. Statistical evaluation was completed in January 2021 on analytical data from the September 2020 semi-annual assessment monitoring sampling event.

The determination of the nature and extent of Appendix IV SSLs has been initiated pursuant to §257.95(g). Eleven additional groundwater monitoring wells were installed in January and June 2021 to assist with collecting additional groundwater data to define the nature and extent. Groundwater characterization of the nature and extent groundwater wells is ongoing.

In March 2021, a CMA was completed consistent with the requirements of § 257.96.

An annual assessment monitoring sampling event was completed on December 1, 2020 to identify detected Appendix IV constituents for subsequent semi-annual sampling events in March 2021 and planned for September 2021. Semi-annual assessment monitoring sampling was completed in March 2021 for detected Appendix IV constituents identified during the December 2020 annual monitoring event. Statistical evaluation of the results from the March 2021 semi-annual assessment monitoring sampling event are due to be completed in July 2021 and will be reported in the next annual report.

2.2.3 Problems Encountered

No noteworthy problems (i.e., problems could include damaged wells, issues with sample collection or lack of sampling, or problems with analytical analysis) were encountered at the Ash Ponds from July 2020 through June 2021.

2.2.4 Actions to Resolve Problems

No problems were encountered at the Ash Ponds from July 2020 through June 2021; therefore, no actions to resolve the problems were required.

2.2.5 Project Key Activities for Upcoming Year

Key activities planned for July 2021 through June 2022 include the 2020 – 2021 Annual Groundwater Monitoring and Corrective Action Report, statistical evaluation of semi-annual assessment monitoring analytical data collected in March 2021, semi-annual assessment monitoring and subsequent statistical evaluations, and annual assessment monitoring. The continuation of the nature and extent investigation will continue into the next calendar year (July 2021 through June 2022). The next semi-annual status report for the CMA is due to be completed in September 2021. Evergy is also

completing additional steps to characterize the nature and extent of arsenic, lithium, and molybdenum in groundwater at the Ash Ponds and is working towards a selection of remedy.

2.3 40 CFR § 257.90(e) – INFORMATION

At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

2.3.1 40 CFR § 257.90(e)(1) – CCR Unit and Monitoring Well Network

A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

As required by § 257.90(e)(1), a map showing the locations of the CCR unit and associated upgradient and downgradient monitoring wells for the LEC Ash Ponds is included in this report as Figure 1. As discussed in Section 2.3.2, monitoring wells installed to assist with the nature and extent at the Ash Ponds, along with historic monitoring wells at the site that have been utilized for the nature and extent of the Ash Ponds, are presented in Figure 2.

2.3.2 40 CFR § 257.90(e)(2) – Monitoring System Changes

Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

Eleven monitoring wells were installed in January and June 2021 to assist with the nature and extent investigation into Appendix IV SSLs for the Ash Ponds. Installed nature and extent monitoring wells are presented in Figure 2. No monitoring wells were decommissioned from July 2020 through June 2021.

2.3.3 40 CFR § 257.90(e)(3) – Summary of Sampling Events

In addition to all the monitoring data obtained under § 257.90 through § 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

In accordance with § 257.95(b) and § 257.95(d)(1), three independent assessment monitoring samples from each background and downgradient monitoring well were collected from July 2020 through June 2021. A summary including sample names, dates of sample collection, field parameters, and monitoring data obtained for the groundwater monitoring program for the Ash Ponds is presented in Table II of this report. Groundwater potentiometric elevation contour maps associated with each groundwater monitoring sampling event from July 2020 through June 2021 are provided in Figures 3 through 5. A summary including sample names, dates of sample collection, field parameters, and validated groundwater monitoring data obtained for the nature and extent investigation for the Ash Ponds is provided in Table III of this report. Groundwater monitoring data from monitoring wells installed in June 2021 for the nature and extent investigation were not received and validated prior to this annual reporting period (July 2020 through June 2021); the data will be reported in the next annual report.

2.3.4 40 CFR § 257.90(e)(4) – Monitoring Transition Narrative

A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to

identifying the constituent(s) detected at a statistically significant increase over background levels); and

The assessment monitoring program was initiated on January 13, 2020 with a notification establishing assessment monitoring provided on February 12, 2020 to meet the requirements of 40 CFR § 257.95. A CMA was implemented on October 12, 2020 for arsenic, lithium, and molybdenum in accordance with 40 CFR § 257.96. The Ash Ponds remained in assessment monitoring from July 2020 through June 2021 for all other constituents. Arsenic, lithium, and molybdenum continue to be monitored under the assessment monitoring program in accordance with 40 CFR § 257.96(b).

2.3.5 40 CFR § 257.90(e)(5) – Other Requirements

Other information required to be included in the annual report as specified in § 257.90 through § 257.98.

This Annual Report documents activities conducted to comply with 40 CFR §§ 257.90 through 257.95 of the Rule. It is understood that there are supplemental references in 40 CFR §§ 257.90 through 257.98 that must be placed in the Annual Report. The following requirements include relevant and required information in the Annual Report for activities completed from July 2020 through June 2021.

2.3.5.1 40 CFR § 257.94(d)(3) – Demonstration for Alternative Detection Monitoring Frequency

The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

An alternative groundwater detection monitoring sampling and analysis frequency has not been established for this CCR unit; therefore, no demonstration or certification is applicable.

2.3.5.2 40 CFR § 257.94(e)(2) – Detection Monitoring Alternate Source Demonstration

The owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting a statistically significant increase over background levels to include obtaining a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority verifying the accuracy of the information in the report. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with a detection monitoring program under this section. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under § 257.95. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional

engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

This unit is in assessment monitoring; therefore, no detection monitoring ASD or certification is applicable.

2.3.5.3 40 CFR § 257.95(c)(3) – Demonstration for Alternative Assessment Monitoring Frequency

The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

An alternative groundwater assessment monitoring sampling and analysis frequency has not been established for this CCR unit; therefore, no demonstration or certification is applicable.

2.3.5.4 40 CFR § 257.95(d)(3) – Assessment Monitoring Concentrations and Groundwater Protection Standards

Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under § 257.94(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the annual groundwater monitoring and corrective action report required by § 257.90(e).

An assessment monitoring program has been implemented at the CCR unit since January 13, 2020. Three rounds of assessment monitoring sampling were completed between July 2020 and June 2021. Analytical results for both downgradient and upgradient wells are provided in Table II. The background concentrations (upper tolerance limits) and GWPSs established for detected Appendix IV constituents for the Ash Ponds are included in Table IV. The background concentrations and GWPSs provided in Table IV were utilized for the statistical evaluations completed for the March 2020 and September 2020 semi-annual assessment monitoring sampling events.

2.3.5.5 40 CFR § 257.95(g)(3)(ii) – Assessment Monitoring Alternate Source Demonstration

Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in appendices III and IV to this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report

required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

A successful assessment monitoring ASD was completed in October 2020 for the March 2020 semi-annual sampling event SSL for fluoride and is included in this report as Attachment 1. The Ash Ponds remained in assessment monitoring during July 2020 through June 2021 for all constituents other than arsenic, lithium, and molybdenum, which continue to be monitored under an assessment monitoring program in accordance with 40 CFR § 257.96(b).

2.3.5.6 40 CFR § 257.96(a) – Demonstration for Additional Time for Assessment of Corrective Measures

Within 90 days of finding that any constituent listed in appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.95(h), or immediately upon detection of a release from a CCR unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions. The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for no longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

On January 10, 2021, Evergy demonstrated the need for additional time beyond the regulatory timeline period of 90 days to complete the CMA. The Demonstration and Certification of Need for 60-Day Extension is provided in Attachment 2 of this report.

TABLES

TABLE I
STATISTICALLY SIGNIFICANT LEVELS OF APPENDIX IV CONSTITUENTS
MARCH AND SEPTEMBER 2020 SAMPLING EVENTS
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Constituent	Sampling Event	Well ID	Groundwater Protection Standard (mg/L)
Arsenic	March 2020	MW-38	0.010
		MW-39	
		MW-40	
		MW-K	
		MW-L	
	September 2020	MW-38	
		MW-39	
		MW-40	
		MW-K	
		MW-L	
Fluoride	March 2020	MW-38	4.0
Lithium	March 2020	MW-38	0.040
		MW-40	
		MW-K	
		MW-L	
	September 2020	MW-38	
		MW-K	
		MW-L	
Molybdenum	March 2020	MW-39	0.140
	September 2020	MW-39	

Notes:

mg/L = milligrams per liter

TABLE II
SUMMARY OF ANALYTICAL RESULTS - ASSESSMENT MONITORING
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Location	Upgradient			Downgradient								
	MW-37			MW-38			MW-39					
Measure Point (TOC)	833.290			832.626			830.615					
Sample Name	MW-37-091520	MW-37-120120	MW-37-030921	MW-38-091520	MW-38-120120	MW-38-030921	MW-39-091520	MW-39-101920	MW-39-120120	DUP-AP-120120	MW-39-030921	DUP-AP-030921
Sample Date	9/15/2020	12/1/2020	3/9/2021	9/15/2020	12/1/2020	3/9/2021	9/15/2020	10/19/2020	12/1/2020	12/1/2020	3/9/2021	3/9/2021
Final Lab Report Date	9/24/2020	12/7/2020	3/22/2021	9/24/2020	12/7/2020	3/22/2021	9/24/2020	10/21/2020	12/7/2020	12/7/2020	3/22/2021	3/22/2021
Final Lab Report Revision Date	N/A	12/11/2020	N/A	N/A	12/11/2020	N/A	N/A	N/A	12/11/2020	12/11/2020	N/A	N/A
Final Radiation Lab Report Date	10/7/2020	12/23/2020	4/2/2021	10/7/2020	12/23/2020	4/2/2021	10/7/2020	N/A	12/23/2020	12/23/2020	4/2/2021	4/2/2021
Final Radiation Lab Report Revision Date	N/A	1/19/2021	N/A	N/A	1/19/2021	N/A	N/A	N/A	1/19/2021	1/19/2021	N/A	N/A
Lab Data Reviewed and Accepted	10/29/2020	1/19/2021	4/16/2021	10/29/2020	1/19/2021	4/16/2021	10/29/2020	10/29/2020	1/19/2021	1/19/2021	4/16/2021	4/16/2021
Depth to Water (ft btoc)	11.60	13.36	12.53	16.53	16.61	16.8	15.50	15.65	15.38	-	15.64	-
Temperature (Deg C)	17.46	14.91	17.45	20.54	15.68	17.40	19.10	15.05	12.93	-	17.00	-
Conductivity (µS/cm)	1260	1200	3356	2700	2990	6264	3920	3980	4180	-	10.06	-
Turbidity (NTU)	0.0	0.0	7.43	0.0	0.0	7.56	0.0	0.0	22.2	-	140	-
Boron, Total (mg/L)	**2.1**	-	**1.9**	**5.5**	-	**5.2**	**4.9**	-	-	-	**4.4**	**4.4**
Calcium, Total (mg/L)	**195**	-	**194**	**315**	-	**289**	**588**	-	-	-	**535**	**548**
Chloride (mg/L)	**46.5**	-	**45.2**	**237**	-	**236**	**376**	-	-	-	**752**	**698**
Fluoride (mg/L)	< 0.20	< 0.20	**0.35**	**2.8**	**4.6**	**4.6**	**1.8**	-	**1.8**	**1.8**	**1.7**	**1.6**
Sulfate (mg/L)	**360**	-	**387**	**1380**	-	**1240**	**1870**	-	-	-	**1870**	**1890**
pH (su)	**7.1**	-	**6.8**	**7.5**	-	**7.2**	**7.2**	-	-	-	**7.1**	**7.1**
TDS (mg/L)	**930**	-	**977**	**2640**	-	**2610**	**3570**	-	-	-	**3560**	**3230**
Antimony, Total (mg/L)	-	< 0.0010	-	-	< 0.0010	-	-	-	< 0.0010	< 0.0010	-	-
Arsenic (mg/L)	**0.0086**	**0.0045**	**0.0057**	**0.029**	**0.019**	**0.017**	**0.011**	-	**0.013**	**0.014**	**0.011**	**0.012**
Barium, Total (mg/L)	**0.079**	**0.070**	**0.068**	**0.040**	**0.036**	**0.034**	**0.034**	-	**0.034**	**0.034**	**0.030**	**0.031**
Beryllium, Total (mg/L)	-	< 0.0010	-	-	< 0.0010	-	-	-	< 0.0010	< 0.0010	-	-
Cadmium, Total (mg/L)	-	< 0.00050	-	-	< 0.00050	-	-	-	< 0.00050	< 0.00050	-	-
Chromium, Total (mg/L)	-	< 0.0050	-	-	< 0.0050	-	-	-	< 0.0050	< 0.0050	-	-
Cobalt, Total (mg/L)	-	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	-	-	**0.0011**	**0.0011**	**0.0011**	**0.0011**
Lead, Total (mg/L)	-	< 0.010	-	-	< 0.010	-	-	-	< 0.010	< 0.010	-	-
Lithium, Total (mg/L)	**0.019**	**0.019**	**0.022**	**0.071**	**0.084**	**0.075**	**0.037**	-	**0.039**	**0.043**	**0.042**	**0.043**
Molybdenum, Total (mg/L)	**0.11**	**0.11**	**0.098**	**0.074**	**0.081**	**0.066**	**0.23**	**0.23**	**0.20**	**0.20**	**0.19**	**0.20**
Selenium, Total (mg/L)	-	< 0.0010	-	-	< 0.0010	-	-	-	< 0.0010	< 0.0010	-	-
Thallium, Total (mg/L)	-	< 0.0010	-	-	< 0.0010	-	-	-	< 0.0010	< 0.0010	-	-
Mercury, Total (mg/L)	-	< 0.00020	-	-	< 0.00020	-	-	-	< 0.00020	< 0.00020	-	-
Fluoride (mg/L)	< 0.20	< 0.20	**0.35**	**2.8**	**4.6**	**4.6**	**1.8**	-	**1.8**	**1.8**	**1.7**	**1.6**
Radium-226 & 228 Combined (pCi/L)	**2.56 +/- 1.14 (1.18)**	0.935 ± 0.760 (1.27)	0.728 ± 0.634 (0.899)	0.656 +/- 0.534 (0.865)	**1.40 ± 0.686 (0.985)**	**0.959 ± 0.582 (0.881)**	0.923 +/- 0.562 (0.971)	-	**1.31 ± 0.702 (1.03)**	0.890 ± 0.715 (1.15)	0.480 ± 0.505 (0.822)	0.802 ± 0.778 (1.15)

Notes & Abbreviations:
Radiological results are presented as activity plus or minus uncertainty with minimum detectable concentration (MDC).
Bold value: *Detection above laboratory reporting limit or MDC.*
µS/cm = micro Siemens per centimeter
Deg C = degrees Celsius
ft btoc = feet below top of casing
mg/L = milligrams per liter
N/A = Not Applicable
NTU = Nephelometric Turbidity Unit
pCi/L = picoCuries per liter
su = standard unit
TDS = total dissolved solids
TOC = top of casing

TABLE II
SUMMARY OF ANALYTICAL RESULTS - ASSESSMENT MONITORING
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Location	Downgradient (continued)									
	MW-40			MW-K				MW-L		
Measure Point (TOC)	831.358			842.6				843.05		
Sample Name	MW-40-091520	MW-40-120120	MW-40-030921	MW-K-091520	DUP-AP-091520	MW-K-120120	MW-K-030921	MW-L-091520	MW-L-120120	MW-L-030921
Sample Date	9/15/2020	12/1/2020	3/9/2021	9/15/2020	9/15/2020	12/1/2020	3/9/2021	9/15/2020	12/1/2020	3/9/2021
Final Lab Report Date	9/24/2020	12/7/2020	3/22/2021	9/24/2020	9/24/2020	12/7/2020	3/22/2021	9/24/2020	12/7/2020	3/22/2021
Final Lab Report Revision Date	N/A	12/11/2020	N/A	N/A	N/A	12/11/2020	N/A	N/A	12/11/2020	N/A
Final Radiation Lab Report Date	10/7/2020	12/23/2020	4/2/2021	10/7/2020	10/7/2020	12/23/2020	4/2/2021	10/7/2020	12/23/2020	4/2/2021
Final Radiation Lab Report Revision Date	N/A	1/19/2021	N/A	N/A	N/A	1/19/2021	N/A	N/A	1/19/2021	N/A
Lab Data Reviewed and Accepted	10/29/2020	1/19/2021	4/16/2021	10/29/2020	10/29/2020	1/19/2021	4/16/2021	10/29/2020	1/19/2021	4/16/2021
Depth to Water (ft btoc)	15.96	15.95	16.22	27.11	-	27.05	27.26	27.93	27.79	27.05
Temperature (Deg C)	21.15	14.58	17.90	18.70	-	15.86	16.30	20.02	15.65	16.80
Conductivity (µS/cm)	3130	3140	7214	5030	-	5010	10810	4590	4570	1017
Turbidity (NTU)	0.0	5.0	6.98	0.8	-	0.0	3.3	0.0	0.0	52.9
Boron, Total (mg/L)	**5.1**	-	**4.8**	**2.4**	**2.4**	-	**2.7**	**2.9**	-	**2.4**
Calcium, Total (mg/L)	**458**	-	**426**	**480**	**476**	-	**447**	**585**	-	**497**
Chloride (mg/L)	**273**	-	**363**	**691**	**710**	-	**619**	**621**	-	**590**
Fluoride (mg/L)	< 0.20	**1.3**	**1.3**	**3.4**	**3.4**	**3.0**	**3.3**	**2.2**	**1.9**	**2.1**
Sulfate (mg/L)	**1750**	-	**1510**	**2040**	**2100**	-	**2010**	**1990**	-	**1950**
pH (su)	**7.2**	-	**7.0**	**7.3**	**7.3**	-	**7.1**	**7.2**	-	**7.0**
TDS (mg/L)	**2660**	-	**2750**	**4210**	**4380**	-	**3580**	**3990**	-	**3650**
Antimony, Total (mg/L)		< 0.0010	-	-	-	< 0.0010	-	-	< 0.0010	-
Arsenic (mg/L)	**0.014**	**0.014**	**0.015**	**0.076**	**0.077**	**0.067**	**0.066**	**0.026**	**0.024**	**0.026**
Barium, Total (mg/L)	**0.034**	**0.034**	**0.032**	**0.038**	**0.037**	**0.038**	**0.039**	**0.035**	**0.035**	**0.037**
Beryllium, Total (mg/L)	-	< 0.0010	-	-	-	< 0.0010	-	-	< 0.0010	-
Cadmium, Total (mg/L)	-	< 0.00050	-	-	-	< 0.00050	-	-	< 0.00050	-
Chromium, Total (mg/L)	-	< 0.0050	-	-	-	< 0.0050	-	-	< 0.0050	-
Cobalt, Total (mg/L)	-	< 0.0010	< 0.0010	-	-	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010
Lead, Total (mg/L)	-	< 0.010	-	-	-	< 0.010	-	-	< 0.010	-
Lithium, Total (mg/L)	**0.038**	**0.044**	**0.047**	**0.077**	**0.076**	**0.082**	**0.084**	**0.055**	**0.065**	**0.065**
Molybdenum, Total (mg/L)	**0.079**	**0.076**	**0.070**	**0.021**	**0.022**	**0.023**	**0.021**	**0.054**	**0.048**	**0.039**
Selenium, Total (mg/L)	-	< 0.0010	-	-	-	< 0.0010	-	-	< 0.0010	-
Thallium, Total (mg/L)	-	< 0.0010	-	-	-	< 0.0010	-	-	< 0.0010	-
Mercury, Total (mg/L)	-	< 0.00020	-	-	-	< 0.00020	-	-	< 0.00020	-
Fluoride (mg/L)	< 0.20	**1.3**	**1.3**	**3.4**	**3.4**	**3.0**	**3.3**	**2.2**	**1.9**	**2.1**
Radium-226 & 228 Combined (pCi/L)	**1.26 +/- 0.629 (0.970)**	**1.61 ± 0.716 (0.853)**	0.526 ± 0.579 (0.981)	**2.05 +/- 0.755 (1.12)**	0.901 +/- 0.722 (1.35)	**1.28 ± 0.727 (0.975)**	**1.43 ± 0.690 (0.943)**	**1.23 +/- 0.623 (0.962)**	1.01 ± 0.647 (1.02)	0.917 ± 0.677 (1.000)

Notes & Abbreviations:
Radiological results are presented as activity plus o
Bold value: *Detection above laboratory reporting l*
µS/cm = micro Siemens per centimeter
Deg C = degrees Celsius
ft btoc = feet below top of casing
mg/L = milligrams per liter
N/A = Not Applicable
NTU = Nephelometric Turbidity Unit
pCi/L = picoCuries per liter
su = standard unit
TDS = total dissolved solids
TOC = top of casing

TABLE III
SUMMARY OF NATURE & EXTENT ANALYTICAL RESULTS
JULY 2020 THROUGH JUNE 2021
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Location	MW-101		MW-102			MW-103			
Measure Point (TOC)	828.65		829.55			829.15			
Sample Name	MW-101-020121[1]	MW-101-030921	MW-102-020121[1]	MW-102-021821	MW-102-031021	MW-103-020121[1]	MW-103-021821	MW-103-030921	DUP-AP NE-030921
Sample Date	02/01/2021	03/09/2021	02/01/2021	02/18/2021	03/10/2021	02/01/2021	02/18/2021	03/09/2021	03/09/2021
Depth to Water (ft btoc)	13.18	13.33	14.33	14.42	14.57	14.57	14.57	14.78	-
Temperature (Deg C)	12.71	20.19	12.71	9.09	15.8	11.86	8.19	15.22	-
Conductivity, Field (uS/cm)	853	706	792	808	853	2890	2570	3140	-
Turbidity, Field (NTU)	39.8	9.3	23.6	14.4	22.3	24	16.2	22.7	-
Boron, Total (mg/L)	**0.12**	**0.46**	**0.61**	-	**1.2**	**3.9**	-	**5.5**	**5.6**
Calcium, Total (mg/L)	**129**	**104**	**108**	-	**106**	**328**	-	**389**	**398**
Chloride (mg/L)	**30.3**	**45.4**	**8.8**	-	**13.1**	**346**	-	**341**	**346**
Fluoride (mg/L)	**0.79**	**0.96**	**2.1**	-	**4.0**	**1.3**	-	**2.7**	**2.9**
Sulfate (mg/L)	**54.6**	**33.6**	**57**	-	**64.3**	**1190**	-	**1730**	**1680**
pH (lab) (SU)	**6.9**	**7.2**	**7.0**	-	**7.2**	**7.2**	-	**7.1**	**7.1**
Total Dissolved Solids (TDS) (mg/L)	**544**	**510**	**532**	-	**543**	**3050**	-	**3170**	**3290**
Arsenic, Total (mg/L)	**0.0044**	**0.0011**	**0.011**	-	**0.0099**	**0.0048**	-	**0.0038**	**0.0042**
Barium, Total (mg/L)	**0.23**	**0.15**	**0.13**	-	**0.12**	**0.067**	-	**0.045**	**0.044**
Cobalt, Total (mg/L)	< 0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010
Fluoride (mg/L)	**0.79**	**0.96**	**2.1**	-	**4.0**	**1.3**	-	**2.7**	**2.9**
Lithium, Total (mg/L)	**0.025**	**0.022**	**0.032**	**0.025**	**0.038**	**0.045**	**0.040**	**0.052**	**0.050**
Molybdenum, Total (mg/L)	**0.021**	**0.035**	**0.050**	-	**0.066**	**0.16**	-	**0.20**	**0.20**
Radium-226 & 228 (pCi/L)	**1.49 ± 0.854 (1.19)**	0.829 ± 0.674 (1.16)	**1.01 ± 0.536 (0.832)**	-	0.754 ± 0.592 (0.886)	**1.89 ± 0.791 (0.849)**	-	1.16 ± 0.853 (1.26)	**1.61 ± 0.738 (0.927)**

Notes:

Bold value: *Detection above laboratory reporting limit or minimum detectable concentration (MDC).*

Radiological results are presented as activity plus or minus uncertainty with MDC.

[1] *Sampling completed following well development and may not be representative of concentrations in groundwater.*

µS/cm = micro Siemens per centimeter

Deg C = degrees Celsius

ft btoc = feet below top of casing

mg/L = milligrams per liter

ug/L = micrograms per liter

N/A = Not Applicable

NTU = Nephelometric Turbidity Unit

pCi/L = picoCuries per liter

su = standard unit

TDS = total dissolved solids

TOC = top of casing

TABLE III
SUMMARY OF NATURE & EXTENT ANALYTICAL RESULTS
JULY 2020 THROUGH JUNE 2021
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Location	MW-104			MW-106		MW-B		
Measure Point (TOC)	824.81			877.81		830.11		
Sample Name	MW-104-020121[1]	MW-104-021821	MW-104-030921	MW-106-020121[1]	MW-106-031021	MW-B-020121	DUPLICATE-020121	MW-B-030921
Sample Date	02/01/2021	02/18/2021	03/09/2021	02/01/2021	03/10/2021	02/01/2021	02/01/2021	3/9/2021
Depth to Water (ft btoc)	10.13	10.22	10.39	37.63	37.21	14.14	-	14.3
Temperature (Deg C)	10.79	11.05	16.98	10.68	15.67	12.35	-	15.80
Conductivity, Field (uS/cm)	2060	1510	2010	523	407	10.5	-	908
Turbidity, Field (NTU)	25.8	9.4	23.1	11.7	0.0	0.0	-	0.0
Boron, Total (mg/L)	**2.5**	-	**1.9**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Calcium, Total (mg/L)	**345**	-	**285**	**51.6**	**41.8**	**212**	**194**	**169**
Chloride (mg/L)	**185**	-	**231**	**14.5**	**3.0**	**21.5**	**20.7**	**13.4**
Fluoride (mg/L)	**0.36**	-	**0.89**	**0.23**	**0.30**	**0.59**	**0.60**	**0.59**
Sulfate (mg/L)	**557**	-	**478**	**24.3**	**6.0**	**83.5**	**86**	**110**
pH (lab) (SU)	**7.1**	-	**7.1**	**7.2**	**7.2**	**6.9**	**6.9**	**7.1**
Total Dissolved Solids (TDS) (mg/L)	**2230**	-	**1980**	**334**	**280**	**711**	**693**	**759**
Arsenic, Total (mg/L)	**0.0041**	-	**0.0036**	< 0.0010	< 0.0010	**0.0058**	**0.0052**	**0.0061**
Barium, Total (mg/L)	**0.064**	-	**0.064**	**0.21**	**0.16**	**0.41**	**0.37**	**0.20**
Cobalt, Total (mg/L)	< 0.0010	-	< 0.0010	< 0.0010	< 0.0010	**0.013**	**0.0074**	**0.0011**
Fluoride (mg/L)	**0.36**	-	**0.89**	**0.23**	**0.30**	**0.59**	**0.60**	**0.59**
Lithium, Total (mg/L)	**0.054**	**0.034**	**0.057**	< 0.010	**0.015**	**0.016**	**0.020**	**0.018**
Molybdenum, Total (mg/L)	**0.068**	-	**0.034**	**0.0054**	**0.0015**	**0.018**	**0.015**	**0.017**
Radium-226 & 228 (pCi/L)	**1.10 ± 0.671 (0.893)**	-	1.12 ± 0.730 (1.24)	**1.66 ± 0.851 (1.04)**	0.157 ± 0.551 (0.966)	**2.45 ± 0.897 (0.993)**	**2.94 ± 0.855 (0.957)**	**1.70 ± 0.729 (0.964)**

Notes:

Bold value: *Detection above laboratory reporting limit or minimum detectable*
Radiological results are presented as activity plus or minus uncertainty with MD
[1] *Sampling completed following well development and may not be representati*
µS/cm = micro Siemens per centimeter
Deg C = degrees Celsius
ft btoc = feet below top of casing
mg/L = milligrams per liter
ug/L = micrograms per liter
N/A = Not Applicable
NTU = Nephelometric Turbidity Unit
pCi/L = picoCuries per liter
su = standard unit
TDS = total dissolved solids
TOC = top of casing

TABLE III
SUMMARY OF NATURE & EXTENT ANALYTICAL RESULTS
JULY 2020 THROUGH JUNE 2021
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Location	MW-C		MW-D		MW-G		MW-M		
Measure Point (TOC)	827.63		829.43		843.21		828.93		
Sample Name	LEC MW-C 111820	MW-C-030921	LEC MW-D 111820	MW-D-030921	LEC MW-G 111820	MW-G-031021	LEC MW-M 111920	LEC DUPLICATE 111920	MW-M-030921
Sample Date	11/18/2020	03/09/2021	11/18/2020	03/09/2021	11/18/2020	03/10/2021	11/19/2020	11/19/2020	03/09/2021
Depth to Water (ft btoc)	12.39	12.43	14.13	13.96	26.75	26.5	14.2	-	34.23
Temperature (Deg C)	18.43	20.99	18.02	22.75	18.87	21.58	17.18	-	17.96
Conductivity, Field (uS/cm)	583	880	958	944	1530	1360	1780	-	1320
Turbidity, Field (NTU)	29.8	25.7	42.3	37.5	29.1	4.8	26.5	-	23.5
Boron, Total (mg/L)	**0.34**	**0.28**	**0.47**	**0.46**	**1.9**	**1.9**	**0.96**	**0.95**	**1.3**
Calcium, Total (mg/L)	**156**	**130**	**162**	**173**	**214**	**213**	**223**	**222**	**269**
Chloride (mg/L)	**28.0**	**28.9**	**6.5**	**6.5**	**29.6**	**27.9**	**50.3**	**41.7**	**69.3**
Fluoride (mg/L)	**0.45**	**0.39**	**0.60**	**0.42**	< 0.20	**0.28**	**0.55**	**0.44**	**0.97**
Sulfate (mg/L)	**130**	**118**	**79.5**	**61.6**	**485**	**543**	**335**	**292**	**442**
pH (lab) (SU)	**7.0**	**7.1**	**6.9**	**6.8**	**7.1**	**7.0**	**6.9**	**6.9**	**6.9**
Total Dissolved Solids (TDS) (mg/L)	**653**	**598**	**617**	**675**	**1130**	**1200**	**995**	**1070**	**1200**
Arsenic, Total (mg/L)	**0.0062**	**0.0033**	**0.031**	**0.0040**	**0.0081**	**0.015**	**0.0063**	**0.0065**	**0.0057**
Barium, Total (mg/L)	**0.16**	**0.086**	**0.57**	**0.16**	**0.046**	**0.041**	**0.20**	**0.20**	**0.16**
Cobalt, Total (mg/L)	-	< 0.0010	-	< 0.0010	-	**0.0022**	-	-	< 0.0010
Fluoride (mg/L)	**0.45**	**0.39**	**0.60**	**0.42**	< 0.20	**0.28**	**0.55**	**0.44**	**0.97**
Lithium, Total (mg/L)	**0.025**	**0.020**	< 0.010	< 0.010	< 0.010	< 0.010	**0.026**	**0.023**	**0.031**
Molybdenum, Total (mg/L)	**0.010**	**0.0094**	**0.0018**	< 0.0010	**0.0050**	**0.0050**	**0.0069**	**0.0080**	**0.0061**
Radium-226 & 228 (pCi/L)	**2.03 ± 1.19 (1.93)**	0.873 ± 0.657 (1.05)	**4.78 ± 1.67 (2.52)**	**1.62 ± 0.779 (1.09)**	1.23 ± 0.977 (1.75)	0.743 ± 0.624 (0.913)	0.186 ± 0.632 (1.35)	0.441 ± 1.02 (2.06)	0.356 ± 0.579 (0.980)

Notes:

Bold value: *Detection above laboratory reporting limit or minimum detectable*
Radiological results are presented as activity plus or minus uncertainty with MD
[1] Sampling completed following well development and may not be representati
µS/cm = micro Siemens per centimeter
Deg C = degrees Celsius
ft btoc = feet below top of casing
mg/L = milligrams per liter
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N/A = Not Applicable
NTU = Nephelometric Turbidity Unit
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su = standard unit
TDS = total dissolved solids
TOC = top of casing

TABLE III
SUMMARY OF NATURE & EXTENT ANALYTICAL RESULTS
JULY 2020 THROUGH JUNE 2021
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Location	MW-N		MW-O		MW-P	
Measure Point (TOC)	826.81		830.32		829.63	
Sample Name	LEC MW-N 111920	MW-N-031021	LEC MW-O 111920	MW-O-031021	LEC MW-P 111920	MW-P-030921
Sample Date	11/19/2020	03/10/2021	11/19/2020	03/10/2021	11/19/2020	03/09/2021
Depth to Water (ft btoc)	11.36	11.5	15.36	15.42	15.2	15.22
Temperature (Deg C)	20.26	17.13	19.85	16.88	18.69	15.60
Conductivity, Field (uS/cm)	1150	1120	4620	4430	1820	1320
Turbidity, Field (NTU)	31.5	23.6	41.2	79.4	36.7	32.2
Boron, Total (mg/L)	**1.5**	**1.3**	**3.0**	**2.9**	**2.2**	**1.5**
Calcium, Total (mg/L)	**116**	**119**	**513**	**510**	**209**	**172**
Chloride (mg/L)	**33.4**	**30.3**	**515**	**583**	**81.7**	**61.1**
Fluoride (mg/L)	**4.9**	**4.4**	**3.8**	**3.8**	**2.8**	**2.7**
Sulfate (mg/L)	**144**	**128**	**1810**	**2050**	**409**	**301**
pH (lab) (SU)	**7.6**	**7.3**	**7.2**	**7.1**	**7.1**	**7.2**
Total Dissolved Solids (TDS) (mg/L)	**708**	**722**	**5510**	**4350**	**1230**	**981**
Arsenic, Total (mg/L)	**0.070**	**0.039**	**0.015**	**0.015**	**0.022**	**0.0049**
Barium, Total (mg/L)	**0.18**	**0.14**	**0.047**	**0.043**	**0.039**	**0.036**
Cobalt, Total (mg/L)	-	**0.0011**	-	< 0.0010	-	**0.0014**
Fluoride (mg/L)	**4.9**	**4.4**	**3.8**	**3.8**	**2.8**	**2.7**
Lithium, Total (mg/L)	**0.058**	**0.052**	**0.084**	**0.096**	**0.028**	**0.028**
Molybdenum, Total (mg/L)	**0.036**	**0.026**	**0.055**	**0.049**	**0.054**	**0.048**
Radium-226 & 228 (pCi/L)	**1.77 ± 0.885 (1.40)**	**1.78 ± 0.834 (1.10)**	0.868 ± 0.888 (1.55)	**1.28 ± 0.674 (1.07)**	1.66 ± 1.02 (1.68)	**1.20 ± 0.586 (0.936)**

Notes:

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Radiological results are presented as activity plus or minus uncertainty with MD
[1] Sampling completed following well development and may not be representati
µS/cm = micro Siemens per centimeter
Deg C = degrees Celsius
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mg/L = milligrams per liter
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TABLE IV
ASSESSMENT GROUNDWATER MONITORING - DETECTED APPENDIX IV GWPS
MARCH AND SEPTEMBER 2020 SAMPLING EVENTS
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Well Number	Background Value[1]	GWPS
CCR Appendix-IV Arsenic, Total (mg/L)		
MW-37 (upgradient)	0.00940	NA
MW-38		0.010
MW-39		0.010
MW-40		0.010
MW-K		0.010
MW-L		0.010
CCR Appendix-IV Barium, Total (mg/L)		
MW-37 (upgradient)	0.0601	NA
MW-38		2
MW-39		2
MW-40		2
MW-K		2
MW-L		2
CCR Appendix-IV Fluoride, Total (mg/L)		
MW-37 (upgradient)	0.455[2]	NA
MW-38		4.0
MW-39		4.0
MW-40		4.0
MW-K		4.0
MW-L		4.0
CCR Appendix-IV Lithium, Total (mg/L)		
MW-37 (upgradient)	0.0207	NA
MW-38		0.040
MW-39		0.040
MW-40		0.040
MW-K		0.040
MW-L		0.040
CCR Appendix-IV Molybdenum, Total (mg/L)		
MW-37 (upgradient)	0.140	NA
MW-38		0.140
MW-39		0.140
MW-40		0.140
MW-K		0.140
MW-L		0.140
CCR Appendix-IV Radium-226 & 228 Combined (pCi/L)		
MW-37 (upgradient)	1.608	NA
MW-38		5
MW-39		5
MW-40		5
MW-K		5
MW-L		5

Notes and Abbreviations:

[1] Interwell background value based on background data collected through March 2019.

[2] Interwell background value based on background data collected through September 2019.

CCR = Coal Combustion Residuals

GWPS = Groundwater Protection Standard

mg/L = milligrams per liter

NA = Not Applicable

pCi/L = picoCuries per Liter

FIGURES

LEGEND

MONITORING WELL

ASH PONDS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: ESRI, APRIL 17, 2018.

N

0 250 500

SCALE IN FEET

HALEY ALDRICH

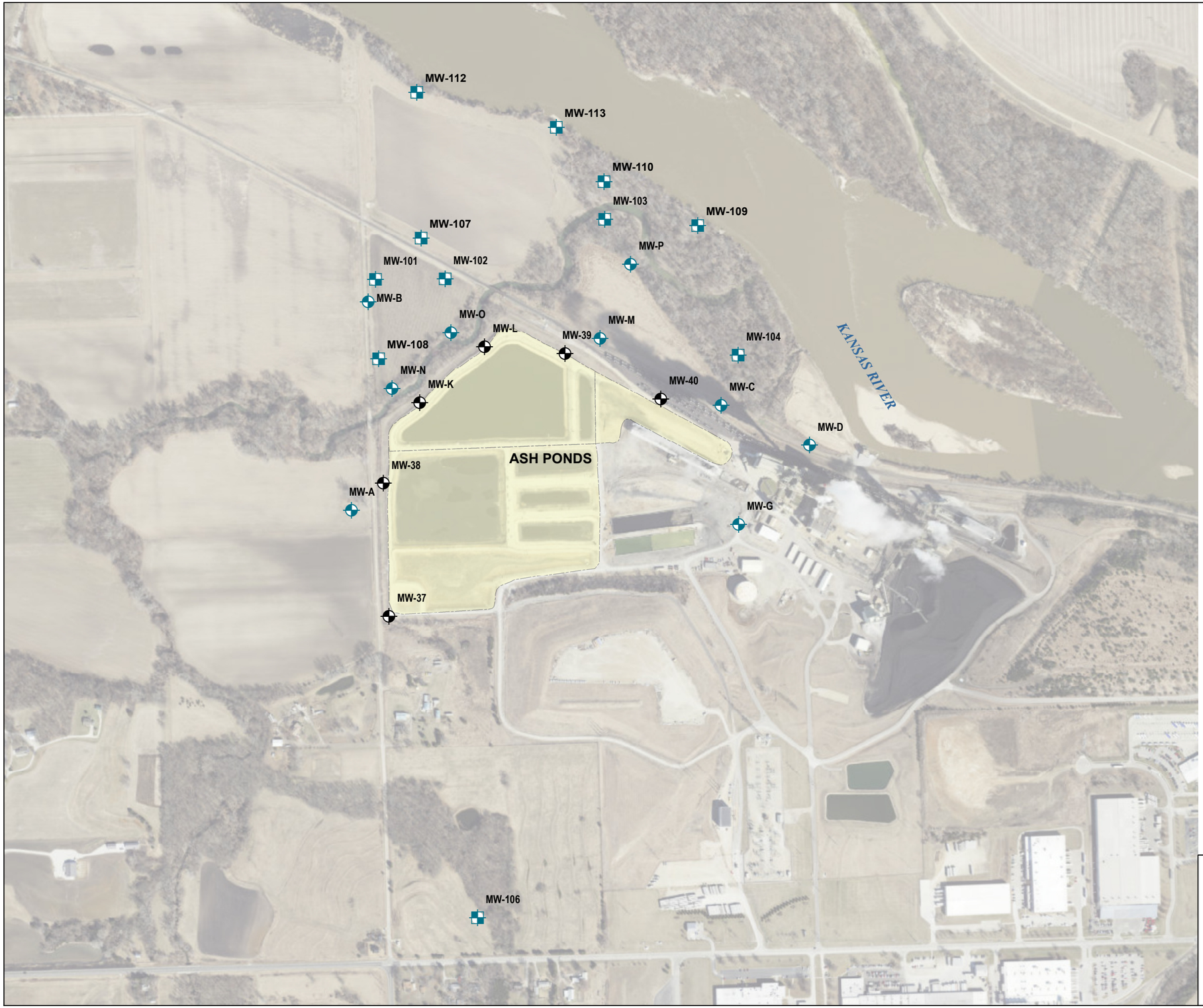
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) LOCATION MAP

evergy

JULY 2021

FIGURE 1



LEGEND

- CCR COMPLIANCE MONITORING WELL
- N&E WELL - NEWLY INSTALLED MONITORING WELL
- N&E WELL - HISTORIC MONITORING WELL
- ASH PONDS (INACTIVE)

NOTES:

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. N&E WELL = HISTORIC MONITORING WELL
3. HISTORIC MONITORING WELLS INITIALLY INSTALLED IN 1998.
4. AERIAL IMAGERY SOURCE: ESRI, APRIL 17, 2018

N

0 620 1,240

SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) NATURE AND EXTENT MONITORING WELL LOCATION MAP

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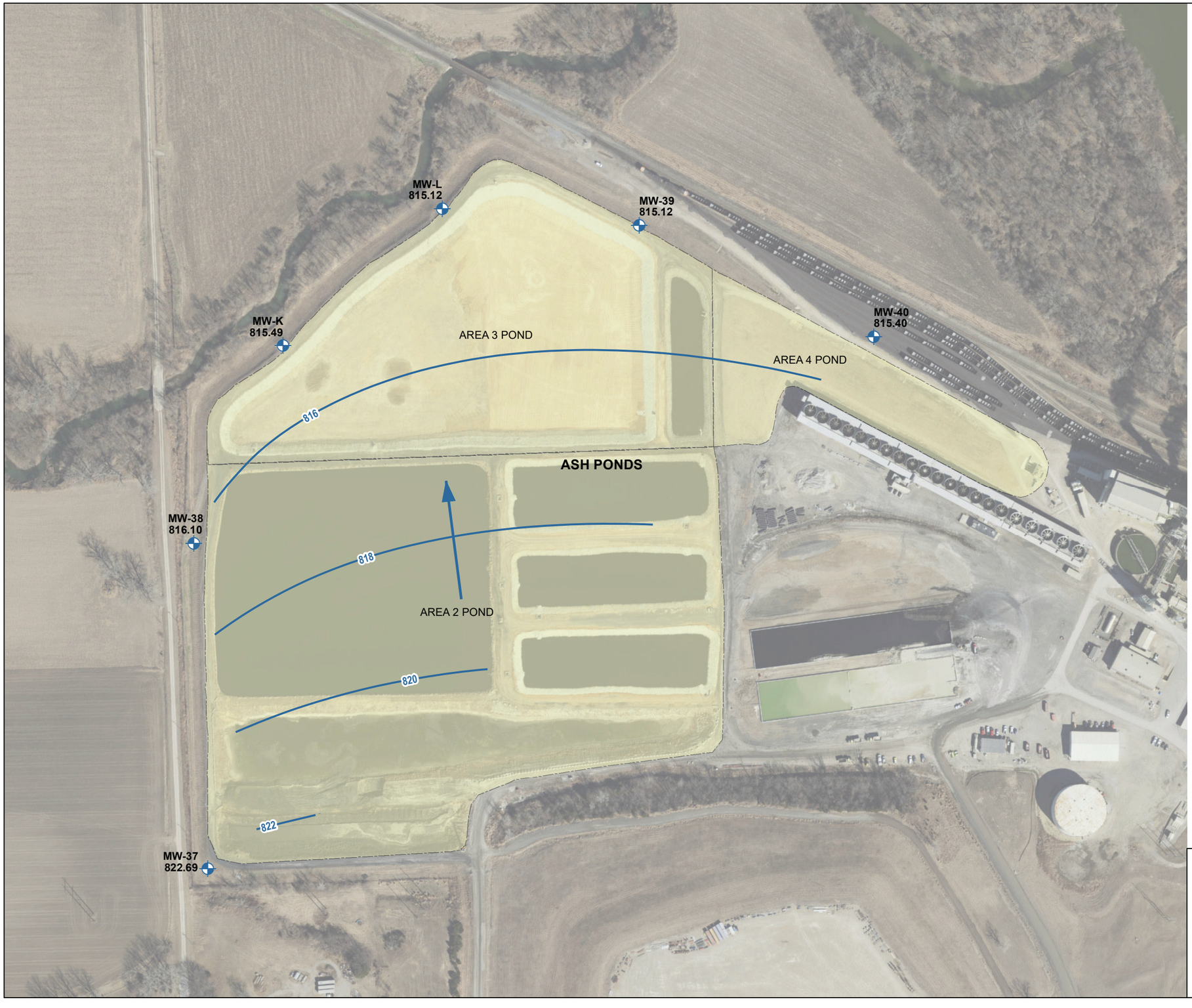
JULY 2021

FIGURE 2



LEGEND

MW-L 816.12 WELL NAME AND GROUNDWATER ELEVATION (SEPTEMBER 2020)

MONITORING WELL

GROUNDWATER POTENTIOMETRIC OBSERVATION ESTIMATED ELEVATION CONTOUR, 2-FT INTERVAL

GROUNDWATER FLOW DIRECTION

ASH PONDS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 14 SEPTEMBER 2020.
3. AMSL = ABOVE MEAN SEA LEVEL
4. AERIAL IMAGERY SOURCE: ESRI, 17 APRIL 2018

N

0 250 500

SCALE IN FEET

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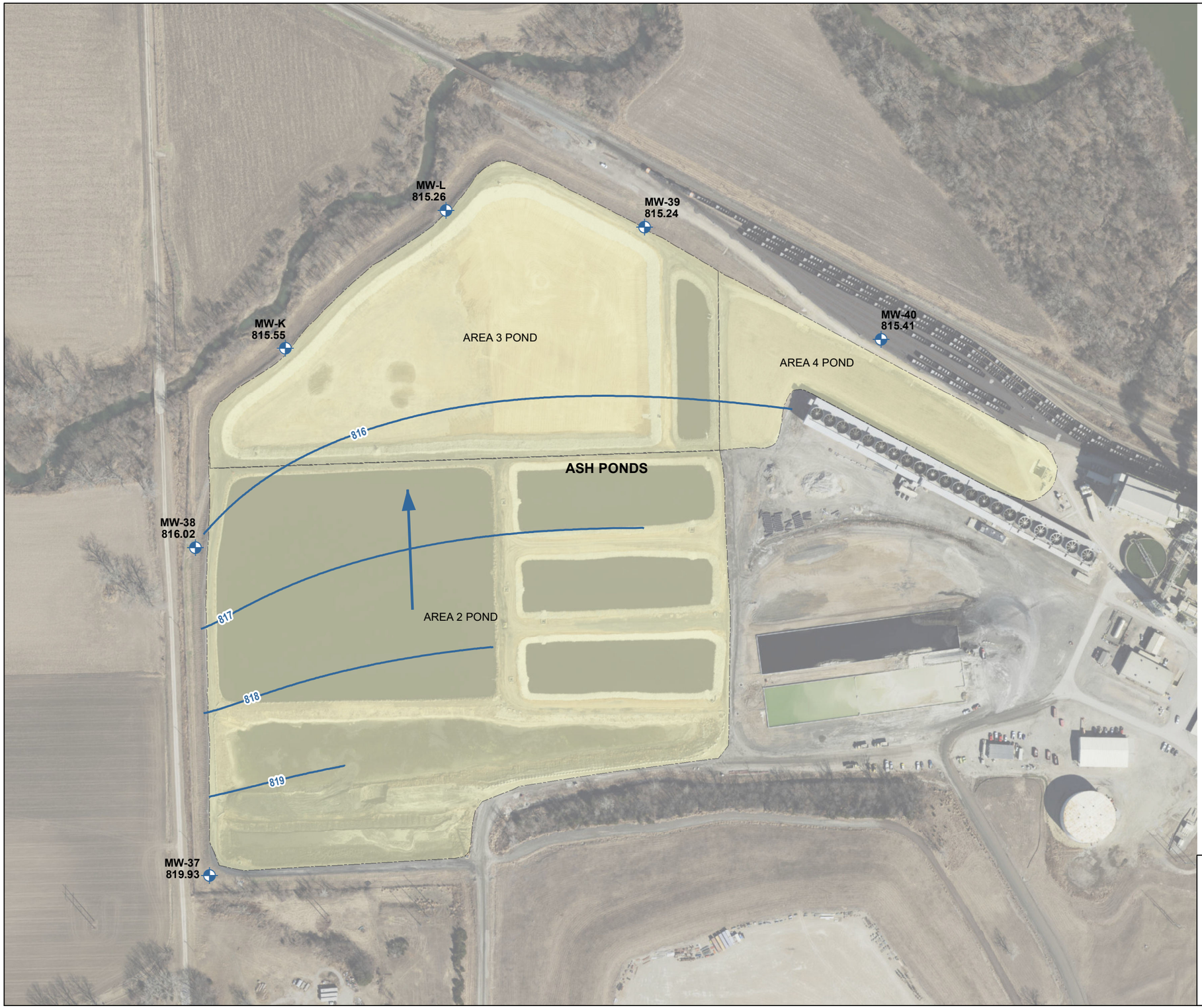
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP SEPTEMBER 14, 2020

evergy

JULY 2021

FIGURE 3



LEGEND

MW-L 815.26 WELL NAME AND GROUNDWATER ELEVATION (DECEMBER 2020)

MONITORING WELL

GROUNDWATER POTENTIOMETRIC OBSERVATION ESTIMATED ELEVATION CONTOUR,1-FT INTERVAL

GROUNDWATER FLOW DIRECTION

ASH PONDS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 1 DECEMBER 2020.
3. AMSL = ABOVE MEAN SEA LEVEL
4. AERIAL IMAGERY SOURCE: ESRI, 17 APRIL 2018

N

0 250 500

SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP DECEMBER 1, 2020

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JULY 2021

FIGURE 4

LEGEND

MW-L 815.26	WELL NAME AND GROUNDWATER ELEVATION (MARCH 2021)
	MONITORING WELL
	GROUNDWATER POTENTIOMETRIC OBSERVATION ESTIMATED ELEVATION CONTOUR, 1-FT INTERVAL
	GROUNDWATER FLOW DIRECTION
	ASH PONDS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 09 MARCH 2021.
3. AMSL = ABOVE MEAN SEA LEVEL
4. AERIAL IMAGERY SOURCE: ESRI, 17 APRIL 2018

N

0 250 500
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP MARCH 9, 2021

evergy

JULY 2021

FIGURE 5

ATTACHMENT 1

March 2020 Sampling Event
Appendix IV Statistically Significant Level
Alternate Source Demonstrations (ASD)
Inactive Ash Ponds

HALEY ALDRICH

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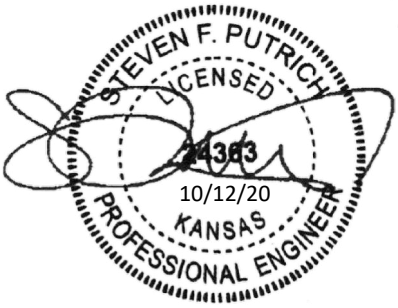
REPORT ON
MARCH 2020 SAMPLING EVENT
APPENDIX IV STATISTICALLY SIGNIFICANT LEVEL ALTERNATE SOURCE DEMONSTRATION (ASD)
FOR THE INACTIVE ASH PONDS
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS



By Haley & Aldrich, Inc.
Cleveland, Ohio

For Evergy Kansas Central, Inc.
Topeka, Kansas

File No. 129778-037
October 2020

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Executive Summary

Pursuant to Code of Federal Regulations Title 40 (40 CFR) § 257.94(e)(2), Haley & Aldrich, Inc., on behalf of Evergy Kansas Central (Evergy; formerly Westar Energy, Inc.), conducted an alternate source evaluation at the Area 2 Pond (inactive), Area 3 Pond (inactive) and Area 4 Pond (inactive; collectively, inactive Ash Ponds) at the Lawrence Energy Center (LEC) located in Lawrence, Kansas, to demonstrate that a source other than the inactive Ash Ponds caused a statistically significant level (SSL) identified during coal combustion residual (CCR) assessment monitoring.

The purpose of the subject evaluation is to demonstrate whether a source other than the inactive Ash Ponds caused a SSL for fluoride in the March 2020 groundwater sample collected from monitoring well MW-38 located down gradient of the inactive Ash Ponds. As outlined in this report, additional SSLs were identified for the inactive Ash Ponds during the March 2020 sampling event which are not evaluated in this report but are undergoing additional consideration.

This demonstration and the underlying data support the conclusion that the naturally occurring presence of fluoride and its natural variability in groundwater is the likely source of the fluoride SSL seen at CCR monitoring well MW-38, and therefore the fluoride SSL is not attributed to the LEC inactive Ash Ponds.

1. Introduction

Haley & Aldrich, Inc. (Haley & Aldrich) was retained by Evergy to perform an evaluation of groundwater quality at the inactive Ash Ponds at the LEC located in Lawrence, Kansas. The purpose of the evaluation was to demonstrate whether a source other than the inactive Ash Ponds caused a SSL for fluoride in the March 2020 groundwater sample collected from monitoring well MW-38 located down gradient of the inactive Ash Ponds. As outlined in Section 1.1, additional SSLs were identified for the inactive Ash Ponds during the March 2020 sampling event. The review of these SSLs is ongoing and will be outlined under another cover as applicable.

1.1 BACKGROUND

Consistent with 40 CFR § 257.90 through § 257.95, Evergy has installed and certified a groundwater monitoring network for the inactive Ash Ponds at the LEC and collected eight rounds of groundwater samples for the analysis of Appendix III and IV baseline constituents in accordance with the CCR Rule (Rule). Results of the detection monitoring statistical evaluations completed in March 2019 identified statistically significant increased (SSI) concentrations of Appendix III constituents in down gradient monitoring wells relative to concentrations observed in up gradient monitoring wells. To date, no alternative source has been identified for the Appendix III constituents with SSIs. Accordingly, the groundwater monitoring program transitioned to assessment monitoring in December 2019, and Evergy is currently implementing an assessment monitoring program.

In July 2020, Haley & Aldrich conducted a statistical evaluation of the groundwater quality results collected in March 2020 (round 1 of the semi-annual CCR groundwater monitoring events for 2020), with data reviewed and validated in April 2020, to determine if Appendix IV constituents were present in groundwater samples collected from down-gradient monitoring wells at concentrations at a SSL above the groundwater protection standard (GWPS). The statistical evaluation of the Appendix IV constituents detected potential SSLs above the GWPS for the following constituents:

- Arsenic (MW-38, MW-39, MW-40, MW-K, and MW-L);
- Fluoride (MW-38);
- Lithium (MW-38, MW-40, MW-K, and MW-L); and
- Molybdenum (MW-39).

Pursuant to 40 CFR § 257.95(g)(3)(ii), ***the owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality***. The Rule provides 90 days from determination that an SSL over background exists to complete an Alternate Source Demonstration (ASD) for Appendix IV constituents or pursuit of a corrective measures assessment (CMA) for the applicable SSLs must begin. If a successful ASD is completed and certified by a qualified professional engineer, the CCR unit is to continue in assessment monitoring. If, however, an alternate source of the Appendix IV SSL is not identified, the owner or operator must initiate a CMA. This report documents the findings and

conclusions of an ASD completed for fluoride at the inactive Ash Ponds at LEC. The CCR Rule, in accordance with § 257.96, allows for the ongoing consideration of an ASD for all SSLs after the 90-day period, and in the case of the LEC inactive ponds, the recently identified SSLs for arsenic, lithium, and molybdenum will continue to be considered in the further development of the ongoing CCR groundwater monitoring database for potential ASDs, as appropriate.

1.2 SITE SETTING

The LEC is located adjacent to the Kansas River, northwest of the City of Lawrence in Douglas County, Kansas (Figure 1). The site is located within the Central Lowland physiographic province which includes rolling hills overlying nearly horizontal thin beds of alternating shale and limestone. The inactive Ash Ponds are located to the west of the LEC plant site and are monitored by a multi-unit groundwater monitoring system. The LEC plant site and the inactive Ash Ponds are in an area characterized by natural ground surface elevations varying from 830 to 860 feet above mean sea level.

1.3 SITE DESCRIPTION

The inactive Ash Ponds consist of a series of settling ponds that were historically used to manage CCR material but have been replaced by a concrete tank system. The LEC inactive Ash Ponds and associated groundwater monitoring well network are shown on Figure 2.

2. Site Geology and Hydrogeology

Geologic and hydrogeologic conditions beneath the inactive Ash Ponds have been characterized based on information obtained during installation and testing of the monitoring wells installed as part of the CCR groundwater monitoring network.

2.1 SITE GEOLOGY

Geologic units that underlie the inactive Ash Ponds are roughly horizontal with a regional dip northwest and consist of poorly sorted terrace deposits consisting of reworked glacial till material that includes clay, sand, and gravel, and a shale member of the Tonganoxie member. The alluvium deposits represent Kansas River floodplain deposits and are underlain by interbedded shale and limestone strata representing transgression and regression of marine and near-shore depositional environments. The uppermost aquifer beneath the inactive Ash Ponds consists of unconsolidated alluvium.

2.2 SITE HYDROGEOLOGY AND HYDROLOGY

The terrace deposits underlying the inactive Ash Ponds are unconfined; unsaturated material above the uppermost aquifer are composed of the same terrace deposit materials as the saturated aquifer. The thickness of the unsaturated materials observed at the inactive Ash Ponds is based on the observed static water level and corresponds to the linear distance from ground surface to the uppermost aquifer. Haley & Aldrich has made direct observation of the unsaturated material overlying the uppermost aquifer based on drilling conducted at the inactive Ash Ponds. Based on direct observations made during groundwater monitoring conducted between March 2018 and September 2020, the unsaturated material overlying the uppermost aquifer at the site is up to 28 feet thick.

The water-bearing geologic formation nearest the natural ground surface at the inactive Ash Ponds that is capable of yielding groundwater to wells or springs is the terrace deposits which consist of reworked glacial till material that includes poorly sorted clay, sand, and gravel. The terrace deposits have a local maximum thickness of approximately 55 feet. The saturated thickness of the uppermost aquifer beneath the inactive Ash Ponds is approximately 21 to 38 feet based on observations made during drilling conducted at the inactive Ash Ponds in January 2019.

Review of the Kansas Geological Survey Water Well Completion Records (KGS WWC-5) Database indicates that the terrace deposit aquifer may be used for water supply in the vicinity of the inactive Ash Ponds. The nearest well (well #12107) listed in the KGS WWC-5 Database is a domestic well located approximately 0.6 mile to the southwest and is up gradient of the inactive Ash Ponds. Well #12107 is reported to be completed at a depth of 39 feet below ground surface, producing groundwater at a reported rate of 10 gallons per minute (gpm). The terrace deposit aquifer contains sufficient water to support low yield wells and springs and sufficient water to facilitate consistent groundwater monitoring of the saturated formation directly beneath the inactive Ash Ponds, and is therefore characterized as the uppermost aquifer beneath the inactive Ash Ponds.

The materials comprising the terrace deposits beneath the inactive Ash Ponds were observed directly during November 2017 drilling at monitoring wells MW-37 through MW-40. The drilling, completion, and testing of these monitoring wells yielded site-specific geologic data that were used in combination with other site-specific data developed during previous characterization activities and well installation activities to determine the appropriate number, depth, and spacing of the monitoring wells at the inactive Ash Ponds. Site-specific aquifer property values describing the alluvium and associated confining units developed during past and recent characterization activities are provided below.

Based on groundwater elevations measured between March 2018 and January 2019, the groundwater gradient in the upper aquifer unit is approximately 0.005 to 0.009 feet per foot and is unconfined. Groundwater flow direction is generally to the north/northwest.

Hydraulic conductivity of the uppermost aquifer was calculated using data generated from slug tests conducted on monitoring wells installed in the glacial deposits adjacent to the inactive Ash Ponds. The hydraulic conductivity of the clay deposits range from approximately $2.0x10^{-7}$ to $1.8x10^{-6}$ centimeters per second (cm/sec; Black & Veatch, 2005). In comparison, the hydraulic conductivity within the sand and gravel deposits range from approximately $1.5x10^{-3}$ to $4.2x10^{-3}$ cm/sec (Black & Veatch, 2005). The groundwater flow rate was calculated using hydraulic conductivity values and effective porosity obtained from published sources and groundwater elevation data measured between March 2018 and January 2019. Based on estimates for similar material, effective porosity of the alluvium is estimated to be 0.1 to 0.2 percent (Fetter, 1980). The calculated groundwater flow velocity ranges from 11.6 to 182 feet per year.

A shale unit of the Tonganoxie sandstone member comprises the confining unit underlying the uppermost aquifer at the inactive Ash Ponds. The reported thickness of the shale unit of the Tonganoxie sandstone member at other drill locations on the LEC site is between 55 and 65 feet. The results of packer tests conducted during previous studies indicate that the hydraulic conductivity in the shale unit of the Tonganoxie sandstone member is $1x10^{-6}$ cm/sec. The effective porosity is estimated to be 1 percent. Based on the reported hydraulic conductivity, the shale unit of the Tonganoxie sandstone member is characterized as an aquitard.

3. Alternate Source Demonstration

Haley & Aldrich conducted an evaluation of potential alternate sources that included review of sampling procedures, laboratory procedures, and statistical analyses to determine if potential errors may have been made that would result in the apparent SSL of fluoride down gradient of the inactive Ash Ponds. Haley & Aldrich also evaluated potential point and non-point sources of contamination in the immediate vicinity in the terrace deposits beneath the inactive Ash Ponds and evaluated natural geologic conditions and the effect of those conditions on native groundwater chemistry. Each of these analyses and the resulting findings are described below.

3.1 REVIEW OF FIELD SAMPLING, LABORATORY ANALYSIS, AND STATISTICAL PROCEDURES

3.1.1 Field Sampling Procedures

Evergy and Haley & Aldrich conducted the field sampling activities in accordance with the Groundwater Sampling and Analysis Plan (SAP; Haley & Aldrich, 2020) that was prepared in accordance with § 257.93 of the CCR Rule. The SAP prescribes the site-specific activities and methods for groundwater sampling and included procedures for field data collection, sample collection, sample preservation and shipment, interpretation, laboratory analytical methods, and reporting for groundwater sampling for the inactive Ash Ponds. The administrative procedures and frequency for collection of groundwater elevation measurements, determination of flow directions, and gradients were also provided in the SAP.

Haley & Aldrich reviewed the field sampling and the field indicator parameters and did not identify any apparent deviations or errors in sampling that would result in a potential SSL for fluoride downgradient of the inactive Ash Ponds.

3.1.2 Laboratory Analysis

The groundwater samples collected down gradient of the inactive Ash Ponds were analyzed by Pace Analytical Services using standard analytical methods. The data generated from these laboratory analyses are stored in a project database that incorporates hydrogeologic and groundwater quality data and was established to allow efficient management of chemical and physical data collected in the field and produced in the laboratory. The analytes, analytical methods, sample containers, field preservation, and maximum analytical holding times for monitoring are summarized in the SAP (Haley & Aldrich, 2020).

Haley & Aldrich conducted a quality assurance/quality control review of each groundwater quality dataset generated for the inactive Ash Ponds and has not identified any apparent errors that would result in a potential SSL for fluoride downgradient of the inactive Ash Ponds.

3.1.3 Analytical Data

Sixteen groundwater samples, including four duplicates, have been collected at MW-38 since March 2019. Fluoride concentrations at MW-38 have fluctuated over time, with concentrations ranging from 2.0 milligrams per liter (mg/L) to 5.5 mg/L. A summary of field parameters and fluoride results are provided in Table I.

During the March 2020 sampling event, the fluoride concentration at monitoring well MW-38 was detected at 4.6 mg/L, which was above the GWPS of 4.0 mg/L; therefore, a potential SSL was recorded. Subsequent groundwater sampling was completed at MW-38 after the March 2020 sampling event (September 2020) produced a fluoride concentration of 2.8 mg/L, which is below the fluoride GWPS.

3.1.4 Statistical Evaluation

Evergy and Haley & Aldrich collected groundwater samples from the up gradient (MW-37) and down gradient (MW-38, MW-39, MW-40, MW-K, and MW-L) monitoring wells at the inactive Ash Ponds in March 2020 for CCR Rule compliance. Haley & Aldrich has reviewed the statistical analysis of groundwater quality data for monitoring well MW-38 and has not identified apparent errors that would result in a potential SSL for fluoride at monitoring well MW-38. The March 2020 fluoride concentration at monitoring well MW-38 is not an outlier and the fluoride concentration at monitoring well MW-38 presents a stable trend. The statistical test method used met the performance standard established in the CCR Rule and statistical evaluation complies with the requirements of the Rule.

3.2 POTENTIAL POINT AND NON-POINT SOURCES

Haley & Aldrich conducted a review of potential point and non-point sources of elevated fluoride in the vicinity of the inactive Ash Ponds to determine if previous or adjacent site activities, land uses, or practices might have caused (or are currently causing) elevated fluoride concentrations to occur down gradient of the inactive Ash Ponds. Potential point sources would include discharging activities or other activities occurring at a discrete location in the vicinity of the observed SSL that may potentially concentrate fluoride in that area. Non-point sources would include diffuse discharging activities or practices that may result in a low level but wide-spread increase in concentrations of fluoride down gradient of the inactive Ash Ponds.

3.2.1 Point Sources

Prior to construction of the inactive Ash Ponds, the area and surrounding vicinity was used as agricultural land followed by light industrial. Buildings were constructed near the inactive Ash Ponds as early as 1991. No known industrial, agricultural, mining, or other activities were conducted at the inactive Ash Ponds prior to construction of the ponds that would potentially constitute a point source to concentrate fluoride in the vicinity of the observed SSL. No point sources have been identified as a potential ASD for the Appendix III SSL for fluoride at the inactive Ash Ponds.

3.2.2 Non-Point Sources

No mining or other activities have been documented in the immediate vicinity of the inactive Ash Ponds that might constitute a non-point source of fluoride at the location of the observed SSL. Historical agricultural land use was observed at the location of, adjacent to, and cross-gradient of the inactive Ash Ponds. No current agricultural activities have been identified up gradient of the inactive Ash Ponds. Records reviewed included historical aerial photographs and historical topographic maps. No current non-point sources have been identified that may constitute an alternate source of fluoride at the inactive Ash Ponds.

3.3 HISTORICAL LAND USE REVIEW

Haley & Aldrich assessed past usage of the site and adjoining properties through a review of the following records:

- Environmental Data Resources, Inc. (EDR) – Aerial Photographs dated 1948, 1950, 1967, 1970, 1977, 1985, 1991, 1996, 2002, 2006, 2010, 2014, and 2017 (Appendix A); and
- EDR – Topographic Maps dated 1886, 1888, 1894, 1949, 1950, 1951, 1967, 1978, 1994, and 2012 (Appendix B).

Unless otherwise noted below, sources were reviewed dating back to 1940 or first developed use, whichever was earlier, and at 5-year intervals if the use of the property had changed within the time period. Areas designated as 'unmapped' are areas that were not available from EDR for the listed year; however, available adjoining map areas were provided for review.

3.3.1 Historical Aerial Photographs

Haley & Aldrich reviewed aerial photographs depicting the development of the site and vicinity, as summarized in Table II. The historical aerial photograph search includes photographs from the United States Department of Agriculture, United States Geological Survey, National High-Altitude Photography, National Agriculture Information Program, Digital Orthophoto Quarter Quads, and National High Altitude Photography (EDR, 2020) and are included in Appendix A.

Photographs show that the site was undeveloped in 1948. Development of the inactive Ash Ponds started prior to 1967.

3.3.2 Historical Topographic Maps

Haley & Aldrich reviewed historical topographic maps depicting the development of the site and vicinity, as summarized in Table III, to determine historic site usage and development. The topographic maps were provided for review by EDR. Copies of the topographic maps are included in Appendix B.

3.4 REGIONAL WATER QUALITY AND NATURAL VARIABILITY IN GROUNDWATER

Haley & Aldrich conducted a search of recent available water quality reports produced by the City of Lawrence and a search of the National Water Quality Monitoring Council Water Quality Data for publicly available data to develop an understanding of local and regional fluoride levels observed in groundwater and surface water in the vicinity of the inactive Ash Ponds. Table IV shows reported dissolved fluoride values in groundwater that exceed the GWPS for fluoride reported by the National Water Quality Monitoring Council for select historical monitoring wells within the vicinity of the inactive Ash Ponds. Dissolved fluoride values range from 0.05 to 12 mg/L in the vicinity of the inactive Ash Ponds (National Water Quality Monitoring Council, 2020). The fluoride values are reported as dissolved fluoride, whereas fluoride values collected from the Evergy LEC compliance monitoring were analyzed as total fluoride. Based on this information, it is evident that regionally reported fluoride concentrations exist which are higher than the total fluoride values at monitoring well MW-38 reported in March 2020. Total fluoride concentrations from MW-38 have ranged from 2.0 to 5.5 mg/L, which are consistent with reported naturally occurring fluoride values in groundwater in the region.

4. Findings and Conclusions

Haley & Aldrich conducted an evaluation of groundwater quality at the LEC inactive Ash Ponds to identify the source of a potential SSL of fluoride observed in monitoring well MW-38 located down gradient of the inactive Ash Ponds. The evaluation included a review of sampling procedures, laboratory procedures, and statistical analyses to determine if potential errors may have been made that would result in the apparent SSL of fluoride down gradient of the inactive Ash Ponds. Haley & Aldrich also evaluated potential point and non-point sources of contamination in the vicinity of the inactive Ash Ponds.

Haley & Aldrich found no errors in sampling, laboratory analysis, data management, or statistical analysis that would result in a potential SSL for fluoride down gradient of the inactive Ash Ponds. Haley & Aldrich found no evidence of historical point or non-point sources of potential fluoride in the vicinity of the inactive Ash Ponds.

Haley & Aldrich evaluated data and information describing the historical regional water quality, reviewed the historical fluoride data of MW-38, and confirmed statistical analyses of fluoride concentrations at MW-38. Key findings regarding the fluoride in groundwater at MW-38 are summarized below:

- Fluctuating total fluoride values observed in MW-38 (average 4.6 mg/L) are lower than observed regional naturally occurring dissolved fluoride values (up to 12 mg/L).
- The fluoride concentrations observed in MW-38 are statistically stable and do not present an upward trend.

Based on these findings, it is evident that fluoride in the groundwater at the inactive Ash Ponds monitoring well MW-38 is within the range of natural variability of groundwater in the vicinity of the inactive Ash Ponds and presents a statistically stable concentration trend.

Based on the data, information, research, and analyses conducted to date and presented in this document, Haley & Aldrich concludes that the source of fluoride resulting in an SSL at MW-38, down gradient of the inactive Ash Ponds, is natural groundwater quality variability and is associated with natural background conditions rather than an indication of groundwater quality associated with the LEC inactive units.

5. Closing

Pursuant to 40 CFR § 257.94(e)(2), Evergy conducted an alternate source evaluation to demonstrate that a source other than the inactive Ash Ponds caused the SSL identified during CCR assessment monitoring. This demonstration and the underlying data support the conclusion that the naturally occurring presence of fluoride and its natural variability in groundwater is the likely source of the fluoride SSL seen at CCR monitoring well MW-38; therefore, the fluoride SSL is not attributed to the LEC inactive Ash Ponds.

The information contained in this evaluation is, to the best of our knowledge, true, accurate, and complete.

HALEY & ALDRICH, INC.

Steven F. Putrich, P.E.
Project Principal

Mark Nicholls, P.G.
Lead Hydrogeologist

6. References

1. Black & Veatch, 2005. Phase II Hydrogeologic Site Investigation, Volume 1. January.

2. Environmental Data Resources, Inc., 2020. Database Report, October 2020.

3. Fetter, C.W, Jr., 1980. Applied Hydrogeology: Columbus, Ohio, Charles E. Merrill Publishing Co.

4. Haley & Aldrich, 2020. Groundwater Sampling and Analysis Plan, Lawrence Energy Center. October 2017 (Revised August 2020).

5. USGS, 2020. National Water Quality Information System Database search, https://www.waterqualitydata.us/portal/#countrycode=US&within=20&lat=39.00972&long=-95.27639&mimeType=csv

TABLES

TABLE I
SUMMARY OF MW-38 FLUORIDE ANALYTICAL RESULTS
EVERGY KANSAS CENTRAL, INC.
LAWERENCE ENERGY CENTER - INACTIVE ASH PONDS
LAWRENCE, KANSAS

Sample ID	Sample Date	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)	Field Parameters				Fluoride, Total (mg/L)
				Temperature (Deg C)	Conductivity (µS/cm)	Turbidity (NTU)	pH (su)	
MW-38-030718	3/7/2018	16.11	816.516	14.00	2824	2.14	7.45	**5.0**
DUP-030718	3/7/2018	--	--	--	--	--	--	**5.1**
MW-38-050918	5/9/2018	15.98	816.646	16.84	3080	0.46	7.75	**5.0**
DUP-050918	5/9/2018	--	--	--	--	--	--	3.5
MW-38-070218	7/2/2018	16.43	816.196	17.88	2790	1.36	7.44	**5.1**
MW-38-081418	8/14/2018	16.84	815.786	17.49	2770	1.41	7.51	**5.5**
DUP-081418	8/14/2018	-	-	-	-	-	-	**5.5**
MW-38-100318	10/3/2018	16.69	815.936	18.50	2830	0.39	7.42	**5.3**
MW-38-111918	11/19/2018	14.56	818.066	14.38	2830	1.08	7.23	**4.8**
MW-38-011119	1/11/2019	14.14	818.486	13.56	2800	0.72	7.41	**4.7**
DUP-011119	1/11/2019	--	--	--	--	--	--	**5.0**
MW-38-031919	3/19/2019	14.29	818.336	13.70	2940	0.85	7.13	**4.7**
MW-38	9/4/2019	10.65	821.976	16.41	2352	0.62	7.74	2.0
MW-38-120619	12/6/2019	14.04	818.586	14.49	2834	0.96	7.43	**5.0**
MW-38-031020	3/10/2020	14.93	817.696	10.59	2476	0.44	7.19	**4.9**
MW-38-091520	9/15/2020	16.53	816.096	20.54	2700	0.0	7.33	2.8

Notes:

BOLD value: *Detection above Groundwater Protection Standard (GWP S) of 4.0 mg/L*

µS/cm = micro Siemens per centimeter

Deg C = degrees Celsius

ft amsl = feet above mean sea level

ft btoc = feet below top of casing

mg/L = milligrams per liter

NTU = Nephelometric Turbidity Unit

su = standard unit

TABLE II
HISTORICAL AERIAL PHOTOGRAPH REVIEW SUMMARY
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Dates	Description of Site	Sources
1948 – 1967	Development of buildings at plant site. Areas to west and south appear to be undeveloped and agricultural land.	Aerial photos – USGS
1970 – 1977	Development of plant site structures; development of the Ash Ponds. Areas to west and south appear to be undeveloped and agricultural land. Increase in structures to the south.	Aerial photos – USGS
1985 – 2017	Development of plant site structures; Ash Ponds appear to be active. Increase in structures to the south.	Aerial photos – NHAP; USGS; NAIP; USDA; DOQQ

Notes:
DOQQ = Digital Orthophoto Quarter Quads
NAIP = National Agriculture Information Program
NHAP = National High-Altitude Photography
USDA = United States Department of Agriculture
USGS = United States Geological Survey

TABLE III
HISTORICAL TOPOGRAPHIC MAP REVIEW SUMMARY
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Dates	Description of Site and Adjacent Properties	Map Name
1886 – 1894	No apparent development at the site. Railroad present north-northeast of the site.	30-Minute Series, Oskaloosa Quadrangle
1949 – 1967	Power plant is depicted on the map. No development at Ash Ponds is depicted on the topographic map.	7.5-Minute Series, Williamstown, KS Quadrangle
1967 – 2012	The Ash Ponds are depicted on the topographic map.	7.5-Minute Series, Williamstown, KS Quadrangle

TABLE IV
HISTORICAL REGIONAL GROUNDWATER FLUORIDE DATA
EVERGY KANSAS CENTRAL, INC.
LAWERENCE ENERGY CENTER - INACTIVE ASH PONDS
LAWRENCE, KANSAS

Organization	Sample Media	Sample Date	Location Identifier	Latitude	Longitude	Dissolved Fluoride Results (mg/L)	Data Provider Name
USGS Kansas Water Science Center	Groundwater	6/22/1954	USGS-385003095064501	38.83417277	-95.1127475	**12**	NWIS
	Groundwater	5/26/1953	USGS-384544095265101	38.76222807	-95.4477558	**4.8**	NWIS
	Groundwater	5/26/1953	USGS-384728095265201	38.7911163	-95.4480333	**6**	NWIS
	Surface Water	5/15/1972	USGS-06890900	39.07500017	-95.4038634	**4**	NWIS
	Groundwater	5/26/1953	USGS-384702095242201	38.7838945	-95.4063657	**4.4**	NWIS
	Groundwater	4/20/1948	USGS-384649095211801	38.78028378	-95.3552534	**4.4**	NWIS
	Groundwater	6/21/1954	USGS-384858095143901	38.8161169	-95.2444173	**4.5**	NWIS
	Groundwater	6/9/1955	USGS-385722095020901	38.95611524	-95.0360798	**6**	NWIS
	Groundwater	5/12/1968	USGS-385204095174101	38.86778209	-95.2949738	**8**	NWIS

Notes:

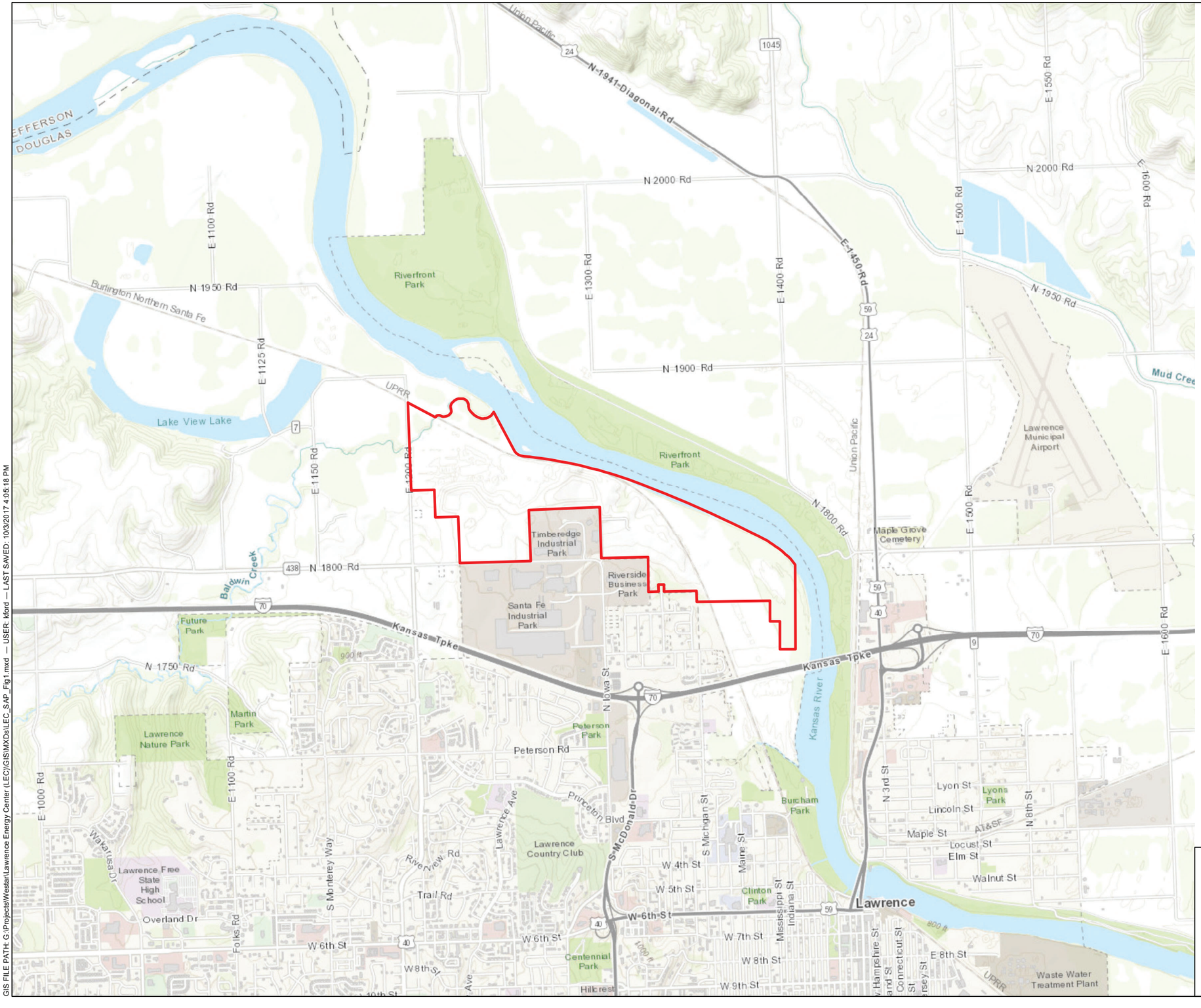
BOLD value *: Detection above Groundwater Protection Standard*

Data from the National Water Quality Monitoring Council, https://www.waterqualitydata.us/portal/#countrycode=US&within=20&lat=39.00972&long=-95.27639&mimeType=csv

mg/L = milligrams per liter

USGS = United States Geological Survey

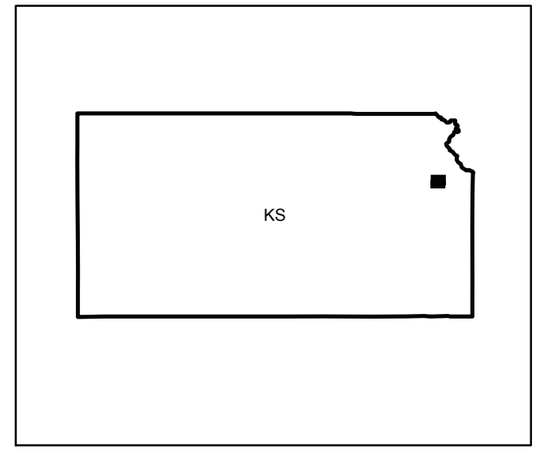
FIGURES



GIS FILE PATH: G:\Projects\Westar\Lawrence Energy Center (LEC)\GIS\MXDs\LEC_SAP_Fig1.mxd — USER: kford — LAST SAVED: 10/3/2017 4:05:18 PM

LEGEND

PROPERTY BOUNDARY



NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SITE COORDINATES: 39°0'25"N, 95°15'56"W
3. TOPOGRAPHIC IMAGERY SOURCE: ESRI

N

0 2,800 5,600

SCALE IN FEET

HALEY ALDRICH

WESTAR ENERGY
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

SITE LOCATION

OCTOBER 2020
SCALE: AS SHOWN

FIGURE 1

LEGEND

ASH PONDS

MONITORING WELL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. AERIAL IMAGERY SOURCE: ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE, APRIL 17, 2018.

3.AREA 2 POND (INACTIVE), AREA 3 POND (INACTIVE), AND AREA 4 POND (INCTIVE) ARE COLLECTIVELY KNOWN AS THE ASH PONDS.

N

0 250 500

SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

INACTIVE ASH PONDS MONITORING WELL LOCATION MAP

evergy

OCTOBER 2020
SCALE: AS SHOWN

FIGURE 2

APPENDIX A

EDR Historical Aerial Report

Evergy LEC

1250 N 1800 Road

Lawrence, KS 66044

Inquiry Number: 6216070.2

October 07, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

10/07/20

Site Name:

Evergy LEC
1250 N 1800 Road
Lawrence, KS 66044
EDR Inquiry # 6216070.2

Client Name:

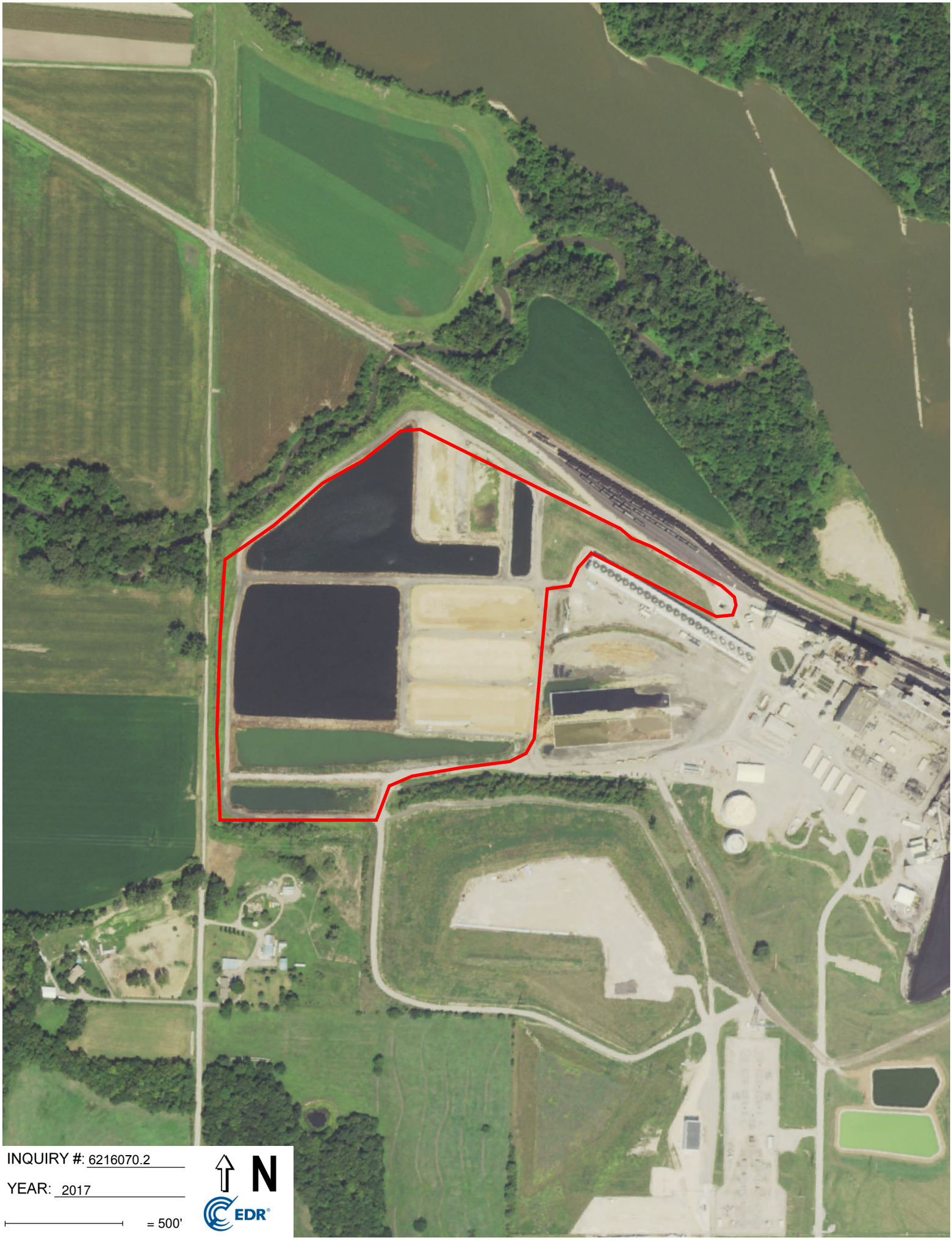
Haley & Aldrich
600 South Meyer Ave Suite 100
Tucson, AZ 85701-0000
Contact: Samantha Kaney

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2017	1"=500'	Flight Year: 2017	USDA/NAIP
2014	1"=500'	Flight Year: 2014	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2002	1"=750'	Flight Date: February 16, 2002	USGS
1996	1"=750'	Flight Date: March 10, 1996	USGS
1991	1"=500'	Acquisition Date: October 06, 1991	USGS/DOQQ
1985	1"=500'	Flight Date: June 28, 1985	NHAP
1977	1"=750'	Flight Date: May 09, 1977	USGS
1970	1"=500'	Flight Date: June 07, 1970	USGS
1967	1"=500'	Flight Date: August 28, 1967	USGS
1950	1"=500'	Flight Date: April 19, 1950	USGS
1948	1"=500'	Flight Date: June 09, 1948	USGS

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.


INQUIRY #: 6216070.2
YEAR: 2017
= 500'
N
EDR


INQUIRY #: 6216070.2
YEAR: 2014
= 500'
N
EDR

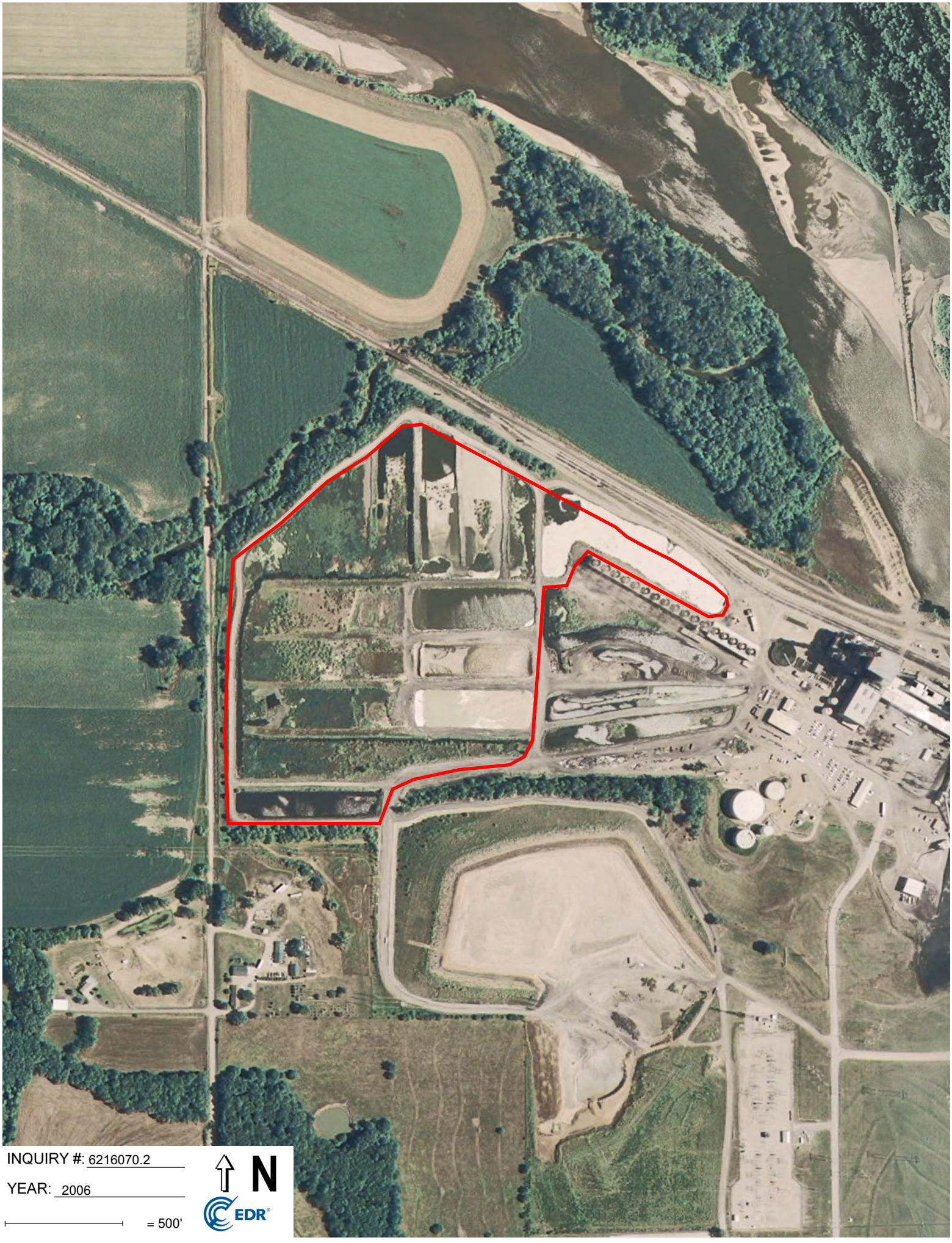
INQUIRY #: 6216070.2

YEAR: 2010

= 500'

N

EDR


INQUIRY #: 6216070.2
YEAR: 2006
= 500'
N
EDR

INQUIRY #: 6216070.2

YEAR: 2002

= 750'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

INQUIRY #: 6216070.2

YEAR: 1996

= 750'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

INQUIRY #: 6216070.2

YEAR: 1991

= 500'

N

EDR


INQUIRY #: 6216070.2
YEAR: 1985
= 500'
N
EDR

INQUIRY #: 6216070.2

YEAR: 1977

= 750'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

INQUIRY #: 6216070.2

YEAR: 1970

= 500'

N

EDR

INQUIRY #: 6216070.2

YEAR: 1967

= 500'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

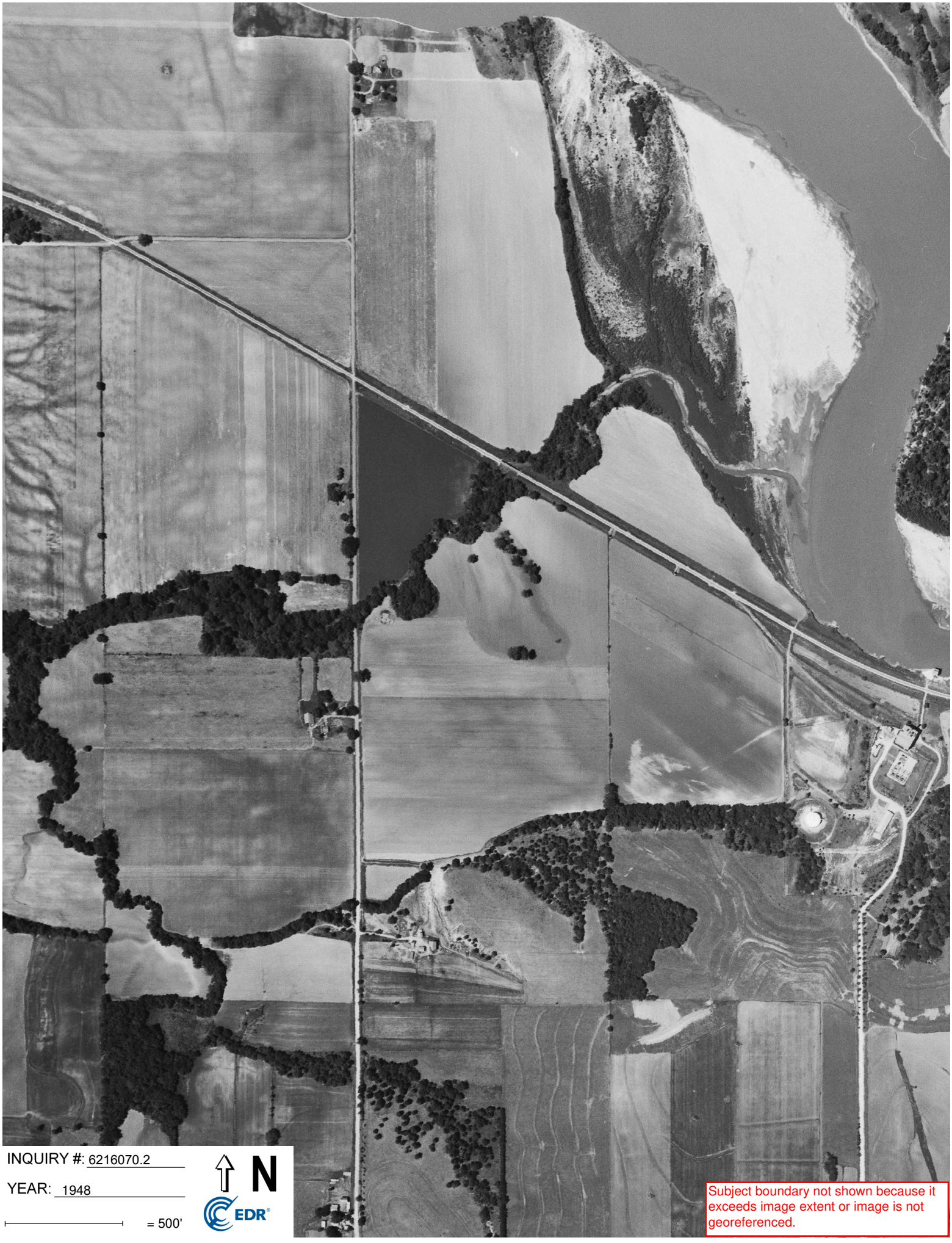
INQUIRY #: 6216070.2

YEAR: 1950

= 500'

N

EDR



INQUIRY #: 6216070.2

YEAR: 1948

= 500'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

APPENDIX B

EDR Topographic Map Research Results

Evergy LEC
1250 N 1800 Road
Lawrence, KS 66044

Inquiry Number: 6216070.1
October 05, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

10/05/20

Site Name:

Evergy LEC
1250 N 1800 Road
Lawrence, KS 66044
EDR Inquiry # 6216070.1

Client Name:

Haley & Aldrich
600 South Meyer Ave Suite 100
Tucson, AZ 85701-0000
Contact: Samantha Kaney

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Haley & Aldrich were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 129778-037 SID5

Project: Evergy LEC

Coordinates:

Latitude:	39.009703 39° 0' 35" North
Longitude:	-95.27633 -95° 16' 35" West
UTM Zone:	Zone 15 North
UTM X Meters:	302904.64
UTM Y Meters:	4320318.52
Elevation:	830.00' above sea level

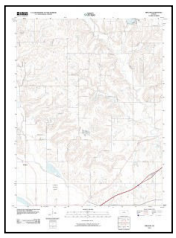
Maps Provided:

2012	1888, 1889
1994	1885, 1886
1978	
1967	
1951	
1950	
1949	
1894	

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

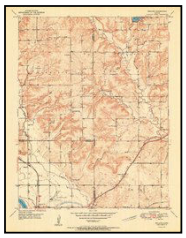
2012 Source Sheets



Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

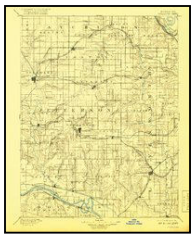
1951 Source Sheets



Topo Sheet Key

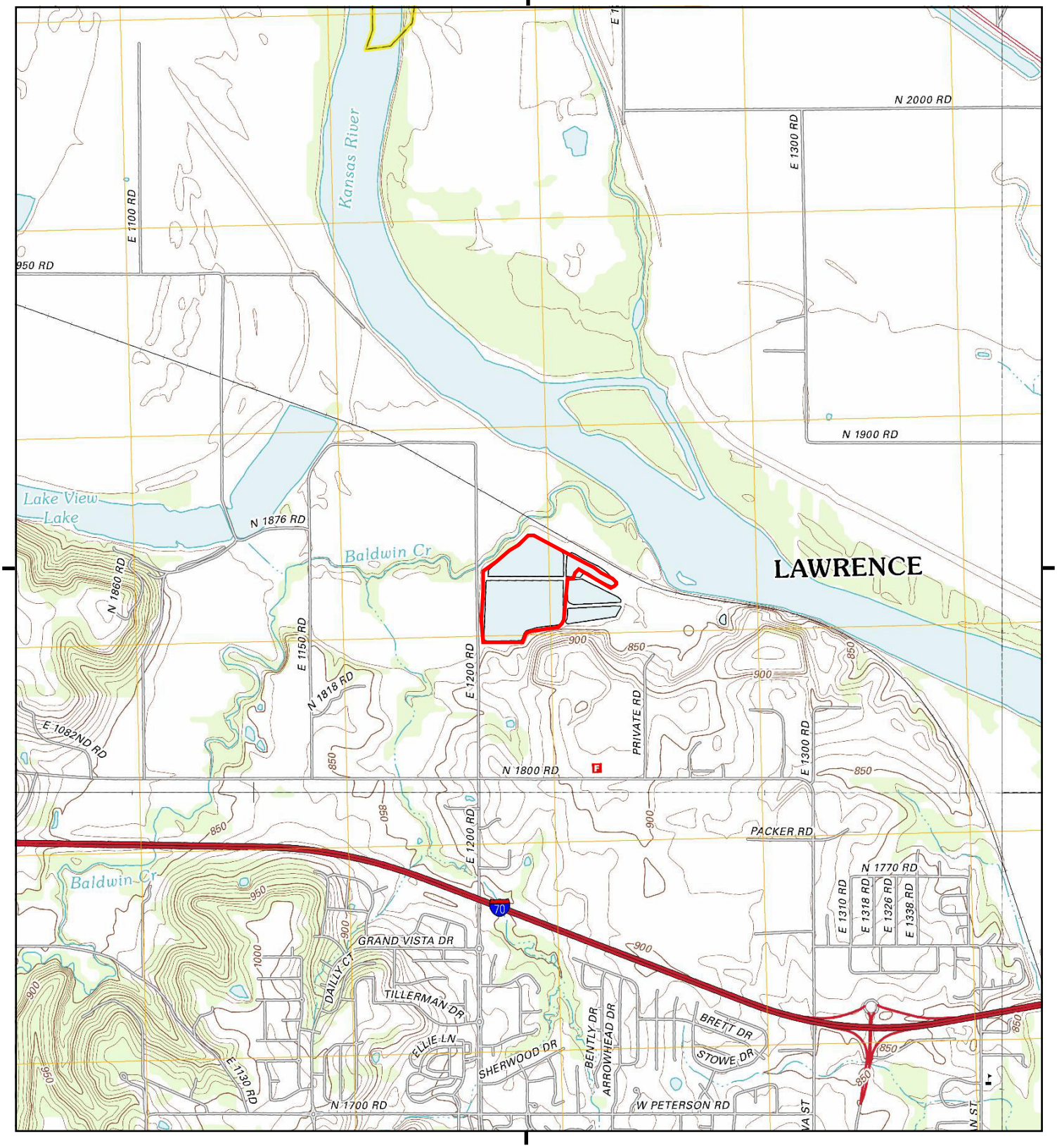
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1894 Source Sheets



Historical Topo Map

2012



This report includes information from the following map sheet(s).

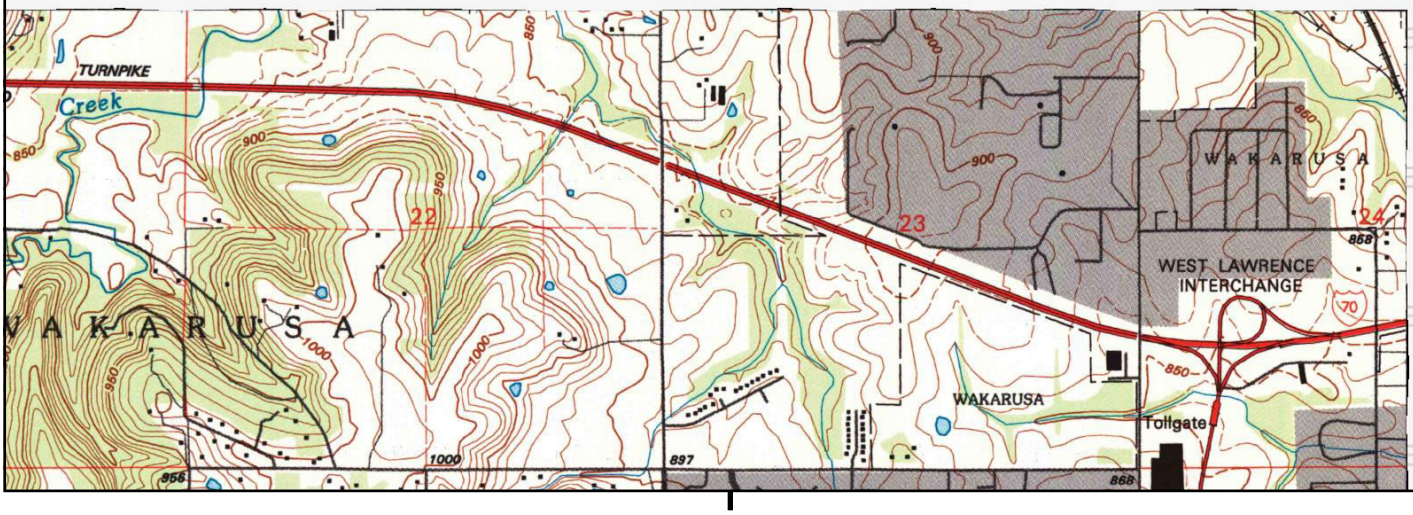
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Williamstown, 2012, 7.5-minute
NE, Midland, 2012, 7.5-minute
SE, Lawrence East, 2012, 7.5-minute
S, Lawrence West, 2012, 7.5-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

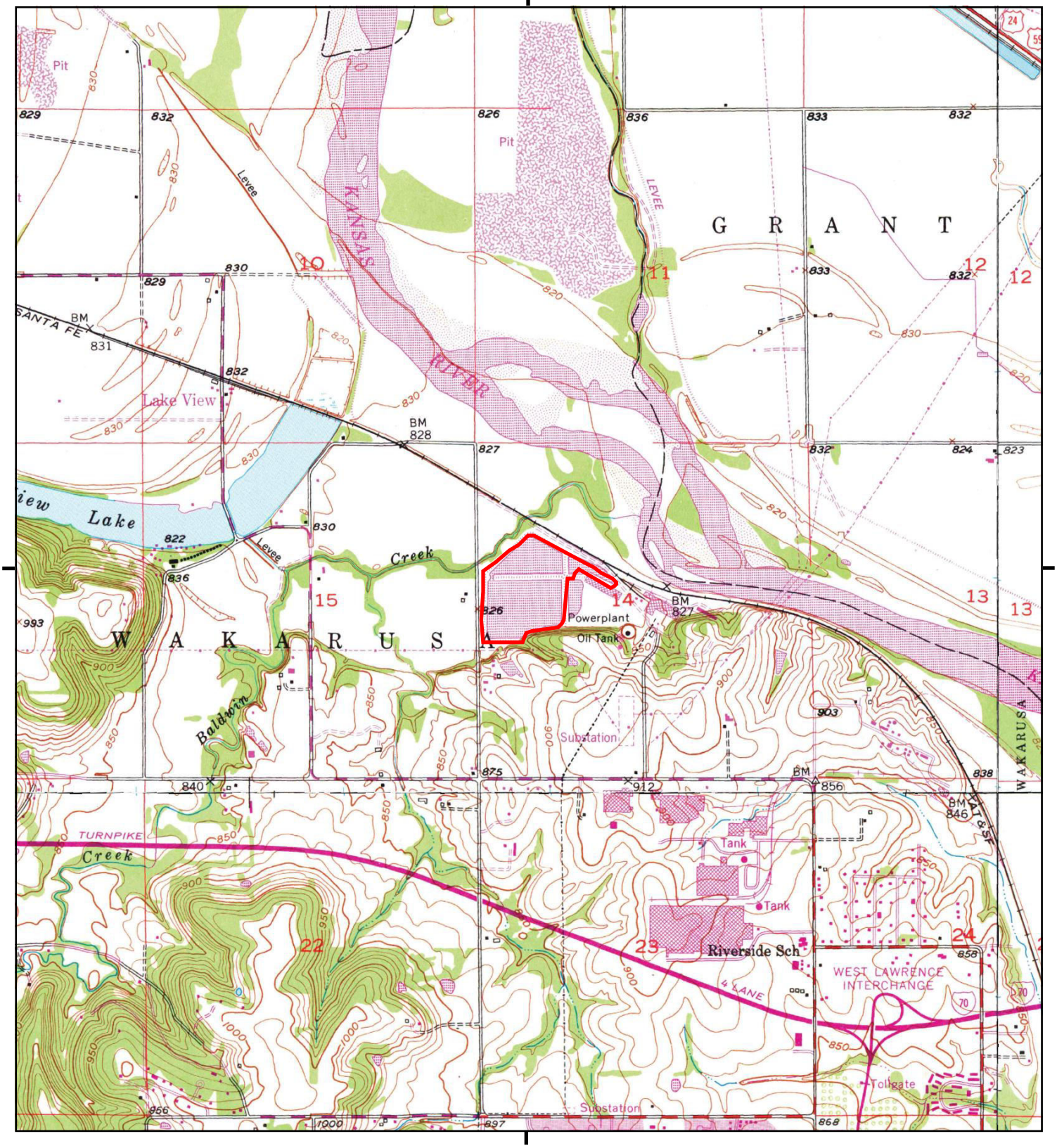
S, Lawrence West, 1994, 7.5-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N

Historical Topo Map

1978



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

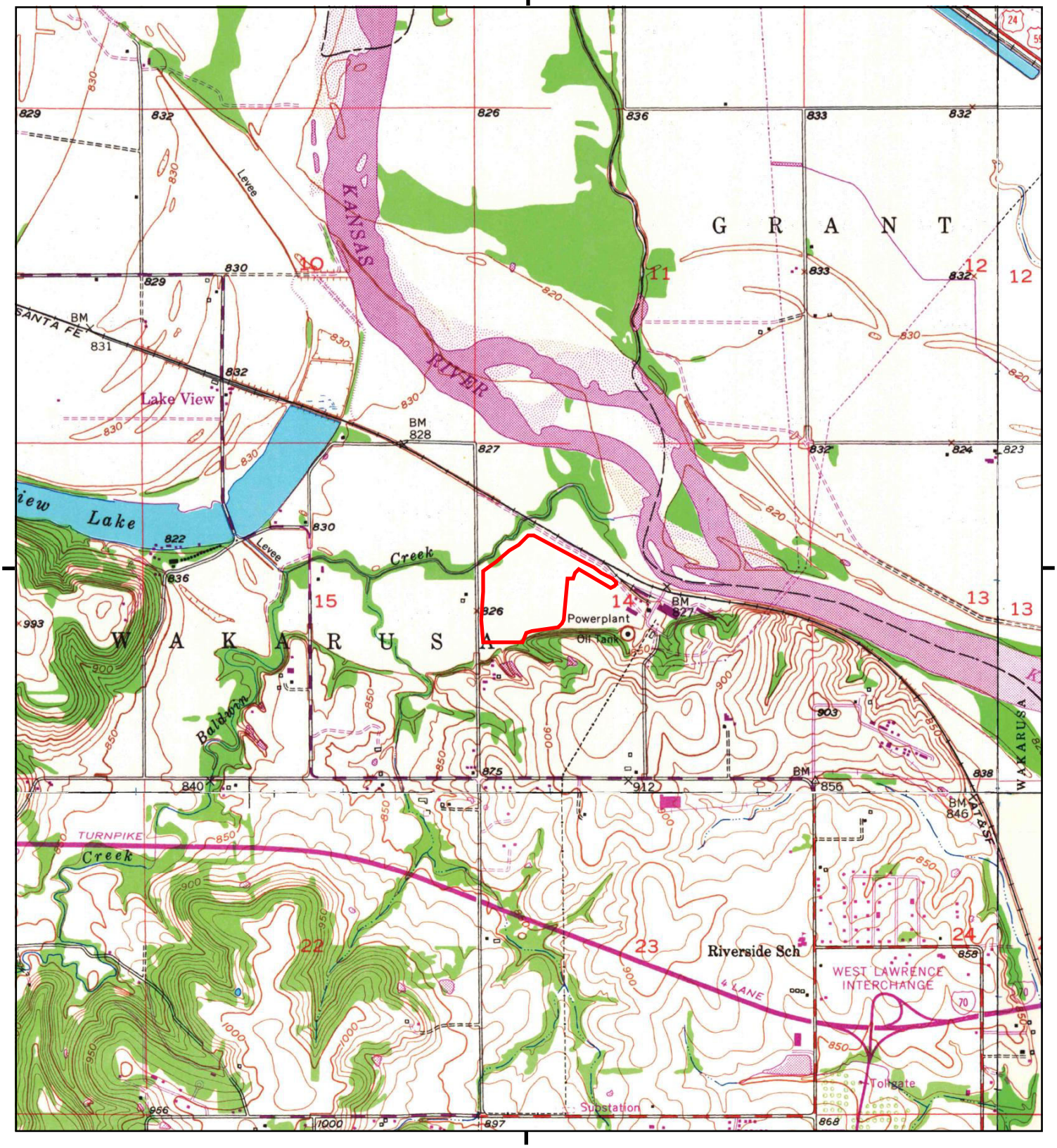
TP, Williamstown, 1978, 7.5-minute
NE, Midland, 1978, 7.5-minute
SE, Lawrence East, 1978, 7.5-minute
S, Lawrence West, 1978, 7.5-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N

Historical Topo Map

1967



This report includes information from the following map sheet(s).

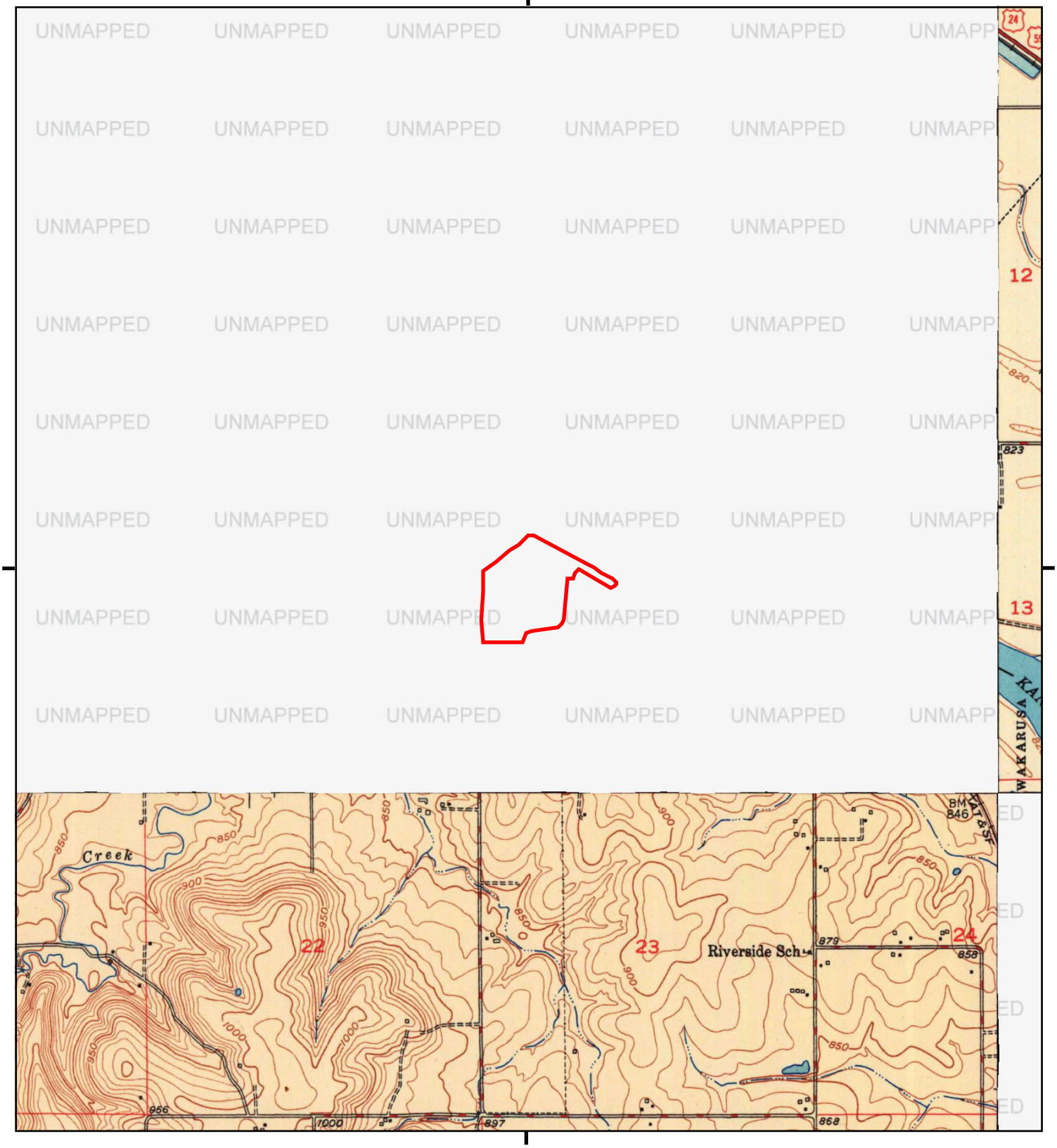
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Williamstown, 1967, 7.5-minute
NE, Midland, 1967, 7.5-minute
SE, Lawrence East, 1967, 7.5-minute
S, Lawrence West, 1967, 7.5-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

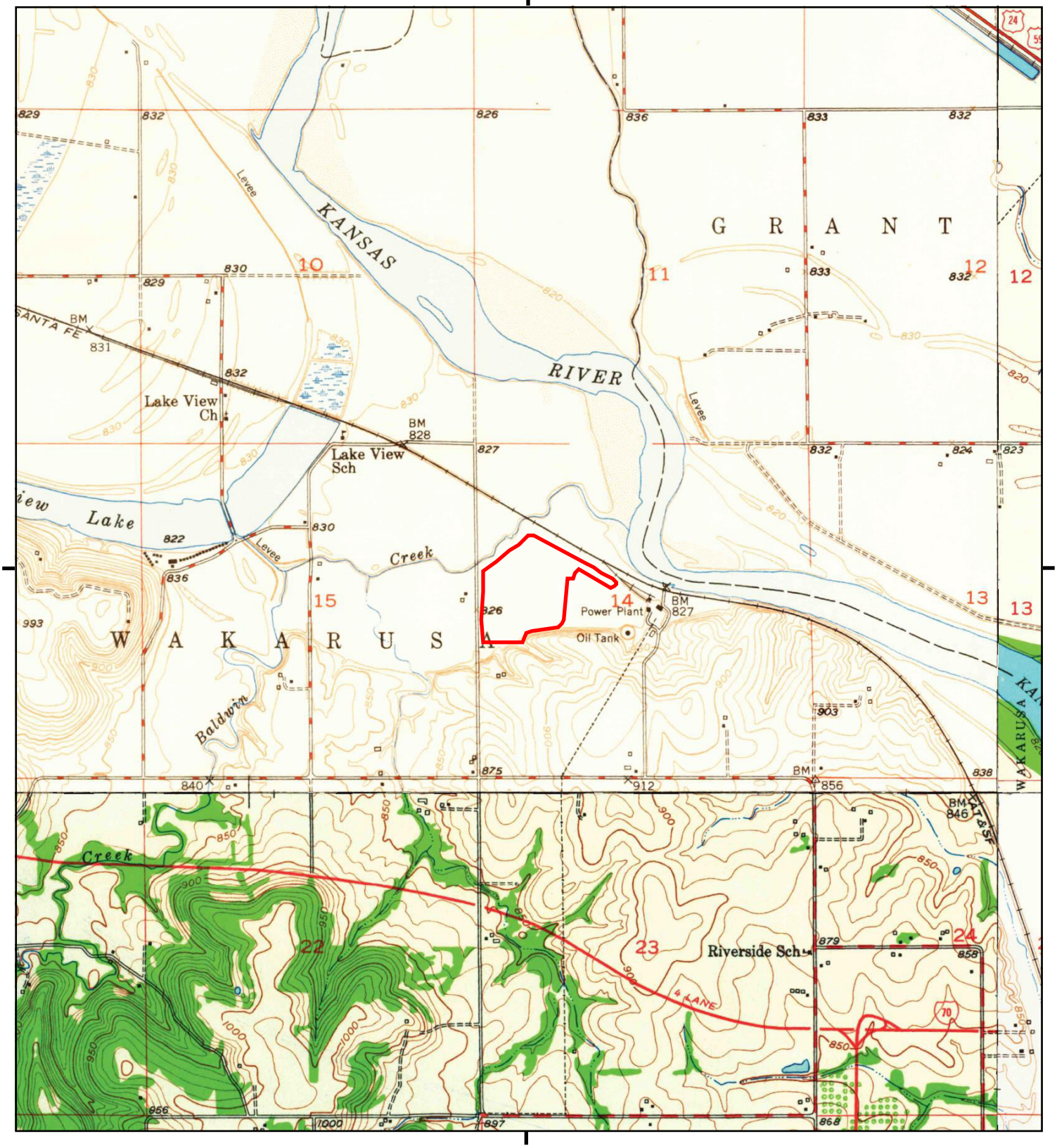
NE, Midland, 1951, 7.5-minute
S, Lawrence West, 1951, 7.5-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N

Historical Topo Map

1950



This report includes information from the following map sheet(s).

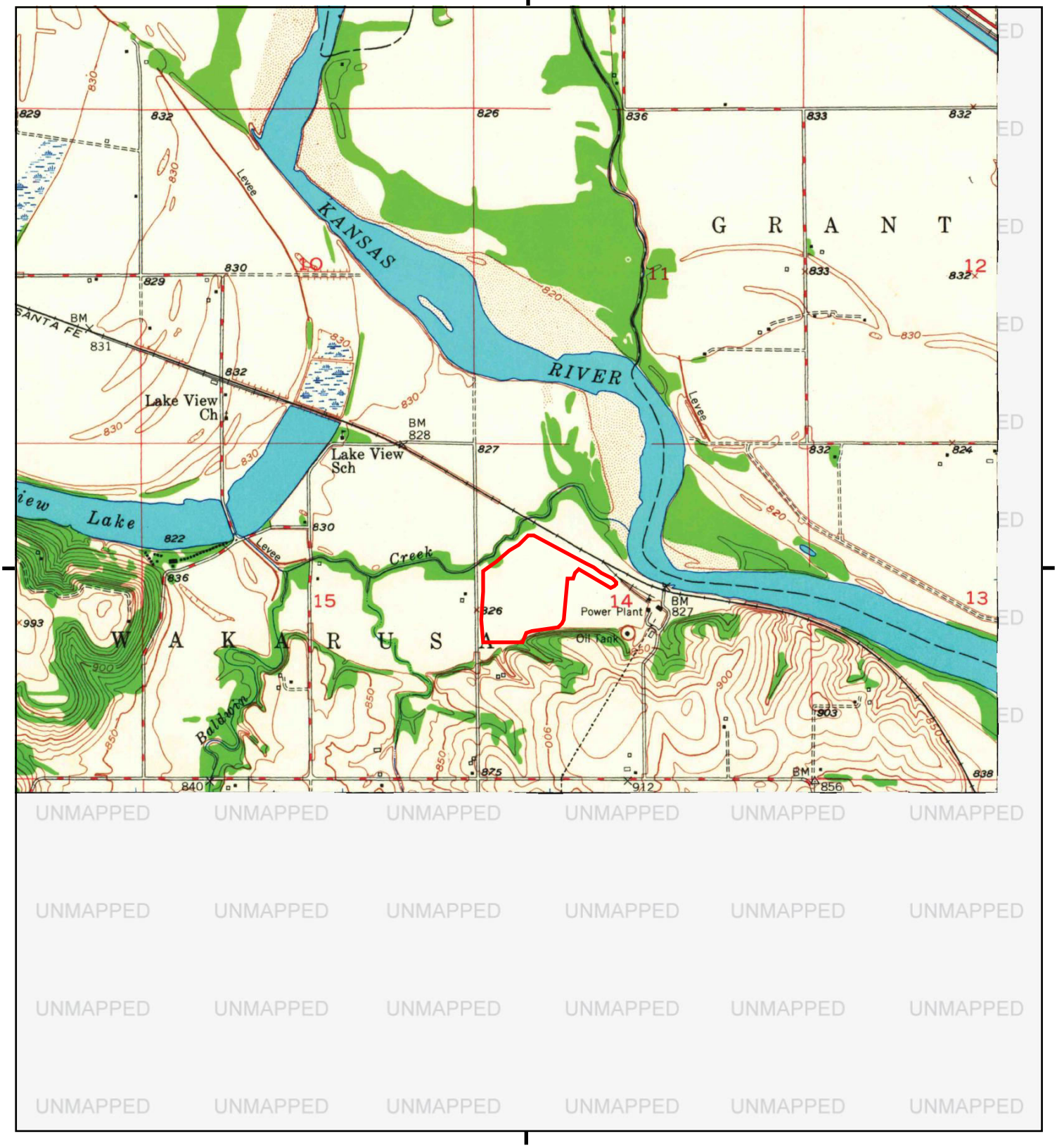
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Willliamstown, 1950, 7.5-minute
TP, Williamstown, 1950, 7.5-minute
NE, Midland, 1950, 7.5-minute
SE, Lawrence East, 1950, 7.5-minute
S, Lawrence West, 1950, 7.5-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N



This report includes information from the following map sheet(s).

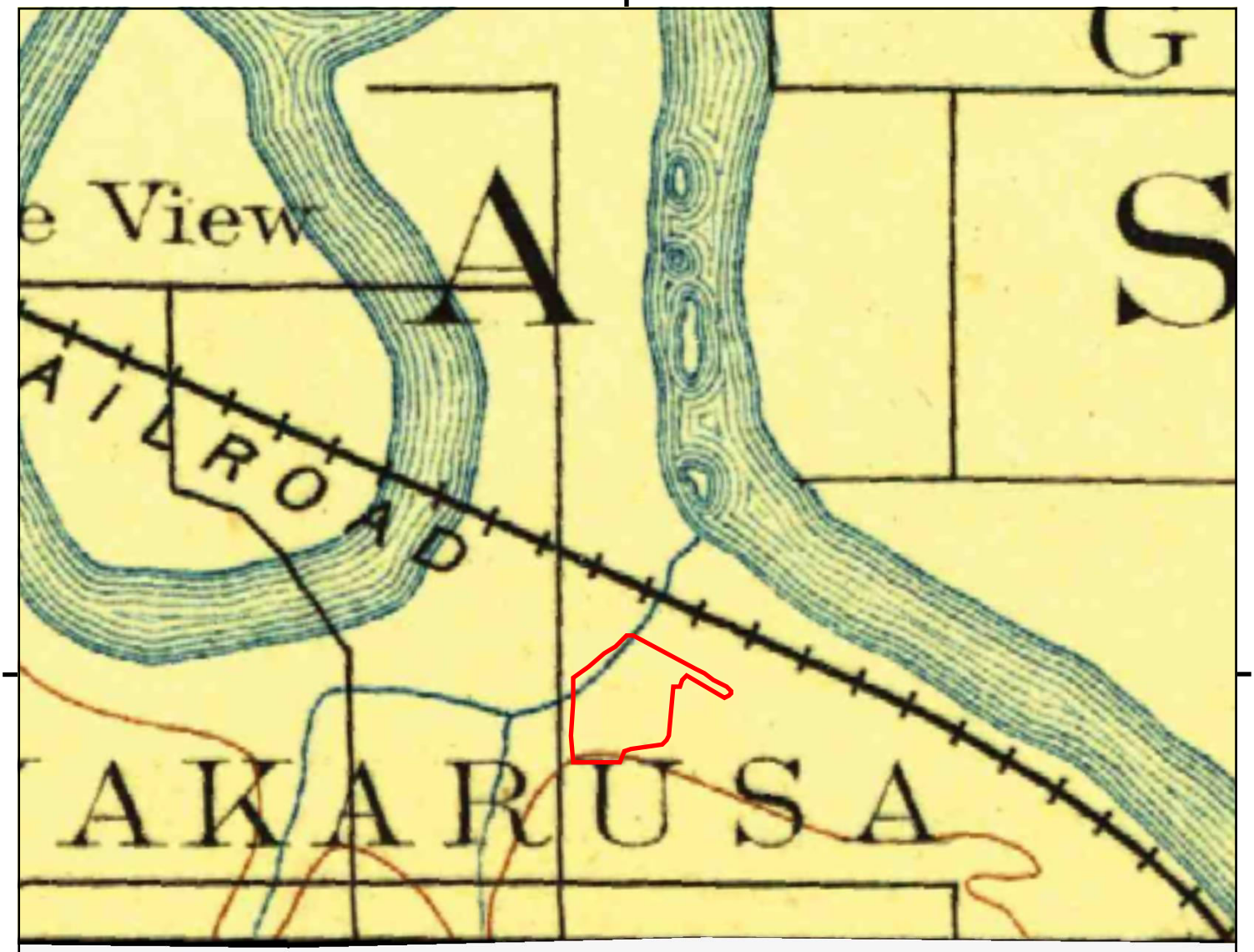
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Williamstown, 1949, 7.5-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N



This report includes information from the following map sheet(s).

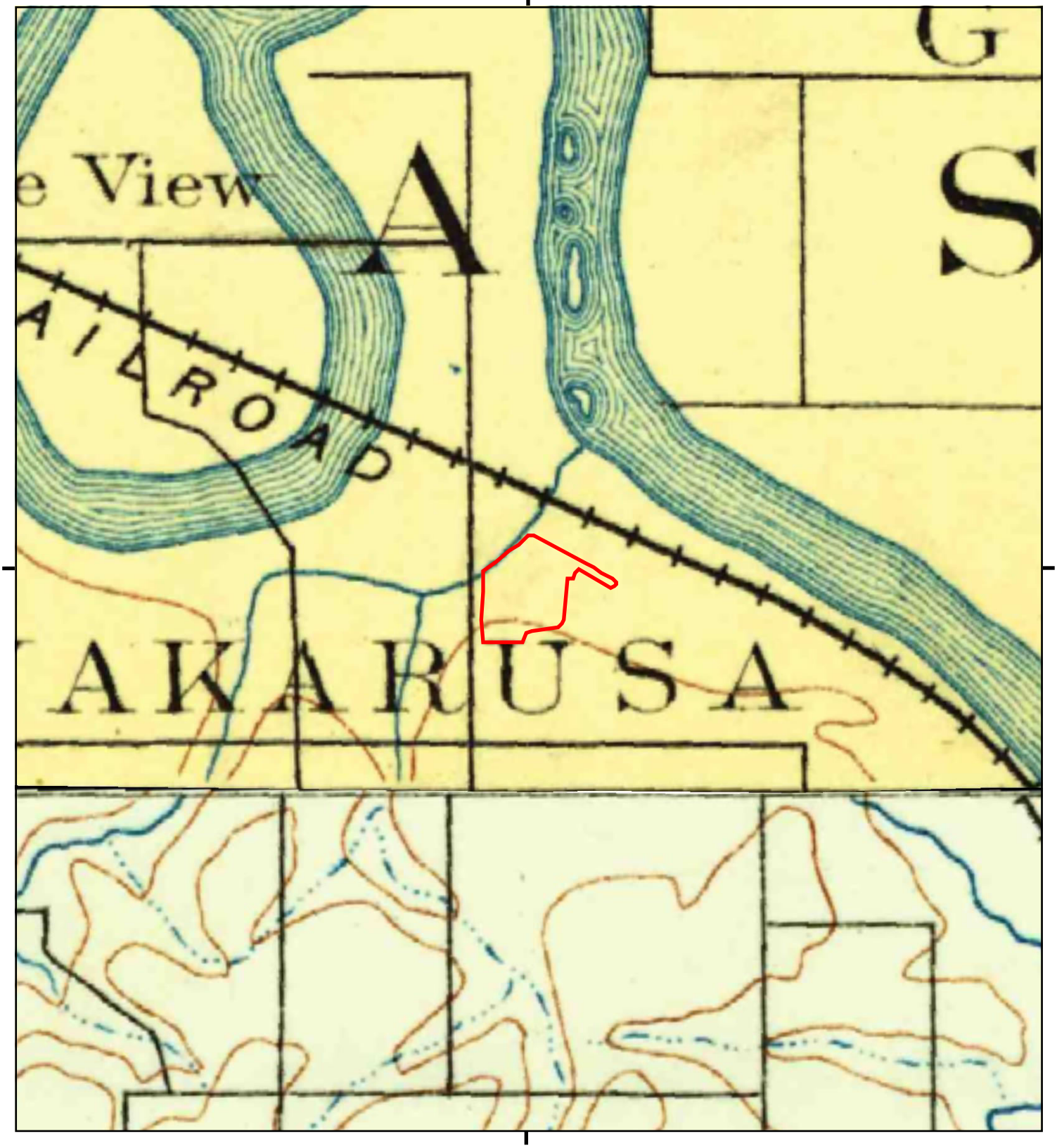
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Oskaloosa, 1894, 30-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N



This report includes information from the following map sheet(s).

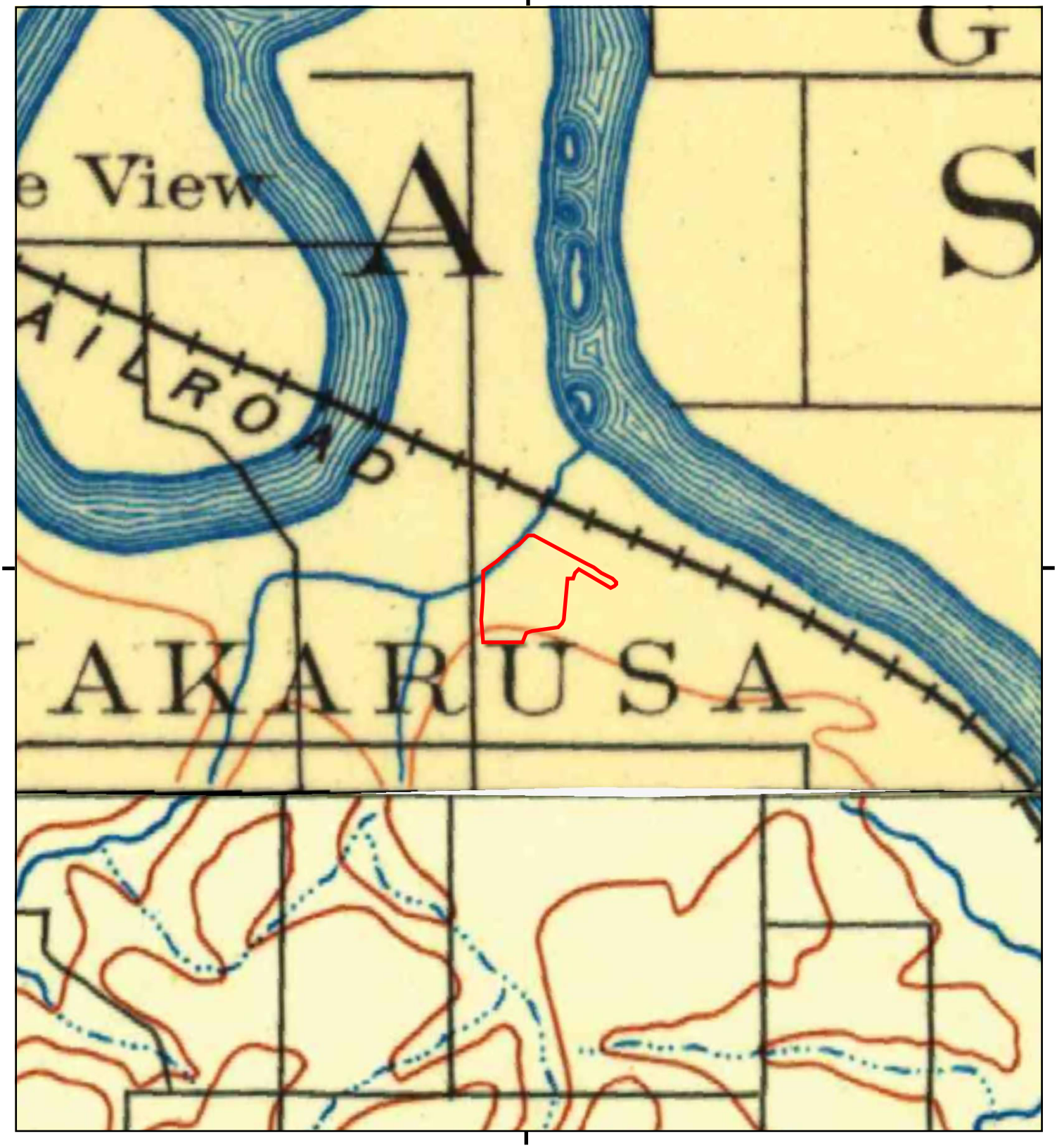
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Oskaloosa, 1888, 30-minute
S, Lawrence, 1889, 30-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Oskaloosa, 1886, 30-minute
S, Lawrence, 1885, 30-minute

SITE NAME: Evergy LEC
ADDRESS: 1250 N 1800 Road
Lawrence, KS 66044
CLIENT: Haley & Aldrich

N

ATTACHMENT 2

Demonstration and Certification of Need for 60-Day Extension – Corrective Measures Assessment (CMA)
Lawrence Energy Center
Area 2, Area 3, And Area 4 Ponds (Inactive)

HALEY & ALDRICH, INC.
6500 Rockside Road
Suite 200
Cleveland, OH 44131
216.706.1303

January 10, 2021
File No. 129778-043

Evergy Kansas Central, Inc. (f/k/a Westar Energy, Inc.)
818 South Kansas Avenue
Topeka, Kansas 66612

Attention: Jared Morrison – Director, Water and Waste Programs

Subject: Demonstration and Certification of Need for 60-Day Extension – Corrective Measures Assessment (CMA)
Lawrence Energy Center, Area 2, Area 3, and Area 4 Ponds (inactive)

Dear Mr. Morrison:

On behalf of Evergy Kansas Central, Inc. (Evergy; f/k/a Westar Energy, Inc.), in accordance with Title 40 Code of Federal Regulations (40 CFR) § 257.96(a) of the U.S. Environmental Protection Agency Federal Coal Combustion Residuals (CCR) Rule (40 CFR §§ 257 and 261) effective October 19, 2015, including subsequent revisions, I certify that Evergy has demonstrated the need for an additional 60 days beyond the regulatory time period of 90 days to complete the assessment of corrective measures for the multi-unit groundwater monitoring program for the referenced surface impoundments at the Lawrence Energy Center (LEC) due to site-specific conditions and the evaluation of remedial treatment alternatives in support of an informed CMA process.

In the case of the assessment for Area 2, Area 3, and Area 4 Ponds, the site has complex hydrogeology in the form of poorly sorted terrace deposits consisting of reworked glacial till material that includes clay, sand, and gravel, underlain by a shale member. Therefore, additional time is needed to conduct nature and extent (N&E) investigations which are ongoing in support of the CMA process. Nature and extent information is an important component of the CMA and will allow Evergy to refine the understanding of groundwater flow and solute transport. Remaining tasks in the N&E investigation includes installation of additional monitoring wells and collecting and evaluating groundwater data, which will require an estimated additional 30 to 45 days given winter weather conditions. Evergy is also in the process of completing groundwater modeling, evaluating human health and ecological risk, reviewing possible groundwater remedies as well as implementation of critical steps in the groundwater treatment and remedy assessment process, which will require an additional 45 to 60 days. Based on the above site-specific conditions and related groundwater treatment alternatives evaluations in support of the CMA by Evergy, the CCR Rule allows for a 60-day extension to complete the CMA process.

This certification as submitted is, to the best of my knowledge, accurate and complete.

Signed: _____

Certifying Engineer

Professional Engineer's Seal

Print Name:	Steven F. Putrich, P.E.
Kansas License No.:	PE24363
Title:	Project Principal
Company:	Haley & Aldrich, Inc.

HALEY ALDRICH

HALEY & ALDRICH, INC.
6500 Rockside Road
Suite 200
Cleveland, OH 44131
216.739.0555

November 2, 2022
Project No. 0204993-000

TO: Evergy Kansas Central, Inc.
Jared Morrison – Director, Water and Waste Programs

FROM: Haley & Aldrich, Inc.
Steven F. Putrich, P.E., Principal Consultant – Engineering Principal
Mark Nicholls, P.G., Senior Associate – Senior Hydrogeologist

Mark Nicholls
Digitally signed by Mark Nicholls
Date: 2022.11.02 15:36:38 -07'00'

SUBJECT: 2020 - 2021 Annual Groundwater Monitoring and Corrective Action Report Addendum
Evergy Kansas Central, Inc.
Area 2 Pond, Area 3 Pond, and Area 4 Pond (inactive)
Lawrence Energy Center – Lawrence, Kansas

The Evergy Kansas Central, Inc. (Evergy) Area 2 Pond (inactive), Area 3 Pond (inactive), and Area 4 Pond (inactive; collectively, inactive Ash Ponds) at the Lawrence Energy Center is subject to the groundwater monitoring and corrective action requirements described under Code of Federal Regulations Title 40 (40 CFR) §257.90 through §257.98 (Rule). An Annual Groundwater Monitoring and Corrective Action (GWMCA) Report documenting the activities completed from July 2020 – June 2021 for the inactive Ash Ponds was completed and placed in the facility's operating record on July 30, 2021, as required by the Rule. The Annual GWMCA Report contained the specific information listed in 40 CFR §257.90(e).

This report addendum has been prepared to supplement the operating record in recognition of comments received by Evergy from the U.S. Environmental Protection Agency (USEPA) on January 11, 2022. In addition to the information listed in 40 CFR §257.90(e), the USEPA indicated in their comments that the GWMCA Report should contain:

- Results of laboratory analysis of groundwater or other environmental media samples for the presence of constituents of Appendices III and IV to 40 CFR Part 257 (or of other constituents, such as those supporting characterization of site conditions that may ultimately affect a remedy);
- Required statistical analyses performed on those (laboratory analysis) results;
- Measured groundwater elevations; and
- Calculated groundwater flow rate and direction.

While this information is not specifically referred to in 40 CFR §257.90(e) for inclusion in the GWMCA Report, it has been routinely collected and maintained in Evergy's files and is being provided in the attachments to this addendum. A summary including sample names, dates of sample collection, field parameters, and validated groundwater monitoring data obtained for the nature and extent

investigation for the Ash Ponds is provided in Attachment 1. The applicable laboratory analysis reports for groundwater sampling events completed from July 2020 through June 2021 are included in Attachment 2, and a discussion of the applicable statistical analyses completed from July 2020 through June 2021 are included in Attachment 3 of this addendum. For each of the sampling events completed from July 2020 through June 2021, the measured groundwater elevations, with calculated groundwater flow rates and directions, have been included in Attachment 4.

The Attachments to this addendum are described below:

- Attachment 1 – Nature and Extent Analytical Data Tables: Includes groundwater analytical data collected for the nature and extent investigation for the Ash Ponds.
  - Analytical compliance data (Appendix III and IV constituents) for compliance wells (MW-37, MW-38, MW-39, MW-40, MW-K, and MW-L) were included in the original GWMCA Report dated July 30, 2021.
- Attachment 2 – Laboratory Analytical Reports: Includes laboratory data packages with supporting information such as case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation. The laboratory data packages for the sampling events completed from July 2020 through June 2021 are provided.
  - An additional sample was collected in October 2020 to confirm the September 2020 molybdenum result from monitoring well MW-39. The result was confirmed.
  - Laboratory analytical reports are provided in data groups:
    - Analytical compliance data (Appendix III and IV constituents) for compliance wells (MW-37, MW-38, MW-39, MW-40, MW-K, and MW-L) in the certified groundwater network (Attachment 2-1); and
    - Analytical data collected for the nature and extent investigation for the Ash Ponds (Attachment 2-2).
- Attachment 3 – Statistical Analyses: Includes a discussion of the statistical analyses utilized along with a table summarizing the statistical outputs (e.g., frequency of detection, maximum detection, variance, standard deviation, coefficient of variance, outlier tests, trends, upper and lower confidence limits, and comparison against groundwater protection standards), and supporting backup for statistical analyses completed from July 2020 through June 2021 included:
  - Overview of the July 2020 statistical analysis for data obtained in the March 2020 sampling event; and
  - Overview of the January 2021 statistical analysis for data obtained in the September 2020 sampling event.
- Attachment 4 – Groundwater Potentiometric Maps: Includes the measured groundwater elevations at each well and the generalized groundwater flow direction and calculated flow rate. Maps for the sampling events completed in September and December 2020 and March 2021 are provided.

ATTACHMENT 1
Nature and Extent Analytical Data Tables

TABLE I
SUMMARY OF ANALYTICAL RESULTS - ASSESSMENT MONITORING
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

Location	Upgradient		Downgradient															
	MW-37	MW-37	MW-38	MW-38	MW-38	MW-39	MW-39	MW-39 (Dup)	MW-39	MW-39 (Dup)	MW-40	MW-40	MW-K	MW-K (Dup)	MW-K	MW-K	MW-L	MW-L
Sample Name	MW-37-091520	MW-37-030921	MW-38-091520	MW-38-021821	MW-38-030921	MW-39-091520	MW-39-021821	DUP-021821	MW-39-030921	DUP-AP-030921	MW-40-091520	MW-40-030921	MW-K-091520	DUP-AP-091520	MW-K-021721	MW-K-030921	MW-L-091520	MW-L-030921
Sample Date	9/15/2020	3/9/2021	9/15/2020	2/18/2021	3/9/2021	9/15/2020	2/18/2021	2/18/2021	3/9/2021	3/9/2021	9/15/2020	3/9/2021	9/15/2020	9/15/2020	2/17/2021	3/9/2021	9/15/2020	3/9/2021
Final Lab Report Date	9/24/2020	3/21/2021	9/24/2020	3/11/2021	3/21/2021	9/24/2020	3/11/2021	3/11/2021	3/21/2021	3/21/2021	9/24/2020	3/21/2021	9/24/2020	9/24/2020	3/11/2021	3/21/2021	9/24/2020	3/21/2021
Iron, Dissolved (mg/L)	**2.4**	**2.2**	**1.7**	**2.4**	**2.4**	**0.73**	**0.77**	**0.77**	**0.75**	**0.76**	**5.7**	**5.4**	**5.7**	**5.3**	-	**6.0**	**6.6**	**6.6**
Iron, Total (mg/L)	**4.5**	**11.0**	**3.3**	**2.7**	**2.4**	**0.84**	**0.73**	**0.73**	**0.79**	**0.78**	**5.5**	**5.8**	**6.3**	**6.2**	-	**5.9**	**7.1**	**6.9**
Magnesium, Total (mg/L)	**18.8**	**21.0**	**115**	-	**119**	**59.3**	-	-	**53.8**	**53.3**	**47.2**	**47.9**	**156**	**152**	-	**162**	**131**	**144**
Manganese, Dissolved (mg/L)	**0.94**	**1.1**	**0.61**	-	**0.63**	**3.3**	-	-	**3.1**	**3.1**	**2.3**	**2.4**	**2.4**	**2.2**	-	**2.7**	**6.6**	**5.4**
Manganese, Total (mg/L)	**1.0**	**1.0**	**0.61**	-	**0.61**	**2.3**	-	-	**3.0**	**3.0**	**2.3**	**2.3**	**2.5**	**2.4**	-	**2.4**	**6.8**	**5.5**
Potassium, Total (mg/L)	**8.6**	**8.0**	**27.5**	-	**27.6**	**25.7**	-	-	**26.1**	**26.2**	**19.9**	**22.7**	**51.4**	**49.8**	-	**50.2**	**31.0**	**33.7**
Sodium, Total (mg/L)	**78.9**	**72.2**	**236**	-	**238**	**338**	-	-	**354**	**359**	**253**	**255**	**496**	**566**	-	**498**	**398**	**436**
Alkalinity, Bicarbonate (mg/L)	**302**	**344**	**228**	-	**289**	**221**	-	-	**185**	**182**	**154**	**169**	**270**	**274**	-	**259**	**282**	**296**
Alkalinity, Carbonate (mg/L)	< 20.0	< 20.0	< 20.0	-	< 20.0	< 20.0	-	-	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	-	< 20.0	< 20.0	< 20.0
Ammonia (as N) (mg/L)	-	-	-	**1.7**	-	-	**3.5**	**3.5**	-	-	-	-	-	-	-	-	-	-
Ammonium (mg/L)	-	-	-	**2.2**	-	-	**4.5**	**4.5**	-	-	-	-	-	-	-	-	-	-
Ferrous Iron (mg/L)	-	-	-	**0.45**	-	-	< 0.20	< 0.20	-	-	-	-	-	-	-	-	-	-
Nitrate (as N) (mg/L)	-	-	-	< 0.10	-	-	< 0.10	< 0.10	-	-	-	-	-	-	-	-	-	-
Nitrite (as N) (mg/L)	-	-	-	< 0.10	-	-	< 0.10	< 0.10	-	-	-	-	-	-	-	-	-	-
Nitrite/Nitrate Nitrogen (mg/L)	-	-	-	< 0.10	-	-	< 0.10	< 0.10	-	-	-	-	-	-	-	-	-	-
Nitrogen, Organic (mg/L)	-	-	-	< 0.50	-	-	< 0.50	< 0.50	-	-	-	-	-	-	-	-	-	-
Orthophosphate (mg/L)	-	-	-	**0.14**	-	-	**0.12**	**0.14**	-	-	-	-	-	-	-	-	-	-
Phosphorus (mg/L)	-	-	-	**0.23**	-	-	< 0.10	< 0.10	-	-	-	-	-	-	-	-	-	-
Sulfide (mg/L)	-	-	-	< 0.050	-	-	**0.066**	< 0.050	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (TKN) (mg/L)	-	-	-	**1.6**	-	-	**3.5**	**3.2**	-	-	-	-	-	-	-	-	-	-
Total residual chlorine (mg/L)	-	-	-	-	-	-	< 0.050	< 0.050	-	-	-	-	-	-	-	-	-	-
Speciation - Arsenic III (µg/L)	-	-	-	**12.7**	-	-	**9.9**	**11.8**	-	-	-	-	-	-	**51.7**	-	-	-
Speciation - Arsenic V (µg/L)	-	-	-	**1.02**	-	-	**0.895**	**0.506**	-	-	-	-	-	-	**2.67**	-	-	-
Speciation - Dimethylarsinic acid (DMA) (µg/L)	-	-	-	< 0.25	-	-	< 0.25	< 0.25	-	-	-	-	-	-	< 0.25	-	-	-
Speciation - Monomethylarsonic acid (µg/L)	-	-	-	< 0.2	-	-	< 0.2	< 0.2	-	-	-	-	-	-	< 0.2	-	-	-

Notes & Abbreviations:
µg/L =mircrograms per liter
mg/L = milligrams per liter
N/A = Not Applicable

TABLE II
SUMMARY OF ANALYTICAL RESULTS
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER,
LAWRENCE, KANSAS

Location	MW-101	MW-101	MW-101	MW-102	MW-102	MW-102	MW-103	MW-103	MW-103	MW-103 (Dup)	MW-104	MW-104	MW-104	MW-106	MW-106
Measure Point (TOC)	828.65	828.65	828.65	829.55	829.55	829.55	829.15	829.15	829.15	829.15	824.81	824.81	824.81	877.81	877.81
Sample Name	MW-101-020121	MW-101-021821	MW-101-030921	MW-102-020121	MW-102-021821	MW-102-031021	MW-103-020121	MW-103-021821	MW-103-030921	DUP-AP NE-030921	MW-104-020121	MW-104-021821	MW-104-030921	MW-106-020121	MW-106-031021
Sample Date	02/01/2021	02/18/2021	03/09/2021	02/01/2021	02/18/2021	03/10/2021	02/01/2021	02/18/2021	03/09/2021	03/09/2021	02/01/2021	02/18/2021	03/09/2021	02/01/2021	03/10/2021
Depth to Water (ft btoc)	13.18	13.2	13.33	14.33	14.42	14.57	14.57	14.57	14.78	-	10.13	10.22	10.39	37.63	37.21
Temperature (Deg C)	12.71	9.5	20.19	12.71	9.09	15.8	11.86	8.19	15.22	-	10.79	11.05	16.98	10.68	15.67
Conductivity, Field (µS/cm)	853	834	706	792	808	853	2890	2570	3140	-	2060	1510	2010	523	407
Turbidity, Field (NTU)	39.8	19	9.3	23.6	14.4	22.3	24	16.2	22.7	-	25.8	9.4	23.1	11.7	0.0
pH, Field (SU)	7.11	6.92	7.29	7.13	7.61	7.22	7.66	7.65	7.36	-	7.51	7.89	6.96	7.33	6.99
Boron, Total (mg/L)	**0.12**	-	**0.46**	**0.61**	-	**1.2**	**3.9**	-	**5.5**	**5.6**	**2.5**	-	**1.9**	< 0.10	< 0.10
Calcium, Total (mg/L)	**129**	-	**104**	**108**	-	**106**	**328**	-	**389**	**398**	**345**	-	**285**	**51.6**	**41.8**
Chloride (mg/L)	**30.3**	-	**45.4**	**8.8**	-	**13.1**	**346**	-	**341**	**346**	**185**	-	**231**	**14.5**	**3.0**
Fluoride (mg/L)	**0.79**	-	**0.96**	**2.1**	-	**4.0**	**1.3**	-	**2.7**	**2.9**	**0.36**	-	**0.89**	**0.23**	**0.30**
Sulfate (mg/L)	**54.6**	-	**33.6**	**57**	-	**64.3**	**1190**	-	**1730**	**1680**	**557**	-	**478**	**24.3**	**6.0**
pH (lab) (SU)	**6.9**	-	**7.2**	**7.0**	-	**7.2**	**7.2**	-	**7.1**	**7.1**	**7.1**	-	**7.1**	**7.2**	**7.2**
Total Dissolved Solids (TDS) (mg/L)	**544**	-	**510**	**532**	-	**543**	**3050**	-	**3170**	**3290**	**2230**	-	**1980**	**334**	**280**
Arsenic, Total (mg/L)	**0.0044**	-	**0.0011**	**0.011**	-	**0.0099**	**0.0048**	-	**0.0038**	**0.0042**	**0.0041**	-	**0.0036**	< 0.0010	< 0.0010
Barium, Total (mg/L)	**0.23**	-	**0.15**	**0.13**	-	**0.12**	**0.067**	-	**0.045**	**0.044**	**0.064**	-	**0.064**	**0.21**	**0.16**
Cobalt, Total (mg/L)	< 0.0010	-	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	< 0.0010
Lithium, Total (mg/L)	**0.025**	-	**0.022**	**0.032**	**0.025**	**0.038**	**0.045**	**0.040**	**0.052**	**0.050**	**0.054**	**0.034**	**0.057**	< 0.010	**0.015**
Molybdenum, Total (mg/L)	**0.021**	-	**0.035**	**0.050**	-	**0.066**	**0.16**	-	**0.20**	**0.20**	**0.068**	-	**0.034**	**0.0054**	**0.0015**
Fluoride (mg/L)	**0.79**	-	**0.96**	**2.1**	-	**4.0**	**1.3**	-	**2.7**	**2.9**	**0.36**	-	**0.89**	**0.23**	**0.30**
Radium-226 & 228 (pCi/L)	**1.49 ± 0.854 (1.19)**	-	0.829 ± 0.674 (1.16)	**1.01 ± 0.536 (0.832)**	-	0.754 ± 0.592 (0.886)	**1.89 ± 0.791 (0.849)**	-	1.16 ± 0.853 (1.26)	**1.61 ± 0.738 (0.927)**	**1.10 ± 0.671 (0.893)**	-	1.12 ± 0.73 (1.24)	**1.66 ± 0.851 (1.04)**	0.157 ± 0.551 (0.966)
Arsenic, Dissolved (mg/L)	< 0.010	-	-	< 0.010	-	-	< 0.010	-	-	-	< 0.010	-	-	< 0.010	-
Iron, Dissolved (mg/L)	**4.6**	**4.0**	**2.3**	**0.97**	**0.15**	**1.3**	**4.0**	**3.8**	**5.1**	**5.4**	**5.4**	**1.2**	**4.6**	< 0.050	< 0.050
Lithium, Dissolved (mg/L)	**0.021**	-	-	**0.032**	-	-	**0.042**	-	-	-	**0.050**	-	-	< 0.010	-
Manganese, Dissolved (mg/L)	**0.51**	-	**0.41**	**0.45**	-	**0.44**	**1.6**	-	**2.1**	**2.1**	**1.7**	-	**1.8**	**0.32**	**0.011**
Molybdenum, Dissolved (mg/L)	**0.022**	-	-	**0.049**	-	-	**0.17**	-	-	-	**0.069**	-	-	< 0.020	-
Iron, Total (mg/L)	**5.2**	**4.3**	**0.83**	**1.4**	**0.23**	**1.6**	**4.4**	**3.2**	**3.9**	**4.7**	**6.9**	**0.87**	**5.5**	**0.57**	< 0.050
Magnesium, Total (mg/L)	**27**	-	**22.2**	**39.4**	-	**37.9**	**59.3**	-	**62.4**	**66.5**	**32.2**	-	**31.1**	**8.1**	**6.4**
Manganese, Total (mg/L)	**0.49**	-	**0.15**	**0.45**	-	**0.46**	**1.4**	-	**1.9**	**2.0**	**1.7**	-	**1.9**	**0.33**	**0.012**
Potassium, Total (mg/L)	**7.0**	-	**6.6**	**9.4**	-	**9.0**	**21.3**	-	**25.3**	**25.3**	**38.1**	-	**48.6**	**2.9**	**2.2**
Sodium, Total (mg/L)	**9.8**	-	**19.2**	**15.4**	-	**29**	**321**	-	**343**	**344**	**235**	-	**157**	**50.7**	**43.1**
Alkalinity, Bicarbonate (mg/L)	**387**	-	**336**	**398**	-	**433**	**249**	-	**237**	**248**	**378**	-	**371**	**233**	**222**
Alkalinity, Carbonate (mg/L)	< 20	-	< 20	< 20	-	< 20	< 20	-	< 20	< 20	< 20	-	< 20	< 20	< 20
Ammonia (as N) (mg/L)	-	**0.31**	-	-	< 0.10	-	-	**2.6**	-	-	-	-	-	-	-
Ammonium (mg/L)	-	**0.40**	-	-	< 0.10	-	-	**3.4**	-	-	-	-	-	-	-
Dissolved Organic Carbon (DOC) (mg/L)	**1.5**	-	-	**1.3**	-	-	**4.7**	-	-	-	**1.5**	-	-	< 1.0	-
Ferrous Iron (mg/L)	**0.43**	**0.23**	-	< 0.20	< 0.20	-	**0.39**	**0.22**	-	-	**0.47**	**0.25**	-	< 0.20	-
Hardness, Total (mg/L)	**433**	-	-	**432**	-	-	**1060**	-	-	-	**993**	-	-	**162**	-
Nitrogen, Organic (mg/L)	-	< 0.50	-	-	< 0.50	-	-	< 0.50	-	-	-	-	-	-	-
Nitrate (as N)	-	< 0.10	-	-	< 0.10	-	-	< 0.10	-	-	-	-	-	-	-
Nitrite/Nitrate Nitrogen (mg/L)	-	< 0.10	-	-	< 0.10	-	-	< 0.10	-	-	-	-	-	-	-
Nitrite (as N) (mg/L)	-	< 0.10	-	-	< 0.10	-	-	< 0.10	-	-	-	-	-	-	-
Orthophosphate (mg/L)	-	**0.10**	-	-	< 0.10	-	-	**0.13**	-	-	-	-	-	-	-
Phosphorus (mg/L)	-	**0.25**	-	-	< 0.10	-	-	**0.18**	-	-	-	-	-	-	-
Sulfide (mg/L)	-	< 0.050	-	-	< 0.050	-	-	**0.092**	-	-	-	-	-	-	-
Total residual chlorine (mg/L)	-	-	-	-	-	-	-	< 0.050	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (TKN) (mg/L)	-	< 0.50	-	-	< 0.50	-	-	**2.2**	-	-	-	-	-	-	-
Total Organic Carbon (TOC) (mg/L)	**1.8**	-	-	**1.5**	-	-	**5.2**	-	-	-	**1.7**	-	-	< 1.0	-
Speciation - Arsenic III (µg/L)	-	-	-	-	**0.569**	-	-	**2.72**	-	-	-	-	-	-	-
Speciation - Arsenic V(µg/L)	-	-	-	-	**2.78**	-	-	**0.276**	-	-	-	-	-	-	-
Speciation - Dimethylarsinic acid (DMA) (µg/L)	-	-	-	-	< 0.25	-	-	< 0.25	-	-	-	-	-	-	-
Speciation - Monomethylarsonic acid (µg/L)	-	-	-	-	< 0.20	-	-	< 0.20	-	-	-	-	-	-	-

Notes:

Bold value: *Detection above laboratory reporting limit or minimum detectable concentration (MDC).*

Radiological results are presented as activity plus or minus uncertainty with MDC.
µS/cm = micro Siemens per centimeter
µg/L = micrograms per liter
ft btoc = feet below top of casing
Deg C = degrees Celsius
mg/L = milligrams per liter
N/A = Not Applicable
NTU = Nephelometric Turbidity Unit
pCi/L = picoCuries per liter
su = standard unit
TOC = top of casing
< = Not detected above the reporting detection limit

TABLE II
SUMMARY OF ANALYTICAL RESULTS
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER,
LAWRENCE, KANSAS

Location	MW-107	MW-108	MW-109	MW-110	MW-112	MW-113	MW-B	MW-B (Dup)	MW-B	MW-C	MW-C	MW-D	MW-D	MW-D
Measure Point (TOC)	831.10	830.08	829.78	830.54	833.16	831.32	830.11	830.11	830.11	827.63	827.63	829.43	829.43	829.43
Sample Name	MW-107-060421	MW-108-060321	MW-109-060621	MW-110-060521	MW-112_061721	MW-113_061621	MW-B-020121	DUPLICATE-020121	MW-B-030921	LEC MW-C 111820	MW-C-030921	LEC MW-D 111820	MW-D-021821	MW-D-030921
Sample Date	06/04/2021	06/03/2021	06/06/2021	06/05/2021	06/17/2021	06/16/2021	02/01/2021	02/01/2021	03/09/2021	11/18/2020	03/09/2021	11/18/2020	02/18/2021	03/09/2021
Depth to Water (ft btoc)	10.83	9.68	11.46	11.20	14.91	14.16	14.14	-	14.3	12.39	12.43	14.13	13.36	13.96
Temperature (Deg C)	15.4	15.7	15.7	15.3	15.4	15	12.35	-	15.8	18.43	20.99	18.02	9.95	22.75
Conductivity, Field (µS/cm)	864	772	3877	4176	755	2462	10.5	-	908	583	880	958	1090	944
Turbidity, Field (NTU)	0.7	0.89	3.7	3.7	4.21	7.16	0.0	-	0.0	29.8	25.7	42.3	19.2	37.5
pH, Field (SU)	6.64	7.32	7.06	7.02	6.91	7.18	7.29	-	7.27	7.43	6.7	7.13	7.08	6.77
Boron, Total (mg/L)	**0.34**	**0.53**	**5.5**	**5.0**	< 0.10	**6.5**	< 0.10	< 0.10	< 0.10	**0.34**	**0.28**	**0.47**	-	**0.46**
Calcium, Total (mg/L)	**115**	**85.1**	**470**	**458**	**118**	**254**	**212**	**194**	**169**	**156**	**130**	**162**	-	**173**
Chloride (mg/L)	**23.6**	**56.8**	**339**	**590**	**35.0**	**149**	**21.5**	**20.7**	**13.4**	**28**	**28.9**	**6.5**	-	**6.5**
Fluoride (mg/L)	**1.8**	**2.3**	**3.1**	**4**	**0.27**	**6.0**	**0.59**	**0.60**	**0.59**	**0.45**	**0.39**	**0.60**	-	**0.42**
Sulfate (mg/L)	**66.9**	**66.4**	**1780**	**1930**	**28.5**	**963**	**83.5**	**86**	**110**	**130**	**118**	**79.5**	-	**61.6**
pH (lab) (SU)	**7.2**	**7.4**	**7.2**	**7.2**	**7.3**	**7.3**	**6.9**	**6.9**	**7.1**	**7.0**	**7.1**	**6.9**	-	**6.8**
Total Dissolved Solids (TDS) (mg/L)	**557**	**499**	**3360**	**3400**	**464**	**1900**	**711**	**693**	**759**	**653**	**598**	**617**	-	**675**
Arsenic, Total (mg/L)	**0.0091**	**0.0058**	**0.0065**	**0.0040**	**0.0020**	**0.0030**	**0.0058**	**0.0052**	**0.0061**	**0.0062**	**0.0033**	**0.031**	-	**0.0040**
Barium, Total (mg/L)	**0.17**	**0.21**	**0.040**	**0.054**	**0.24**	**0.054**	**0.41**	**0.37**	**0.20**	**0.16**	**0.086**	**0.57**	-	**0.16**
Cobalt, Total (mg/L)	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	**0.013**	**0.0074**	**0.0011**	-	< 0.0010	-	-	< 0.0010
Lithium, Total (mg/L)	**0.028**	**0.026**	**0.044**	**0.072**	**0.017**	**0.071**	**0.016**	**0.020**	**0.018**	**0.025**	**0.020**	< 0.010	-	< 0.010
Molybdenum, Total (mg/L)	**0.037**	**0.033**	**0.12**	**0.11**	**0.010**	**0.17**	**0.018**	**0.015**	**0.017**	**0.010**	**0.0094**	**0.0018**	-	< 0.0010
Fluoride (mg/L)	**1.8**	**2.3**	**3.1**	**4.0**	**0.27**	**6.0**	**0.59**	**0.60**	**0.59**	**0.45**	**0.39**	**0.60**	-	**0.42**
Radium-226 & 228 (pCi/L)	**1.53 ± 0.711 (0.862)**	**1.11 ± 0.608 (0.875)**	0.236 ± 0.514 (0.785)	**1.57 ± 0.706 (0.908)**	0.913 ± 0.757 (1.43)	0.638 ± 0.641 (1.14)	**2.45 ± 0.897 (0.993)**	**2.94 ± 0.855 (0.957)**	**1.70 ± 0.729 (0.964)**	**2.03 ± 1.19 (1.93)**	0.873 ± 0.657 (1.05)	**4.78 ± 1.67 (2.52)**	-	**1.62 ± 0.779 (1.09)**
Arsenic, Dissolved (mg/L)	**0.010**	< 0.010	**0.014**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-	-	-	-
Iron, Dissolved (mg/L)	**3.0**	**0.91**	**5.0**	**6.1**	**6.6**	**5.1**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.63**	-	**0.61**
Lithium, Dissolved (mg/L)	**0.026**	**0.020**	**0.043**	**0.075**	**0.015**	**0.072**	**0.021**	**0.017**	-	-	-	-	-	-
Manganese, Dissolved (mg/L)	**0.59**	**0.33**	**2.9**	**1.4**	**0.96**	**0.91**	**0.14**	**0.14**	**0.40**	**0.12**	**0.0070**	**3.2**	-	**2.8**
Molybdenum, Dissolved (mg/L)	**0.040**	**0.035**	**0.13**	**0.11**	< 0.020	**0.17**	< 0.020	< 0.020	-	-	-	-	-	-
Iron, Total (mg/L)	**3.0**	**0.92**	**5.3**	**6.6**	**6.5**	**6.0**	**0.10**	< 0.050	< 0.050	**6.8**	**0.11**	**39.5**	-	**3.9**
Magnesium, Total (mg/L)	**35.9**	**32.9**	**118**	**147**	**15.0**	**93.2**	**22.9**	**21.3**	**17.9**	**17.9**	**14.3**	**24.7**	-	**28.7**
Manganese, Total (mg/L)	**0.60**	**0.32**	**2.9**	**1.4**	**0.94**	**0.96**	**2.1**	**1.9**	**0.21**	**0.98**	**0.052**	**3.7**	-	**2.8**
Potassium, Total (mg/L)	**7.9**	**12.0**	**25.1**	**27.6**	**5.6**	**17.1**	**9.8**	**9.2**	**7.3**	**7.3**	**5.3**	**7.6**	-	**6.6**
Sodium, Total (mg/L)	**12.6**	**28.2**	**359**	**375**	**13.5**	**194**	**5.3**	**5.2**	**5.1**	**32.3**	**27.8**	**19.2**	-	**23.1**
Alkalinity, Bicarbonate (mg/L)	**406**	**318**	**143**	**199**	**333**	**300**	**463**	**456**	**451**	**322**	**334**	**481**	-	**539**
Alkalinity, Carbonate (mg/L)	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20
Ammonia (as N) (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon (DOC) (mg/L)	**1.8**	**2.3**	**1.2**	**1.3**	**1.8**	**1.2**	**1.7**	**1.6**	-	**1.7**	-	**4.8**	-	-
Ferrous Iron (mg/L)	< 0.20	< 0.20	< 0.20	**0.25**	< 0.20	**0.26**	< 0.20	< 0.20	-	< 0.20	-	**2.2**	-	-
Hardness, Total (mg/L)	**436**	**348**	**1660**	**1750**	**355**	**1020**	**624**	**573**	-	-	-	-	-	-
Nitrogen, Organic (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrite/Nitrate Nitrogen (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrite (as N) (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orthophosphate (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	**0.063**	-
Total residual chlorine (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (TKN) (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon (TOC) (mg/L)	**2.0**	**2.4**	**1.4**	**1.6**	**1.8**	**1.6**	**1.7**	**1.8**	-	**1.7**	-	**7.0**	-	-
Speciation - Arsenic III (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	**1.19**	-
Speciation - Arsenic V(µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	**0.618**	-
Speciation - Dimethylarsinic acid (DMA) (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	< 0.25	-
Speciation - Monomethylarsonic acid (µg/L)	-	-	-	-	-	-	-	-	-	-	-	-	< 0.20	-

Notes:

Bold value: *Detection above laboratory reporting limit or minimum detectable concentration (MDC).*

Radiological results are presented as activity plus or minus uncertainty with MDC.
µS/cm = micro Siemens per centimeter
µg/L = micrograms per liter
ft btoc = feet below top of casing
Deg C = degrees Celsius
mg/L = milligrams per liter
N/A = Not Applicable
NTU = Nephelometric Turbidity Unit
pCi/L = picoCuries per liter
su = standard unit
TOC = top of casing
< = Not detected above the reporting detection limit

TABLE II
SUMMARY OF ANALYTICAL RESULTS
EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER,
LAWRENCE, KANSAS

Location	MW-G	MW-G	MW-M	MW-M (Dup)	MW-M	MW-N	MW-N	MW-N	MW-O	MW-O	MW-P	MW-P	MW-P
Measure Point (TOC)	843.21	843.21	828.93	828.93	828.93	826.81	826.81	826.81	830.32	830.32	829.63	829.63	829.63
Sample Name	LEC MW-G 111820	MW-G-031021	LEC MW-M 111920	LEC DUPLICATE 111920	MW-M-030921	LEC MW-N 111920	MW-N-021821	MW-N-031021	LEC MW-O 111920	MW-O-031021	LEC MW-P 111920	MW-P-021821	MW-P-030921
Sample Date	11/18/2020	03/10/2021	11/19/2020	11/19/2020	03/09/2021	11/19/2020	02/18/2021	03/10/2021	11/19/2020	03/10/2021	11/19/2020	02/18/2021	03/09/2021
Depth to Water (ft btoc)	26.75	26.5	14.2	-	34.23	11.36	11.41	11.5	15.36	15.42	15.2	14.98	15.22
Temperature (Deg C)	18.87	21.58	17.18	-	17.96	20.26	1.77	17.13	19.85	16.88	18.69	12.18	15.6
Conductivity, Field (µS/cm)	1530	1360	1780	-	1320	1150	1180	1120	4620	4430	1820	1430	1320
Turbidity, Field (NTU)	29.1	4.8	26.5	-	23.5	31.5	5.0	23.6	41.2	79.4	36.7	10.8	32.2
pH, Field (SU)	7.25	7.01	7.08	-	6.92	7.76	7.79	7.32	7.66	7.17	7.33	7.27	6.81
Boron, Total (mg/L)	**1.9**	**1.9**	**0.96**	**0.95**	**1.3**	**1.5**	-	**1.3**	**3.0**	**2.9**	**2.2**	-	**1.5**
Calcium, Total (mg/L)	**214**	**213**	**223**	**222**	**269**	**116**	-	**119**	**513**	**510**	**209**	-	**172**
Chloride (mg/L)	**29.6**	**27.9**	**50.3**	**41.7**	**69.3**	**33.4**	-	**30.3**	**515**	**583**	**81.7**	-	**61.1**
Fluoride (mg/L)	< 0.20	**0.28**	**0.55**	**0.44**	**0.97**	**4.9**	-	**4.4**	**3.8**	**3.8**	**2.8**	-	**2.7**
Sulfate (mg/L)	**485**	**543**	**335**	**292**	**442**	**144**	-	**128**	**1810**	**2050**	**409**	-	**301**
pH (lab) (SU)	**7.1**	**7.0**	**6.9**	**6.9**	**6.9**	**7.6**	-	**7.3**	**7.2**	**7.1**	**7.1**	-	**7.2**
Total Dissolved Solids (TDS) (mg/L)	**1130**	**1200**	**995**	**1070**	**1200**	**708**	-	**722**	**5510**	**4350**	**1230**	-	**981**
Arsenic, Total (mg/L)	**0.0081**	**0.015**	**0.0063**	**0.0065**	**0.0057**	**0.070**	-	**0.039**	**0.015**	**0.015**	**0.022**	-	**0.0049**
Barium, Total (mg/L)	**0.046**	**0.041**	**0.20**	**0.20**	**0.16**	**0.18**	-	**0.14**	**0.047**	**0.043**	**0.039**	-	**0.036**
Cobalt, Total (mg/L)	-	**0.0022**	-	-	< 0.0010	-	-	**0.0011**	-	< 0.0010	-	-	**0.0014**
Lithium, Total (mg/L)	< 0.010	< 0.010	**0.026**	**0.023**	**0.031**	**0.058**	-	**0.052**	**0.084**	**0.096**	**0.028**	-	**0.028**
Molybdenum, Total (mg/L)	**0.0050**	**0.0050**	**0.0069**	**0.0080**	**0.0061**	**0.036**	-	**0.026**	**0.055**	**0.049**	**0.054**	-	**0.048**
Fluoride (mg/L)	< 0.20	**0.28**	**0.55**	**0.44**	**0.97**	**4.9**	-	**4.4**	**3.8**	**3.8**	**2.8**	-	**2.7**
Radium-226 & 228 (pCi/L)	1.23 ± 0.977 (1.75)	0.743 ± 0.624 (0.913)	0.186 ± 0.632 (1.35)	0.441 ± 1.02 (2.06)	0.356 ± 0.579 (0.980)	**1.77 ± 0.885 (1.40)**	-	**1.78 ± 0.834 (1.10)**	0.868 ± 0.888 (1.55)	**1.28 ± 0.674 (1.07)**	1.66 ± 1.02 (1.68)	-	1.20 ± 0.586 (0.936)
Arsenic, Dissolved (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Dissolved (mg/L)	**2.0**	**2.9**	< 0.050	< 0.050	< 0.050	**0.70**	**0.16**	**0.73**	**7.9**	**8.1**	**0.23**	-	< 0.050
Lithium, Dissolved (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese, Dissolved (mg/L)	**0.57**	**0.76**	**0.064**	**0.071**	**1.9**	**0.32**	-	**0.39**	**1.3**	**1.6**	**1.9**	-	**1.4**
Molybdenum, Dissolved (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Total (mg/L)	**2.8**	**5.1**	**3.0**	**2.9**	**0.11**	**21.9**	**41.1**	**8.4**	**11.9**	**10.8**	**13.5**	-	**1.7**
Magnesium, Total (mg/L)	**29.2**	**30**	**28.7**	**28.6**	**46**	**47.2**	-	**48.8**	**167**	**168**	**42.5**	-	**34.6**
Manganese, Total (mg/L)	**0.56**	**0.77**	**1.1**	**1.6**	**1.0**	**0.50**	-	**0.48**	**1.5**	**1.6**	**2.3**	-	**1.6**
Potassium, Total (mg/L)	**9.2**	**8.4**	**8.5**	**8.5**	**10.6**	**19**	-	**17.4**	**29.8**	**29.5**	**15.8**	-	**13.3**
Sodium, Total (mg/L)	**85.7**	**87.2**	**44.6**	**44.4**	**62.5**	**71.5**	-	**54**	**398**	**404**	**132**	-	**83.2**
Alkalinity, Bicarbonate (mg/L)	**331**	**338**	**430**	**429**	**430**	**447**	-	**481**	**247**	**255**	**398**	-	**404**
Alkalinity, Carbonate (mg/L)	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	-	< 20
Ammonia (as N) (mg/L)	-	-	-	-	-	-	**1.1**	-	-	-	-	-	-
Ammonium (mg/L)	-	-	-	-	-	-	**1.4**	-	-	-	-	-	-
Dissolved Organic Carbon (DOC) (mg/L)	**2.8**	-	**2.0**	**2.0**	-	**2.3**	-	-	**1.8**	-	**2.1**	-	-
Ferrous Iron (mg/L)	< 0.20	-	< 0.20	< 0.20	-	**1.1**	< 0.20	-	**1.4**	-	**0.75**	-	-
Hardness, Total (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Organic (mg/L)	-	-	-	-	-	-	< 0.50	-	-	-	-	-	-
Nitrate (as N)	-	-	-	-	-	-	< 0.10	-	-	-	-	-	-
Nitrite/Nitrate Nitrogen (mg/L)	-	-	-	-	-	-	< 0.10	-	-	-	-	-	-
Nitrite (as N) (mg/L)	-	-	-	-	-	-	< 0.10	-	-	-	-	-	-
Orthophosphate (mg/L)	-	-	-	-	-	-	**0.68**	-	-	-	-	-	-
Phosphorus (mg/L)	-	-	-	-	-	-	**3.2**	-	-	-	-	-	-
Sulfide (mg/L)	-	-	-	-	-	-	< 0.050	-	-	-	-	-	-
Total residual chlorine (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (TKN) (mg/L)	-	-	-	-	-	-	**1.0**	-	-	-	-	-	-
Total Organic Carbon (TOC) (mg/L)	**2.6**	-	**2.0**	**2.1**	-	**2.7**	-	-	**2.5**	-	**2.6**	-	-
Speciation - Arsenic III (µg/L)	-	-	-	-	-	-	**2.32**	-	-	-	-	< 0.20	-
Speciation - Arsenic V(µg/L)	-	-	-	-	-	-	**3.84**	-	-	-	-	**1.79**	-
Speciation - Dimethylarsinic acid (DMA) (µg/L)	-	-	-	-	-	-	< 0.25	-	-	-	-	< 0.25	-
Speciation - Monomethylarsonic acid (µg/L)	-	-	-	-	-	-	< 0.20	-	-	-	-	< 0.20	-

Notes:

Bold value: *Detection above laboratory reporting limit or minimum detectable concentration (MDC).*

Radiological results are presented as activity plus or minus uncertainty with MDC.
µS/cm = micro Siemens per centimeter
µg/L = micrograms per liter
ft btoc = feet below top of casing
Deg C = degrees Celsius
mg/L = milligrams per liter
N/A = Not Applicable
NTU = Nephelometric Turbidity Unit
pCi/L = picoCuries per liter
su = standard unit
TOC = top of casing
< = Not detected above the reporting detection limit

ATTACHMENT 2
Laboratory Analytical Reports

ATTACHMENT 2-1
Compliance Analytical Data
Laboratory Analytical Reports

ATTACHMENT 2-1-1
September 2020 Sampling Event
Laboratory Analytical Report

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

September 24, 2020

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 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,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, KCP&L & Westar, Evergy Companies
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Melanie Satanek, Haley & Aldrich, Inc.
Danielle Zinmaster, Haley & Aldrich

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

CERTIFICATIONS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60348435001	**MW-37-091520**	Water	09/15/20 10:30	09/15/20 17:20
60348435002	**MW-38-091520**	Water	09/15/20 13:20	09/15/20 17:20
60348435003	**MW-39-091520**	Water	09/15/20 14:35	09/15/20 17:20
60348435004	**MW-40-091520**	Water	09/15/20 14:00	09/15/20 17:20
60348435005	**MW-K-091520**	Water	09/15/20 12:55	09/15/20 17:20
60348435006	**MW-L-091520**	Water	09/15/20 12:39	09/15/20 17:20
60348435007	**DUP-AP-091520**	Water	09/15/20 08:00	09/15/20 17:20

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SAMPLE ANALYTE COUNT

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60348435001	**MW-37-091520**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	JLH	2	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	CRN2	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60348435002	**MW-38-091520**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	JLH	2	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	CRN2	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60348435003	**MW-39-091520**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	JLH	2	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	CRN2	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60348435004	**MW-40-091520**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	JLH	2	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	CRN2	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60348435005	**MW-K-091520**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	JLH	2	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	CRN2	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	MAP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60348435006	**MW-L-091520**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	JLH	2	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	CRN2	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K
60348435007	**DUP-AP-091520**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	JLH	2	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	CRN2	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	LDB	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Sample: MW-37-091520 **Lab ID: 60348435001** Collected: 09/15/20 10:30 Received: 09/15/20 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.079**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:41	7440-39-3	
Boron, Total Recoverable	**2.1**	mg/L	0.10	1	09/22/20 13:40	09/23/20 12:41	7440-42-8	
Calcium, Total Recoverable	**195**	mg/L	0.20	1	09/22/20 13:40	09/23/20 12:41	7440-70-2	
Iron, Total Recoverable	**4.5**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:41	7439-89-6	
Magnesium, Total Recoverable	**18.8**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:41	7439-95-4	
Manganese, Total Recoverable	**1.0**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:41	7439-96-5	
Potassium, Total Recoverable	**8.6**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:41	7440-09-7	
Sodium, Total Recoverable	**78.9**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:41	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**2.4**	mg/L	0.050	1	09/18/20 08:15	09/19/20 18:04	7439-89-6	
Manganese, Dissolved	**0.94**	mg/L	0.0050	1	09/18/20 08:15	09/19/20 18:04	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.019**	mg/L	0.010	1	09/17/20 13:50	09/18/20 16:39	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0086**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:01	7440-38-2	
Molybdenum, Total Recoverable	**0.11**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:01	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**302**	mg/L	20.0	1		09/18/20 12:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		09/18/20 12:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**930**	mg/L	10.0	1		09/17/20 12:59		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		09/19/20 11:23		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**46.5**	mg/L	5.0	5		09/18/20 14:23	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		09/17/20 19:41	16984-48-8	
Sulfate	**360**	mg/L	50.0	50		09/18/20 14:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Sample: MW-38-091520 **Lab ID: 60348435002** Collected: 09/15/20 13:20 Received: 09/15/20 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.040**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:43	7440-39-3	
Boron, Total Recoverable	**5.5**	mg/L	0.10	1	09/22/20 13:40	09/23/20 12:43	7440-42-8	
Calcium, Total Recoverable	**315**	mg/L	0.20	1	09/22/20 13:40	09/23/20 12:43	7440-70-2	
Iron, Total Recoverable	**3.3**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:43	7439-89-6	
Magnesium, Total Recoverable	**115**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:43	7439-95-4	
Manganese, Total Recoverable	**0.61**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:43	7439-96-5	
Potassium, Total Recoverable	**27.5**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:43	7440-09-7	
Sodium, Total Recoverable	**236**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:43	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**1.7**	mg/L	0.050	1	09/18/20 08:15	09/19/20 18:07	7439-89-6	
Manganese, Dissolved	**0.61**	mg/L	0.0050	1	09/18/20 08:15	09/19/20 18:07	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.071**	mg/L	0.010	1	09/17/20 13:50	09/18/20 16:49	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.029**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:12	7440-38-2	
Molybdenum, Total Recoverable	**0.074**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:12	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**228**	mg/L	20.0	1		09/18/20 12:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		09/18/20 12:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**2640**	mg/L	40.0	1		09/17/20 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		09/19/20 11:50		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**237**	mg/L	50.0	50		09/18/20 14:54	16887-00-6	
Fluoride	**2.8**	mg/L	0.20	1		09/17/20 19:56	16984-48-8	
Sulfate	**1380**	mg/L	100	100		09/18/20 15:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Sample: MW-39-091520 **Lab ID: 60348435003** Collected: 09/15/20 14:35 Received: 09/15/20 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.034**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:48	7440-39-3	
Boron, Total Recoverable	**4.9**	mg/L	0.10	1	09/22/20 13:40	09/23/20 12:48	7440-42-8	
Calcium, Total Recoverable	**588**	mg/L	0.20	1	09/22/20 13:40	09/23/20 12:48	7440-70-2	
Iron, Total Recoverable	**0.84**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:48	7439-89-6	
Magnesium, Total Recoverable	**59.3**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:48	7439-95-4	
Manganese, Total Recoverable	**3.4**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:48	7439-96-5	
Potassium, Total Recoverable	**25.7**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:48	7440-09-7	
Sodium, Total Recoverable	**338**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:48	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.73**	mg/L	0.050	1	09/18/20 08:15	09/19/20 18:09	7439-89-6	
Manganese, Dissolved	**3.3**	mg/L	0.0050	1	09/18/20 08:15	09/19/20 18:09	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.037**	mg/L	0.010	1	09/17/20 13:50	09/18/20 16:57	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.011**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:22	7440-38-2	
Molybdenum, Total Recoverable	**0.23**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:22	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**221**	mg/L	20.0	1		09/18/20 12:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		09/18/20 12:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3570**	mg/L	66.7	1		09/17/20 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/19/20 11:53		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**376**	mg/L	50.0	50		09/18/20 16:26	16887-00-6	
Fluoride	**1.8**	mg/L	0.20	1		09/17/20 20:25	16984-48-8	
Sulfate	**1870**	mg/L	250	250		09/18/20 16:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Sample: MW-40-091520 **Lab ID: 60348435004** Collected: 09/15/20 14:00 Received: 09/15/20 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.034**	mg/L	0.0050	1	09/23/20 16:30	09/24/20 11:58	7440-39-3	
Boron, Total Recoverable	**5.1**	mg/L	0.10	1	09/23/20 16:30	09/24/20 11:58	7440-42-8	
Calcium, Total Recoverable	**458**	mg/L	0.20	1	09/23/20 16:30	09/24/20 11:58	7440-70-2	M1
Iron, Total Recoverable	**5.5**	mg/L	0.050	1	09/23/20 16:30	09/24/20 11:58	7439-89-6	
Magnesium, Total Recoverable	**47.2**	mg/L	0.050	1	09/23/20 16:30	09/24/20 11:58	7439-95-4	
Manganese, Total Recoverable	**2.3**	mg/L	0.0050	1	09/23/20 16:30	09/24/20 11:58	7439-96-5	
Potassium, Total Recoverable	**19.9**	mg/L	0.50	1	09/23/20 16:30	09/24/20 11:58	7440-09-7	
Sodium, Total Recoverable	**253**	mg/L	0.50	1	09/23/20 16:30	09/24/20 11:58	7440-23-5	M1
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**5.7**	mg/L	0.050	1	09/18/20 08:15	09/19/20 18:17	7439-89-6	
Manganese, Dissolved	**2.3**	mg/L	0.0050	1	09/18/20 08:15	09/19/20 18:17	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.038**	mg/L	0.010	1	09/17/20 13:50	09/18/20 17:00	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.014**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:26	7440-38-2	
Molybdenum, Total Recoverable	**0.079**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:26	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**154**	mg/L	20.0	1		09/18/20 13:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		09/18/20 13:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**2660**	mg/L	40.0	1		09/17/20 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/19/20 11:51		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**273**	mg/L	50.0	50		09/18/20 16:57	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		09/17/20 20:39	16984-48-8	
Sulfate	**1750**	mg/L	400	400		09/18/20 17:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Sample: MW-K-091520 **Lab ID: 60348435005** Collected: 09/15/20 12:55 Received: 09/15/20 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.038**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:51	7440-39-3	
Boron, Total Recoverable	**2.4**	mg/L	0.10	1	09/22/20 13:40	09/23/20 12:51	7440-42-8	
Calcium, Total Recoverable	**480**	mg/L	0.20	1	09/22/20 13:40	09/23/20 12:51	7440-70-2	
Iron, Total Recoverable	**6.3**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:51	7439-89-6	
Magnesium, Total Recoverable	**156**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:51	7439-95-4	
Manganese, Total Recoverable	**2.5**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:51	7439-96-5	
Potassium, Total Recoverable	**51.4**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:51	7440-09-7	
Sodium, Total Recoverable	**496**	mg/L	0.50	1	09/22/20 13:40	09/23/20 14:44	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**5.7**	mg/L	0.050	1	09/18/20 08:15	09/19/20 18:22	7439-89-6	
Manganese, Dissolved	**2.4**	mg/L	0.0050	1	09/18/20 08:15	09/19/20 18:22	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.077**	mg/L	0.010	1	09/17/20 13:50	09/18/20 17:03	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.076**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:29	7440-38-2	
Molybdenum, Total Recoverable	**0.021**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:29	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**270**	mg/L	20.0	1		09/18/20 13:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		09/18/20 13:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**4210**	mg/L	100	1		09/17/20 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		09/19/20 11:48		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**691**	mg/L	100	100		09/18/20 17:27	16887-00-6	
Fluoride	**3.4**	mg/L	0.20	1		09/17/20 20:54	16984-48-8	
Sulfate	**2040**	mg/L	400	400		09/18/20 17:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Sample: MW-L-091520 **Lab ID: 60348435006** Collected: 09/15/20 12:39 Received: 09/15/20 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.035**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:53	7440-39-3	
Boron, Total Recoverable	**2.9**	mg/L	0.10	1	09/22/20 13:40	09/23/20 12:53	7440-42-8	
Calcium, Total Recoverable	**585**	mg/L	0.20	1	09/22/20 13:40	09/23/20 12:53	7440-70-2	
Iron, Total Recoverable	**7.1**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:53	7439-89-6	
Magnesium, Total Recoverable	**131**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:53	7439-95-4	
Manganese, Total Recoverable	**6.8**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:53	7439-96-5	
Potassium, Total Recoverable	**31.0**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:53	7440-09-7	
Sodium, Total Recoverable	**398**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:53	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**6.6**	mg/L	0.050	1	09/18/20 08:15	09/19/20 18:24	7439-89-6	
Manganese, Dissolved	**6.6**	mg/L	0.0050	1	09/18/20 08:15	09/19/20 18:24	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.055**	mg/L	0.010	1	09/17/20 13:50	09/18/20 17:06	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.026**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:33	7440-38-2	
Molybdenum, Total Recoverable	**0.054**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:33	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**282**	mg/L	20.0	1		09/18/20 13:17		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		09/18/20 13:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3990**	mg/L	100	1		09/17/20 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/19/20 11:46		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**621**	mg/L	100	100		09/18/20 17:58	16887-00-6	
Fluoride	**2.2**	mg/L	0.20	1		09/17/20 21:37	16984-48-8	
Sulfate	**1990**	mg/L	400	400		09/18/20 18:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Sample: DUP-AP-091520 **Lab ID: 60348435007** Collected: 09/15/20 08:00 Received: 09/15/20 17:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.037**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:56	7440-39-3	
Boron, Total Recoverable	**2.4**	mg/L	0.10	1	09/22/20 13:40	09/23/20 12:56	7440-42-8	
Calcium, Total Recoverable	**476**	mg/L	0.20	1	09/22/20 13:40	09/23/20 12:56	7440-70-2	
Iron, Total Recoverable	**6.2**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:56	7439-89-6	
Magnesium, Total Recoverable	**152**	mg/L	0.050	1	09/22/20 13:40	09/23/20 12:56	7439-95-4	
Manganese, Total Recoverable	**2.4**	mg/L	0.0050	1	09/22/20 13:40	09/23/20 12:56	7439-96-5	
Potassium, Total Recoverable	**49.8**	mg/L	0.50	1	09/22/20 13:40	09/23/20 12:56	7440-09-7	
Sodium, Total Recoverable	**566**	mg/L	1.0	2	09/22/20 13:40	09/23/20 13:44	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**5.3**	mg/L	0.050	1	09/18/20 08:15	09/19/20 18:27	7439-89-6	
Manganese, Dissolved	**2.2**	mg/L	0.0050	1	09/18/20 08:15	09/19/20 18:27	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.076**	mg/L	0.010	1	09/17/20 13:50	09/18/20 17:09	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.077**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:37	7440-38-2	
Molybdenum, Total Recoverable	**0.022**	mg/L	0.0010	1	09/18/20 12:15	09/21/20 15:37	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**274**	mg/L	20.0	1		09/18/20 13:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		09/18/20 13:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**4380**	mg/L	100	1		09/17/20 13:02		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		09/19/20 11:11		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**710**	mg/L	100	100		09/18/20 18:29	16887-00-6	
Fluoride	**3.4**	mg/L	0.20	1		09/17/20 21:52	16984-48-8	
Sulfate	**2100**	mg/L	400	400		09/18/20 19:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 678219
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: 60348435001, 60348435002, 60348435003, 60348435005, 60348435006, 60348435007

METHOD BLANK: 2742633 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	09/23/20 12:06	
Boron	mg/L	<0.10	0.10	09/23/20 12:06	
Calcium	mg/L	<0.20	0.20	09/23/20 12:06	
Iron	mg/L	<0.050	0.050	09/23/20 12:06	
Lithium	mg/L	<0.010	0.010	09/23/20 14:00	
Magnesium	mg/L	<0.050	0.050	09/23/20 12:06	
Manganese	mg/L	<0.0050	0.0050	09/23/20 12:06	
Potassium	mg/L	<0.50	0.50	09/23/20 12:06	
Sodium	mg/L	<0.50	0.50	09/23/20 12:06	

LABORATORY CONTROL SAMPLE: 2742634

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.1	105	85-115	
Boron	mg/L	1	1.1	107	85-115	
Calcium	mg/L	10	10.4	104	85-115	
Iron	mg/L	10	10.6	106	85-115	
Lithium	mg/L	1	1.0	100	85-115	
Magnesium	mg/L	10	10.6	106	85-115	
Manganese	mg/L	1	1.0	101	85-115	
Potassium	mg/L	10	10.4	104	85-115	
Sodium	mg/L	10	10.6	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2742635 2742636

Parameter	Units	60348431002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.10	1	1	1.1	1.1	103	104	70-130	1	20	
Boron	mg/L	2.0	1	1	3.1	3.0	108	106	70-130	1	20	
Calcium	mg/L	525	10	10	549	534	238	93	70-130	3	20	M1
Iron	mg/L	3.4	10	10	13.6	13.5	101	101	70-130	0	20	
Lithium	mg/L	0.41	1	1	1.5	1.4	104	104	70-130	0	20	
Magnesium	mg/L	277	10	10	294	294	169	172	70-130	0	20	M1
Manganese	mg/L	0.19	1	1	1.2	1.2	98	101	70-130	3	20	
Potassium	mg/L	37.7	10	10	51.6	50.1	139	123	70-130	3	20	M1
Sodium	mg/L	7870	10	10	7950	7850	840	-120	70-130	1	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

MATRIX SPIKE SAMPLE: 2742637

Parameter	Units	60348435002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.040	1	1.1	101	70-130	
Boron	mg/L	5.5	1	6.5	108	70-130	
Calcium	mg/L	315	10	324	95	70-130	
Iron	mg/L	3.3	10	13.4	100	70-130	
Lithium	mg/L	0.065	1	1.0	96	70-130	
Magnesium	mg/L	115	10	125	104	70-130	
Manganese	mg/L	0.61	1	1.6	96	70-130	
Potassium	mg/L	27.5	10	37.7	101	70-130	
Sodium	mg/L	236	10	245	93	70-130	

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 678608
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: 60348435004

METHOD BLANK: 2743820 Matrix: Water
Associated Lab Samples: 60348435004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	09/24/20 11:53	
Boron	mg/L	<0.10	0.10	09/24/20 11:53	
Calcium	mg/L	<0.20	0.20	09/24/20 11:53	
Iron	mg/L	<0.050	0.050	09/24/20 11:53	
Magnesium	mg/L	<0.050	0.050	09/24/20 11:53	
Manganese	mg/L	<0.0050	0.0050	09/24/20 11:53	
Potassium	mg/L	<0.50	0.50	09/24/20 11:53	
Sodium	mg/L	<0.50	0.50	09/24/20 11:53	

LABORATORY CONTROL SAMPLE: 2743821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.97	97	85-115	
Boron	mg/L	1	0.98	98	85-115	
Calcium	mg/L	10	9.8	98	85-115	
Iron	mg/L	10	9.8	98	85-115	
Magnesium	mg/L	10	9.9	99	85-115	
Manganese	mg/L	1	0.98	98	85-115	
Potassium	mg/L	10	9.7	97	85-115	
Sodium	mg/L	10	9.8	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2743822 2743823

Parameter	Units	60348435004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.034	1	1	1.0	1.0	98	100	70-130	3	20	
Boron	mg/L	5.1	1	1	6.1	6.0	100	91	70-130	1	20	
Calcium	mg/L	458	10	10	476	465	180	67	70-130	2	20	M1
Iron	mg/L	5.5	10	10	15.4	15.5	99	99	70-130	0	20	
Magnesium	mg/L	47.2	10	10	56.8	56.1	97	89	70-130	1	20	
Manganese	mg/L	2.3	1	1	3.3	3.2	96	94	70-130	1	20	
Potassium	mg/L	19.9	10	10	30.3	30.0	104	101	70-130	1	20	
Sodium	mg/L	253	10	10	266	259	133	62	70-130	3	20	M1

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(913)599-5665

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677531
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

METHOD BLANK: 2739580 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	mg/L	<0.050	0.050	09/19/20 17:14	
Manganese, Dissolved	mg/L	<0.0050	0.0050	09/19/20 17:14	

LABORATORY CONTROL SAMPLE: 2739581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	10	10.5	105	85-115	
Manganese, Dissolved	mg/L	1	1.0	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2739582 2739583

Parameter	Units	60348431002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	mg/L	3.1	10	10	12.8	12.8	97	97	70-130	0	20	
Manganese, Dissolved	mg/L	0.21	1	1	1.2	1.2	96	95	70-130	1	20	

MATRIX SPIKE SAMPLE: 2739584

Parameter	Units	60348493001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	<0.050	10	9.7	97	70-130	
Manganese, Dissolved	mg/L	0.011	1	0.93	92	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677576
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: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

METHOD BLANK: 2739740 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	09/21/20 14:58	
Molybdenum	mg/L	<0.0010	0.0010	09/21/20 14:58	

LABORATORY CONTROL SAMPLE: 2739741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.042	104	85-115	
Molybdenum	mg/L	0.04	0.041	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2739742 2739743

Parameter	Units	60348435001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0086	0.04	0.04	0.049	0.052	102	109	70-130	6	20	
Molybdenum	mg/L	0.11	0.04	0.04	0.15	0.16	99	114	70-130	4	20	

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677440 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

METHOD BLANK: 2739018 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	09/18/20 16:34	

LABORATORY CONTROL SAMPLE: 2739019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2739020 2739021

Parameter	Units	60348435001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.019	1	1	1.0	1.1	102	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677414 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

METHOD BLANK: 2738945 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	09/18/20 11:51	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	09/18/20 11:51	

SAMPLE DUPLICATE: 2738947

Parameter	Units	60348431001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	312	312	0	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2738948

Parameter	Units	60348435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	270	274	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677404
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60348435001

METHOD BLANK: 2738905 Matrix: Water
Associated Lab Samples: 60348435001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	09/17/20 12:55	

LABORATORY CONTROL SAMPLE: 2738906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	995	100	80-120	

SAMPLE DUPLICATE: 2738907

Parameter	Units	60348074001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1010	1020	1	10	

SAMPLE DUPLICATE: 2738908

Parameter	Units	60348217001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	344	354	3	10	

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677406 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

METHOD BLANK: 2738915 Matrix: Water
Associated Lab Samples: 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	09/17/20 13:01	

LABORATORY CONTROL SAMPLE: 2738916

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

SAMPLE DUPLICATE: 2738917

Parameter	Units	60348435002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2640	2520	4	10	

SAMPLE DUPLICATE: 2738918

Parameter	Units	60348450001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	876	880	0	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

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677706
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60348435001, 60348435007

SAMPLE DUPLICATE: 2740238

Parameter	Units	60348453001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	1	5	H6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677707
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60348435002, 60348435003, 60348435004, 60348435005, 60348435006

SAMPLE DUPLICATE: 2740239

Parameter	Units	60348435006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

QC Batch: 677373
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: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

METHOD BLANK: 2738789 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/17/20 15:50	
Fluoride	mg/L	<0.20	0.20	09/17/20 15:50	
Sulfate	mg/L	<1.0	1.0	09/17/20 15:50	

METHOD BLANK: 2741280 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/18/20 10:57	
Fluoride	mg/L	<0.20	0.20	09/18/20 10:57	
Sulfate	mg/L	<1.0	1.0	09/18/20 10:57	

METHOD BLANK: 2741286 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/19/20 08:27	
Fluoride	mg/L	<0.20	0.20	09/19/20 08:27	
Sulfate	mg/L	<1.0	1.0	09/19/20 08:27	

METHOD BLANK: 2741917 Matrix: Water
Associated Lab Samples: 60348435001, 60348435002, 60348435003, 60348435004, 60348435005, 60348435006, 60348435007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/21/20 09:08	
Fluoride	mg/L	<0.20	0.20	09/21/20 09:08	
Sulfate	mg/L	<1.0	1.0	09/21/20 09:08	

LABORATORY CONTROL SAMPLE: 2738790

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	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

LABORATORY CONTROL SAMPLE: 2738790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 2741281

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	94	90-110	
Sulfate	mg/L	5	4.9	99	90-110	

LABORATORY CONTROL SAMPLE: 2741287

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	105	90-110	
Fluoride	mg/L	2.5	2.6	102	90-110	
Sulfate	mg/L	5	5.3	107	90-110	

LABORATORY CONTROL SAMPLE: 2741918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	103	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

MATRIX SPIKE SAMPLE: 2738791

Parameter	Units	60348435002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	237	250	494	103	80-120	
Fluoride	mg/L	2.8	2.5	5.3	102	80-120	
Sulfate	mg/L	1380	500	1930	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2738792 2738793

Parameter	Units	60348429002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2030	250	250	2410	2420	152	153	80-120	0	15	E,M1
Fluoride	mg/L	4.8	50	50	55.9	56.4	102	103	80-120	1	15	
Sulfate	mg/L	587	250	250	919	917	133	132	80-120	0	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

Pace Analytical Services, LLC
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(913)599-5665

QUALIFIERS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

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.

ANALYTE QUALIFIERS

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

Pace Analytical Services, LLC
9608 Loiret Blvd.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60348435001	MW-37-091520	EPA 200.7	678219	EPA 200.7	678264
60348435002	MW-38-091520	EPA 200.7	678219	EPA 200.7	678264
60348435003	MW-39-091520	EPA 200.7	678219	EPA 200.7	678264
60348435004	MW-40-091520	EPA 200.7	678608	EPA 200.7	678669
60348435005	MW-K-091520	EPA 200.7	678219	EPA 200.7	678264
60348435006	MW-L-091520	EPA 200.7	678219	EPA 200.7	678264
60348435007	DUP-AP-091520	EPA 200.7	678219	EPA 200.7	678264
60348435001	MW-37-091520	EPA 200.7	677531	EPA 200.7	677630
60348435002	MW-38-091520	EPA 200.7	677531	EPA 200.7	677630
60348435003	MW-39-091520	EPA 200.7	677531	EPA 200.7	677630
60348435004	MW-40-091520	EPA 200.7	677531	EPA 200.7	677630
60348435005	MW-K-091520	EPA 200.7	677531	EPA 200.7	677630
60348435006	MW-L-091520	EPA 200.7	677531	EPA 200.7	677630
60348435007	DUP-AP-091520	EPA 200.7	677531	EPA 200.7	677630
60348435001	MW-37-091520	EPA 3010	677440	EPA 6010	677473
60348435002	MW-38-091520	EPA 3010	677440	EPA 6010	677473
60348435003	MW-39-091520	EPA 3010	677440	EPA 6010	677473
60348435004	MW-40-091520	EPA 3010	677440	EPA 6010	677473
60348435005	MW-K-091520	EPA 3010	677440	EPA 6010	677473
60348435006	MW-L-091520	EPA 3010	677440	EPA 6010	677473
60348435007	DUP-AP-091520	EPA 3010	677440	EPA 6010	677473
60348435001	MW-37-091520	EPA 200.8	677576	EPA 200.8	677649
60348435002	MW-38-091520	EPA 200.8	677576	EPA 200.8	677649
60348435003	MW-39-091520	EPA 200.8	677576	EPA 200.8	677649
60348435004	MW-40-091520	EPA 200.8	677576	EPA 200.8	677649
60348435005	MW-K-091520	EPA 200.8	677576	EPA 200.8	677649
60348435006	MW-L-091520	EPA 200.8	677576	EPA 200.8	677649
60348435007	DUP-AP-091520	EPA 200.8	677576	EPA 200.8	677649
60348435001	MW-37-091520	SM 2320B	677414		
60348435002	MW-38-091520	SM 2320B	677414		
60348435003	MW-39-091520	SM 2320B	677414		
60348435004	MW-40-091520	SM 2320B	677414		
60348435005	MW-K-091520	SM 2320B	677414		
60348435006	MW-L-091520	SM 2320B	677414		
60348435007	DUP-AP-091520	SM 2320B	677414		
60348435001	MW-37-091520	SM 2540C	677404		
60348435002	MW-38-091520	SM 2540C	677406		
60348435003	MW-39-091520	SM 2540C	677406		
60348435004	MW-40-091520	SM 2540C	677406		
60348435005	MW-K-091520	SM 2540C	677406		
60348435006	MW-L-091520	SM 2540C	677406		
60348435007	DUP-AP-091520	SM 2540C	677406		
60348435001	MW-37-091520	SM 4500-H+B	677706		
60348435002	MW-38-091520	SM 4500-H+B	677707		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60348435

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60348435003	**MW-39-091520**	SM 4500-H+B	677707		
60348435004	**MW-40-091520**	SM 4500-H+B	677707		
60348435005	**MW-K-091520**	SM 4500-H+B	677707		
60348435006	**MW-L-091520**	SM 4500-H+B	677707		
60348435007	**DUP-AP-091520**	SM 4500-H+B	677706		
60348435001	**MW-37-091520**	EPA 300.0	677373		
60348435002	**MW-38-091520**	EPA 300.0	677373		
60348435003	**MW-39-091520**	EPA 300.0	677373		
60348435004	**MW-40-091520**	EPA 300.0	677373		
60348435005	**MW-K-091520**	EPA 300.0	677373		
60348435006	**MW-L-091520**	EPA 300.0	677373		
60348435007	**DUP-AP-091520**	EPA 300.0	677373		

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Sample Condition Upon Receipt

WO# : 60348435

60348435

Client Name: Evergy Kansas Central, Inc.

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 ☒ TRL C

Thermometer Used: T301 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.7, 3.3, 0.5 **Corr. Factor** +0.5 **Corrected** 2.2, 3.8, 1.0, 2.1, 2.2

Temperature should be above freezing to 6°C 1.6, 1.7

Date and initials of person examining contents: 09/16/20 MK

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	3 day
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	COC Reads Dup collected
Pace containers used:	☑Yes ☐No ☐N/A	at 1800, sample was
Containers intact:	☑Yes ☐No ☐N/A	dropped of at 1720
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	Dissolved tests not on COC
Sample labels match COC: Date / time / ID / analyses	☑Yes ☑No ☐N/A	but did receive BP3F's for
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	each sample
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# VD3173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added. Containers for MW37 say sampled @ 1100
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	RUSH 3 DAY

Section B — **Required** Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney, Danielle Zinsmaster
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	Section D 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: 200.8 Total Metals**	200.7 Total Metals*	300: Cl, F, SO4	2540C TDS	4500 H+B	6010 Total Metals***	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-37-091520	WT	G	-	-	09/15/20	10:30		3	2		1						x	x	x	x	x	x		60349435
2	MW-38-091520	WT	G	-	-	09/15/20	13:20		3	2		1						x	x	x	x	x	x		
3	MW-39-091520	WT	G	-	-	09/15/20	14:35		3	2		1						x	x	x	x	x	x		
4	MW-40-091520	WT	G	-	-	09/15/20	14:00		3	2		1						x	x	x	x	x	x		
5	MW-K-091520	WT	G	-	-	09/15/20	12:55		3	2		1						x	x	x	x	x	x		
6	MW-L-091520	WT	G	-	-	09/15/20	12:39		3	2		1						x	x	x	x	x	x		
7	DUP-AP-091520	WT	G	-	-	09/15/20	18:00		3	2		1						x	x	x	x	x	x		
8																									
9																									
10																									
11																									
12																									

Pace Project No./ Lab I.D.: 60349435

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
200.7 Total Metals*: B, Ca, Ba	Jason R. Franks / SCS	9/15/20	17:00	Meller / Pace	9/15/20	1720
200.8 Total Metals**: As, Mo						
6010 Total Metals***: Li						

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.2	Y	Y	Y
3.8			
1.0			
2.1	2.1		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 9/15/20

*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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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	RUSH 3 DAY

Section B — **Required** Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney, Danielle Zinsmaster
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location — **STATE:** KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	200.8 Total Metals**	200.7 Total Metals*	300: Cl, F, SO4	2540C TDS	4500 H+B	6010 Total Metals***	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N		
1	MW-37-091520	WT	G	-	-	09/15/20	11:00		3	2		1							x	x	x	x	x	x		
2	MW-38-091520	WT	G	-	-	09/15/20	13:20		3	2		1							x	x	x	x	x	x		
3	MW-39-091520	WT	G	-	-	09/15/20	14:35		3	2		1							x	x	x	x	x	x		
4	MW-40-091520	WT	G	-	-	09/15/20	14:00		3	2		1							x	x	x	x	x	x		
5	MW-K-091520	WT	G	-	-	09/15/20	12:55		3	2		1							x	x	x	x	x	x		
6	MW-L-091520	WT	G	-	-	09/15/20	12:39		3	2		1							x	x	x	x	x	x		
7	DUP-AP-091520	WT	G	-	-	09/15/20	18:00		3	2		1							x	x	x	x	x	x		
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
200.7 Total Metals*: B, Ca, Ba	Jason R. Franks / SCS	9/15/20	17:00				
200.8 Total Metals**: As, Mo							
6010 Total Metals***: Li							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9/15/20

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
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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	RUSH 3 DAY

Section B — **Required** Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location — **STATE:** KS

Section D — **Required** Client Information

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

Valid Matrix Codes

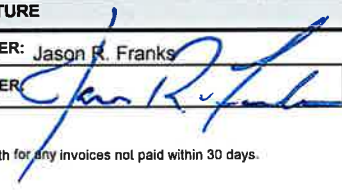
MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

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 Total Metals*	200.7 Diss. Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	Y	N	N		
1	MW-37-091520	WT	G	-	-	09/15/20	11:00		3	1		2						x	x	x	x			
2	MW-38-091520	WT	G	-	-	09/15/20	13:20		3	1		2						x	x	x	x			
3	MW-39-091520	WT	G	-	-	09/15/20	14:35		3	1		2						x	x	x	x			
4	MW-40-091520	WT	G	-	-	09/15/20	14:00		3	1		2						x	x	x	x			
5	MW-K-091520	WT	G	-	-	09/15/20	12:55		3	1		2						x	x	x	x			
6	MW-L-091520	WT	G	-	-	09/15/20	12:39		3	1		2						x	x	x	x			
7	DUP-AP-091520	WT	G	-	-	09/15/20	18:00		3	1		2						x	x	x	x			
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
200.7 Total Metals*: Mg, Na, K, Fe, Mn	Jason R. Franks / SCS	9/15/20	17:00				
200.7 Dissolved Metals**: Fe, Mn (FIELD FILTERED)							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: 

DATE Signed (MM/DD/YY): 9/15/20

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

October 07, 2020

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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 - Greensburg

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, KCP&L & Westar, Evergy Companies
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Melanie Satanek, Haley & Aldrich, Inc.
Danielle Zinmaster, Haley & Aldrich

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CERTIFICATIONS

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

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

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SAMPLE SUMMARY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60348697001	**MW-37-091520**	Water	09/15/20 11:00	09/17/20 10:00
60348697002	**MW-38-091520**	Water	09/15/20 13:20	09/17/20 10:00
60348697003	**MW-39-091520**	Water	09/15/20 14:35	09/17/20 10:00
60348697004	**MW-40-091520**	Water	09/15/20 14:00	09/17/20 10:00
60348697005	**MW-K-091520**	Water	09/15/20 12:55	09/17/20 10:00
60348697006	**MW-L-091520**	Water	09/15/20 12:39	09/17/20 10:00
60348697007	**DUP-AP-091520**	Water	09/15/20 18:00	09/17/20 10:00

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SAMPLE ANALYTE COUNT

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60348697001	**MW-37-091520**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60348697002	**MW-38-091520**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60348697003	**MW-39-091520**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60348697004	**MW-40-091520**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60348697005	**MW-K-091520**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60348697006	**MW-L-091520**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60348697007	**DUP-AP-091520**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Sample: MW-37-091520 **Lab ID: 60348697001** Collected: 09/15/20 11:00 Received: 09/17/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0618 ± 0.437 (0.872) C:NA T:89%**	pCi/L	10/02/20 12:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.707 ± 0.494 (0.962) C:61% T:88%**	pCi/L	10/05/20 12:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.56 ± 1.14 (1.18)**	pCi/L	10/06/20 14:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Sample: MW-38-091520 **Lab ID: 60348697002** Collected: 09/15/20 13:20 Received: 09/17/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.293 (0.473) C:NA T:86%**	pCi/L	10/02/20 13:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.656 ± 0.447 (0.865) C:68% T:87%**	pCi/L	10/05/20 12:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.656 ± 0.534 (0.865)**	pCi/L	10/06/20 14:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Sample: MW-39-091520 **Lab ID: 60348697003** Collected: 09/15/20 14:35 Received: 09/17/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.152 ± 0.233 (0.374) C:NA T:98%**	pCi/L	10/02/20 13:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.771 ± 0.511 (0.971) C:66% T:71%**	pCi/L	10/05/20 12:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.923 ± 0.562 (0.971)**	pCi/L	10/06/20 14:01	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Sample: MW-40-091520 **Lab ID: 60348697004** Collected: 09/15/20 14:00 Received: 09/17/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.257 (0.523) C:NA T:93%**	pCi/L	10/02/20 13:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.26 ± 0.574 (0.970) C:63% T:83%**	pCi/L	10/05/20 12:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.26 ± 0.629 (0.970)**	pCi/L	10/06/20 14:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Sample: MW-K-091520 **Lab ID: 60348697005** Collected: 09/15/20 12:55 Received: 09/17/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.224 ± 0.256 (0.151) C:NA T:97%**	pCi/L	10/02/20 13:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.83 ± 0.710 (1.12) C:63% T:75%**	pCi/L	10/05/20 12:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.05 ± 0.755 (1.12)**	pCi/L	10/07/20 15:25	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Sample: MW-L-091520 **Lab ID: 60348697006** Collected: 09/15/20 12:39 Received: 09/17/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.122 ± 0.293 (0.566) C:NA T:87%**	pCi/L	10/02/20 13:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.11 ± 0.550 (0.962) C:64% T:81%**	pCi/L	10/05/20 12:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.23 ± 0.623 (0.962)**	pCi/L	10/06/20 14:00	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Sample: DUP-AP-091520 **Lab ID: 60348697007** Collected: 09/15/20 18:00 Received: 09/17/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.103 ± 0.236 (0.557) C:NA T:100%**	pCi/L	10/02/20 13:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.901 ± 0.682 (1.35) C:65% T:82%**	pCi/L	10/05/20 15:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.901 ± 0.722 (1.35)**	pCi/L	10/06/20 14:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

QC Batch: 415224 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: 60348697001, 60348697002, 60348697003, 60348697004, 60348697005, 60348697006, 60348697007

METHOD BLANK: 2008178 Matrix: Water
Associated Lab Samples: 60348697001, 60348697002, 60348697003, 60348697004, 60348697005, 60348697006, 60348697007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.256 (0.555) C:NA T:91%	pCi/L	10/02/20 12:55	

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: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

QC Batch: 415225 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: 60348697001, 60348697002, 60348697003, 60348697004, 60348697005, 60348697006, 60348697007

METHOD BLANK: 2008180 Matrix: Water
Associated Lab Samples: 60348697001, 60348697002, 60348697003, 60348697004, 60348697005, 60348697006, 60348697007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.438 ± 0.407 (0.825) C:68% T:75%	pCi/L	10/05/20 11:56	

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: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60348697

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60348697001	**MW-37-091520**	EPA 903.1	415224		
60348697002	**MW-38-091520**	EPA 903.1	415224		
60348697003	**MW-39-091520**	EPA 903.1	415224		
60348697004	**MW-40-091520**	EPA 903.1	415224		
60348697005	**MW-K-091520**	EPA 903.1	415224		
60348697006	**MW-L-091520**	EPA 903.1	415224		
60348697007	**DUP-AP-091520**	EPA 903.1	415224		
60348697001	**MW-37-091520**	EPA 904.0	415225		
60348697002	**MW-38-091520**	EPA 904.0	415225		
60348697003	**MW-39-091520**	EPA 904.0	415225		
60348697004	**MW-40-091520**	EPA 904.0	415225		
60348697005	**MW-K-091520**	EPA 904.0	415225		
60348697006	**MW-L-091520**	EPA 904.0	415225		
60348697007	**DUP-AP-091520**	EPA 904.0	415225		
60348697001	**MW-37-091520**	Total Radium Calculation	417208		
60348697002	**MW-38-091520**	Total Radium Calculation	417208		
60348697003	**MW-39-091520**	Total Radium Calculation	417208		
60348697004	**MW-40-091520**	Total Radium Calculation	417211		
60348697005	**MW-K-091520**	Total Radium Calculation	417457		
60348697006	**MW-L-091520**	Total Radium Calculation	417211		
60348697007	**DUP-AP-091520**	Total Radium Calculation	417211		

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Energy Kansas Project #

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

Label JSM
LIMS Login JSM

Tracking #: 190867344478

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

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

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

Temp should be above freezing to 6°C

pH paper Lot# 1002192 Date and Initials of person examining contents: JSM 9/18/2020

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed JSM Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: JSM Date: 9/18/2020

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B — **Required** Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney, Daniella Zingmaster
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location **STATE:** KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-37-091520	WT	G	-	-	09/15/20	10:30		2			2							x	x	x		001
2	MW-38-091520	WT	G	-	-	09/15/20	13:20		2			2							x	x	x		002
3	MW-39-091520	WT	G	-	-	09/15/20	14:35		2			2							x	x	x		003
4	MW-40-091520	WT	G	-	-	09/15/20	14:00		2			2							x	x	x		004
5	MW-K-091520	WT	G	-	-	09/15/20	12:55		2			2							x	x	x		005
6	MW-L-091520	WT	G	-	-	09/15/20	12:39		2			2							x	x	x		006
7	DUP-AP-091520	WT	G	-	-	09/15/20	18:00		2			2							x	x	x		007
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	9/16/20	15:00		9/17/20	1000	-	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks **DATE Signed (MM/DD/YY):** 9/16/20

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.

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	**15 day**

Section B — **Required** Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney, Daniella Zinsmeister
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location **STATE:** KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-37-091520	WT	G	-	-	09/15/20	11:00		2			2							x	x	x		
2	MW-38-091520	WT	G	-	-	09/15/20	13:20		2			2							x	x	x		
3	MW-39-091520	WT	G	-	-	09/15/20	14:35		2			2							x	x	x		
4	MW-40-091520	WT	G	-	-	09/15/20	14:00		2			2							x	x	x		
5	MW-K-091520	WT	G	-	-	09/15/20	12:55		2			2							x	x	x		
6	MW-L-091520	WT	G	-	-	09/15/20	12:39		2			2							x	x	x		
7	DUP-AP-091520	WT	G	-	-	09/15/20	18:00		2			2							x	x	x		
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Jason R. Franks / SCS	9/16/20	15:00				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 9/16/20

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.

Quality Control Sample Performance Assessment

Pace Analytical
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Test: Ra-226
Analyst: MK1
Date: 9/24/2020
Batch ID: 56313
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2008178
MB concentration:	0.000
M/B Counting Uncertainty:	0.256
MB MDC:	0.555
MB Numerical Performance Indicator:	0.00
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56313	LCSD56313
Count Date:	10/2/2020	10/2/2020
Spike I.D.:	20-032	20-032
Spike Concentration (pCi/mL):	32.183	32.183
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.662	0.653
Target Conc. (pCi/L, g, F):	4.860	4.930
Uncertainty (Calculated):	0.228	0.232
Result (pCi/L, g, F):	4.068	4.633
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.903	1.009
Numerical Performance Indicator:	-1.67	-0.56
Percent Recovery:	83.71%	93.97%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	73%	73%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56313	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56313	
Sample Result (pCi/L, g, F):	4.068	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.903	
Sample Duplicate Result (pCi/L, g, F):	4.633	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.009	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.818	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.55%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

MK 10/8/2020

Quality Control Sample Performance Assessment

Test: Ra-228
Analyst: VAL
Date: 9/28/2020
Worklist: 56314
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2008180
MB concentration:	0.438
M/B 2 Sigma CSU:	0.407
MB MDC:	0.825
MB Numerical Performance Indicator:	2.11
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	y
	LCS56314	LCSD56314
Count Date:	10/5/2020	10/5/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.143	38.143
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.808	0.807
Target Conc. (pCi/L, g, F):	4.720	4.727
Uncertainty (Calculated):	0.231	0.232
Result (pCi/L, g, F):	5.869	5.991
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.303	1.295
Numerical Performance Indicator:	1.70	1.88
Percent Recovery:	124.35%	126.75%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment		
Sample I.D.:	LCS56314	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56314	
Sample Result (pCi/L, g, F):	5.869	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.303	
Sample Duplicate Result (pCi/L, g, F):	5.991	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.295	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.130	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	1.91%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

10/6/20

10/6/2020

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

October 21, 2020

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on October 19, 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,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Melanie Satanek, Haley & Aldrich, Inc.
Danielle Zinmaster, Haley & Aldrich

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

CERTIFICATIONS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60351796001	**MW-39-101920**	Water	10/19/20 12:35	10/19/20 14:38

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

SAMPLE ANALYTE COUNT

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60351796001	**MW-39-101920**	EPA 200.8	JGP	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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

Sample: MW-39-101920 **Lab ID: 60351796001** Collected: 10/19/20 12:35 Received: 10/19/20 14:38 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Molybdenum, Total Recoverable	**0.23**	mg/L	0.0010	1	10/20/20 15:00	10/21/20 10:57	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

QC Batch: 683938
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: 60351796001

METHOD BLANK: 2764973 Matrix: Water
Associated Lab Samples: 60351796001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum	mg/L	<0.0010	0.0010	10/21/20 10:53	

LABORATORY CONTROL SAMPLE: 2764974

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	mg/L	0.04	0.039	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764975 2764976

Parameter	Units	60351796001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	mg/L	0.23	0.04	0.04	0.27	0.27	96	103	70-130	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

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

QUALIFIERS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60351796

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60351796001	**MW-39-101920**	EPA 200.8	683938	EPA 200.8	684133

REPORT OF LABORATORY ANALYSIS

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60351796

60351796

Client Name: Evergy Kansas Central Inc

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 ☑ Bag

Thermometer Used: T-298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 6.2 Corr. Factor -0.4 Corrected 5.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10-19-2020

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	2 Days
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: _____

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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone:	785-575-8113
Fax:	
Requested Due Date/TAT:	RUSH 2 DAY

Section B — Required Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney, Danielle Zinsmaster
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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; WIPE WP; AIR AR; OTHER OT; TISSUE TS

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

Requested Analysis Filtered (Y/N): 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	200.8 Total Metals**	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-39-101920	WT	G	-	-	10/19/20	1235	-	1			1							x		
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Handwritten (Pace Project No.): 60357910

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
200.8 Total Metals**: Mo	Whit Martin / SCS [signature]	10/19/20	1438	Dawson/Pace	10/19/20	1438	5.8	Y	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: Whit Martin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10/19/20

*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

ATTACHMENT 2-1-2
December 2020 Sampling Event
Laboratory Analytical Report

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

December 11, 2020

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on December 01, 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

Revised Report REV_1

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Melanie Satanek, Haley & Aldrich, Inc.
Danielle Zinmaster, Haley & Aldrich

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CERTIFICATIONS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60355666001	**MW-37-120120**	Water	12/01/20 13:15	12/01/20 16:35
60355666002	**MW-38-120120**	Water	12/01/20 13:00	12/01/20 16:35
60355666003	**MW-39-120120**	Water	12/01/20 10:10	12/01/20 16:35
60355666004	**MW-40-120120**	Water	12/01/20 09:55	12/01/20 16:35
60355666005	**MW-K-120120**	Water	12/01/20 11:25	12/01/20 16:35
60355666006	**MW-L-120120**	Water	12/01/20 11:55	12/01/20 16:35
60355666007	**DUP-AP-120120**	Water	12/01/20 08:00	12/01/20 16:35

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60355666001	MW-37-120120	EPA 200.7	HKC	4	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JDE	1	PASI-K
		EPA 300.0	LDB	1	PASI-K
60355666002	MW-38-120120	EPA 200.7	HKC	4	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JDE	1	PASI-K
		EPA 300.0	LDB	1	PASI-K
60355666003	MW-39-120120	EPA 200.7	HKC	4	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JDE	1	PASI-K
		EPA 300.0	LDB	1	PASI-K
60355666004	MW-40-120120	EPA 200.7	HKC	4	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JDE	1	PASI-K
		EPA 300.0	LDB	1	PASI-K
60355666005	MW-K-120120	EPA 200.7	HKC	4	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JDE	1	PASI-K
		EPA 300.0	LDB	1	PASI-K
60355666006	MW-L-120120	EPA 200.7	HKC	4	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JDE	1	PASI-K
		EPA 300.0	LDB	1	PASI-K
60355666007	DUP-AP-120120	EPA 200.7	HKC	4	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JDE	1	PASI-K
		EPA 300.0	LDB	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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(913)599-5665

PROJECT NARRATIVE

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Date: December 11, 2020

Amended report revised to reflect updated results for samples 60355666-005 and 60355666-006.

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Sample: MW-37-120120 **Lab ID: 60355666001** Collected: 12/01/20 13:15 Received: 12/01/20 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.070**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:01	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 14:05	12/07/20 12:01	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:01	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/03/20 14:05	12/07/20 12:01	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.019**	mg/L	0.010	1	12/03/20 18:33	12/04/20 18:57	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:36	7440-36-0	
Arsenic, Total Recoverable	**0.0045**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:36	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/03/20 16:38	12/07/20 14:36	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:36	7440-48-4	
Molybdenum, Total Recoverable	**0.11**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:36	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:36	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:36	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/07/20 09:20	12/07/20 13:15	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**<0.20**	mg/L	0.20	1		12/04/20 21:08	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Sample: MW-38-120120 **Lab ID: 60355666002** Collected: 12/01/20 13:00 Received: 12/01/20 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.036**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:03	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 14:05	12/07/20 12:03	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:03	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/03/20 14:05	12/07/20 12:03	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.084**	mg/L	0.010	1	12/03/20 18:33	12/04/20 19:00	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:48	7440-36-0	
Arsenic, Total Recoverable	**0.019**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:48	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/03/20 16:38	12/07/20 14:48	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:48	7440-48-4	
Molybdenum, Total Recoverable	**0.081**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:48	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:48	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:48	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/07/20 09:20	12/07/20 13:17	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**4.6**	mg/L	0.20	1		12/04/20 21:23	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Sample: MW-39-120120 **Lab ID: 60355666003** Collected: 12/01/20 10:10 Received: 12/01/20 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.034**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:06	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 14:05	12/07/20 12:06	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:06	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/03/20 14:05	12/07/20 12:06	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.039**	mg/L	0.010	1	12/03/20 18:33	12/04/20 19:02	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:56	7440-36-0	
Arsenic, Total Recoverable	**0.013**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:56	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/03/20 16:38	12/07/20 14:56	7440-43-9	
Cobalt, Total Recoverable	**0.0011**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:56	7440-48-4	
Molybdenum, Total Recoverable	**0.20**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:56	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:56	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 14:56	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/07/20 09:20	12/07/20 13:19	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**1.8**	mg/L	0.20	1		12/04/20 21:37	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Sample: MW-40-120120 **Lab ID: 60355666004** Collected: 12/01/20 09:55 Received: 12/01/20 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.034**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:09	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 14:05	12/07/20 12:09	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:09	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/03/20 14:05	12/07/20 12:09	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.044**	mg/L	0.010	1	12/03/20 18:33	12/04/20 19:05	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:00	7440-36-0	
Arsenic, Total Recoverable	**0.014**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:00	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/03/20 16:38	12/07/20 15:00	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:00	7440-48-4	
Molybdenum, Total Recoverable	**0.076**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:00	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:00	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:00	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/07/20 09:20	12/07/20 13:22	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**1.3**	mg/L	0.20	1		12/04/20 21:52	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Sample: MW-K-120120 **Lab ID: 60355666005** Collected: 12/01/20 11:25 Received: 12/01/20 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.038**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:12	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 14:05	12/07/20 12:12	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:12	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/03/20 14:05	12/07/20 12:12	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.082**	mg/L	0.010	1	12/03/20 18:33	12/04/20 19:10	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:04	7440-36-0	
Arsenic, Total Recoverable	**0.067**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:04	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/03/20 16:38	12/07/20 15:04	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:04	7440-48-4	
Molybdenum, Total Recoverable	**0.023**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:04	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:04	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:04	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/07/20 09:20	12/07/20 13:24	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**3.0**	mg/L	0.20	1		12/04/20 22:06	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Sample: MW-L-120120 **Lab ID: 60355666006** Collected: 12/01/20 11:55 Received: 12/01/20 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.035**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:15	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 14:05	12/07/20 12:15	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:15	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/03/20 14:05	12/07/20 12:15	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.065**	mg/L	0.010	1	12/03/20 18:33	12/04/20 19:08	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:08	7440-36-0	
Arsenic, Total Recoverable	**0.024**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:08	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/03/20 16:38	12/07/20 15:08	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:08	7440-48-4	
Molybdenum, Total Recoverable	**0.048**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:08	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:08	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:08	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/07/20 09:20	12/07/20 13:26	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**1.9**	mg/L	0.20	1		12/04/20 22:35	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Sample: DUP-AP-120120 **Lab ID: 60355666007** Collected: 12/01/20 08:00 Received: 12/01/20 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.034**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:25	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 14:05	12/07/20 12:25	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/03/20 14:05	12/07/20 12:25	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/03/20 14:05	12/07/20 12:25	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.043**	mg/L	0.010	1	12/03/20 18:33	12/04/20 19:13	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:12	7440-36-0	
Arsenic, Total Recoverable	**0.014**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:12	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/03/20 16:38	12/07/20 15:12	7440-43-9	
Cobalt, Total Recoverable	**0.0011**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:12	7440-48-4	
Molybdenum, Total Recoverable	**0.20**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:12	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:12	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/03/20 16:38	12/07/20 15:12	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/07/20 09:20	12/07/20 13:28	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**1.8**	mg/L	0.20	1		12/04/20 23:18	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

QC Batch: 693215 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

METHOD BLANK: 2799985 Matrix: Water
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.20	0.20	12/07/20 12:50	

LABORATORY CONTROL SAMPLE: 2799986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2799987 2799988

Parameter	Units	60354874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.7	4.9	95	99	70-130	4	20	

MATRIX SPIKE SAMPLE: 2799989

Parameter	Units	60354875001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.3	85	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

QC Batch: 692593
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: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

METHOD BLANK: 2797233 Matrix: Water
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	12/04/20 18:20	
Beryllium	mg/L	<0.0010	0.0010	12/04/20 18:20	
Chromium	mg/L	<0.0050	0.0050	12/04/20 18:20	
Lead	mg/L	<0.010	0.010	12/04/20 18:20	

LABORATORY CONTROL SAMPLE: 2797234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.98	98	85-115	
Beryllium	mg/L	1	0.98	98	85-115	
Chromium	mg/L	1	1.0	104	85-115	
Lead	mg/L	1	1.1	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2797235 2797236

Parameter	Units	60355663001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	67.4 ug/L	1	1	1.1	1.1	99	100	70-130	1	20	
Beryllium	mg/L	<1.0 ug/L	1	1	1.0	1.0	100	100	70-130	0	20	
Chromium	mg/L	<5.0 ug/L	1	1	1.0	1.0	104	103	70-130	0	20	
Lead	mg/L	<10.0 ug/L	1	1	1.0	1.0	103	103	70-130	0	20	

MATRIX SPIKE SAMPLE: 2797237

Parameter	Units	60355666007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.034	1	1.1	105	70-130	
Beryllium	mg/L	<0.0010	1	1.0	103	70-130	
Chromium	mg/L	<0.0050	1	0.99	99	70-130	
Lead	mg/L	<0.010	1	0.99	99	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

QC Batch: 692596
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: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

METHOD BLANK: 2797246 Matrix: Water
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/L	<0.0010	0.0010	12/07/20 14:32	
Arsenic	mg/L	<0.0010	0.0010	12/07/20 14:32	
Cadmium	mg/L	<0.00050	0.00050	12/07/20 14:32	
Cobalt	mg/L	<0.0010	0.0010	12/07/20 14:32	
Molybdenum	mg/L	<0.0010	0.0010	12/07/20 14:32	
Selenium	mg/L	<0.0010	0.0010	12/07/20 14:32	
Thallium	mg/L	<0.0010	0.0010	12/07/20 14:32	

LABORATORY CONTROL SAMPLE: 2797247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.04	0.040	100	85-115	
Arsenic	mg/L	0.04	0.036	91	85-115	
Cadmium	mg/L	0.04	0.038	95	85-115	
Cobalt	mg/L	0.04	0.037	92	85-115	
Molybdenum	mg/L	0.04	0.041	103	85-115	
Selenium	mg/L	0.04	0.036	90	85-115	
Thallium	mg/L	0.04	0.037	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2797248 2797249

Parameter	Units	60355666001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	<0.0010	0.04	0.04	0.041	0.040	101	100	70-130	1	20	
Arsenic	mg/L	0.0045	0.04	0.04	0.044	0.043	98	96	70-130	1	20	
Cadmium	mg/L	<0.00050	0.04	0.04	0.037	0.037	93	92	70-130	1	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.040	0.040	99	98	70-130	1	20	
Molybdenum	mg/L	0.11	0.04	0.04	0.16	0.15	128	114	70-130	3	20	
Selenium	mg/L	<0.0010	0.04	0.04	0.036	0.036	90	90	70-130	0	20	
Thallium	mg/L	<0.0010	0.04	0.04	0.034	0.033	85	83	70-130	2	20	

MATRIX SPIKE SAMPLE: 2797250

Parameter	Units	60355665005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	<0.0010	0.04	0.040	99	70-130	
Arsenic	mg/L	<0.0010	0.04	0.038	95	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

MATRIX SPIKE SAMPLE: 2797250

Parameter	Units	60355665005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/L	<0.00050	0.04	0.036	90	70-130	
Cobalt	mg/L	0.0016	0.04	0.040	96	70-130	
Molybdenum	mg/L	0.0021	0.04	0.046	111	70-130	
Selenium	mg/L	<0.0010	0.04	0.037	92	70-130	
Thallium	mg/L	<0.0010	0.04	0.033	82	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

QC Batch: 692636 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

METHOD BLANK: 2797420 Matrix: Water
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	12/04/20 16:33	

LABORATORY CONTROL SAMPLE: 2797421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2797422 2797423

Parameter	Units	60355085005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	159 ug/L	1	1	1.2	1.3	108	113	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

QC Batch: 692714 | 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: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

METHOD BLANK: 2797951 Matrix: Water
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/04/20 07:32	

METHOD BLANK: 2800114 Matrix: Water
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/06/20 08:34	

METHOD BLANK: 2800517 Matrix: Water
Associated Lab Samples: 60355666001, 60355666002, 60355666003, 60355666004, 60355666005, 60355666006, 60355666007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/07/20 08:23	

LABORATORY CONTROL SAMPLE: 2797952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	98	90-110	

LABORATORY CONTROL SAMPLE: 2800115

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

LABORATORY CONTROL SAMPLE: 2800518

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	99	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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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2797953 2797954

Parameter	Units	60355663004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	2.6	25	25	27.0	26.2	98	95	80-120	3	15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60355666

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60355666001	MW-37-120120	EPA 200.7	692593	EPA 200.7	692703
60355666002	MW-38-120120	EPA 200.7	692593	EPA 200.7	692703
60355666003	MW-39-120120	EPA 200.7	692593	EPA 200.7	692703
60355666004	MW-40-120120	EPA 200.7	692593	EPA 200.7	692703
60355666005	MW-K-120120	EPA 200.7	692593	EPA 200.7	692703
60355666006	MW-L-120120	EPA 200.7	692593	EPA 200.7	692703
60355666007	DUP-AP-120120	EPA 200.7	692593	EPA 200.7	692703
60355666001	MW-37-120120	EPA 3010	692636	EPA 6010	692846
60355666002	MW-38-120120	EPA 3010	692636	EPA 6010	692846
60355666003	MW-39-120120	EPA 3010	692636	EPA 6010	692846
60355666004	MW-40-120120	EPA 3010	692636	EPA 6010	692846
60355666005	MW-K-120120	EPA 3010	692636	EPA 6010	692846
60355666006	MW-L-120120	EPA 3010	692636	EPA 6010	692846
60355666007	DUP-AP-120120	EPA 3010	692636	EPA 6010	692846
60355666001	MW-37-120120	EPA 200.8	692596	EPA 200.8	692829
60355666002	MW-38-120120	EPA 200.8	692596	EPA 200.8	692829
60355666003	MW-39-120120	EPA 200.8	692596	EPA 200.8	692829
60355666004	MW-40-120120	EPA 200.8	692596	EPA 200.8	692829
60355666005	MW-K-120120	EPA 200.8	692596	EPA 200.8	692829
60355666006	MW-L-120120	EPA 200.8	692596	EPA 200.8	692829
60355666007	DUP-AP-120120	EPA 200.8	692596	EPA 200.8	692829
60355666001	MW-37-120120	EPA 245.1	693215	EPA 245.1	693257
60355666002	MW-38-120120	EPA 245.1	693215	EPA 245.1	693257
60355666003	MW-39-120120	EPA 245.1	693215	EPA 245.1	693257
60355666004	MW-40-120120	EPA 245.1	693215	EPA 245.1	693257
60355666005	MW-K-120120	EPA 245.1	693215	EPA 245.1	693257
60355666006	MW-L-120120	EPA 245.1	693215	EPA 245.1	693257
60355666007	DUP-AP-120120	EPA 245.1	693215	EPA 245.1	693257
60355666001	MW-37-120120	EPA 300.0	692714		
60355666002	MW-38-120120	EPA 300.0	692714		
60355666003	MW-39-120120	EPA 300.0	692714		
60355666004	MW-40-120120	EPA 300.0	692714		
60355666005	MW-K-120120	EPA 300.0	692714		
60355666006	MW-L-120120	EPA 300.0	692714		
60355666007	DUP-AP-120120	EPA 300.0	692714		

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Sample Condition Upon Receipt

WO# : 60355666

60355666

Client Name: Evergy KS Central

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

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

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

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

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

Cooler Temperature (°C): **As-read** 2.9 **Corr. Factor** +0.2 **Corrected** 3.1

Date and initials of person examining contents: PM 12/1/20

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)	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	7 day

Section B Required Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 3

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Y/N	Analysis Test: 200.7 Total Metals*	200.8 Total Metals**	300: F	245.1 Hg	6010 Total Metals***							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N							
1	MW-37-120120	WT	G	-	-	12/01/20	1315		2	1		1							X	X	X	X	X	BP1U		BP1N				60355666 001
2	MW-38-120120	WT	G	-	-	12/01/20	1300		2	1		1							X	X	X	X	X							002
3	MW-39-120120	WT	G	-	-	12/01/20	1010		2	1		1							X	X	X	X	X							003
4	MW-40-120120	WT	G	-	-	12/01/20	0955		2	1		1							X	X	X	X	X							004
5	MW-K-120120	WT	G	-	-	12/01/20	1125		2	1		1							X	X	X	X	X							005
6	MW-L-120120	WT	G	-	-	12/01/20	1155		2	1		1							X	X	X	X	X							006
7	DUP-AP-120120	WT	G	-	-	12/01/20	—		2	1		1							X	X	X	X	X							007
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
200.7 Total Metals*: Ba, Be, Cr, Pb (4 metals)		12/1/20	1530		12/1/20	1635	3.1	Y	Y	Y
200.8 Total Metals**: Sb, As, Cd, Co, Mo, Se, Tl (7 metals)										
6010 Total Metals***: Li (1 metal)										

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:	Duncan McDonald					
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): 12/1/20				

*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.

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

January 19, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on December 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 - Greensburg

Revised Report REV_1

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Melanie Satanek, Haley & Aldrich, Inc.
Danielle Zinmaster, Haley & Aldrich

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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CERTIFICATIONS

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

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

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SAMPLE SUMMARY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60356263001	**MW-37-120120**	Water	12/01/20 13:15	12/02/20 11:00
60356263002	**MW-38-120120**	Water	12/01/20 13:00	12/02/20 11:00
60356263003	**MW-39-120120**	Water	12/01/20 10:10	12/02/20 11:00
60356263004	**MW-40-120120**	Water	12/01/20 09:55	12/02/20 11:00
60356263005	**MW-K-120120**	Water	12/01/20 11:25	12/02/20 11:00
60356263006	**MW-L-120120**	Water	12/01/20 11:55	12/02/20 11:00
60356263007	**DUP-AP-120120**	Water	12/01/20 08:00	12/02/20 11:00

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SAMPLE ANALYTE COUNT

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60356263001	**MW-37-120120**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60356263002	**MW-38-120120**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60356263003	**MW-39-120120**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60356263004	**MW-40-120120**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60356263005	**MW-K-120120**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60356263006	**MW-L-120120**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60356263007	**DUP-AP-120120**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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PROJECT NARRATIVE

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Date: January 19, 2021

Amended report revised to include the reporting limit for Radium-228.

The MDC (reporting limit) for Ra-228 is 1 pCi/L. The MB result is lower than this reporting limit so no contamination was found.

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Lenexa, KS 66219
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Sample: MW-37-120120 **Lab ID: 60356263001** Collected: 12/01/20 13:15 Received: 12/02/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.117 ± 0.398 (0.881) C:NA T:95%**	pCi/L	12/22/20 15:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.935 ± 0.647 (1.27) C:67% T:64%**	pCi/L	12/21/20 12:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.935 ± 0.760 (1.27)**	pCi/L	12/23/20 10:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Sample: MW-38-120120 **Lab ID: 60356263002** Collected: 12/01/20 13:00 Received: 12/02/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.192 ± 0.333 (0.839) C:NA T:93%**	pCi/L	12/22/20 15:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.40 ± 0.600 (0.985) C:74% T:65%**	pCi/L	12/21/20 12:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.40 ± 0.686 (0.985)**	pCi/L	12/23/20 10:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Sample: MW-39-120120 **Lab ID: 60356263003** Collected: 12/01/20 10:10 Received: 12/02/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.137 ± 0.464 (1.03) C:NA T:85%**	pCi/L	12/22/20 15:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.31 ± 0.527 (0.837) C:74% T:80%**	pCi/L	12/21/20 12:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.31 ± 0.702 (1.03)**	pCi/L	12/23/20 10:29	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Sample: MW-40-120120 **Lab ID: 60356263004** Collected: 12/01/20 09:55 Received: 12/02/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.641 ± 0.529 (0.764) C:NA T:92%**	pCi/L	12/22/20 15:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.966 ± 0.483 (0.853) C:77% T:76%**	pCi/L	12/21/20 12:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.61 ± 0.716 (0.853)**	pCi/L	12/23/20 10:39	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Sample: MW-K-120120 **Lab ID: 60356263005** Collected: 12/01/20 11:25 Received: 12/02/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0674 ± 0.438 (0.951) C:NA T:90%**	pCi/L	12/22/20 15:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.28 ± 0.580 (0.975) C:71% T:69%**	pCi/L	12/21/20 12:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.28 ± 0.727 (0.975)**	pCi/L	12/23/20 10:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Sample: MW-L-120120 **Lab ID: 60356263006** Collected: 12/01/20 11:55 Received: 12/02/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.272 ± 0.422 (1.02) C:NA T:91%**	pCi/L	12/22/20 15:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.01 ± 0.490 (0.851) C:77% T:72%**	pCi/L	12/21/20 12:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.01 ± 0.647 (1.02)**	pCi/L	12/23/20 10:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Sample: DUP-AP-120120 **Lab ID: 60356263007** Collected: 12/01/20 08:00 Received: 12/02/20 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.145 ± 0.532 (1.15) C:NA T:78%**	pCi/L	12/22/20 15:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.890 ± 0.477 (0.869) C:77% T:78%**	pCi/L	12/21/20 12:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.890 ± 0.715 (1.15)**	pCi/L	12/23/20 10:39	7440-14-4	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

QC Batch: 426666 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: 60356263001, 60356263002, 60356263003, 60356263004, 60356263005, 60356263006, 60356263007

METHOD BLANK: 2061892 Matrix: Water
Associated Lab Samples: 60356263001, 60356263002, 60356263003, 60356263004, 60356263005, 60356263006, 60356263007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.721 ± 0.381 (0.679) C:76% T:90%	pCi/L	12/21/20 12:22	

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 - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

QC Batch: 426665 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: 60356263001, 60356263002, 60356263003, 60356263004, 60356263005, 60356263006, 60356263007

METHOD BLANK: 2061890 Matrix: Water
Associated Lab Samples: 60356263001, 60356263002, 60356263003, 60356263004, 60356263005, 60356263006, 60356263007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.103 ± 0.236 (0.555) C:NA T:93%	pCi/L	12/22/20 15:32	

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: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60356263

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60356263001	**MW-37-120120**	EPA 903.1	426665		
60356263002	**MW-38-120120**	EPA 903.1	426665		
60356263003	**MW-39-120120**	EPA 903.1	426665		
60356263004	**MW-40-120120**	EPA 903.1	426665		
60356263005	**MW-K-120120**	EPA 903.1	426665		
60356263006	**MW-L-120120**	EPA 903.1	426665		
60356263007	**DUP-AP-120120**	EPA 903.1	426665		
60356263001	**MW-37-120120**	EPA 904.0	426666		
60356263002	**MW-38-120120**	EPA 904.0	426666		
60356263003	**MW-39-120120**	EPA 904.0	426666		
60356263004	**MW-40-120120**	EPA 904.0	426666		
60356263005	**MW-K-120120**	EPA 904.0	426666		
60356263006	**MW-L-120120**	EPA 904.0	426666		
60356263007	**DUP-AP-120120**	EPA 904.0	426666		
60356263001	**MW-37-120120**	Total Radium Calculation	428426		
60356263002	**MW-38-120120**	Total Radium Calculation	428426		
60356263003	**MW-39-120120**	Total Radium Calculation	428426		
60356263004	**MW-40-120120**	Total Radium Calculation	428430		
60356263005	**MW-K-120120**	Total Radium Calculation	428430		
60356263006	**MW-L-120120**	Total Radium Calculation	428430		
60356263007	**DUP-AP-120120**	Total Radium Calculation	428430		

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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B
Required Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney, Danielle Zinsmaster
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C
Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME	DATE	TIME											N	N	N	N		
1	MW-37-120120	WT	G	-	-	12/01/20	1315		2			2							X	X	X		
2	MW-38-120120	WT	G	-	-	12/01/20	1300		2			2							X	X	X		
3	MW-39-120120	WT	G	-	-	12/01/20	1010		2			2							X	X	X		
4	MW-40-120120	WT	G	-	-	12/01/20	0955		2			2							X	X	X		
5	MW-K-120120	WT	G	-	-	12/01/20	1125		2			2							X	X	X		
6	MW-L-120120	WT	G	-	-	12/01/20	1155		2			2							X	X	X		
7	DUP-AP-120120	WT	G	-	-	12/01/20	—		2			2							X	X	X		
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Whit Martin	12/1/20	1630	Swinell 12/2/2020		1100	—	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Whit Martin

SIGNATURE of SAMPLER: Whit Martin

DATE Signed (MM/DD/YY): 12/01/20

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.

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Evergy KS Central Project #

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

Label

LIMS Login

Tracking #: 930847670364

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

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

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

Temp should be above freezing to 6°C

pH paper Lot# 1000401 Date and initials of person examining contents: 12/31/2020 SW

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓	*	SW	4. 12/31/2020
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed: SW Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: SW Date: 12/31/2020

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test: Ra-226
Analyst: MK1
Date: 12/14/2020
Batch ID: 57853
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2061890
MB concentration:	-0.103
M/B Counting Uncertainty:	0.202
MB MDC:	0.555
MB Numerical Performance Indicator:	-1.00
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS57853	LCSD57853
Count Date:	12/22/2020	12/22/2020
Spike I.D.:	20-032	20-032
Spike Concentration (pCi/mL):	32.180	32.180
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.666	0.658
Target Conc. (pCi/L, g, F):	4.829	4.893
Uncertainty (Calculated):	0.227	0.230
Result (pCi/L, g, F):	5.859	4.901
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.127	1.004
Numerical Performance Indicator:	1.76	0.01
Percent Recovery:	121.33%	100.16%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	73%	73%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	12/2/2020	
Sample I.D.	35596146001	
Sample MS I.D.	35596146001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.181	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.648	
MS Target Conc.(pCi/L, g, F):	9.940	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.467	
MSD Spike Uncertainty (calculated):		
Sample Result:	22.150	
Sample Result Counting Uncertainty (pCi/L, g, F):	2.069	
Sample Matrix Spike Result:	29.294	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	2.543	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	-1.654	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	71.87%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	LCS57853	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD57853	
Sample Result (pCi/L, g, F):	5.859	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.127	
Sample Duplicate Result (pCi/L, g, F):	4.901	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.004	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.244	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	19.12%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

SLC 12/22/2020

CMK 12/22/2020

Quality Control Sample Performance Assessment

Pace Analytical
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Test: Ra-228
Analyst: VAL
Date: 12/17/2020
Worklist: 57854
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2061892
MB concentration:	0.721
M/B 2 Sigma CSU:	0.381
MB MDC:	0.679
MB Numerical Performance Indicator:	3.71
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS57854	LCSD57854
Count Date:	12/21/2020	12/21/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	37.186	37.186
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.810	0.814
Target Conc. (pCi/L, g, F):	4.591	4.571
Uncertainty (Calculated):	0.225	0.224
Result (pCi/L, g, F):	4.611	4.887
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.019	1.085
Numerical Performance Indicator:	0.04	0.56
Percent Recovery:	100.45%	106.91%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	12/2/2020	
Sample I.D.	35596146001	
Sample MS I.D.	35596146001MS	
Sample MSD I.D.		
Spike I.D.:	20-030	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	37.423	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.811	
MS Target Conc.(pCi/L, g, F):	9.226	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.452	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.917	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.466	
Sample Matrix Spike Result:	10.313	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.061	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	0.154	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	101.84%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	LCS57854	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD57854	
Sample Result (pCi/L, g, F):	4.611	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.019	
Sample Duplicate Result (pCi/L, g, F):	4.887	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.085	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.363	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	6.23%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:
*The method blank result is below the reporting limit for this analysis and is acceptable.

ATTACHMENT 2-1-3
March 2021 Sampling Event
Laboratory Analytical Report

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

March 22, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on March 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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

CERTIFICATIONS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60363585001	**MW-37-030921**	Water	03/09/21 14:20	03/11/21 14:30
60363585002	**MW-38-030921**	Water	03/09/21 15:40	03/11/21 14:30
60363585003	**MW-39-030921**	Water	03/09/21 11:50	03/11/21 14:30
60363585004	**MW-40-030921**	Water	03/09/21 13:10	03/11/21 14:30
60363585005	**MW-K-030921**	Water	03/09/21 09:25	03/11/21 14:30
60363585006	**MW-L-030921**	Water	03/09/21 10:40	03/11/21 14:30
60363585007	**DUP-AP-030921**	Water	03/09/21 11:55	03/11/21 14:30

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SAMPLE ANALYTE COUNT

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60363585001	MW-37-030921	EPA 200.7	JLH	3	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363585002	MW-38-030921	EPA 200.7	JLH	3	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363585003	MW-39-030921	EPA 200.7	JLH	3	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363585004	MW-40-030921	EPA 200.7	JLH	3	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363585005	MW-K-030921	EPA 200.7	JLH	3	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363585006	MW-L-030921	EPA 200.7	JLH	3	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363585007	DUP-AP-030921	EPA 200.7	JLH	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Sample: MW-37-030921 **Lab ID: 60363585001** Collected: 03/09/21 14:20 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.068**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 19:40	7440-39-3	
Boron, Total Recoverable	**1.9**	mg/L	0.10	1	03/16/21 10:18	03/19/21 19:40	7440-42-8	
Calcium, Total Recoverable	**194**	mg/L	0.20	1	03/16/21 10:18	03/19/21 19:40	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.022**	mg/L	0.010	1	03/16/21 15:22	03/22/21 12:27	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0057**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:56	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:56	7440-48-4	
Molybdenum, Total Recoverable	**0.098**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:56	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**977**	mg/L	13.3	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.8**	Std. Units	0.10	1		03/15/21 11:05		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**45.2**	mg/L	10.0	10		03/17/21 17:45	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	1		03/17/21 17:30	16984-48-8	
Sulfate	**387**	mg/L	50.0	50		03/18/21 18:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Sample: MW-38-030921 **Lab ID: 60363585002** Collected: 03/09/21 15:40 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.034**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 19:51	7440-39-3	
Boron, Total Recoverable	**5.2**	mg/L	0.10	1	03/16/21 10:18	03/19/21 19:51	7440-42-8	
Calcium, Total Recoverable	**289**	mg/L	0.20	1	03/16/21 10:18	03/19/21 19:51	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.075**	mg/L	0.010	1	03/16/21 15:22	03/22/21 12:35	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.017**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:09	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:09	7440-48-4	
Molybdenum, Total Recoverable	**0.066**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:09	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**2610**	mg/L	66.7	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		03/15/21 11:10		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**236**	mg/L	100	100		03/18/21 18:37	16887-00-6	
Fluoride	**4.6**	mg/L	0.20	1		03/17/21 18:01	16984-48-8	
Sulfate	**1240**	mg/L	100	100		03/18/21 18:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Sample: MW-39-030921 **Lab ID: 60363585003** Collected: 03/09/21 11:50 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.030**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 19:53	7440-39-3	
Boron, Total Recoverable	**4.4**	mg/L	0.10	1	03/16/21 10:18	03/19/21 19:53	7440-42-8	
Calcium, Total Recoverable	**535**	mg/L	0.20	1	03/16/21 10:18	03/19/21 19:53	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.042**	mg/L	0.010	1	03/16/21 15:22	03/22/21 12:38	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.011**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:17	7440-38-2	
Cobalt, Total Recoverable	**0.0011**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:17	7440-48-4	
Molybdenum, Total Recoverable	**0.19**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:17	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3560**	mg/L	100	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 11:11		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**752**	mg/L	50.0	50		03/18/21 18:51	16887-00-6	
Fluoride	**1.7**	mg/L	0.20	1		03/17/21 18:32	16984-48-8	
Sulfate	**1870**	mg/L	200	200		03/18/21 19:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Sample: MW-40-030921 **Lab ID: 60363585004** Collected: 03/09/21 13:10 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.032**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 19:56	7440-39-3	
Boron, Total Recoverable	**4.8**	mg/L	0.10	1	03/16/21 10:18	03/19/21 19:56	7440-42-8	
Calcium, Total Recoverable	**426**	mg/L	0.20	1	03/16/21 10:18	03/19/21 19:56	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.047**	mg/L	0.010	1	03/16/21 15:22	03/22/21 12:45	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.015**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:21	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:21	7440-48-4	
Molybdenum, Total Recoverable	**0.070**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:21	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**2750**	mg/L	66.7	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		03/15/21 11:12		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**363**	mg/L	20.0	20		03/18/21 19:20	16887-00-6	
Fluoride	**1.3**	mg/L	0.20	1		03/17/21 19:04	16984-48-8	
Sulfate	**1510**	mg/L	200	200		03/18/21 19:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Sample: MW-K-030921 **Lab ID: 60363585005** Collected: 03/09/21 09:25 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.039**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 19:59	7440-39-3	
Boron, Total Recoverable	**2.7**	mg/L	0.10	1	03/16/21 10:18	03/19/21 19:59	7440-42-8	
Calcium, Total Recoverable	**447**	mg/L	0.20	1	03/16/21 10:18	03/19/21 19:59	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.084**	mg/L	0.010	1	03/16/21 15:22	03/22/21 12:48	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.066**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:26	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:26	7440-48-4	
Molybdenum, Total Recoverable	**0.021**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:26	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3580**	mg/L	100	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 11:14		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**619**	mg/L	100	100		03/18/21 19:49	16887-00-6	
Fluoride	**3.3**	mg/L	0.20	1		03/17/21 19:36	16984-48-8	
Sulfate	**2010**	mg/L	500	500		03/18/21 20:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Sample: MW-L-030921 **Lab ID: 60363585006** Collected: 03/09/21 10:40 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.037**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 20:02	7440-39-3	
Boron, Total Recoverable	**2.4**	mg/L	0.10	1	03/16/21 10:18	03/19/21 20:02	7440-42-8	
Calcium, Total Recoverable	**497**	mg/L	0.20	1	03/16/21 10:18	03/19/21 20:02	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.065**	mg/L	0.010	1	03/16/21 15:22	03/22/21 12:51	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.026**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:30	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:30	7440-48-4	
Molybdenum, Total Recoverable	**0.039**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:30	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3650**	mg/L	100	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		03/15/21 11:15		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**590**	mg/L	100	100		03/18/21 20:46	16887-00-6	
Fluoride	**2.1**	mg/L	0.20	1		03/17/21 20:39	16984-48-8	
Sulfate	**1950**	mg/L	500	500		03/18/21 21:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Sample: DUP-AP-030921 **Lab ID: 60363585007** Collected: 03/09/21 11:55 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.031**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 20:05	7440-39-3	
Boron, Total Recoverable	**4.4**	mg/L	0.10	1	03/16/21 10:18	03/19/21 20:05	7440-42-8	
Calcium, Total Recoverable	**548**	mg/L	0.20	1	03/16/21 10:18	03/19/21 20:05	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.043**	mg/L	0.010	1	03/16/21 15:22	03/22/21 12:54	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.012**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:34	7440-38-2	
Cobalt, Total Recoverable	**0.0011**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:34	7440-48-4	
Molybdenum, Total Recoverable	**0.20**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 17:34	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3230**	mg/L	66.7	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 11:16		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**698**	mg/L	50.0	50		03/18/21 21:15	16887-00-6	
Fluoride	**1.6**	mg/L	0.20	1		03/17/21 21:11	16984-48-8	
Sulfate	**1890**	mg/L	200	200		03/18/21 21:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

QC Batch: 708835
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: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

METHOD BLANK: 2854510 Matrix: Water
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	03/19/21 19:30	
Boron	mg/L	<0.10	0.10	03/19/21 19:30	
Calcium	mg/L	<0.20	0.20	03/19/21 19:30	

LABORATORY CONTROL SAMPLE: 2854511

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.95	95	85-115	
Boron	mg/L	1	0.94	94	85-115	
Calcium	mg/L	10	9.3	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854512 2854513

Parameter	Units	60363585001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.068	1	1	1.0	1.0	96	96	70-130	0	20	
Boron	mg/L	1.9	1	1	2.8	2.8	96	96	70-130	0	20	
Calcium	mg/L	194	10	10	203	205	93	105	70-130	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

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

QC Batch: 708657
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: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

METHOD BLANK: 2854168 Matrix: Water
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	03/19/21 16:52	
Cobalt	mg/L	<0.0010	0.0010	03/19/21 16:52	
Molybdenum	mg/L	<0.0010	0.0010	03/19/21 16:52	

LABORATORY CONTROL SAMPLE: 2854169

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.041	103	85-115	
Cobalt	mg/L	0.04	0.040	101	85-115	
Molybdenum	mg/L	0.04	0.040	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854170 2854171

Parameter	Units	60363585001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0057	0.04	0.04	0.049	0.048	108	105	70-130	3	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.042	0.041	104	100	70-130	4	20	
Molybdenum	mg/L	0.098	0.04	0.04	0.14	0.14	101	99	70-130	1	20	

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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: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

QC Batch: 708931 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

METHOD BLANK: 2854898 Matrix: Water
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	03/22/21 12:22	

LABORATORY CONTROL SAMPLE: 2854899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.99	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854900 2854901

Parameter	Units	60363585001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.022	1	1	1.0	1.1	103	103	75-125	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

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

QC Batch: 708643 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

METHOD BLANK: 2854124 Matrix: Water
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	03/16/21 10:13	

LABORATORY CONTROL SAMPLE: 2854125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	998	100	80-120	

SAMPLE DUPLICATE: 2854126

Parameter	Units	60363585001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	977	1000	3	10	

SAMPLE DUPLICATE: 2854607

Parameter	Units	60363707003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1070	1050	2	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

QC Batch: 708501
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

SAMPLE DUPLICATE: 2853772

Parameter	Units	60363585001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	7.2	5	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

QC Batch: 708923
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: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

METHOD BLANK: 2854866 Matrix: Water
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/17/21 09:29	
Fluoride	mg/L	<0.20	0.20	03/17/21 09:29	
Sulfate	mg/L	<1.0	1.0	03/17/21 09:29	

METHOD BLANK: 2857386 Matrix: Water
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/18/21 17:40	
Fluoride	mg/L	<0.20	0.20	03/18/21 17:40	
Sulfate	mg/L	<1.0	1.0	03/18/21 17:40	

METHOD BLANK: 2857667 Matrix: Water
Associated Lab Samples: 60363585001, 60363585002, 60363585003, 60363585004, 60363585005, 60363585006, 60363585007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/19/21 08:52	
Fluoride	mg/L	<0.20	0.20	03/19/21 08:52	
Sulfate	mg/L	<1.0	1.0	03/19/21 08:52	

LABORATORY CONTROL SAMPLE: 2854867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 2857387

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

LABORATORY CONTROL SAMPLE: 2857668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854868 2854869

Parameter	Units	60363693001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	19.3	5	5	24.9	24.9	111	111	80-120	0	15	E
Fluoride	mg/L	0.68	2.5	2.5	3.2	3.2	100	100	80-120	0	15	
Sulfate	mg/L	13.1	5	5	18.2	18.2	104	104	80-120	0	15	

MATRIX SPIKE SAMPLE: 2854870

Parameter	Units	60363587001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	3570	2500	6200	105	80-120	
Fluoride	mg/L	0.29	2.5	2.5	90	80-120	
Sulfate	mg/L	122	100	255	133	80-120	M1

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

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.

ANALYTE QUALIFIERS

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

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC INACTIVE ASH PONDS CCR
Pace Project No.: 60363585

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363585001	MW-37-030921	EPA 200.7	708835	EPA 200.7	708951
60363585002	MW-38-030921	EPA 200.7	708835	EPA 200.7	708951
60363585003	MW-39-030921	EPA 200.7	708835	EPA 200.7	708951
60363585004	MW-40-030921	EPA 200.7	708835	EPA 200.7	708951
60363585005	MW-K-030921	EPA 200.7	708835	EPA 200.7	708951
60363585006	MW-L-030921	EPA 200.7	708835	EPA 200.7	708951
60363585007	DUP-AP-030921	EPA 200.7	708835	EPA 200.7	708951
60363585001	MW-37-030921	EPA 3010	708931	EPA 6010	709107
60363585002	MW-38-030921	EPA 3010	708931	EPA 6010	709107
60363585003	MW-39-030921	EPA 3010	708931	EPA 6010	709107
60363585004	MW-40-030921	EPA 3010	708931	EPA 6010	709107
60363585005	MW-K-030921	EPA 3010	708931	EPA 6010	709107
60363585006	MW-L-030921	EPA 3010	708931	EPA 6010	709107
60363585007	DUP-AP-030921	EPA 3010	708931	EPA 6010	709107
60363585001	MW-37-030921	EPA 200.8	708657	EPA 200.8	708807
60363585002	MW-38-030921	EPA 200.8	708657	EPA 200.8	708807
60363585003	MW-39-030921	EPA 200.8	708657	EPA 200.8	708807
60363585004	MW-40-030921	EPA 200.8	708657	EPA 200.8	708807
60363585005	MW-K-030921	EPA 200.8	708657	EPA 200.8	708807
60363585006	MW-L-030921	EPA 200.8	708657	EPA 200.8	708807
60363585007	DUP-AP-030921	EPA 200.8	708657	EPA 200.8	708807
60363585001	MW-37-030921	SM 2540C	708643		
60363585002	MW-38-030921	SM 2540C	708643		
60363585003	MW-39-030921	SM 2540C	708643		
60363585004	MW-40-030921	SM 2540C	708643		
60363585005	MW-K-030921	SM 2540C	708643		
60363585006	MW-L-030921	SM 2540C	708643		
60363585007	DUP-AP-030921	SM 2540C	708643		
60363585001	MW-37-030921	SM 4500-H+B	708501		
60363585002	MW-38-030921	SM 4500-H+B	708501		
60363585003	MW-39-030921	SM 4500-H+B	708501		
60363585004	MW-40-030921	SM 4500-H+B	708501		
60363585005	MW-K-030921	SM 4500-H+B	708501		
60363585006	MW-L-030921	SM 4500-H+B	708501		
60363585007	DUP-AP-030921	SM 4500-H+B	708501		
60363585001	MW-37-030921	EPA 300.0	708923		
60363585002	MW-38-030921	EPA 300.0	708923		
60363585003	MW-39-030921	EPA 300.0	708923		
60363585004	MW-40-030921	EPA 300.0	708923		
60363585005	MW-K-030921	EPA 300.0	708923		
60363585006	MW-L-030921	EPA 300.0	708923		
60363585007	DUP-AP-030921	EPA 300.0	708923		

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
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Sample Condition Upon Receipt

WO# : 60363585

60363585

Client Name: Evergy Kansas Central Inc

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 ☒ Zpk

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

Cooler Temperature (°C): **As-read** 2.2 **Corr. Factor** 0.0 **Corrected** 2.2

Temperature should be above freezing to 6°C 0.4 0.0 0.4

Date and initials of person examining contents: 3/12/21 SR

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	7 Day
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# Le03173	☒Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — **Required** Client Information:

Company:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	7 day

Section B — **Required** Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 2

REGULATORY AGENCY

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

Site Location **STATE:** KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information (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 Total Metals*	200.8 Total Metals**	300: Cl, F, SO4	2540C TDS	4500 H+B pH	6010 Total Metals***	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N		LQ3603585
1	MW-37-030921	WT	G	-	-	03/09/21	14:20		3	2		1							X	X	X	X	X	X		
2	MW-38-030921	WT	G	-	-	03/09/21	15:40		3	2		1							X	X	X	X	X	X		
3	MW-39-030921	WT	G	-	-	03/09/21	11:50		3	2		1							X	X	X	X	X	X		
4	MW-40-030921	WT	G	-	-	03/09/21	13:10		3	2		1							X	X	X	X	X	X		
5	MW-K-030921	WT	G	-	-	03/09/21	9:25		3	2		1							X	X	X	X	X	X		
6	MW-L-030921	WT	G	-	-	03/09/21	10:40		3	2		1							X	X	X	X	X	X		
7	DUP-AP-030921	WT	G	-	-	03/09/21	11:55		3	2		1							X	X	X	X	X	X		
8																										
9																										
10																										
11																										
12																										

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)
200.7 Total Metals*: B, Ca, Ba	Jason R. Franks / SCS	3/11/21	14:30		3/11/21	1430	2.2	Y	N	Y
200.8 Total Metals**: As, Co, Mo							0.4	Y	N	Y
6010 Total Metals***: Li										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks **DATE Signed (MM/DD/YY):** 3/10/21

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

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

April 02, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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

CERTIFICATIONS

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

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

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SAMPLE SUMMARY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60363775001	**MW-37-030921**	Water	03/09/21 14:20	03/12/21 09:35
60363775002	**MW-38-030921**	Water	03/09/21 15:40	03/12/21 09:35
60363775003	**MW-39-030921**	Water	03/09/21 11:50	03/12/21 09:35
60363775004	**MW-40-030921**	Water	03/09/21 13:10	03/12/21 09:35
60363775005	**MW-K-030921**	Water	03/09/21 09:25	03/12/21 09:35
60363775006	**MW-L-030921**	Water	03/09/21 10:40	03/12/21 09:35
60363775007	**DUP-AP-030921**	Water	03/09/21 11:55	03/12/21 09:35

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SAMPLE ANALYTE COUNT

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60363775001	**MW-37-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60363775002	**MW-38-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60363775003	**MW-39-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60363775004	**MW-40-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60363775005	**MW-K-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60363775006	**MW-L-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60363775007	**DUP-AP-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Sample: MW-37-030921 **Lab ID: 60363775001** Collected: 03/09/21 14:20 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.176 ± 0.446 (0.828) C:NA T:89%**	pCi/L	03/29/21 17:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.552 ± 0.450 (0.899) C:77% T:72%**	pCi/L	03/30/21 14:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.728 ± 0.634 (0.899)**	pCi/L	04/01/21 12:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Sample: MW-38-030921 **Lab ID: 60363775002** Collected: 03/09/21 15:40 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.176 ± 0.382 (0.881) C:NA T:96%**	pCi/L	03/29/21 17:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.959 ± 0.439 (0.744) C:77% T:92%**	pCi/L	03/30/21 14:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.959 ± 0.582 (0.881)**	pCi/L	04/01/21 12:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Sample: MW-39-030921 **Lab ID: 60363775003** Collected: 03/09/21 11:50 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.188 ± 0.326 (0.822) C:NA T:84%**	pCi/L	03/29/21 18:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.480 ± 0.386 (0.771) C:77% T:86%**	pCi/L	03/30/21 14:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.480 ± 0.505 (0.822)**	pCi/L	04/01/21 12:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Sample: MW-40-030921 **Lab ID: 60363775004** Collected: 03/09/21 13:10 Received: 03/12/21 09:35 Matrix: Water
PWS: Site 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 ± 0.421 (0.981) C:NA T:96%**	pCi/L	03/29/21 17:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.526 ± 0.397 (0.784) C:76% T:88%**	pCi/L	03/30/21 14:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.526 ± 0.579 (0.981)**	pCi/L	04/01/21 12:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Sample: MW-K-030921 **Lab ID: 60363775005** Collected: 03/09/21 09:25 Received: 03/12/21 09:35 Matrix: Water
PWS: Site 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 ± 0.461 (0.943) C:NA T:90%**	pCi/L	03/29/21 18:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.43 ± 0.514 (0.739) C:78% T:84%**	pCi/L	03/30/21 14:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.43 ± 0.690 (0.943)**	pCi/L	04/01/21 12:54	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Sample: MW-L-030921 **Lab ID: 60363775006** Collected: 03/09/21 10:40 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0669 ± 0.508 (1.00) C:NA T:85%**	pCi/L	03/29/21 18:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.850 ± 0.448 (0.804) C:80% T:81%**	pCi/L	03/30/21 14:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.917 ± 0.677 (1.000)**	pCi/L	04/01/21 12:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Sample: DUP-AP-030921 **Lab ID: 60363775007** Collected: 03/09/21 11:55 Received: 03/12/21 09:35 Matrix: Water
PWS: Site 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 ± 0.573 (1.15) C:NA T:83%**	pCi/L	03/29/21 18:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.802 ± 0.527 (1.02) C:77% T:75%**	pCi/L	03/30/21 14:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.802 ± 0.778 (1.15)**	pCi/L	04/01/21 12:54	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

QC Batch: 438707 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: 60363775001, 60363775002, 60363775003, 60363775004, 60363775005, 60363775006, 60363775007

METHOD BLANK: 2117903 Matrix: Water
Associated Lab Samples: 60363775001, 60363775002, 60363775003, 60363775004, 60363775005, 60363775006, 60363775007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0940 ± 0.345 (0.663) C:NA T:89%	pCi/L	03/29/21 17:37	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

QC Batch: 438708 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: 60363775001, 60363775002, 60363775003, 60363775004, 60363775005, 60363775006, 60363775007

METHOD BLANK: 2117904 Matrix: Water
Associated Lab Samples: 60363775001, 60363775002, 60363775003, 60363775004, 60363775005, 60363775006, 60363775007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0308 ± 0.300 (0.697) C:77% T:77%	pCi/L	03/30/21 11:25	

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: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Inactive Ash Ponds CCR
Pace Project No.: 60363775

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363775001	**MW-37-030921**	EPA 903.1	438707		
60363775002	**MW-38-030921**	EPA 903.1	438707		
60363775003	**MW-39-030921**	EPA 903.1	438707		
60363775004	**MW-40-030921**	EPA 903.1	438707		
60363775005	**MW-K-030921**	EPA 903.1	438707		
60363775006	**MW-L-030921**	EPA 903.1	438707		
60363775007	**DUP-AP-030921**	EPA 903.1	438707		
60363775001	**MW-37-030921**	EPA 904.0	438708		
60363775002	**MW-38-030921**	EPA 904.0	438708		
60363775003	**MW-39-030921**	EPA 904.0	438708		
60363775004	**MW-40-030921**	EPA 904.0	438708		
60363775005	**MW-K-030921**	EPA 904.0	438708		
60363775006	**MW-L-030921**	EPA 904.0	438708		
60363775007	**DUP-AP-030921**	EPA 904.0	438708		
60363775001	**MW-37-030921**	Total Radium Calculation	441396		
60363775002	**MW-38-030921**	Total Radium Calculation	441396		
60363775003	**MW-39-030921**	Total Radium Calculation	441396		
60363775004	**MW-40-030921**	Total Radium Calculation	441396		
60363775005	**MW-K-030921**	Total Radium Calculation	441396		
60363775006	**MW-L-030921**	Total Radium Calculation	441396		
60363775007	**DUP-AP-030921**	Total Radium Calculation	441396		

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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	LEC Inactive Ash Ponds CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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: Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-37-030921	WT	G	-	-	03/09/21	14:20		2			2						X	X	X			001
2	MW-38-030921	WT	G	-	-	03/09/21	15:40		2			2						X	X	X			002
3	MW-39-030921	WT	G	-	-	03/09/21	11:50		2			2						X	X	X			003
4	MW-40-030921	WT	G	-	-	03/09/21	13:10		2			2						X	X	X			004
5	MW-K-030921	WT	G	-	-	03/09/21	9:25		2			2						X	X	X			005
6	MW-L-030921	WT	G	-	-	03/09/21	10:40		2			2						X	X	X			006
7	DUP-AP-030921	WT	G	-	-	03/09/21	11:55		2			2						X	X	X			007
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	3/11/21	14:30	Pace	3-12-21	0435	N/A	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 3/10/21

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

Dept: 6003 Date : 05Mar21
Customer : 783027 Weight : 50 LBS
Phone : (317)875-5894 COD :
Dept: client services DV : 0.00

Shipping : 0.00
Special : 0.00
Handling : 0.00
Total : 0.00

Type: STANDARD OVERNIGHT Master 9308 4772 0395
*Important TRCK: 9308 4772 0395

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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Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: _____ Project # _____

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

Label Rm

LIMS Login Rm

Tracking #: 9308 4772 0395

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

pH paper Lot# 100101

Date and Initials of person examining contents: Rm 3-16-21

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed Rm Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: Rm Date: 3-16-21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Pace Container Order #783027

Addresses

Order By :		Ship To :		Return To:	
Company	Evergy Kansas Central, Inc.	Company	Hold for Client Pickup	Company	Pace Analytical Pittsburgh
Contact	Kaney, Samantha	Contact		Contact	Ferris, Carin
Email	skaney@haleyaldrich.com	Email		Email	carin.ferris@pacelabs.com
Address	400 E Van Buren St	Address		Address	1638 Roseytown Road
Address 2	Suite 545	Address 2		Address 2	Suites 2,3,4
City	Phoenix	City		City	Greensburg
State	AZ Zip 85004	State	Zip	State	PA Zip 15601
Phone	(815)742-1363	Phone		Phone	724-850-5615

Info

Project Name	LEC Inactive Ash Ponds CCR - App IV Radium (Pittsburgh)	**Due Date**	03/05/2021	**Profile**	9655, 1	**Quote**	
Project Manager	Amerin, Jasmine	**Return Date**		**Carrier**	Client Pick Up	**Location**	KS

Trip Blanks

- [ ] Include Trip Blanks

Bottle Labels

- [ ] Blank
- [X] Pre-Printed No Sample IDs
- [ ] Pre-Printed With Sample IDs

Bottles

- [ ] Boxed Cases
- [ ] Individually Wrapped
- [ ] Grouped By Sample ID/Matrix

Return Shipping Labels

- [ ] No Shipper
- [X] With Shipper

Misc

- [ ] Sampling Instructions
- [X] Custody Seal
- [X] Temp. Blanks
- [X] Coolers
- [ ] Syringes
- [ ] Extra Bubble Wrap
- [ ] Short Hold/Rush Stickers
- [ ] DI Water Liter(s)
- [ ] USDA Regulated Soils

COC Options

- [ ] Number of Blanks
- [X] Pre-Printed 1

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
7	WT	Radium 226	1-1L plastic w/HNO3	7	0	010421-2EEY	
7	WT	Radium 228	1-1L Plastic w/ HNO3	7	0	010421-2EEY	
1	OT	FEDEX Prepaid Return-Pittsburgh lab	None	0	0		Pittsburgh PA return

Hazard Shipping Placard In Place : NO

'Sample receiving hours are typically 8am-5pm, but may differ by location. Please check with your Pace Project Manager.

'Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

'Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

'Payment term are net 30 days.

'Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	03/05/2021
Prepared By:	Skylar
Verified By:	

Sample

PP COC (1), PP labels w/o sample IDs
RETURN SHIPPING TO PITTSBURGH LAB

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

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

Workorder: 60363775 **Workorder Name:** LEC Inactive Ash Ponds CCR **Owner Received Date:** 3/12/2021 **Results Requested By:** 4/2/2021

Report To	Subcontract To
Jasmine Amerin Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30410546
30410546

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Requested Analysis: Radium-226 & Total Radium	Radium-228	LAB USE ONLY
1	MW-37-030921	PS	3/9/2021 14:20	60363775001	Water	2	X	X	001
2	MW-38-030921	PS	3/9/2021 15:40	60363775002	Water	2	X	X	002
3	MW-39-030921	PS	3/9/2021 11:50	60363775003	Water	2	X	X	003
4	MW-40-030921	PS	3/9/2021 13:10	60363775004	Water	2	X	X	004
5	MW-K-030921	PS	3/9/2021 09:25	60363775005	Water	2	X	X	005
6	MW-L-030921	PS	3/9/2021 10:40	60363775006	Water	2	X	X	006
7	DUP-AP-030921	PS	3/9/2021 11:55	60363775007	Water	2	X	X	007

Transfers	Released By	Date/Time	Received By	Date/Time
1			[signature]	3-12-21 0935
2				
3				

Comments
Profile 11795
Please provide QC sheets

Cooler Temperature on Receipt N/A °C | **Custody Seal** Y or (N) | **Received on Ice** Y or (N) | **Samples Intact** (Y) or N

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace KS Project #

WO#: 30410546
PM: CAF Due Date: 04/02/21
CLIENT: PACE_60_LEKS

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

Label Rp
LIMS Login Rp

Tracking #: 9308 4772 0395

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

pH paper Lot# LDQ1101 Date and Initials of person examining contents: Rp 3-16-21

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed Rp Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: Rp Date: 3-16-21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

WO# : 30410546

PM: CAF Due Date: 04/02/21

CLIENT: PACE_60_LEKS

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	EVERGY KANSAS CENTRAL, INC.	Report To:	Melissa Michels, Samantha Kaney, Danielle Ober	Attention:	Accounts Payable
Address:	Lawrence Energy Center (LEC)	Copy To:	Jared Morrison, Jake Humphrey, Laura Hines	Company Name:	EVERGY KANSAS CENTRAL, INC
	818 Kansas Ave, Topeka, KS 66612		Andrew Hare, Tabitha Hylton	Address:	SAME AS A
Email To:	melissa.michels@evergy.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	785-575-8113 Fax:	Project Name:	LEC Inactive Ash Ponds CCR	Pace Project Manager:	Jasmine Amerin, 913-563-1403
Requested Due Date/TAT:	15 day	Project Number:		Pace Profile #:	9655, 1

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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: Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-37-030921	WT	G	-	-	03/09/21	14:20		2			2							X	X	X		001
2	MW-38-030921	WT	G	-	-	03/09/21	15:40		2			2							X	X	X		002
3	MW-39-030921	WT	G	-	-	03/09/21	11:50		2			2							X	X	X		003
4	MW-40-030921	WT	G	-	-	03/09/21	13:10		2			2							X	X	X		004
5	MW-K-030921	WT	G	-	-	03/09/21	9:25		2			2							X	X	X		005
6	MW-L-030921	WT	G	-	-	03/09/21	10:40		2			2							X	X	X		006
7	DUP-AP-030921	WT	G	-	-	03/09/21	11:55		2			2							X	X	X		007
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	3/11/21	14:30	Pace	3-12-21	0935	N/D	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 3/10/21

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

Dept: 6003 Date : 05Mar21
Customer : 783027 Weight : 50 LBS
Phone : (317)875-5894 COD :
Dept: client services DV : 0.00

Shipping : 0.00
Special : 0.00
Handling : 0.00
Total : 0.00

Page 1 of 1

STANDARD OVERNIGHT Master 9308 4772 0395
*Important N... TRCK: 9308 4772 0395

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 Greensburg Lab -Sample Container Count

Pace Analytical®

Client: Pace KS

Site: 60363775/Evergy Kansas Central, Inc.

30410546

Profile Number: 11795

Notes:

Sample Line Item	Matrix	AG1H	AG1S	AG1T	AG2U	AG3S	AG3U	AG5U	AG5T	BG1U	BG2U	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	GCUB	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC	
1	WT											2																	
2	↓											↓																	
3																													
4																													
5																													
6																													
7	↓											↓																	
8																													
9																													
10																													
11																													
12																													

Container Codes

Glass

GJN	1 Gallon Jug with HNO3	DG9S	40mL amber VOA vial H2SO4
AG5U	100mL amber glass unprserved	VG9U	40mL clear VOA vial
AG5T	100mL amber glass Na Thiosulfate	VG9T	40mL clear VOA vial Na Thiosul
GJN	1 Gallon Jug	VG9H	40mL clear VOA vial HCl
AG1S	1L amber glass H2SO4	JGFU	4oz amber wide jar
AG1H	1L amber glass HCl	WGFU	4oz wide jar unpreserved
AG1T	1L amber glass Na Thiosulfate	BG2U	500mL clear glass unpreserved
BG1U	1L clear glass unpreserved	AG2U	500mL amber glass unpreserved
AG3S	250mL amber glass H2SO4	WGKU	8oz wide jar unpreserved
AG3U	250mL amber glass unpreserved		

Plastic / Misc.

GCUB	1 Gallon Cubitainer
12GN	1/2 Gallon Cubitainer
SP5T	120mL Coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unpreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3C	250ml plastic NAOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved

EZI	5g Encore
VOAK	Kit for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag

WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test: Ra-226
Analyst: MK1
Date: 3/20/2021
Batch ID: 59329
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2117903
MB concentration:	0.094
M/B Counting Uncertainty:	0.345
MB MDC:	0.663
MB Numerical Performance Indicator:	0.53
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59329	LCSD59329
Count Date:	3/29/2021	
Spike I.D.:	20-032	
Spike Concentration (pCi/mL):	32.177	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.652	
Target Conc. (pCi/L, g, F):	4.933	
Uncertainty (Calculated):	0.232	
Result (pCi/L, g, F):	4.553	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.918	
Numerical Performance Indicator:	-0.79	
Percent Recovery:	92.30%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	3/8/2021	
Sample I.D.	30410061001	
Sample MS I.D.	30410061001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.177	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.652	
MS Target Conc.(pCi/L, g, F):	9.872	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.464	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.051	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.264	
Sample Matrix Spike Result:	8.451	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.309	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	-2.040	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	85.09%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	30409904001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30409904001DUP	
Sample Result (pCi/L, g, F):	0.133	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.261	
Sample Duplicate Result (pCi/L, g, F):	0.189	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.276	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.289	30409904001
Duplicate RPD:	34.76%	30409904001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

***Batch must be re-prepped due to unacceptable precision. results < MDC, N/A

MK 3/31/21

MK 3/31/21

SLC 3/29/2021

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	3/23/2021
Worklist:	59330
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2117904
MB concentration:	0.031
M/B 2 Sigma CSU:	0.300
MB MDC:	0.697
MB Numerical Performance Indicator:	0.20
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59330	LCSD59330
Count Date:	3/30/2021	
Spike I.D.:	21-003	
Decay Corrected Spike Concentration (pCi/mL):	38.268	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.808	
Target Conc. (pCi/L, g, F):	4.739	
Uncertainty (Calculated):	0.232	
Result (pCi/L, g, F):	4.439	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.035	
Numerical Performance Indicator:	-0.55	
Percent Recovery:	93.68%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	3/2/2021	
Sample I.D.	30409962004	
Sample MS I.D.	30409962004MS	
Sample MSD I.D.		
Spike I.D.:	21-003	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	38.619	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.800	
MS Target Conc.(pCi/L, g, F):	9.650	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.473	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.599	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.401	
Sample Matrix Spike Result:	9.422	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.907	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	-0.809	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	91.43%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	30409962005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30409962005DUP	
Sample Result (pCi/L, g, F):	0.004	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.400	
Sample Duplicate Result (pCi/L, g, F):	0.479	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.425	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.595	30409962005
Duplicate RPD:	196.58%	30409962005DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

Qualified

ATTACHMENT 2-2
Nature & Extent Analytical Data
Laboratory Analytical Reports

ATTACHMENT 2-2-1
November 2020 Sampling Event
Laboratory Analytical Report

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

November 24, 2020

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on November 19, 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,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Melanie Satanek, Haley & Aldrich, Inc.
Danielle Zinmaster, Haley & Aldrich

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

CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60354930001	**LEC MW-G 111820**	Water	11/18/20 11:15	11/19/20 17:40
60354930002	**LEC MW-D 111820**	Water	11/18/20 14:00	11/19/20 17:40
60354930003	**LEC MW-C 111820**	Water	11/18/20 16:10	11/19/20 17:40
60354930004	**LEC MW-M 111920**	Water	11/19/20 08:55	11/19/20 17:40
60354930005	**LEC MW-P 111920**	Water	11/19/20 11:25	11/19/20 17:40
60354930006	**LEC MW-N 111920**	Water	11/19/20 13:20	11/19/20 17:40
60354930007	**LEC MW-O 111920**	Water	11/19/20 14:40	11/19/20 17:40
60354930008	**LEC DUPLICATE 111920**	Water	11/19/20 00:00	11/19/20 17:40
60354930009	**EQUIPMENT RINSATE BLANK 111920**	Water	11/19/20 14:50	11/19/20 17:40

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60354930001	**LEC MW-G 111820**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930002	**LEC MW-D 111820**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930003	**LEC MW-C 111820**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930004	**LEC MW-M 111920**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930005	**LEC MW-P 111920**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930006	**LEC MW-N 111920**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930007	**LEC MW-O 111920**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930008	**LEC DUPLICATE 111920**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	MAP	1	PASI-K
		SM 3500-Fe B#4	LDB	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		EPA 9060	LDB	5	PASI-K
60354930009	**EQUIPMENT RINSATE BLANK 111920**	EPA 200.7	HKC	8	PASI-K
		EPA 200.7	HKC	2	PASI-K
		EPA 6010	HKC	1	PASI-K
		EPA 200.8	JGP	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-G 111820 **Lab ID: 60354930001** Collected: 11/18/20 11:15 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.046**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 19:56	7440-39-3	
Boron, Total Recoverable	**1.9**	mg/L	0.10	1	11/20/20 10:58	11/20/20 19:56	7440-42-8	
Calcium, Total Recoverable	**214**	mg/L	0.20	1	11/20/20 10:58	11/20/20 19:56	7440-70-2	M1
Iron, Total Recoverable	**2.8**	mg/L	0.050	1	11/20/20 10:58	11/20/20 19:56	7439-89-6	
Magnesium, Total Recoverable	**29.2**	mg/L	0.050	1	11/20/20 10:58	11/20/20 19:56	7439-95-4	
Manganese, Total Recoverable	**0.56**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 19:56	7439-96-5	
Potassium, Total Recoverable	**9.2**	mg/L	0.50	1	11/20/20 10:58	11/20/20 19:56	7440-09-7	
Sodium, Total Recoverable	**85.7**	mg/L	0.50	1	11/20/20 10:58	11/20/20 19:56	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**2.0**	mg/L	0.050	1	11/20/20 10:58	11/20/20 17:49	7439-89-6	
Manganese, Dissolved	**0.57**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 17:49	7439-96-5	D9
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	11/20/20 10:58	11/20/20 19:56	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0081**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 16:51	7440-38-2	
Molybdenum, Total Recoverable	**0.0050**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 16:51	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**331**	mg/L	20.0	1		11/20/20 10:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 10:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1130**	mg/L	13.3	1		11/20/20 09:35		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		11/24/20 07:03		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		11/23/20 07:32		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**29.6**	mg/L	5.0	5		11/23/20 13:56	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		11/21/20 11:26	16984-48-8	
Sulfate	**485**	mg/L	100	100		11/23/20 14:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-G 111820 **Lab ID: 60354930001** Collected: 11/18/20 11:15 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**2.8**	mg/L	1.0	1		11/23/20 12:32		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**2.5**	mg/L	1.0	1		11/23/20 21:16	7440-44-0	
Total Organic Carbon	**2.6**	mg/L	1.0	1		11/23/20 21:16	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/23/20 21:16	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/23/20 21:16	7440-44-0	
Mean Total Organic Carbon	**2.6**	mg/L	1.0	1		11/23/20 21:16	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-D 111820 **Lab ID: 60354930002** Collected: 11/18/20 14:00 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.57**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:03	7440-39-3	
Boron, Total Recoverable	**0.47**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:03	7440-42-8	
Calcium, Total Recoverable	**162**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:03	7440-70-2	
Iron, Total Recoverable	**39.5**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:03	7439-89-6	
Magnesium, Total Recoverable	**24.7**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:03	7439-95-4	
Manganese, Total Recoverable	**3.7**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:03	7439-96-5	
Potassium, Total Recoverable	**7.6**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:03	7440-09-7	
Sodium, Total Recoverable	**19.2**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:03	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.63**	mg/L	0.050	1	11/20/20 10:58	11/20/20 17:57	7439-89-6	
Manganese, Dissolved	**3.2**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 17:57	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:03	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.031**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 16:53	7440-38-2	
Molybdenum, Total Recoverable	**0.0018**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 16:53	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**481**	mg/L	20.0	1		11/20/20 10:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 10:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**617**	mg/L	10.0	1		11/20/20 09:35		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**2.2**	mg/L	0.20	1		11/24/20 07:04		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		11/23/20 07:37		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**6.5**	mg/L	1.0	1		11/21/20 11:41	16887-00-6	
Fluoride	**0.60**	mg/L	0.20	1		11/21/20 11:41	16984-48-8	
Sulfate	**79.5**	mg/L	10.0	10		11/23/20 14:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-D 111820 **Lab ID: 60354930002** Collected: 11/18/20 14:00 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**4.8**	mg/L	1.0	1		11/23/20 13:12		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**6.8**	mg/L	1.0	1		11/23/20 23:11	7440-44-0	
Total Organic Carbon	**7.0**	mg/L	1.0	1		11/23/20 23:11	7440-44-0	
Total Organic Carbon	**7.1**	mg/L	1.0	1		11/23/20 23:11	7440-44-0	
Total Organic Carbon	**7.1**	mg/L	1.0	1		11/23/20 23:11	7440-44-0	
Mean Total Organic Carbon	**7.0**	mg/L	1.0	1		11/23/20 23:11	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-C 111820 **Lab ID: 60354930003** Collected: 11/18/20 16:10 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.16**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:06	7440-39-3	
Boron, Total Recoverable	**0.34**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:06	7440-42-8	
Calcium, Total Recoverable	**156**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:06	7440-70-2	
Iron, Total Recoverable	**6.8**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:06	7439-89-6	
Magnesium, Total Recoverable	**17.9**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:06	7439-95-4	
Manganese, Total Recoverable	**0.98**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:06	7439-96-5	
Potassium, Total Recoverable	**7.3**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:06	7440-09-7	
Sodium, Total Recoverable	**32.3**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:06	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	11/20/20 10:58	11/20/20 18:00	7439-89-6	
Manganese, Dissolved	**0.12**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 18:00	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.025**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:06	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0062**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 16:59	7440-38-2	
Molybdenum, Total Recoverable	**0.010**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 16:59	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**322**	mg/L	20.0	1		11/20/20 10:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 10:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**653**	mg/L	10.0	1		11/20/20 09:36		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		11/24/20 07:04		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		11/23/20 07:39		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**28.0**	mg/L	5.0	5		11/23/20 14:43	16887-00-6	
Fluoride	**0.45**	mg/L	0.20	1		11/21/20 11:57	16984-48-8	
Sulfate	**130**	mg/L	20.0	20		11/23/20 14:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-C 111820 **Lab ID: 60354930003** Collected: 11/18/20 16:10 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.7**	mg/L	1.0	1		11/23/20 13:25		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.6**	mg/L	1.0	1		11/24/20 00:11	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		11/24/20 00:11	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		11/24/20 00:11	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		11/24/20 00:11	7440-44-0	
Mean Total Organic Carbon	**1.7**	mg/L	1.0	1		11/24/20 00:11	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-M 111920 **Lab ID: 60354930004** Collected: 11/19/20 08:55 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.20**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:09	7440-39-3	
Boron, Total Recoverable	**0.96**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:09	7440-42-8	
Calcium, Total Recoverable	**223**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:09	7440-70-2	
Iron, Total Recoverable	**3.0**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:09	7439-89-6	
Magnesium, Total Recoverable	**28.7**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:09	7439-95-4	
Manganese, Total Recoverable	**1.1**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:09	7439-96-5	
Potassium, Total Recoverable	**8.5**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:09	7440-09-7	
Sodium, Total Recoverable	**44.6**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:09	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	11/20/20 10:58	11/20/20 18:03	7439-89-6	
Manganese, Dissolved	**0.064**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 18:03	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.026**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:09	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0063**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:01	7440-38-2	
Molybdenum, Total Recoverable	**0.0069**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:01	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**430**	mg/L	20.0	1		11/20/20 11:03		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 11:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**995**	mg/L	13.3	1		11/20/20 09:36		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		11/24/20 07:05		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		11/23/20 07:48		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**50.3**	mg/L	10.0	10		11/23/20 15:14	16887-00-6	
Fluoride	**0.55**	mg/L	0.20	1		11/21/20 12:13	16984-48-8	
Sulfate	**335**	mg/L	50.0	50		11/23/20 15:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-M 111920 **Lab ID: 60354930004** Collected: 11/19/20 08:55 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		11/23/20 13:52		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.7**	mg/L	1.0	1		11/24/20 00:40	7440-44-0	
Total Organic Carbon	**2.0**	mg/L	1.0	1		11/24/20 00:40	7440-44-0	
Total Organic Carbon	**2.0**	mg/L	1.0	1		11/24/20 00:40	7440-44-0	
Total Organic Carbon	**2.1**	mg/L	1.0	1		11/24/20 00:40	7440-44-0	
Mean Total Organic Carbon	**2.0**	mg/L	1.0	1		11/24/20 00:40	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-P 111920 **Lab ID: 60354930005** Collected: 11/19/20 11:25 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.039**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:11	7440-39-3	
Boron, Total Recoverable	**2.2**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:11	7440-42-8	
Calcium, Total Recoverable	**209**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:11	7440-70-2	
Iron, Total Recoverable	**13.5**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:11	7439-89-6	
Magnesium, Total Recoverable	**42.5**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:11	7439-95-4	
Manganese, Total Recoverable	**2.3**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:11	7439-96-5	
Potassium, Total Recoverable	**15.8**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:11	7440-09-7	
Sodium, Total Recoverable	**132**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:11	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.23**	mg/L	0.050	1	11/20/20 10:58	11/20/20 18:06	7439-89-6	
Manganese, Dissolved	**1.9**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 18:06	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.028**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:11	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.022**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:03	7440-38-2	
Molybdenum, Total Recoverable	**0.054**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:03	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**398**	mg/L	20.0	1		11/20/20 11:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 11:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1230**	mg/L	13.3	1		11/20/20 09:36		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.75**	mg/L	0.20	1		11/24/20 07:06		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		11/23/20 07:58		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**81.7**	mg/L	10.0	10		11/23/20 15:45	16887-00-6	
Fluoride	**2.8**	mg/L	0.20	1		11/21/20 13:00	16984-48-8	
Sulfate	**409**	mg/L	100	100		11/23/20 16:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-P 111920 **Lab ID: 60354930005** Collected: 11/19/20 11:25 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**2.1**	mg/L	1.0	1		11/23/20 14:45		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**2.5**	mg/L	1.0	1		11/24/20 01:36	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/24/20 01:36	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/24/20 01:36	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/24/20 01:36	7440-44-0	
Mean Total Organic Carbon	**2.6**	mg/L	1.0	1		11/24/20 01:36	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-N 111920 **Lab ID: 60354930006** Collected: 11/19/20 13:20 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.18**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:14	7440-39-3	
Boron, Total Recoverable	**1.5**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:14	7440-42-8	
Calcium, Total Recoverable	**116**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:14	7440-70-2	
Iron, Total Recoverable	**21.9**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:14	7439-89-6	
Magnesium, Total Recoverable	**47.2**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:14	7439-95-4	
Manganese, Total Recoverable	**0.50**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:14	7439-96-5	
Potassium, Total Recoverable	**19.0**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:14	7440-09-7	
Sodium, Total Recoverable	**71.5**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:14	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.70**	mg/L	0.050	1	11/20/20 10:58	11/20/20 18:17	7439-89-6	
Manganese, Dissolved	**0.32**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 18:17	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.058**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:14	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.070**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:09	7440-38-2	
Molybdenum, Total Recoverable	**0.036**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:09	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**447**	mg/L	20.0	1		11/20/20 11:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 11:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**708**	mg/L	10.0	1		11/20/20 09:36		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**1.1**	mg/L	0.20	1		11/24/20 07:07		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		11/23/20 08:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**33.4**	mg/L	5.0	5		11/23/20 16:48	16887-00-6	
Fluoride	**4.9**	mg/L	0.20	1		11/21/20 13:16	16984-48-8	
Sulfate	**144**	mg/L	20.0	20		11/23/20 17:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-N 111920 **Lab ID: 60354930006** Collected: 11/19/20 13:20 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**2.3**	mg/L	1.0	1		11/23/20 14:58		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**2.6**	mg/L	1.0	1		11/24/20 02:07	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/24/20 02:07	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/24/20 02:07	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	1		11/24/20 02:07	7440-44-0	
Mean Total Organic Carbon	**2.7**	mg/L	1.0	1		11/24/20 02:07	7440-44-0	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-O 111920 **Lab ID: 60354930007** Collected: 11/19/20 14:40 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.047**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:16	7440-39-3	
Boron, Total Recoverable	**3.0**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:16	7440-42-8	
Calcium, Total Recoverable	**513**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:16	7440-70-2	
Iron, Total Recoverable	**11.9**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:16	7439-89-6	
Magnesium, Total Recoverable	**167**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:16	7439-95-4	
Manganese, Total Recoverable	**1.5**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:16	7439-96-5	
Potassium, Total Recoverable	**29.8**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:16	7440-09-7	
Sodium, Total Recoverable	**398**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:16	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**7.9**	mg/L	0.050	1	11/20/20 10:58	11/20/20 18:20	7439-89-6	
Manganese, Dissolved	**1.3**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 18:20	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.084**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:16	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.015**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:11	7440-38-2	
Molybdenum, Total Recoverable	**0.055**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:11	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**247**	mg/L	20.0	1		11/20/20 11:19		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 11:19		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**5510**	mg/L	100	1		11/20/20 09:36		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**1.4**	mg/L	0.20	1		11/24/20 07:08		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		11/23/20 08:04		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**515**	mg/L	200	200		11/23/20 17:50	16887-00-6	
Fluoride	**3.8**	mg/L	0.20	1		11/21/20 13:48	16984-48-8	
Sulfate	**1810**	mg/L	200	200		11/23/20 17:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC MW-O 111920 **Lab ID: 60354930007** Collected: 11/19/20 14:40 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		11/23/20 15:11		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**2.5**	mg/L	1.0	1		11/24/20 02:36	7440-44-0	
Total Organic Carbon	**2.5**	mg/L	1.0	1		11/24/20 02:36	7440-44-0	
Total Organic Carbon	**2.5**	mg/L	1.0	1		11/24/20 02:36	7440-44-0	
Total Organic Carbon	**2.5**	mg/L	1.0	1		11/24/20 02:36	7440-44-0	
Mean Total Organic Carbon	**2.5**	mg/L	1.0	1		11/24/20 02:36	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC DUPLICATE 111920 **Lab ID: 60354930008** Collected: 11/19/20 00:00 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.20**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:27	7440-39-3	
Boron, Total Recoverable	**0.95**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:27	7440-42-8	
Calcium, Total Recoverable	**222**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:27	7440-70-2	
Iron, Total Recoverable	**2.9**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:27	7439-89-6	
Magnesium, Total Recoverable	**28.6**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:27	7439-95-4	
Manganese, Total Recoverable	**1.6**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:27	7439-96-5	
Potassium, Total Recoverable	**8.5**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:27	7440-09-7	
Sodium, Total Recoverable	**44.4**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:27	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	11/20/20 10:58	11/20/20 18:23	7439-89-6	
Manganese, Dissolved	**0.071**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 18:23	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.023**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:27	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0065**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:13	7440-38-2	
Molybdenum, Total Recoverable	**0.0080**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:13	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**429**	mg/L	20.0	1		11/20/20 11:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		11/20/20 11:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1070**	mg/L	13.3	1		11/20/20 09:36		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		11/24/20 07:05		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		11/23/20 07:40		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**41.7**	mg/L	5.0	5		11/23/20 18:06	16887-00-6	
Fluoride	**0.44**	mg/L	0.20	1		11/21/20 14:04	16984-48-8	
Sulfate	**292**	mg/L	50.0	50		11/23/20 18:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: LEC DUPLICATE 111920 **Lab ID: 60354930008** Collected: 11/19/20 00:00 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C Diss. Organic Carbon LF	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**2.0**	mg/L	1.0	1		11/23/20 15:24		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**2.1**	mg/L	1.0	1		11/24/20 03:06	7440-44-0	
Total Organic Carbon	**2.2**	mg/L	1.0	1		11/24/20 03:06	7440-44-0	
Total Organic Carbon	**2.1**	mg/L	1.0	1		11/24/20 03:06	7440-44-0	
Total Organic Carbon	**2.2**	mg/L	1.0	1		11/24/20 03:06	7440-44-0	
Mean Total Organic Carbon	**2.1**	mg/L	1.0	1		11/24/20 03:06	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Sample: EQUIPMENT RINSATE BLANK 111920 **Lab ID: 60354930009** Collected: 11/19/20 14:50 Received: 11/19/20 17:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:30	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	11/20/20 10:58	11/20/20 20:30	7440-42-8	
Calcium, Total Recoverable	**0.37**	mg/L	0.20	1	11/20/20 10:58	11/20/20 20:30	7440-70-2	
Iron, Total Recoverable	**<0.050**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:30	7439-89-6	
Magnesium, Total Recoverable	**<0.050**	mg/L	0.050	1	11/20/20 10:58	11/20/20 20:30	7439-95-4	
Manganese, Total Recoverable	**<0.0050**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 20:30	7439-96-5	
Potassium, Total Recoverable	**<0.50**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:30	7440-09-7	
Sodium, Total Recoverable	**<0.50**	mg/L	0.50	1	11/20/20 10:58	11/20/20 20:30	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	11/20/20 10:58	11/20/20 18:26	7439-89-6	
Manganese, Dissolved	**<0.0050**	mg/L	0.0050	1	11/20/20 10:58	11/20/20 18:26	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	11/20/20 10:58	11/20/20 20:30	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:15	7440-38-2	
Molybdenum, Total Recoverable	**<0.0010**	mg/L	0.0010	1	11/20/20 10:58	11/23/20 17:15	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690604
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: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

METHOD BLANK: 2790085 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	11/20/20 19:43	
Boron	mg/L	<0.10	0.10	11/20/20 19:43	
Calcium	mg/L	<0.20	0.20	11/20/20 19:43	
Iron	mg/L	<0.050	0.050	11/20/20 19:43	
Magnesium	mg/L	<0.050	0.050	11/20/20 19:43	
Manganese	mg/L	<0.0050	0.0050	11/20/20 19:43	
Potassium	mg/L	<0.50	0.50	11/20/20 19:43	
Sodium	mg/L	<0.50	0.50	11/20/20 19:43	

LABORATORY CONTROL SAMPLE: 2790086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.96	96	85-115	
Boron	mg/L	1	0.95	95	85-115	
Calcium	mg/L	10	9.9	99	85-115	
Iron	mg/L	10	10.0	100	85-115	
Magnesium	mg/L	10	9.8	98	85-115	
Manganese	mg/L	1	0.95	95	85-115	
Potassium	mg/L	10	9.5	95	85-115	
Sodium	mg/L	10	9.8	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2790087 2790088

Parameter	Units	60354930001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.046	1	1	1.0	1.0	96	96	70-130	0	20	
Boron	mg/L	1.9	1	1	2.9	2.8	102	94	70-130	3	20	
Calcium	mg/L	214	10	10	224	218	91	34	70-130	3	20	M1
Iron	mg/L	2.8	10	10	12.7	12.6	99	98	70-130	1	20	
Magnesium	mg/L	29.2	10	10	39.1	38.1	98	89	70-130	2	20	
Manganese	mg/L	0.56	1	1	1.5	1.5	94	93	70-130	1	20	
Potassium	mg/L	9.2	10	10	19.1	18.8	99	96	70-130	2	20	
Sodium	mg/L	85.7	10	10	96.9	94.2	112	85	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690603
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

METHOD BLANK: 2790081 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	mg/L	<0.050	0.050	11/20/20 17:44	
Manganese, Dissolved	mg/L	<0.0050	0.0050	11/20/20 17:44	

LABORATORY CONTROL SAMPLE: 2790082

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	10	10.4	104	85-115	
Manganese, Dissolved	mg/L	1	0.98	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2790083 2790084

Parameter	Units	60354930001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	mg/L	2.0	10	10	12.3	12.4	103	103	70-130	1	20	
Manganese, Dissolved	mg/L	0.57	1	1	1.5	1.5	96	97	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690605 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: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

METHOD BLANK: 2790089 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	11/23/20 16:47	
Molybdenum	mg/L	<0.0010	0.0010	11/23/20 16:47	

LABORATORY CONTROL SAMPLE: 2790090

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.038	95	85-115	
Molybdenum	mg/L	0.04	0.039	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2790091 2790092

Parameter	Units	60354930002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.031	0.04	0.04	0.068	0.069	94	96	70-130	1	20	
Molybdenum	mg/L	0.0018	0.04	0.04	0.042	0.042	99	101	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690606
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

METHOD BLANK: 2790093 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008, 60354930009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	11/20/20 19:43	

LABORATORY CONTROL SAMPLE: 2790094

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2790095 2790096

Parameter	Units	60354930001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	<0.010	1	1	0.99	0.99	98	98	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690596 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

METHOD BLANK: 2790044 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	11/20/20 10:28	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	11/20/20 10:28	

SAMPLE DUPLICATE: 2790046

Parameter	Units	60354930001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	331	336	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2790047

Parameter	Units	60354595009 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	477	471	1	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690585 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

METHOD BLANK: 2790001 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	11/20/20 09:35	

LABORATORY CONTROL SAMPLE: 2790002

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1050	105	80-120	

SAMPLE DUPLICATE: 2790003

Parameter	Units	60354705002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	673	695	3	10	

SAMPLE DUPLICATE: 2790004

Parameter	Units	60354811001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2790	2270	21	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690999
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: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

METHOD BLANK: 2791919 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.20	0.20	11/24/20 06:59	H6

LABORATORY CONTROL SAMPLE: 2791920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	106	90-110	H6

SAMPLE DUPLICATE: 2791921

Parameter	Units	60354635001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.13J	<0.20		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690677
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

SAMPLE DUPLICATE: 2790449

Parameter	Units	60354912002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.8	5	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690757
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: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

METHOD BLANK: 2790768 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	11/21/20 09:27	
Fluoride	mg/L	<0.20	0.20	11/21/20 09:27	
Sulfate	mg/L	<1.0	1.0	11/21/20 09:27	

METHOD BLANK: 2792379 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	11/23/20 08:28	
Fluoride	mg/L	<0.20	0.20	11/23/20 08:28	
Sulfate	mg/L	<1.0	1.0	11/23/20 08:28	

LABORATORY CONTROL SAMPLE: 2790769

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	2.6	103	90-110	
Sulfate	mg/L	5	5.3	107	90-110	

LABORATORY CONTROL SAMPLE: 2792380

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	2.5	99	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE SAMPLE: 2790770

Parameter	Units	60354930006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	33.4	25	58.1	99	80-120	
Fluoride	mg/L	4.9	2.5	7.5	101	80-120	
Sulfate	mg/L	144	100	241	97	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2790771 2790772

Parameter	Units	60354084007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	65.3	50	50	115	116	100	101	80-120	0	15	
Fluoride	mg/L	0.33	2.5	2.5	2.6	2.6	92	92	80-120	0	15	
Sulfate	mg/L	1200	500	500	1670	1670	94	95	80-120	0	15	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690915
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

METHOD BLANK: 2791736 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	<1.0	1.0	11/23/20 12:05	

LABORATORY CONTROL SAMPLE: 2791737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2791739 2791738

Parameter	Units	60354930001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	2.8	5	5	7.4	7.6	91	97	80-120	4	25	

SAMPLE DUPLICATE: 2791740

Parameter	Units	60354930003 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	1.7	1.7	2	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

QC Batch: 690912
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

METHOD BLANK: 2791721 Matrix: Water
Associated Lab Samples: 60354930001, 60354930002, 60354930003, 60354930004, 60354930005, 60354930006, 60354930007, 60354930008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	<1.0	1.0	11/23/20 20:16	
Total Organic Carbon	mg/L	<1.0	1.0	11/23/20 20:16	
Total Organic Carbon	mg/L	<1.0	1.0	11/23/20 20:16	
Total Organic Carbon	mg/L	<1.0	1.0	11/23/20 20:16	
Total Organic Carbon	mg/L	<1.0	1.0	11/23/20 20:16	

LABORATORY CONTROL SAMPLE: 2791722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	5	4.7	95	80-120	
Total Organic Carbon	mg/L	5	4.7	95	80-120	
Total Organic Carbon	mg/L	5	4.8	95	80-120	
Total Organic Carbon	mg/L	5	4.7	94	80-120	
Total Organic Carbon	mg/L	5	4.8	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2791723 2791724

Parameter	Units	60354930001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	2.6	5	5	6.9	7.0	85	87	80-120	1	25	
Total Organic Carbon	mg/L	2.6	5	5	6.9	7.0	86	87	80-120	1	25	
Total Organic Carbon	mg/L	2.7	5	5	7.0	7.1	86	89	80-120	2	25	
Total Organic Carbon	mg/L	2.5	5	5	6.7	6.7	84	84	80-120	0	25	
Total Organic Carbon	mg/L	2.7	5	5	7.0	7.1	86	88	80-120	1	25	

SAMPLE DUPLICATE: 2791725

Parameter	Units	60354930002 Result	Dup Result	RPD	Max RPD	Qualifiers
Mean Total Organic Carbon	mg/L	7.0	7.0	1	25	
Total Organic Carbon	mg/L	6.8	6.8	1	25	
Total Organic Carbon	mg/L	7.0	7.1	1	25	
Total Organic Carbon	mg/L	7.1	7.1	0	25	
Total Organic Carbon	mg/L	7.1	7.1	1	25	

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

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.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within 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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60354930001	**LEC MW-G 111820**	EPA 200.7	690604	EPA 200.7	690632
60354930002	**LEC MW-D 111820**	EPA 200.7	690604	EPA 200.7	690632
60354930003	**LEC MW-C 111820**	EPA 200.7	690604	EPA 200.7	690632
60354930004	**LEC MW-M 111920**	EPA 200.7	690604	EPA 200.7	690632
60354930005	**LEC MW-P 111920**	EPA 200.7	690604	EPA 200.7	690632
60354930006	**LEC MW-N 111920**	EPA 200.7	690604	EPA 200.7	690632
60354930007	**LEC MW-O 111920**	EPA 200.7	690604	EPA 200.7	690632
60354930008	**LEC DUPLICATE 111920**	EPA 200.7	690604	EPA 200.7	690632
60354930009	**EQUIPMENT RINSATE BLANK 111920**	EPA 200.7	690604	EPA 200.7	690632
60354930001	**LEC MW-G 111820**	EPA 200.7	690603	EPA 200.7	690633
60354930002	**LEC MW-D 111820**	EPA 200.7	690603	EPA 200.7	690633
60354930003	**LEC MW-C 111820**	EPA 200.7	690603	EPA 200.7	690633
60354930004	**LEC MW-M 111920**	EPA 200.7	690603	EPA 200.7	690633
60354930005	**LEC MW-P 111920**	EPA 200.7	690603	EPA 200.7	690633
60354930006	**LEC MW-N 111920**	EPA 200.7	690603	EPA 200.7	690633
60354930007	**LEC MW-O 111920**	EPA 200.7	690603	EPA 200.7	690633
60354930008	**LEC DUPLICATE 111920**	EPA 200.7	690603	EPA 200.7	690633
60354930009	**EQUIPMENT RINSATE BLANK 111920**	EPA 200.7	690603	EPA 200.7	690633
60354930001	**LEC MW-G 111820**	EPA 3010	690606	EPA 6010	690631
60354930002	**LEC MW-D 111820**	EPA 3010	690606	EPA 6010	690631
60354930003	**LEC MW-C 111820**	EPA 3010	690606	EPA 6010	690631
60354930004	**LEC MW-M 111920**	EPA 3010	690606	EPA 6010	690631
60354930005	**LEC MW-P 111920**	EPA 3010	690606	EPA 6010	690631
60354930006	**LEC MW-N 111920**	EPA 3010	690606	EPA 6010	690631
60354930007	**LEC MW-O 111920**	EPA 3010	690606	EPA 6010	690631
60354930008	**LEC DUPLICATE 111920**	EPA 3010	690606	EPA 6010	690631
60354930009	**EQUIPMENT RINSATE BLANK 111920**	EPA 3010	690606	EPA 6010	690631
60354930001	**LEC MW-G 111820**	EPA 200.8	690605	EPA 200.8	690637
60354930002	**LEC MW-D 111820**	EPA 200.8	690605	EPA 200.8	690637
60354930003	**LEC MW-C 111820**	EPA 200.8	690605	EPA 200.8	690637
60354930004	**LEC MW-M 111920**	EPA 200.8	690605	EPA 200.8	690637
60354930005	**LEC MW-P 111920**	EPA 200.8	690605	EPA 200.8	690637
60354930006	**LEC MW-N 111920**	EPA 200.8	690605	EPA 200.8	690637
60354930007	**LEC MW-O 111920**	EPA 200.8	690605	EPA 200.8	690637
60354930008	**LEC DUPLICATE 111920**	EPA 200.8	690605	EPA 200.8	690637
60354930009	**EQUIPMENT RINSATE BLANK 111920**	EPA 200.8	690605	EPA 200.8	690637
60354930001	**LEC MW-G 111820**	SM 2320B	690596		
60354930002	**LEC MW-D 111820**	SM 2320B	690596		
60354930003	**LEC MW-C 111820**	SM 2320B	690596		
60354930004	**LEC MW-M 111920**	SM 2320B	690596		
60354930005	**LEC MW-P 111920**	SM 2320B	690596		
60354930006	**LEC MW-N 111920**	SM 2320B	690596		
60354930007	**LEC MW-O 111920**	SM 2320B	690596		
60354930008	**LEC DUPLICATE 111920**	SM 2320B	690596		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60354930001	**LEC MW-G 111820**	SM 2540C	690585		
60354930002	**LEC MW-D 111820**	SM 2540C	690585		
60354930003	**LEC MW-C 111820**	SM 2540C	690585		
60354930004	**LEC MW-M 111920**	SM 2540C	690585		
60354930005	**LEC MW-P 111920**	SM 2540C	690585		
60354930006	**LEC MW-N 111920**	SM 2540C	690585		
60354930007	**LEC MW-O 111920**	SM 2540C	690585		
60354930008	**LEC DUPLICATE 111920**	SM 2540C	690585		
60354930001	**LEC MW-G 111820**	SM 3500-Fe B#4	690999		
60354930002	**LEC MW-D 111820**	SM 3500-Fe B#4	690999		
60354930003	**LEC MW-C 111820**	SM 3500-Fe B#4	690999		
60354930004	**LEC MW-M 111920**	SM 3500-Fe B#4	690999		
60354930005	**LEC MW-P 111920**	SM 3500-Fe B#4	690999		
60354930006	**LEC MW-N 111920**	SM 3500-Fe B#4	690999		
60354930007	**LEC MW-O 111920**	SM 3500-Fe B#4	690999		
60354930008	**LEC DUPLICATE 111920**	SM 3500-Fe B#4	690999		
60354930001	**LEC MW-G 111820**	SM 4500-H+B	690677		
60354930002	**LEC MW-D 111820**	SM 4500-H+B	690677		
60354930003	**LEC MW-C 111820**	SM 4500-H+B	690677		
60354930004	**LEC MW-M 111920**	SM 4500-H+B	690677		
60354930005	**LEC MW-P 111920**	SM 4500-H+B	690677		
60354930006	**LEC MW-N 111920**	SM 4500-H+B	690677		
60354930007	**LEC MW-O 111920**	SM 4500-H+B	690677		
60354930008	**LEC DUPLICATE 111920**	SM 4500-H+B	690677		
60354930001	**LEC MW-G 111820**	EPA 300.0	690757		
60354930002	**LEC MW-D 111820**	EPA 300.0	690757		
60354930003	**LEC MW-C 111820**	EPA 300.0	690757		
60354930004	**LEC MW-M 111920**	EPA 300.0	690757		
60354930005	**LEC MW-P 111920**	EPA 300.0	690757		
60354930006	**LEC MW-N 111920**	EPA 300.0	690757		
60354930007	**LEC MW-O 111920**	EPA 300.0	690757		
60354930008	**LEC DUPLICATE 111920**	EPA 300.0	690757		
60354930001	**LEC MW-G 111820**	SM 5310C	690915		
60354930002	**LEC MW-D 111820**	SM 5310C	690915		
60354930003	**LEC MW-C 111820**	SM 5310C	690915		
60354930004	**LEC MW-M 111920**	SM 5310C	690915		
60354930005	**LEC MW-P 111920**	SM 5310C	690915		
60354930006	**LEC MW-N 111920**	SM 5310C	690915		
60354930007	**LEC MW-O 111920**	SM 5310C	690915		
60354930008	**LEC DUPLICATE 111920**	SM 5310C	690915		
60354930001	**LEC MW-G 111820**	EPA 9060	690912		
60354930002	**LEC MW-D 111820**	EPA 9060	690912		
60354930003	**LEC MW-C 111820**	EPA 9060	690912		
60354930004	**LEC MW-M 111920**	EPA 9060	690912		
60354930005	**LEC MW-P 111920**	EPA 9060	690912		
60354930006	**LEC MW-N 111920**	EPA 9060	690912		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60354930

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60354930007	**LEC MW-O 111920**	EPA 9060	690912		
60354930008	**LEC DUPLICATE 111920**	EPA 9060	690912		

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Sample Condition Upon Receipt

WO# : 60354930

60354930

Client Name: Evergy KS Central

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** 1.8/2.6/1.7 **Corr. Factor** +0.2 **Corrected** 2.0/2.8/1.9

Date and initials of person examining contents: PV 11/19/20

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	Fe2+
Rush Turn Around Time requested:	☑Yes ☐No ☐N/A	2 Day
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	PV 11/19/20
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: _____ 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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	RUSH 2-day TAT

Section B Required Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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 Total Metals*	200.7 Diss. Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS	Ferrous Iron	9060 TOC	5310C DOC	4500H+ pH	200.8 Total Metals***	6010 Total Metals****	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	Y	N	N	N	N	N	N	N	N	N	N		60354930
1	LEC MW-G 111820	WT	G	-	-	11/18/20	11:15		6	3	1	2		BP3U	BP3N			X	X	X	X	X	X	X	X	X	X	X		A125 2BP1U BP1N 001
2	LEC MW-D 111820	WT	G	-	-	11/18/20	14:00		6	3	1	2						X	X	X	X	X	X	X	X	X	X	X		002
3	LEC MW-C 111820	WT	G	-	-	11/18/20	16:10		6	3	1	2						X	X	X	X	X	X	X	X	X	X	X		003
4	LEC MW-M 111920	WT	G	-	-	11/19/20	8:55		6	3	1	2						X	X	X	X	X	X	X	X	X	X	X		004
5	LEC MW-P 111920	WT	G	-	-	11/19/20	11:25		6	3	1	2						X	X	X	X	X	X	X	X	X	X	X		005
6	LEC MW-N 111920	WT	G	-	-	11/19/20	13:20		6	3	1	2						X	X	X	X	X	X	X	X	X	X	X		006
7	LEC MW-O 111920	WT	G	-	-	11/19/20	14:40		6	3	1	2						X	X	X	X	X	X	X	X	X	X	X		007
8	LEC Duplicate 111920	WT	G	-	-	11/19/20	-		6	3	1	2						X	X	X	X	X	X	X	X	X	X	X		008
9	Equipment Rinsate Blank 111920	WT	G	-	-	11/19/20	14:50		2			2						X	X								X	X		009
10																PVII/19/20													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na (8 metals)	Whit Martin / SCS	11/19/20	1740		11/19	1740	2.0	X	X	X
200.7 Dissolved Metals**: Fe, Mn (2 metals, FIELD FILTERED)							2.8			
200.8 Total Metals***: As, Mo (2 metals)							1.9			
6010 Total Metals****: Li (1 metal)										
							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: Whit Martin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/19/20

*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.

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

December 16, 2020

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on November 20, 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 - Greensburg

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Melanie Satanek, Haley & Aldrich, Inc.
Danielle Zinmaster, Haley & Aldrich

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

CERTIFICATIONS

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

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

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SAMPLE SUMMARY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60355153001	**LEC MW-G 111820**	Water	11/18/20 11:15	11/20/20 09:20
60355153002	**LEC MW-D 111820**	Water	11/18/20 14:00	11/20/20 09:20
60355153003	**LEC MW-C 111820**	Water	11/18/20 16:10	11/20/20 09:20
60355153004	**LEC MW-M 111920**	Water	11/19/20 08:55	11/20/20 09:20
60355153005	**LEC MW-P 111920**	Water	11/19/20 11:25	11/20/20 09:20
60355153006	**LEC MW-N 111920**	Water	11/19/20 13:20	11/20/20 09:20
60355153007	**LEC MW-O 111920**	Water	11/19/20 14:40	11/20/20 09:20
60355153008	**LEC Duplicate 111920**	Water	11/19/20 00:00	11/20/20 09:20

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60355153001	**LEC MW-G 111820**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60355153002	**LEC MW-D 111820**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60355153003	**LEC MW-C 111820**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60355153004	**LEC MW-M 111920**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60355153005	**LEC MW-P 111920**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60355153006	**LEC MW-N 111920**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60355153007	**LEC MW-O 111920**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60355153008	**LEC Duplicate 111920**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC MW-G 111820 **Lab ID: 60355153001** Collected: 11/18/20 11:15 Received: 11/20/20 09:20 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	**-0.143 ± 0.396 (0.936) C:NA T:86%**	pCi/L	12/16/20 12:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.23 ± 0.893 (1.75) C:58% T:76%**	pCi/L	12/15/20 18:22	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.23 ± 0.977 (1.75)**	pCi/L	12/16/20 14:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC MW-D 111820 **Lab ID: 60355153002** Collected: 11/18/20 14:00 Received: 11/20/20 09:20 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	**1.63 ± 0.764 (0.688) C:NA T:79%**	pCi/L	12/16/20 12:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**3.15 ± 1.48 (2.52) C:61% T:42%**	pCi/L	12/15/20 17:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**4.78 ± 1.67 (2.52)**	pCi/L	12/16/20 14:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC MW-C 111820 **Lab ID: 60355153003** Collected: 11/18/20 16:10 Received: 11/20/20 09:20 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	**-0.264 ± 0.518 (1.24) C:NA T:66%**	pCi/L	12/16/20 12:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.03 ± 1.07 (1.93) C:58% T:67%**	pCi/L	12/15/20 18:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.03 ± 1.19 (1.93)**	pCi/L	12/16/20 14:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC MW-M 111920 **Lab ID: 60355153004** Collected: 11/19/20 08:55 Received: 11/20/20 09:20 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	**0.186 ± 0.322 (0.576) C:NA T:91%**	pCi/L	12/16/20 12:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.420 ± 0.544 (1.35) C:61% T:87%**	pCi/L	12/15/20 18:19	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.186 ± 0.632 (1.35)**	pCi/L	12/16/20 14:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC MW-P 111920 **Lab ID: 60355153005** Collected: 11/19/20 11:25 Received: 11/20/20 09:20 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	**0.395 ± 0.549 (0.927) C:NA T:85%**	pCi/L	12/16/20 12:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.26 ± 0.860 (1.68) C:60% T:78%**	pCi/L	12/15/20 17:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.66 ± 1.02 (1.68)**	pCi/L	12/16/20 14:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC MW-N 111920 **Lab ID: 60355153006** Collected: 11/19/20 13:20 Received: 11/20/20 09:20 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	**0.254 ± 0.394 (0.683) C:NA T:88%**	pCi/L	12/16/20 12:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.52 ± 0.793 (1.40) C:62% T:74%**	pCi/L	12/15/20 17:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.77 ± 0.885 (1.40)**	pCi/L	12/16/20 14:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC MW-O 111920 **Lab ID: 60355153007** Collected: 11/19/20 14:40 Received: 11/20/20 09:20 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	**0.129 ± 0.473 (0.908) C:NA T:87%**	pCi/L	12/16/20 12:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.739 ± 0.752 (1.55) C:58% T:86%**	pCi/L	12/15/20 19:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.868 ± 0.888 (1.55)**	pCi/L	12/16/20 14:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Sample: LEC Duplicate 111920 **Lab ID: 60355153008** Collected: 11/19/20 00:00 Received: 11/20/20 09:20 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 ± 0.403 (0.837) C:NA T:92%**	pCi/L	12/16/20 12:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.441 ± 0.933 (2.06) C:57% T:85%**	pCi/L	12/15/20 20:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.441 ± 1.02 (2.06)**	pCi/L	12/16/20 14:03	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

QC Batch: 425307
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: 60355153001, 60355153002, 60355153003, 60355153004, 60355153005, 60355153006, 60355153007, 60355153008

METHOD BLANK: 2055274 Matrix: Water
Associated Lab Samples: 60355153001, 60355153002, 60355153003, 60355153004, 60355153005, 60355153006, 60355153007, 60355153008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.160 ± 0.277 (0.700) C:NA T:81%	pCi/L	12/16/20 12:10	

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 - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

QC Batch: 425308
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: 60355153001, 60355153002, 60355153003, 60355153004, 60355153005, 60355153006, 60355153007, 60355153008

METHOD BLANK: 2055277 Matrix: Water
Associated Lab Samples: 60355153001, 60355153002, 60355153003, 60355153004, 60355153005, 60355153006, 60355153007, 60355153008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0922 ± 0.421 (0.934) C:60% T:74%	pCi/L	12/15/20 15:29	

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: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60355153

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60355153001	**LEC MW-G 111820**	EPA 903.1	425307		
60355153002	**LEC MW-D 111820**	EPA 903.1	425307		
60355153003	**LEC MW-C 111820**	EPA 903.1	425307		
60355153004	**LEC MW-M 111920**	EPA 903.1	425307		
60355153005	**LEC MW-P 111920**	EPA 903.1	425307		
60355153006	**LEC MW-N 111920**	EPA 903.1	425307		
60355153007	**LEC MW-O 111920**	EPA 903.1	425307		
60355153008	**LEC Duplicate 111920**	EPA 903.1	425307		
60355153001	**LEC MW-G 111820**	EPA 904.0	425308		
60355153002	**LEC MW-D 111820**	EPA 904.0	425308		
60355153003	**LEC MW-C 111820**	EPA 904.0	425308		
60355153004	**LEC MW-M 111920**	EPA 904.0	425308		
60355153005	**LEC MW-P 111920**	EPA 904.0	425308		
60355153006	**LEC MW-N 111920**	EPA 904.0	425308		
60355153007	**LEC MW-O 111920**	EPA 904.0	425308		
60355153008	**LEC Duplicate 111920**	EPA 904.0	425308		
60355153001	**LEC MW-G 111820**	Total Radium Calculation	427496		
60355153002	**LEC MW-D 111820**	Total Radium Calculation	427496		
60355153003	**LEC MW-C 111820**	Total Radium Calculation	427496		
60355153004	**LEC MW-M 111920**	Total Radium Calculation	427496		
60355153005	**LEC MW-P 111920**	Total Radium Calculation	427496		
60355153006	**LEC MW-N 111920**	Total Radium Calculation	427496		
60355153007	**LEC MW-O 111920**	Total Radium Calculation	427496		
60355153008	**LEC Duplicate 111920**	Total Radium Calculation	427496		

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Samantha Kaney
Purchase Order No.:	10LEC-0000018165
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226 N	Radium-228 N	Total Radium N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	LEC MW-G 111820	WT	G	-	-	11/18/20	11:15		2			2						X	X	X		
2	LEC MW-D 111820	WT	G	-	-	11/18/20	14:00		2			2						X	X	X		
3	LEC MW-C 111820	WT	G	-	-	11/18/20	16:10		2			2						X	X	X		
4	LEC MW-M 111920	WT	G	-	-	11/19/20	8:55		2			2						X	X	X		
5	LEC MW-P 111920	WT	G	-	-	11/19/20	11:25		2			2						X	X	X		
6	LEC MW-N 111920	WT	G	-	-	11/19/20	13:20		2			2						X	X	X		
7	LEC MW-O 111920	WT	G	-	-	11/19/20	14:40		2			2						X	X	X		
8	LEC Duplicate 111920	WT	G	-	-	11/19/20	-		2			2						X	X	X		
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Whit Martin / SCS	11/19/20	1715	A HOCK	11/20/20	09:25	—	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Whit Martin

SIGNATURE of SAMPLER: Whit Martin

DATE Signed (MM/DD/YY): 11/19/20

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.

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Evergy Kansas Central Project #

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

Label

Tracking #: 9308 4766 9978

LIMS Login

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 10D0401 / Date and Initials of person examining contents: 11/23/20 WW 11/24/20 AF
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. PH<2
All containers meet method preservation requirements.	✓			Initial when completed AF / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: AF / Date: 11/23/20 AF ~~11/24/20~~ 11/23/20

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	MK1
Date:	12/9/2020
Batch ID:	57671
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2055274
MB concentration:	-0.160
M/B Counting Uncertainty:	0.277
MB MDC:	0.700
MB Numerical Performance Indicator:	-1.13
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS57671	LCSD57671
Count Date:	12/16/2020	
Spike I.D.:	20-032	
Spike Concentration (pCi/mL):	32.181	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.659	
Target Conc. (pCi/L, g, F):	4.885	
Uncertainty (Calculated):	0.230	
Result (pCi/L, g, F):	4.233	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.965	
Numerical Performance Indicator:	-1.29	
Percent Recovery:	86.65%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	11/16/2020	
Sample I.D.	35593782003	
Sample MS I.D.	35593782003MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.182	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.657	
MS Target Conc.(pCi/L, g, F):	9.802	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.461	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.087	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.209	
Sample Matrix Spike Result:	10.521	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.444	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	0.811	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	106.45%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	35593782005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	35593782005DUP	
Sample Result (pCi/L, g, F):	0.629	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.427	
Sample Duplicate Result (pCi/L, g, F):	0.157	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.308	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.755	35593782005
Duplicate RPD:	119.96%	35593782005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

***Batch must be re-prepped due to unacceptable precision.

12-16-20

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test: Ra-228
Analyst: VAL
Date: 12/10/2020
Worklist: 57672
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2055277
MB concentration:	0.092
M/B 2 Sigma CSU:	0.421
MB MDC:	0.934
MB Numerical Performance Indicator:	0.43
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS57672	LCSD57672
Count Date:	12/15/2020	
Spike I.D.:	20-030	
Decay Corrected Spike Concentration (pCi/mL):	37.256	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.822	
Target Conc. (pCi/L, g, F):	4.532	
Uncertainty (Calculated):	0.222	
Result (pCi/L, g, F):	5.974	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.552	
Numerical Performance Indicator:	1.80	
Percent Recovery:	131.82%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	11/19/2020	
Sample I.D.	35593843001	
Sample MS I.D.	35593843001MS	
Sample MSD I.D.		
Spike I.D.:	20-030	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	37.579	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.803	
MS Target Conc.(pCi/L, g, F):	9.354	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.458	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.408	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.403	
Sample Matrix Spike Result:	9.887	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.193	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	0.107	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	101.33%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	35593860001	Enter Duplicate
Duplicate Sample I.D.	35593860001DUP	sample IDs if
Sample Result (pCi/L, g, F):	0.304	other than
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.423	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	0.911	the space below.
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.525	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.764	35593860001
Duplicate RPD:	99.89%	35593860001DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

ATTACHMENT 2-2-2
February 2021 Sampling Event
Laboratory Analytical Report

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

February 11, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on February 02, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

Pace Analytical Services, LLC
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(913)599-5665

CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60360519001	**MW-B-020121**	Water	02/01/21 13:10	02/02/21 17:00
60360519002	**MW-101-020121**	Water	02/01/21 12:00	02/02/21 17:00
60360519003	**MW-102-020121**	Water	02/01/21 13:40	02/02/21 17:00
60360519004	**MW-103-020121**	Water	02/01/21 15:55	02/02/21 17:00
60360519005	**MW-104-020121**	Water	02/01/21 17:45	02/02/21 17:00
60360519006	**MW-106-020121**	Water	02/01/21 16:30	02/02/21 17:00
60360519007	**DUPLICATE-020121**	Water	02/01/21 13:10	02/02/21 17:00
60360519008	**EQUIPMENT RINSATE-020121**	Water	02/01/21 18:00	02/02/21 17:00
60360519009	**MW-B-020121**	Water	02/01/21 13:10	02/02/21 17:00
60360519010	**MW-101-020121**	Water	02/01/21 12:00	02/02/21 17:00
60360519011	**MW-102-020121**	Water	02/01/21 13:40	02/02/21 17:00
60360519012	**MW-103-020121**	Water	02/01/21 15:55	02/02/21 17:00
60360519013	**MW-104-020121**	Water	02/01/21 17:45	02/02/21 17:00
60360519014	**MW-106-020121**	Water	02/01/21 16:30	02/02/21 17:00
60360519015	**DUPLICATE-020121**	Water	02/01/21 13:10	02/02/21 17:00

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60360519001	MW-B-020121	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
60360519002	MW-101-020121	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
60360519003	MW-102-020121	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
60360519004	MW-103-020121	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
60360519005	MW-104-020121	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
60360519006	MW-106-020121	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
60360519007	DUPLICATE-020121	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
60360519008	EQUIPMENT RINSATE-020121	EPA 200.7	JLH	9	PASI-K
		EPA 6010	JLH	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	3	PASI-K
60360519009	MW-B-020121	SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	MJK	1	PASI-K
		EPA 9060	MJK	5	PASI-K
60360519010	MW-101-020121	SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	MJK	1	PASI-K
		EPA 9060	MJK	5	PASI-K
60360519011	MW-102-020121	SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	MJK	1	PASI-K
		EPA 9060	MJK	5	PASI-K
60360519012	MW-103-020121	SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	MJK	1	PASI-K
		EPA 9060	MJK	5	PASI-K
60360519013	MW-104-020121	SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	MJK	1	PASI-K
		EPA 9060	MJK	5	PASI-K
60360519014	MW-106-020121	SM 2320B	BLA	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	MJK	1	PASI-K
		EPA 9060	MJK	5	PASI-K
60360519015	**DUPLICATE-020121**	SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-H+B	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	MJK	1	PASI-K
		EPA 9060	MJK	5	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-B-020121 **Lab ID: 60360519001** Collected: 02/01/21 13:10 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.41**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 15:56	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	02/04/21 12:00	02/05/21 15:56	7440-42-8	
Calcium, Total Recoverable	**212**	mg/L	0.20	1	02/04/21 12:00	02/05/21 15:56	7440-70-2	M1
Iron, Total Recoverable	**0.10**	mg/L	0.050	1	02/04/21 12:00	02/05/21 15:56	7439-89-6	
Magnesium, Total Recoverable	**22.9**	mg/L	0.050	1	02/04/21 12:00	02/05/21 15:56	7439-95-4	
Manganese, Total Recoverable	**2.1**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 15:56	7439-96-5	M1
Potassium, Total Recoverable	**9.8**	mg/L	0.50	1	02/04/21 12:00	02/05/21 15:56	7440-09-7	
Sodium, Total Recoverable	**5.3**	mg/L	0.50	1	02/04/21 12:00	02/05/21 15:56	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**624**	mg/L	0.50	1	02/04/21 12:00	02/05/21 15:56		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:39	7440-38-2	
Iron, Dissolved	**<0.050**	mg/L	0.050	1	02/04/21 12:00	02/05/21 14:39	7439-89-6	
Manganese, Dissolved	**0.14**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 14:39	7439-96-5	
Molybdenum, Dissolved	**<0.020**	mg/L	0.020	1	02/04/21 12:00	02/05/21 14:39	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.016**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:04	7439-93-2	M1
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.021**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:42	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0058**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:13	7440-38-2	
Cobalt, Total Recoverable	**0.013**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:13	7440-48-4	
Molybdenum, Total Recoverable	**0.018**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:13	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-101-020121 **Lab ID: 60360519002** Collected: 02/01/21 12:00 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.23**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:03	7440-39-3	
Boron, Total Recoverable	**0.12**	mg/L	0.10	1	02/04/21 12:00	02/05/21 16:03	7440-42-8	
Calcium, Total Recoverable	**129**	mg/L	0.20	1	02/04/21 12:00	02/05/21 16:03	7440-70-2	
Iron, Total Recoverable	**5.2**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:03	7439-89-6	
Magnesium, Total Recoverable	**27.0**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:03	7439-95-4	
Manganese, Total Recoverable	**0.49**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:03	7439-96-5	
Potassium, Total Recoverable	**7.0**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:03	7440-09-7	
Sodium, Total Recoverable	**9.8**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:03	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**433**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:03		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:46	7440-38-2	
Iron, Dissolved	**4.6**	mg/L	0.050	1	02/04/21 12:00	02/05/21 14:46	7439-89-6	
Manganese, Dissolved	**0.51**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 14:46	7439-96-5	
Molybdenum, Dissolved	**0.022**	mg/L	0.020	1	02/04/21 12:00	02/05/21 14:46	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.025**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:11	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.021**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:44	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0044**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:15	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:15	7440-48-4	
Molybdenum, Total Recoverable	**0.021**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:15	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-102-020121 **Lab ID: 60360519003** Collected: 02/01/21 13:40 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.13**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:06	7440-39-3	
Boron, Total Recoverable	**0.61**	mg/L	0.10	1	02/04/21 12:00	02/05/21 16:06	7440-42-8	
Calcium, Total Recoverable	**108**	mg/L	0.20	1	02/04/21 12:00	02/05/21 16:06	7440-70-2	
Iron, Total Recoverable	**1.4**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:06	7439-89-6	
Magnesium, Total Recoverable	**39.4**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:06	7439-95-4	
Manganese, Total Recoverable	**0.45**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:06	7439-96-5	
Potassium, Total Recoverable	**9.4**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:06	7440-09-7	
Sodium, Total Recoverable	**15.4**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:06	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**432**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:06		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:56	7440-38-2	
Iron, Dissolved	**0.97**	mg/L	0.050	1	02/04/21 12:00	02/05/21 14:56	7439-89-6	
Manganese, Dissolved	**0.45**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 14:56	7439-96-5	
Molybdenum, Dissolved	**0.049**	mg/L	0.020	1	02/04/21 12:00	02/05/21 14:56	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.032**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:14	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.032**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:59	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.011**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:32	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:32	7440-48-4	
Molybdenum, Total Recoverable	**0.050**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:32	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-103-020121 **Lab ID: 60360519004** Collected: 02/01/21 15:55 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.067**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:09	7440-39-3	
Boron, Total Recoverable	**3.9**	mg/L	0.10	1	02/04/21 12:00	02/05/21 16:09	7440-42-8	
Calcium, Total Recoverable	**328**	mg/L	0.20	1	02/04/21 12:00	02/05/21 16:09	7440-70-2	
Iron, Total Recoverable	**4.4**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:09	7439-89-6	
Magnesium, Total Recoverable	**59.3**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:09	7439-95-4	
Manganese, Total Recoverable	**1.4**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:09	7439-96-5	
Potassium, Total Recoverable	**21.3**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:09	7440-09-7	
Sodium, Total Recoverable	**321**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:09	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**1060**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:09		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:59	7440-38-2	
Iron, Dissolved	**4.0**	mg/L	0.050	1	02/04/21 12:00	02/05/21 14:59	7439-89-6	
Manganese, Dissolved	**1.6**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 14:59	7439-96-5	D9
Molybdenum, Dissolved	**0.17**	mg/L	0.020	1	02/04/21 12:00	02/05/21 14:59	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.045**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:16	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.042**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:01	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0048**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:34	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:34	7440-48-4	
Molybdenum, Total Recoverable	**0.16**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:34	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-104-020121 **Lab ID: 60360519005** Collected: 02/01/21 17:45 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.064**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:12	7440-39-3	
Boron, Total Recoverable	**2.5**	mg/L	0.10	1	02/04/21 12:00	02/05/21 16:12	7440-42-8	
Calcium, Total Recoverable	**345**	mg/L	0.20	1	02/04/21 12:00	02/05/21 16:12	7440-70-2	
Iron, Total Recoverable	**6.9**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:12	7439-89-6	
Magnesium, Total Recoverable	**32.2**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:12	7439-95-4	
Manganese, Total Recoverable	**1.7**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:12	7439-96-5	
Potassium, Total Recoverable	**38.1**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:12	7440-09-7	
Sodium, Total Recoverable	**235**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:12	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**993**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:12		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 15:02	7440-38-2	
Iron, Dissolved	**5.4**	mg/L	0.050	1	02/04/21 12:00	02/05/21 15:02	7439-89-6	
Manganese, Dissolved	**1.7**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 15:02	7439-96-5	
Molybdenum, Dissolved	**0.069**	mg/L	0.020	1	02/04/21 12:00	02/05/21 15:02	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.054**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:26	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.050**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:04	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0041**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:37	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:37	7440-48-4	
Molybdenum, Total Recoverable	**0.068**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:37	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-106-020121 **Lab ID: 60360519006** Collected: 02/01/21 16:30 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.21**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:14	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	02/04/21 12:00	02/05/21 16:14	7440-42-8	
Calcium, Total Recoverable	**51.6**	mg/L	0.20	1	02/04/21 12:00	02/05/21 16:14	7440-70-2	
Iron, Total Recoverable	**0.57**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:14	7439-89-6	
Magnesium, Total Recoverable	**8.1**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:14	7439-95-4	
Manganese, Total Recoverable	**0.33**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:14	7439-96-5	
Potassium, Total Recoverable	**2.9**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:14	7440-09-7	
Sodium, Total Recoverable	**50.7**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:14	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**162**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:14		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 15:04	7440-38-2	
Iron, Dissolved	**<0.050**	mg/L	0.050	1	02/04/21 12:00	02/05/21 15:04	7439-89-6	
Manganese, Dissolved	**0.32**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 15:04	7439-96-5	
Molybdenum, Dissolved	**<0.020**	mg/L	0.020	1	02/04/21 12:00	02/05/21 15:04	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:29	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:07	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:39	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:39	7440-48-4	
Molybdenum, Total Recoverable	**0.0054**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:39	7439-98-7	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: DUPLICATE-020121 **Lab ID: 60360519007** Collected: 02/01/21 13:10 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.37**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:17	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	02/04/21 12:00	02/05/21 16:17	7440-42-8	
Calcium, Total Recoverable	**194**	mg/L	0.20	1	02/04/21 12:00	02/05/21 16:17	7440-70-2	
Iron, Total Recoverable	**<0.050**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:17	7439-89-6	
Magnesium, Total Recoverable	**21.3**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:17	7439-95-4	
Manganese, Total Recoverable	**1.9**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:17	7439-96-5	
Potassium, Total Recoverable	**9.2**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:17	7440-09-7	
Sodium, Total Recoverable	**5.2**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:17	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**573**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:17		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 15:07	7440-38-2	
Iron, Dissolved	**<0.050**	mg/L	0.050	1	02/04/21 12:00	02/05/21 15:07	7439-89-6	
Manganese, Dissolved	**0.14**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 15:07	7439-96-5	
Molybdenum, Dissolved	**<0.020**	mg/L	0.020	1	02/04/21 12:00	02/05/21 15:07	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.020**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:32	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.017**	mg/L	0.010	1	02/04/21 12:00	02/05/21 14:09	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0052**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:41	7440-38-2	
Cobalt, Total Recoverable	**0.0074**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:41	7440-48-4	
Molybdenum, Total Recoverable	**0.015**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:41	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: EQUIPMENT RINSATE-020121 **Lab ID: 60360519008** Collected: 02/01/21 18:00 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:20	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	02/04/21 12:00	02/05/21 16:20	7440-42-8	
Calcium, Total Recoverable	**<0.20**	mg/L	0.20	1	02/04/21 12:00	02/05/21 16:20	7440-70-2	
Iron, Total Recoverable	**<0.050**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:20	7439-89-6	
Magnesium, Total Recoverable	**<0.050**	mg/L	0.050	1	02/04/21 12:00	02/05/21 16:20	7439-95-4	
Manganese, Total Recoverable	**<0.0050**	mg/L	0.0050	1	02/04/21 12:00	02/05/21 16:20	7439-96-5	
Potassium, Total Recoverable	**<0.50**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:20	7440-09-7	
Sodium, Total Recoverable	**<0.50**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:20	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**<0.50**	mg/L	0.50	1	02/04/21 12:00	02/05/21 16:20		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	02/04/21 12:00	02/05/21 13:34	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:44	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:44	7440-48-4	
Molybdenum, Total Recoverable	**<0.0010**	mg/L	0.0010	1	02/04/21 12:26	02/05/21 11:44	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-B-020121 **Lab ID: 60360519009** Collected: 02/01/21 13:10 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**463**	mg/L	20.0	1		02/05/21 13:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		02/05/21 13:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**711**	mg/L	10.0	1		02/04/21 18:38		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/08/21 09:24		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		02/08/21 08:43		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**21.5**	mg/L	2.0	2		02/11/21 10:02	16887-00-6	M1
Fluoride	**0.59**	mg/L	0.20	1		02/05/21 14:14	16984-48-8	
Sulfate	**83.5**	mg/L	10.0	10		02/05/21 14:57	14808-79-8	M1,R1
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.7**	mg/L	1.0	1		02/09/21 20:24		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.6**	mg/L	1.0	1		02/10/21 11:32	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 11:32	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 11:32	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 11:32	7440-44-0	
Mean Total Organic Carbon	**1.7**	mg/L	1.0	1		02/10/21 11:32	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-101-020121 **Lab ID: 60360519010** Collected: 02/01/21 12:00 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**387**	mg/L	20.0	1		02/08/21 12:46		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		02/08/21 12:46		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**544**	mg/L	10.0	1		02/04/21 18:39		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.43**	mg/L	0.20	1		02/08/21 09:24		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		02/08/21 08:40		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**30.3**	mg/L	2.0	2		02/11/21 11:18	16887-00-6	
Fluoride	**0.79**	mg/L	0.20	1		02/05/21 15:41	16984-48-8	
Sulfate	**54.6**	mg/L	10.0	10		02/05/21 15:55	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.5**	mg/L	1.0	1		02/09/21 20:38		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.6**	mg/L	1.0	1		02/10/21 13:29	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 13:29	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 13:29	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 13:29	7440-44-0	
Mean Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 13:29	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-102-020121 **Lab ID: 60360519011** Collected: 02/01/21 13:40 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**398**	mg/L	20.0	1		02/08/21 12:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		02/08/21 12:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**532**	mg/L	10.0	1		02/04/21 18:39		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/08/21 09:24		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		02/08/21 08:46		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**8.8**	mg/L	1.0	1		02/05/21 16:38	16887-00-6	
Fluoride	**2.1**	mg/L	0.20	1		02/05/21 16:38	16984-48-8	
Sulfate	**57.0**	mg/L	10.0	10		02/05/21 16:53	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.3**	mg/L	1.0	1		02/09/21 20:51		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.4**	mg/L	1.0	1		02/10/21 14:28	7440-44-0	
Total Organic Carbon	**1.5**	mg/L	1.0	1		02/10/21 14:28	7440-44-0	
Total Organic Carbon	**1.6**	mg/L	1.0	1		02/10/21 14:28	7440-44-0	
Total Organic Carbon	**1.5**	mg/L	1.0	1		02/10/21 14:28	7440-44-0	
Mean Total Organic Carbon	**1.5**	mg/L	1.0	1		02/10/21 14:28	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-103-020121 **Lab ID: 60360519012** Collected: 02/01/21 15:55 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**249**	mg/L	20.0	1		02/08/21 13:03		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		02/08/21 13:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3050**	mg/L	66.7	1		02/04/21 18:39		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.39**	mg/L	0.20	1		02/08/21 09:25		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		02/08/21 08:48		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**346**	mg/L	50.0	50		02/11/21 11:32	16887-00-6	
Fluoride	**1.3**	mg/L	0.20	1		02/05/21 17:07	16984-48-8	
Sulfate	**1190**	mg/L	100	100		02/11/21 14:56	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**4.7**	mg/L	1.0	1		02/09/21 21:18		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**4.1**	mg/L	1.0	1		02/10/21 14:58	7440-44-0	
Total Organic Carbon	**5.4**	mg/L	1.0	1		02/10/21 14:58	7440-44-0	
Total Organic Carbon	**5.6**	mg/L	1.0	1		02/10/21 14:58	7440-44-0	
Total Organic Carbon	**5.9**	mg/L	1.0	1		02/10/21 14:58	7440-44-0	
Mean Total Organic Carbon	**5.2**	mg/L	1.0	1		02/10/21 14:58	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-104-020121 **Lab ID: 60360519013** Collected: 02/01/21 17:45 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**378**	mg/L	20.0	1		02/08/21 13:09		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		02/08/21 13:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**2230**	mg/L	40.0	1		02/04/21 18:39		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.47**	mg/L	0.20	1		02/08/21 09:25		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		02/08/21 08:51		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**185**	mg/L	10.0	10		02/05/21 17:51	16887-00-6	
Fluoride	**0.36**	mg/L	0.20	1		02/05/21 17:36	16984-48-8	
Sulfate	**557**	mg/L	200	200		02/11/21 11:46	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.5**	mg/L	1.0	1		02/09/21 21:31		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.3**	mg/L	1.0	1		02/10/21 15:55	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 15:55	7440-44-0	
Total Organic Carbon	**1.9**	mg/L	1.0	1		02/10/21 15:55	7440-44-0	
Total Organic Carbon	**1.9**	mg/L	1.0	1		02/10/21 15:55	7440-44-0	
Mean Total Organic Carbon	**1.7**	mg/L	1.0	1		02/10/21 15:55	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: MW-106-020121 **Lab ID: 60360519014** Collected: 02/01/21 16:30 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**233**	mg/L	20.0	1		02/08/21 13:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		02/08/21 13:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**334**	mg/L	5.0	1		02/04/21 18:39		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/08/21 09:25		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		02/08/21 08:50		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**14.5**	mg/L	1.0	1		02/05/21 18:05	16887-00-6	
Fluoride	**0.23**	mg/L	0.20	1		02/05/21 18:05	16984-48-8	
Sulfate	**24.3**	mg/L	2.0	2		02/11/21 12:01	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**<1.0**	mg/L	1.0	1		02/09/21 22:11		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**<1.0**	mg/L	1.0	1		02/10/21 16:24	7440-44-0	
Total Organic Carbon	**<1.0**	mg/L	1.0	1		02/10/21 16:24	7440-44-0	
Total Organic Carbon	**<1.0**	mg/L	1.0	1		02/10/21 16:24	7440-44-0	
Total Organic Carbon	**<1.0**	mg/L	1.0	1		02/10/21 16:24	7440-44-0	
Mean Total Organic Carbon	**<1.0**	mg/L	1.0	1		02/10/21 16:24	7440-44-0	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Sample: DUPLICATE-020121 **Lab ID: 60360519015** Collected: 02/01/21 13:10 Received: 02/02/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**456**	mg/L	20.0	1		02/08/21 13:21		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		02/08/21 13:21		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**693**	mg/L	10.0	1		02/04/21 18:39		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/08/21 09:24		H6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		02/08/21 08:44		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**20.7**	mg/L	2.0	2		02/11/21 12:44	16887-00-6	
Fluoride	**0.60**	mg/L	0.20	1		02/05/21 18:34	16984-48-8	
Sulfate	**86.0**	mg/L	10.0	10		02/05/21 18:48	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.6**	mg/L	1.0	1		02/09/21 22:24		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.7**	mg/L	1.0	1		02/10/21 16:54	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 16:54	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 16:54	7440-44-0	
Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 16:54	7440-44-0	
Mean Total Organic Carbon	**1.8**	mg/L	1.0	1		02/10/21 16:54	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702683
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: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007, 60360519008

METHOD BLANK: 2832468 Matrix: Water
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007, 60360519008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	02/05/21 15:39	
Boron	mg/L	<0.10	0.10	02/05/21 15:39	
Calcium	mg/L	<0.20	0.20	02/05/21 15:39	
Hardness, Total(SM 2340B)	mg/L	<0.50	0.50	02/05/21 15:39	
Iron	mg/L	<0.050	0.050	02/05/21 15:39	
Magnesium	mg/L	<0.050	0.050	02/05/21 15:39	
Manganese	mg/L	<0.0050	0.0050	02/05/21 15:39	
Potassium	mg/L	<0.50	0.50	02/05/21 15:39	
Sodium	mg/L	<0.50	0.50	02/05/21 15:39	

LABORATORY CONTROL SAMPLE: 2832469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.98	98	85-115	
Boron	mg/L	1	0.93	93	85-115	
Calcium	mg/L	10	9.9	99	85-115	
Hardness, Total(SM 2340B)	mg/L	66.2	65.1	98	85-115	
Iron	mg/L	10	10.2	102	85-115	
Magnesium	mg/L	10	9.8	98	85-115	
Manganese	mg/L	1	0.94	94	85-115	
Potassium	mg/L	10	9.8	98	85-115	
Sodium	mg/L	10	10	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832470 2832471

Parameter	Units	60360519001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.41	1	1	1.4	1.4	99	96	70-130	2	20	
Boron	mg/L	<0.10	1	1	1.1	1.0	99	97	70-130	2	20	
Calcium	mg/L	212	10	10	215	210	28	-15	70-130	2	20	M1
Hardness, Total(SM 2340B)	mg/L	624	66.2	66.2	666	652	64	43	70-130	2	20	
Iron	mg/L	0.10	10	10	10.3	10	102	99	70-130	3	20	
Magnesium	mg/L	22.9	10	10	31.5	30.7	86	78	70-130	3	20	
Manganese	mg/L	2.1	1	1	3.0	2.7	92	59	70-130	11	20	M1
Potassium	mg/L	9.8	10	10	19.7	19.4	99	95	70-130	2	20	
Sodium	mg/L	5.3	10	10	15.4	15.0	101	97	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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702684
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007

METHOD BLANK: 2832472 Matrix: Water
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.010	0.010	02/05/21 14:34	
Iron, Dissolved	mg/L	<0.050	0.050	02/05/21 14:34	
Manganese, Dissolved	mg/L	<0.0050	0.0050	02/05/21 14:34	
Molybdenum, Dissolved	mg/L	<0.020	0.020	02/05/21 14:34	

LABORATORY CONTROL SAMPLE: 2832473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	1	0.93	93	85-115	
Iron, Dissolved	mg/L	10	10.0	100	85-115	
Manganese, Dissolved	mg/L	1	0.98	98	85-115	
Molybdenum, Dissolved	mg/L	1	1.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832474 2832475

Parameter	Units	60360519001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	<0.010	1	1	0.95	0.96	95	95	70-130	0	20	
Iron, Dissolved	mg/L	<0.050	10	10	10	9.9	100	99	70-130	0	20	
Manganese, Dissolved	mg/L	0.14	1	1	1.1	1.1	95	94	70-130	1	20	
Molybdenum, Dissolved	mg/L	<0.020	1	1	1.0	1.0	99	99	70-130	0	20	

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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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702685 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: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007, 60360519008

METHOD BLANK: 2832479 Matrix: Water
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007, 60360519008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	02/05/21 11:06	
Cobalt	mg/L	<0.0010	0.0010	02/05/21 11:06	
Molybdenum	mg/L	<0.0010	0.0010	02/05/21 11:06	

LABORATORY CONTROL SAMPLE: 2832480

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.038	94	85-115	
Cobalt	mg/L	0.04	0.038	96	85-115	
Molybdenum	mg/L	0.04	0.039	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832481 2832482

Parameter	Units	60360519002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0044	0.04	0.04	0.041	0.043	91	96	70-130	5	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.036	0.038	88	93	70-130	5	20	
Molybdenum	mg/L	0.021	0.04	0.04	0.058	0.061	93	99	70-130	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702688
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007, 60360519008

METHOD BLANK: 2832501 Matrix: Water
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007, 60360519008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	02/05/21 12:59	

LABORATORY CONTROL SAMPLE: 2832502

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.97	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832503 2832504

Parameter	Units	60360519001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.016	1	1	0.018	0.019	0	0	75-125	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702690 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007

METHOD BLANK: 2832507 Matrix: Water
Associated Lab Samples: 60360519001, 60360519002, 60360519003, 60360519004, 60360519005, 60360519006, 60360519007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	mg/L	<0.010	0.010	02/05/21 13:37	

LABORATORY CONTROL SAMPLE: 2832508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	mg/L	1	0.98	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2832509 2832510

Parameter	Units	60360519002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	mg/L	0.021	1	1	1.0	1.0	98	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702931
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519009

METHOD BLANK: 2833521 Matrix: Water
Associated Lab Samples: 60360519009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	02/05/21 12:59	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	02/05/21 12:59	

SAMPLE DUPLICATE: 2833523

Parameter	Units	60360221016 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	662	669	1	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2833524

Parameter	Units	60360257003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	163	178	9	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 703243 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

METHOD BLANK: 2834845 Matrix: Water
Associated Lab Samples: 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	02/08/21 12:34	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	02/08/21 12:34	

SAMPLE DUPLICATE: 2834847

Parameter	Units	60360519010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	387	400	3	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2834848

Parameter	Units	60360473004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	ND		10	
Alkalinity,Carbonate (CaCO3)	mg/L	149	159	6	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702751 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

METHOD BLANK: 2832828 Matrix: Water
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	02/04/21 18:38	

LABORATORY CONTROL SAMPLE: 2832829

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

SAMPLE DUPLICATE: 2832830

Parameter	Units	60360320001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3590	3850	7	10	

SAMPLE DUPLICATE: 2832831

Parameter	Units	60360542001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	15100	16100	6	10	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 703138
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: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

METHOD BLANK: 2834606 Matrix: Water
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.20	0.20	02/08/21 09:23	H6

LABORATORY CONTROL SAMPLE: 2834607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	103	90-110	H6

SAMPLE DUPLICATE: 2834608

Parameter	Units	60360519010 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.43	0.43	1	20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 703137
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

SAMPLE DUPLICATE: 2834605

Parameter	Units	60360519010 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	2	5	H6

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 702908
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: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

METHOD BLANK: 2833435 Matrix: Water
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	02/05/21 13:45	
Fluoride	mg/L	<0.20	0.20	02/05/21 13:45	
Sulfate	mg/L	<1.0	1.0	02/05/21 13:45	

METHOD BLANK: 2836920 Matrix: Water
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	02/11/21 08:57	
Fluoride	mg/L	<0.20	0.20	02/11/21 08:57	
Sulfate	mg/L	<1.0	1.0	02/11/21 08:57	

METHOD BLANK: 2836923 Matrix: Water
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	02/11/21 08:58	
Fluoride	mg/L	<0.20	0.20	02/11/21 08:58	
Sulfate	mg/L	<1.0	1.0	02/11/21 08:58	

LABORATORY CONTROL SAMPLE: 2833436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	102	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.0	99	90-110	

LABORATORY CONTROL SAMPLE: 2836921

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	103	90-110	
Fluoride	mg/L	2.5	2.6	105	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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

LABORATORY CONTROL SAMPLE: 2836924

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2833437 2833438

Parameter	Units	60360519009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.5	10	10	35.5	31.5	140	100	80-120	12	15	M1
Fluoride	mg/L	0.59	2.5	2.5	2.6	2.7	80	86	80-120	5	15	
Sulfate	mg/L	83.5	50	50	168	135	169	104	80-120	22	15	M1,R1

MATRIX SPIKE SAMPLE: 2833439

Parameter	Units	60360543001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	404	250	657	101	80-120	
Fluoride	mg/L	ND	125	95.1	75	80-120	M1
Sulfate	mg/L	187	250	422	94	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 703414 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

METHOD BLANK: 2835155 Matrix: Water
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	<1.0	1.0	02/09/21 19:57	

LABORATORY CONTROL SAMPLE: 2835156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.0	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2835459 2835460

Parameter	Units	10546626006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	2.8	5	5	7.5	7.6	92	95	80-120	2	25	

SAMPLE DUPLICATE: 2835158

Parameter	Units	60360519011 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	1.3	1.3	0	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

QC Batch: 703664
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

METHOD BLANK: 2835898 Matrix: Water
Associated Lab Samples: 60360519009, 60360519010, 60360519011, 60360519012, 60360519013, 60360519014, 60360519015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	<1.0	1.0	02/10/21 10:33	
Total Organic Carbon	mg/L	<1.0	1.0	02/10/21 10:33	
Total Organic Carbon	mg/L	<1.0	1.0	02/10/21 10:33	
Total Organic Carbon	mg/L	<1.0	1.0	02/10/21 10:33	
Total Organic Carbon	mg/L	<1.0	1.0	02/10/21 10:33	

LABORATORY CONTROL SAMPLE: 2835899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	5	4.8	96	80-120	
Total Organic Carbon	mg/L	5	4.8	96	80-120	
Total Organic Carbon	mg/L	5	4.9	97	80-120	
Total Organic Carbon	mg/L	5	4.7	94	80-120	
Total Organic Carbon	mg/L	5	4.8	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2835900 2835901

Parameter	Units	60360519009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	1.7	5	5	6.5	6.2	96	89	80-120	6	25	
Total Organic Carbon	mg/L	1.8	5	5	6.6	6.2	96	88	80-120	6	25	
Total Organic Carbon	mg/L	1.8	5	5	6.7	6.2	98	89	80-120	6	25	
Total Organic Carbon	mg/L	1.6	5	5	6.3	6.0	95	89	80-120	5	25	
Total Organic Carbon	mg/L	1.8	5	5	6.6	6.2	97	88	80-120	7	25	

SAMPLE DUPLICATE: 2835902

Parameter	Units	60360519010 Result	Dup Result	RPD	Max RPD	Qualifiers
Mean Total Organic Carbon	mg/L	1.8	1.8	0	25	
Total Organic Carbon	mg/L	1.6	1.6	0	25	
Total Organic Carbon	mg/L	1.8	1.8	0	25	
Total Organic Carbon	mg/L	1.8	1.8	0	25	
Total Organic Carbon	mg/L	1.8	1.8	0	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

QUALIFIERS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

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.

ANALYTE QUALIFIERS

D9	Dissolved result is greater than the total. Data is within 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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60360519001	**MW-B-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519002	**MW-101-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519003	**MW-102-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519004	**MW-103-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519005	**MW-104-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519006	**MW-106-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519007	**DUPLICATE-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519008	**EQUIPMENT RINSATE-020121**	EPA 200.7	702683	EPA 200.7	702897
60360519001	**MW-B-020121**	EPA 200.7	702684	EPA 200.7	702898
60360519002	**MW-101-020121**	EPA 200.7	702684	EPA 200.7	702898
60360519003	**MW-102-020121**	EPA 200.7	702684	EPA 200.7	702898
60360519004	**MW-103-020121**	EPA 200.7	702684	EPA 200.7	702898
60360519005	**MW-104-020121**	EPA 200.7	702684	EPA 200.7	702898
60360519006	**MW-106-020121**	EPA 200.7	702684	EPA 200.7	702898
60360519007	**DUPLICATE-020121**	EPA 200.7	702684	EPA 200.7	702898
60360519001	**MW-B-020121**	EPA 3010	702688	EPA 6010	702894
60360519002	**MW-101-020121**	EPA 3010	702688	EPA 6010	702894
60360519003	**MW-102-020121**	EPA 3010	702688	EPA 6010	702894
60360519004	**MW-103-020121**	EPA 3010	702688	EPA 6010	702894
60360519005	**MW-104-020121**	EPA 3010	702688	EPA 6010	702894
60360519006	**MW-106-020121**	EPA 3010	702688	EPA 6010	702894
60360519007	**DUPLICATE-020121**	EPA 3010	702688	EPA 6010	702894
60360519008	**EQUIPMENT RINSATE-020121**	EPA 3010	702688	EPA 6010	702894
60360519001	**MW-B-020121**	EPA 3010	702690	EPA 6010	702895
60360519002	**MW-101-020121**	EPA 3010	702690	EPA 6010	702895
60360519003	**MW-102-020121**	EPA 3010	702690	EPA 6010	702895
60360519004	**MW-103-020121**	EPA 3010	702690	EPA 6010	702895
60360519005	**MW-104-020121**	EPA 3010	702690	EPA 6010	702895
60360519006	**MW-106-020121**	EPA 3010	702690	EPA 6010	702895
60360519007	**DUPLICATE-020121**	EPA 3010	702690	EPA 6010	702895
60360519001	**MW-B-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519002	**MW-101-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519003	**MW-102-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519004	**MW-103-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519005	**MW-104-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519006	**MW-106-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519007	**DUPLICATE-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519008	**EQUIPMENT RINSATE-020121**	EPA 200.8	702685	EPA 200.8	702907
60360519009	**MW-B-020121**	SM 2320B	702931		
60360519010	**MW-101-020121**	SM 2320B	703243		
60360519011	**MW-102-020121**	SM 2320B	703243		
60360519012	**MW-103-020121**	SM 2320B	703243		
60360519013	**MW-104-020121**	SM 2320B	703243		
60360519014	**MW-106-020121**	SM 2320B	703243		
60360519015	**DUPLICATE-020121**	SM 2320B	703243		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60360519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60360519009	**MW-B-020121**	SM 2540C	702751		
60360519010	**MW-101-020121**	SM 2540C	702751		
60360519011	**MW-102-020121**	SM 2540C	702751		
60360519012	**MW-103-020121**	SM 2540C	702751		
60360519013	**MW-104-020121**	SM 2540C	702751		
60360519014	**MW-106-020121**	SM 2540C	702751		
60360519015	**DUPLICATE-020121**	SM 2540C	702751		
60360519009	**MW-B-020121**	SM 3500-Fe B#4	703138		
60360519010	**MW-101-020121**	SM 3500-Fe B#4	703138		
60360519011	**MW-102-020121**	SM 3500-Fe B#4	703138		
60360519012	**MW-103-020121**	SM 3500-Fe B#4	703138		
60360519013	**MW-104-020121**	SM 3500-Fe B#4	703138		
60360519014	**MW-106-020121**	SM 3500-Fe B#4	703138		
60360519015	**DUPLICATE-020121**	SM 3500-Fe B#4	703138		
60360519009	**MW-B-020121**	SM 4500-H+B	703137		
60360519010	**MW-101-020121**	SM 4500-H+B	703137		
60360519011	**MW-102-020121**	SM 4500-H+B	703137		
60360519012	**MW-103-020121**	SM 4500-H+B	703137		
60360519013	**MW-104-020121**	SM 4500-H+B	703137		
60360519014	**MW-106-020121**	SM 4500-H+B	703137		
60360519015	**DUPLICATE-020121**	SM 4500-H+B	703137		
60360519009	**MW-B-020121**	EPA 300.0	702908		
60360519010	**MW-101-020121**	EPA 300.0	702908		
60360519011	**MW-102-020121**	EPA 300.0	702908		
60360519012	**MW-103-020121**	EPA 300.0	702908		
60360519013	**MW-104-020121**	EPA 300.0	702908		
60360519014	**MW-106-020121**	EPA 300.0	702908		
60360519015	**DUPLICATE-020121**	EPA 300.0	702908		
60360519009	**MW-B-020121**	SM 5310C	703414		
60360519010	**MW-101-020121**	SM 5310C	703414		
60360519011	**MW-102-020121**	SM 5310C	703414		
60360519012	**MW-103-020121**	SM 5310C	703414		
60360519013	**MW-104-020121**	SM 5310C	703414		
60360519014	**MW-106-020121**	SM 5310C	703414		
60360519015	**DUPLICATE-020121**	SM 5310C	703414		
60360519009	**MW-B-020121**	EPA 9060	703664		
60360519010	**MW-101-020121**	EPA 9060	703664		
60360519011	**MW-102-020121**	EPA 9060	703664		
60360519012	**MW-103-020121**	EPA 9060	703664		
60360519013	**MW-104-020121**	EPA 9060	703664		
60360519014	**MW-106-020121**	EPA 9060	703664		
60360519015	**DUPLICATE-020121**	EPA 9060	703664		

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Sample Condition Upon Receipt

WO# : 60360519

60360519

Client Name: Evergy Kansas Central Inc

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: T295 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 3.3 **Corr. Factor** +0.3 **Corrected** 3.6

Temperature should be above freezing to 6°C 0.7 0.9 1.0 1.2

Date and initials of person examining contents:

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	2 Day Rush for Metals
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# L03173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	**RUSH for Metals ONLY**

Section B
Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C
Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 5 (Waters)

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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
1	MW-B-020121	WT	G	-	-	02/01/21	13:10	-	7	3	2	2					
2	MW-101-020121	WT	G	-	-	02/01/21	12:00	-	7	3	2	2					
3	MW-102-020121	WT	G	-	-	02/01/21	13:40	-	7	3	2	2					
4	MW-103-020121	WT	G	-	-	02/01/21	15:55	-	7	3	2	2					
5	MW-104-020121	WT	G	-	-	02/01/21	17:45	-	7	3	2	2					
6	MW-106-020121	WT	G	-	-	02/01/21	16:30	-	7	3	2	2					
7	DUPLICATE-020121	WT	G	-	-	02/01/21	13:10	-	7	3	2	2					
8	Equipment Rinsate-020121	WT	G	-	-	02/01/21	18:00	-	1			1					
9																	
10																	
11																	
12																	

Requested Analysis Filtered (Y/N)

Y/N	N	Y	N	N	N	N	N	N	N	N	Y		
Analysis Test	200.7 Total Metals*	200.7 Diss. Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS, 4500H+ pH	Ferrous Iron	9060 TOC	5310C DOC	200.8 Total Metals***	6010 Total Metals****	6010 Diss. Metals (FF)*****	Residual Chlorine (Y/N)
1	x	x	x	x	x	x	x	x	x	x	x	x	
2	x	x	x	x	x	x	x	x	x	x	x	x	
3	x	x	x	x	x	x	x	x	x	x	x	x	
4	x	x	x	x	x	x	x	x	x	x	x	x	
5	x	x	x	x	x	x	x	x	x	x	x	x	
6	x	x	x	x	x	x	x	x	x	x	x	x	
7	x	x	x	x	x	x	x	x	x	x	x	x	
8	x									x	x		
9													
10													
11													
12													

60360519
Pace Project No./ Lab I.D.

2-DAY RUSH FOR METALS
All other analyses on Std TAT

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na, Total Hardness (8 metals & Hardness)	Jason R. Franks / SCS	2/2/21	9:00	[signature] Pace	2/2/21	1700
200.7 Diss. Metals**: As, Fe, Mn, Mo (4 metals, FIELD FILTERED)						
200.8 Total Metals***: As, Co, Mo (3 metals)						
6010 Total Metals****: Li (1 metal) / 6010 Diss. Metals*****: Li (1 metal, FIELD FILTERED)						

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: [signature] **DATE Signed (MM/DD/YY):** 2/1/21

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

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

February 25, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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

CERTIFICATIONS

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

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, LLC
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SAMPLE SUMMARY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60360861001	**MW-B-020121**	Water	02/01/21 13:10	02/04/21 10:30
60360861002	**MW-101-020121**	Water	02/01/21 12:00	02/04/21 10:30
60360861003	**MW-102-020121**	Water	02/01/21 13:40	02/04/21 10:30
60360861004	**MW-103-020121**	Water	02/01/21 15:55	02/04/21 10:30
60360861005	**MW-104-020121**	Water	02/01/21 17:45	02/04/21 10:30
60360861006	**MW-106-020121**	Water	02/01/21 16:30	02/04/21 10:30
60360861007	**DUPLICATE-020121**	Water	02/01/21 13:10	02/04/21 10:30

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SAMPLE ANALYTE COUNT

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60360861001	**MW-B-020121**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60360861002	**MW-101-020121**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60360861003	**MW-102-020121**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60360861004	**MW-103-020121**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60360861005	**MW-104-020121**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60360861006	**MW-106-020121**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60360861007	**DUPLICATE-020121**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Sample: MW-B-020121 **Lab ID: 60360861001** Collected: 02/01/21 13:10 Received: 02/04/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.551 ± 0.642 (0.993) C:NA T:89%**	pCi/L	02/22/21 14:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.90 ± 0.627 (0.864) C:73% T:85%**	pCi/L	02/22/21 14:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.45 ± 0.897 (0.993)**	pCi/L	02/23/21 14:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Sample: MW-101-020121 **Lab ID: 60360861002** Collected: 02/01/21 12:00 Received: 02/04/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.285 ± 0.553 (0.966) C:NA T:81%**	pCi/L	02/22/21 14:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.20 ± 0.651 (1.19) C:71% T:64%**	pCi/L	02/22/21 14:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.49 ± 0.854 (1.19)**	pCi/L	02/23/21 14:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Sample: MW-102-020121 **Lab ID: 60360861003** Collected: 02/01/21 13:40 Received: 02/04/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.399 ± 0.322 (0.180) C:NA T:94%**	pCi/L	02/22/21 14:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.610 ± 0.428 (0.832) C:73% T:85%**	pCi/L	02/22/21 14:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.01 ± 0.536 (0.832)**	pCi/L	02/23/21 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Sample: MW-103-020121 **Lab ID: 60360861004** Collected: 02/01/21 15:55 Received: 02/04/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.692 ± 0.606 (0.849) C:NA T:87%**	pCi/L	02/22/21 14:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.20 ± 0.509 (0.846) C:73% T:91%**	pCi/L	02/22/21 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.89 ± 0.791 (0.849)**	pCi/L	02/23/21 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Sample: MW-104-020121 **Lab ID: 60360861005** Collected: 02/01/21 17:45 Received: 02/04/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0831 ± 0.465 (0.893) C:NA T:98%**	pCi/L	02/22/21 14:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.02 ± 0.484 (0.837) C:72% T:87%**	pCi/L	02/22/21 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.10 ± 0.671 (0.893)**	pCi/L	02/23/21 14:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Sample: MW-106-020121 **Lab ID: 60360861006** Collected: 02/01/21 16:30 Received: 02/04/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.488 ± 0.649 (1.04) C:NA T:82%**	pCi/L	02/22/21 14:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.17 ± 0.551 (0.955) C:69% T:83%**	pCi/L	02/22/21 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.66 ± 0.851 (1.04)**	pCi/L	02/23/21 14:26	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Sample: DUPLICATE-020121 **Lab ID: 60360861007** Collected: 02/01/21 13:10 Received: 02/04/21 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.841 ± 0.507 (0.207) C:NA T:92%**	pCi/L	02/22/21 15:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**2.10 ± 0.688 (0.957) C:65% T:88%**	pCi/L	02/22/21 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.94 ± 0.855 (0.957)**	pCi/L	02/23/21 14:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

QC Batch: 435383 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: 60360861001, 60360861002, 60360861003, 60360861004, 60360861005, 60360861006, 60360861007

METHOD BLANK: 2101787 Matrix: Water
Associated Lab Samples: 60360861001, 60360861002, 60360861003, 60360861004, 60360861005, 60360861006, 60360861007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.160 ± 0.422 (0.753) C:NA T:91%	pCi/L	02/22/21 14:54	

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: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

QC Batch: 435384 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: 60360861001, 60360861002, 60360861003, 60360861004, 60360861005, 60360861006, 60360861007

METHOD BLANK: 2101789 Matrix: Water
Associated Lab Samples: 60360861001, 60360861002, 60360861003, 60360861004, 60360861005, 60360861006, 60360861007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.166 ± 0.298 (0.732) C:80% T:81%	pCi/L	02/22/21 14:52	

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: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60360861

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60360861001	**MW-B-020121**	EPA 903.1	435383		
60360861002	**MW-101-020121**	EPA 903.1	435383		
60360861003	**MW-102-020121**	EPA 903.1	435383		
60360861004	**MW-103-020121**	EPA 903.1	435383		
60360861005	**MW-104-020121**	EPA 903.1	435383		
60360861006	**MW-106-020121**	EPA 903.1	435383		
60360861007	**DUPLICATE-020121**	EPA 903.1	435383		
60360861001	**MW-B-020121**	EPA 904.0	435384		
60360861002	**MW-101-020121**	EPA 904.0	435384		
60360861003	**MW-102-020121**	EPA 904.0	435384		
60360861004	**MW-103-020121**	EPA 904.0	435384		
60360861005	**MW-104-020121**	EPA 904.0	435384		
60360861006	**MW-106-020121**	EPA 904.0	435384		
60360861007	**DUPLICATE-020121**	EPA 904.0	435384		
60360861001	**MW-B-020121**	Total Radium Calculation	436037		
60360861002	**MW-101-020121**	Total Radium Calculation	436037		
60360861003	**MW-102-020121**	Total Radium Calculation	436037		
60360861004	**MW-103-020121**	Total Radium Calculation	436037		
60360861005	**MW-104-020121**	Total Radium Calculation	436037		
60360861006	**MW-106-020121**	Total Radium Calculation	436037		
60360861007	**DUPLICATE-020121**	Total Radium Calculation	436037		

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeklin[illegible]
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Preservatives: NaOH	Preservatives: $Na_2S_2O_3$	Preservatives: Methanol	Preservatives: Other	Analysis Test Y/N	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N		
1	MW-B-020121	WT	G	-	-	02/01/21	13:10	-	2			2							X	X	X		
2	MW-101-020121	WT	G	-	-	02/01/21	12:00	-	2			2							X	X	X		
3	MW-102-020121	WT	G	-	-	02/01/21	13:40	-	2			2							X	X	X		
4	MW-103-020121	WT	G	-	-	02/01/21	15:55	-	2			2							X	X	X		
5	MW-104-020121	WT	G	-	-	02/01/21	17:45	-	2			2							X	X	X		
6	MW-106-020121	WT	G	-	-	02/01/21	16:30	-	2			2							X	X	X		
7	DUPLICATE-020121	WT	G	-	-	02/01/21	13:10	-	2			2							X	X	X		
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	2/2/21	9:00	Ci Flock	2/4/21	10:30	-	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/1/21

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.

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Evergy Kansas Project # _____

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

Label _____

LIMS Login

Tracking #: 913084770378 2

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 100110	Date and Initials of person examining contents: 2/5/21 AF
Chain of Custody Present:	✓			1.	
Chain of Custody Filled Out:	✓			2.	
Chain of Custody Relinquished:	✓			3.	
Sampler Name & Signature on COC:	✓			4.	
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.	
Samples Arrived within Hold Time:	✓			6.	
Short Hold Time Analysis (<72hr remaining):		✓		7.	
Rush Turn Around Time Requested:		✓		8.	
Sufficient Volume:	✓			9.	
Correct Containers Used:	✓			10.	
-Pace Containers Used:	✓				
Containers Intact:	✓			11.	
Orthophosphate field filtered			✓	12.	
Hex Cr Aqueous sample field filtered			✓	13.	
Organic Samples checked for dechlorination:			✓	14.	
Filtered volume received for Dissolved tests			✓	15.	
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2	
All containers meet method preservation requirements.	✓			Initial when completed AF	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):			✓	17.	
Trip Blank Present:		✓		18.	
Trip Blank Custody Seals Present			✓		
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed AF	Date 2/5/21

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical
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Test:	Ra-226
Analyst:	MK1
Date:	2/17/2021
Batch ID:	58870
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2101787
MB concentration:	0.160
M/B Counting Uncertainty:	0.422
MB MDC:	0.753
MB Numerical Performance Indicator:	0.75
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS58870	LCSD58870
Count Date:	2/22/2021	
Spike I.D.:	20-032	
Spike Concentration (pCi/mL):	32.178	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.655	
Target Conc. (pCi/L, g, F):	4.913	
Uncertainty (Calculated):	0.231	
Result (pCi/L, g, F):	4.619	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.031	
Numerical Performance Indicator:	-0.54	
Percent Recovery:	94.02%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	1/29/2021	
Sample I.D.	30405523001	
Sample MS I.D.	30405523001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.179	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.665	
MS Target Conc.(pCi/L, g, F):	9.671	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.455	
MSD Spike Uncertainty (calculated):		
Sample Result:	1.784	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.685	
Sample Matrix Spike Result:	11.874	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.704	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	0.434	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	104.33%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	30406211001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30406211001DUP	
Sample Result (pCi/L, g, F):	-0.018	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.270	
Sample Duplicate Result (pCi/L, g, F):	0.328	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.366	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.491	30406211001
Duplicate RPD:	222.75%	30406211001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

***Batch must be re-prepped due to unacceptable precision. 0112/23/21

SLC 2/22/2021

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Quality Control Sample Performance Assessment

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Test:	Ra-228
Analyst:	VAL
Date:	2/19/2021
Worklist:	58871
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2101789
MB concentration:	-0.166
M/B 2 Sigma CSU:	0.298
MB MDC:	0.732
MB Numerical Performance Indicator:	-1.09
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS58871	LCSD58871
Count Date:	2/22/2021	
Spike I.D.:	21-003	
Decay Corrected Spike Concentration (pCi/mL):	38.724	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.825	
Target Conc. (pCi/L, g, F):	4.694	
Uncertainty (Calculated):	0.230	
Result (pCi/L, g, F):	4.826	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.124	
Numerical Performance Indicator:	0.23	
Percent Recovery:	102.81%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	1/29/2021	
Sample I.D.	30405523001	
Sample MS I.D.	30405523001MS	
Sample MSD I.D.		
Spike I.D.:	21-003	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	39.033	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.824	
MS Target Conc.(pCi/L, g, F):	9.474	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.464	
MSD Spike Uncertainty (calculated):		
Sample Result:	2.199	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.675	
Sample Matrix Spike Result:	12.138	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.383	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	0.362	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	104.91%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	30404220001	Enter Duplicate
Duplicate Sample I.D.	30404220001DUP	sample IDs if
Sample Result (pCi/L, g, F):	-0.312	other than
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.301	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	0.064	the space below.
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.306	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.719	30404220001
Duplicate RPD:	-303.38%	30404220001DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

VAL 2/24/21

Pace Analytical Services, LLC
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(913)599-5665

March 11, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on February 18, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

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,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60361508001	**MW-38-021821**	Water	02/18/21 12:55	02/18/21 17:30
60361508002	**MW-39-021821**	Water	02/18/21 11:50	02/18/21 17:30
60361508003	**MW-N-021821**	Water	02/18/21 09:25	02/18/21 17:30
60361508004	**MW-101-021821**	Water	02/18/21 13:00	02/18/21 17:30
60361508005	**MW-102-021821**	Water	02/18/21 11:40	02/18/21 17:30
60361508006	**MW-103-021821**	Water	02/18/21 14:25	02/18/21 17:30
60361508007	**MW-104-021821**	Water	02/18/21 15:50	02/18/21 17:30
60361508008	**EQUIPMENT RINSATE-021821**	Water	02/18/21 16:30	02/18/21 17:30
60361508009	**DUP-021821**	Water	02/18/21 11:55	02/18/21 17:30
60361508010	**MW-38-021821**	Water	02/18/21 12:55	02/18/21 17:30
60361508011	**MW-39-021821**	Water	02/18/21 12:55	02/18/21 17:30
60361508012	**MW-D-021821**	Water	02/18/21 14:50	02/18/21 17:30
60361508013	**MW-K-021721**	Water	02/17/21 16:30	02/18/21 17:30
60361508014	**MW-N-021821**	Water	02/18/21 09:25	02/18/21 17:30
60361508015	**MW-P-021821**	Water	02/18/21 13:10	02/18/21 17:30
60361508016	**MW-101-021821**	Water	02/18/21 13:00	02/18/21 17:30
60361508017	**MW-102-021821**	Water	02/18/21 11:40	02/18/21 17:30
60361508018	**MW-103-021821**	Water	02/18/21 14:25	02/18/21 17:30
60361508019	**MW-104-021821**	Water	02/18/21 15:50	02/18/21 17:30
60361508020	**DUP-021821**	Water	02/18/21 11:55	02/18/21 17:30

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60361508001	**MW-38-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
		EPA 6010	HKC	1	PASI-K
60361508002	**MW-39-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
		EPA 6010	HKC	1	PASI-K
60361508003	**MW-N-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
60361508004	**MW-101-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
60361508005	**MW-102-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
		EPA 6010	HKC	1	PASI-K
60361508006	**MW-103-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
		EPA 6010	HKC	1	PASI-K
60361508007	**MW-104-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
		EPA 6010	HKC	1	PASI-K
60361508008	**EQUIPMENT RINSATE-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 6010	HKC	1	PASI-K
60361508009	**DUP-021821**	EPA 200.7	HKC	1	PASI-K
		EPA 200.7	HKC	1	PASI-K
		EPA 6010	HKC	1	PASI-K
60361508010	**MW-38-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-S-2 D	MAP	1	PASI-K
		TKN-NH3 Calculation	LDB	1	PASI-K
		EPA 350.1	AJS	2	PASI-K
		EPA 351.2	MJK	1	PASI-K
		EPA 353.2	MJK	3	PASI-K
		EPA 365.1	JDS	1	PASI-K
		EPA 365.4	CRN2	1	PASI-K
60361508011	**MW-39-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-Cl G	MAP	1	PASI-K
		SM 4500-S-2 D	MAP	1	PASI-K
		TKN-NH3 Calculation	LDB	1	PASI-K
		EPA 350.1	AJS	2	PASI-K

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 351.2	MJK	1	PASI-K
		EPA 353.2	MJK	3	PASI-K
		EPA 365.1	JDS	1	PASI-K
		EPA 365.4	CRN2	1	PASI-K
60361508012	**MW-D-021821**	SM 4500-S-2 D	MAP	1	PASI-K
60361508014	**MW-N-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-S-2 D	MAP	1	PASI-K
		TKN-NH3 Calculation	LDB	1	PASI-K
		EPA 350.1	AJS	2	PASI-K
		EPA 351.2	MJK	1	PASI-K
		EPA 353.2	MJK	3	PASI-K
		EPA 365.1	JDS	1	PASI-K
		EPA 365.4	CRN2	1	PASI-K
60361508016	**MW-101-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-S-2 D	MAP	1	PASI-K
		TKN-NH3 Calculation	LDB	1	PASI-K
		EPA 350.1	AJS	2	PASI-K
		EPA 351.2	MJK	1	PASI-K
		EPA 353.2	MJK	3	PASI-K
		EPA 365.1	JDS	1	PASI-K
		EPA 365.4	CRN2	1	PASI-K
60361508017	**MW-102-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-S-2 D	MAP	1	PASI-K
		TKN-NH3 Calculation	LDB	1	PASI-K
		EPA 350.1	AJS	2	PASI-K
		EPA 351.2	MJK	1	PASI-K
		EPA 353.2	MJK	3	PASI-K
		EPA 365.1	JDS	1	PASI-K
		EPA 365.4	CRN2	1	PASI-K
60361508018	**MW-103-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-Cl G	MAP	1	PASI-K
		SM 4500-S-2 D	MAP	1	PASI-K
		TKN-NH3 Calculation	LDB	1	PASI-K
		EPA 350.1	AJS	2	PASI-K
		EPA 351.2	MJK	1	PASI-K
		EPA 353.2	MJK	3	PASI-K
		EPA 365.1	JDS	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 365.4	CRN2	1	PASI-K
60361508019	**MW-104-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
60361508020	**DUP-021821**	SM 3500-Fe B#4	MAP	1	PASI-K
		SM 4500-Cl G	MAP	1	PASI-K
		SM 4500-S-2 D	MAP	1	PASI-K
		TKN-NH3 Calculation	LDB	1	PASI-K
		EPA 350.1	AJS	2	PASI-K
		EPA 351.2	MJK	1	PASI-K
		EPA 353.2	MJK	3	PASI-K
		EPA 365.1	JDS	1	PASI-K
		EPA 365.4	CRN2	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-38-021821 **Lab ID: 60361508001** Collected: 02/18/21 12:55 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**2.7**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:21	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**2.4**	mg/L	0.050	1	02/19/21 12:08	02/22/21 16:41	7439-89-6	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.068**	mg/L	0.010	1	02/19/21 12:08	02/22/21 18:12	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-39-021821 **Lab ID: 60361508002** Collected: 02/18/21 11:50 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**0.73**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:37	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.77**	mg/L	0.050	1	02/19/21 12:08	02/22/21 16:49	7439-89-6	D9
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.033**	mg/L	0.010	1	02/19/21 12:08	02/22/21 18:14	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-N-021821 **Lab ID: 60361508003** Collected: 02/18/21 09:25 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**41.1**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:40	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.16**	mg/L	0.050	1	02/19/21 12:08	02/22/21 16:52	7439-89-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-101-021821 **Lab ID: 60361508004** Collected: 02/18/21 13:00 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**4.3**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:42	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**4.0**	mg/L	0.050	1	02/19/21 12:08	02/22/21 16:55	7439-89-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-102-021821 **Lab ID: 60361508005** Collected: 02/18/21 11:40 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**0.23**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:45	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.15**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:05	7439-89-6	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.025**	mg/L	0.010	1	02/19/21 12:08	02/22/21 18:23	7439-93-2	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-103-021821 **Lab ID: 60361508006** Collected: 02/18/21 14:25 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**3.2**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:47	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**3.8**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:08	7439-89-6	D3
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.040**	mg/L	0.010	1	02/19/21 12:08	02/22/21 18:25	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-104-021821 **Lab ID: 60361508007** Collected: 02/18/21 15:50 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**0.87**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:50	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**1.2**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:10	7439-89-6	3e
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.034**	mg/L	0.010	1	02/19/21 12:08	02/22/21 18:28	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: EQUIPMENT RINSATE-021821 **Lab ID: 60361508008** Collected: 02/18/21 16:30 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**<0.050**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:53	7439-89-6	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	02/19/21 12:08	02/22/21 18:31	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: DUP-021821 **Lab ID: 60361508009** Collected: 02/18/21 11:55 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**0.73**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:56	7439-89-6	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.77**	mg/L	0.050	1	02/19/21 12:08	02/22/21 17:13	7439-89-6	D3
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.035**	mg/L	0.010	1	02/19/21 12:08	02/22/21 18:41	7439-93-2	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-38-021821 **Lab ID: 60361508010** Collected: 02/18/21 12:55 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.45**	mg/L	0.20	1		02/22/21 09:07		H6
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**<0.050**	mg/L	0.050	1		02/20/21 09:15	18496-25-8	
Total Organic Nitrogen Calc.	Analytical Method: TKN-NH3 Calculation Pace Analytical Services - Kansas City							
Total Organic Nitrogen	**<0.50**	mg/L	0.50	1		03/01/21 10:16		
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City							
Ammonium	**2.2**	mg/L	0.10	1		02/26/21 11:07		
Nitrogen, Ammonia	**1.7**	mg/L	0.10	1		02/26/21 11:07	7664-41-7	2e
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Kansas City							
Nitrogen, Kjeldahl, Total	**1.6**	mg/L	0.50	1	02/23/21 09:24	02/24/21 11:26	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		02/19/21 09:10		
Nitrogen, Nitrate	**<0.10**	mg/L	0.10	1		02/19/21 09:10	14797-55-8	
Nitrogen, Nitrite	**<0.10**	mg/L	0.10	1		02/19/21 09:10	14797-65-0	
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Kansas City							
Orthophosphate as P	**0.14**	mg/L	0.10	1		02/20/21 09:55		
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Kansas City							
Phosphorus	**0.23**	mg/L	0.10	1	02/23/21 14:30	02/24/21 10:01	7723-14-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-39-021821 **Lab ID: 60361508011** Collected: 02/18/21 12:55 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/22/21 09:07		H6
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G Pace Analytical Services - Kansas City							
Chlorine, Total Residual	**<0.050**	mg/L	0.050	1		02/22/21 10:27	7782-50-5	H6
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**0.066**	mg/L	0.050	1		02/20/21 09:15	18496-25-8	
Total Organic Nitrogen Calc.	Analytical Method: TKN-NH3 Calculation Pace Analytical Services - Kansas City							
Total Organic Nitrogen	**<0.50**	mg/L	0.50	1		03/01/21 10:16		
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City							
Ammonium	**4.5**	mg/L	0.10	1		02/26/21 11:10		
Nitrogen, Ammonia	**3.5**	mg/L	0.10	1		02/26/21 11:10	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Kansas City							
Nitrogen, Kjeldahl, Total	**3.5**	mg/L	0.50	1	02/23/21 09:24	02/24/21 11:27	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		02/19/21 09:11		
Nitrogen, Nitrate	**<0.10**	mg/L	0.10	1		02/19/21 09:11	14797-55-8	
Nitrogen, Nitrite	**<0.10**	mg/L	0.10	1		02/19/21 09:11	14797-65-0	
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Kansas City							
Orthophosphate as P	**0.12**	mg/L	0.10	1		02/20/21 09:57		4e
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Kansas City							
Phosphorus	**<0.10**	mg/L	0.10	1	02/23/21 14:30	02/24/21 10:03	7723-14-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-D-021821 **Lab ID: 60361508012** Collected: 02/18/21 14:50 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**0.063**	mg/L	0.050	1		02/20/21 09:15	18496-25-8	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-N-021821 **Lab ID: 60361508014** Collected: 02/18/21 09:25 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/22/21 09:04		H6
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**<0.050**	mg/L	0.050	1		02/20/21 09:17	18496-25-8	
Total Organic Nitrogen Calc.	Analytical Method: TKN-NH3 Calculation Pace Analytical Services - Kansas City							
Total Organic Nitrogen	**<0.50**	mg/L	0.50	1		03/01/21 10:16		
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City							
Ammonium	**1.4**	mg/L	0.10	1		02/26/21 11:13		
Nitrogen, Ammonia	**1.1**	mg/L	0.10	1		02/26/21 11:13	7664-41-7	1e
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Kansas City							
Nitrogen, Kjeldahl, Total	**1.0**	mg/L	0.50	1	02/23/21 09:24	02/24/21 11:28	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		02/19/21 09:07		
Nitrogen, Nitrate	**<0.10**	mg/L	0.10	1		02/19/21 09:07	14797-55-8	
Nitrogen, Nitrite	**<0.10**	mg/L	0.10	1		02/19/21 09:07	14797-65-0	
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Kansas City							
Orthophosphate as P	**0.68**	mg/L	0.10	1		02/20/21 09:50		H1
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Kansas City							
Phosphorus	**3.2**	mg/L	0.10	1	02/23/21 14:30	02/24/21 10:06	7723-14-0	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-101-021821 **Lab ID: 60361508016** Collected: 02/18/21 13:00 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.23**	mg/L	0.20	1		02/22/21 09:08		H6
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**<0.050**	mg/L	0.050	1		02/20/21 09:17	18496-25-8	
Total Organic Nitrogen Calc.	Analytical Method: TKN-NH3 Calculation Pace Analytical Services - Kansas City							
Total Organic Nitrogen	**<0.50**	mg/L	0.50	1		03/01/21 10:16		
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City							
Ammonium	**0.40**	mg/L	0.10	1		02/26/21 11:15		
Nitrogen, Ammonia	**0.31**	mg/L	0.10	1		02/26/21 11:15	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Kansas City							
Nitrogen, Kjeldahl, Total	**<0.50**	mg/L	0.50	1	02/23/21 09:24	02/24/21 11:29	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		02/19/21 09:13		
Nitrogen, Nitrate	**<0.10**	mg/L	0.10	1		02/19/21 09:13	14797-55-8	
Nitrogen, Nitrite	**<0.10**	mg/L	0.10	1		02/19/21 09:13	14797-65-0	
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Kansas City							
Orthophosphate as P	**0.10**	mg/L	0.10	1		02/20/21 09:58		
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Kansas City							
Phosphorus	**0.25**	mg/L	0.10	1	02/23/21 14:30	02/24/21 10:07	7723-14-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-102-021821 **Lab ID: 60361508017** Collected: 02/18/21 11:40 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/22/21 09:06		H6
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**<0.050**	mg/L	0.050	1		02/20/21 09:17	18496-25-8	
Total Organic Nitrogen Calc.	Analytical Method: TKN-NH3 Calculation Pace Analytical Services - Kansas City							
Total Organic Nitrogen	**<0.50**	mg/L	0.50	1		03/01/21 10:16		
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City							
Ammonium	**<0.10**	mg/L	0.10	1		02/26/21 11:16		
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		02/26/21 11:16	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Kansas City							
Nitrogen, Kjeldahl, Total	**<0.50**	mg/L	0.50	1	02/23/21 09:24	02/24/21 11:32	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		02/19/21 09:08		
Nitrogen, Nitrate	**<0.10**	mg/L	0.10	1		02/19/21 09:08	14797-55-8	
Nitrogen, Nitrite	**<0.10**	mg/L	0.10	1		02/19/21 09:08	14797-65-0	
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Kansas City							
Orthophosphate as P	**<0.10**	mg/L	0.10	1		02/20/21 09:52		
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Kansas City							
Phosphorus	**<0.10**	mg/L	0.10	1	02/23/21 14:30	02/24/21 10:08	7723-14-0	

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-103-021821 **Lab ID: 60361508018** Collected: 02/18/21 14:25 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.22**	mg/L	0.20	1		02/22/21 09:08		H6
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G Pace Analytical Services - Kansas City							
Chlorine, Total Residual	**<0.050**	mg/L	0.050	1		02/22/21 10:28	7782-50-5	H6
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**0.092**	mg/L	0.050	1		02/20/21 09:18	18496-25-8	
Total Organic Nitrogen Calc.	Analytical Method: TKN-NH3 Calculation Pace Analytical Services - Kansas City							
Total Organic Nitrogen	**<0.50**	mg/L	0.50	1		03/01/21 10:16		
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City							
Ammonium	**3.4**	mg/L	0.10	1		02/26/21 11:18		1e
Nitrogen, Ammonia	**2.6**	mg/L	0.10	1		02/26/21 11:18	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Kansas City							
Nitrogen, Kjeldahl, Total	**2.2**	mg/L	0.50	1	02/23/21 09:24	02/24/21 11:33	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		02/19/21 09:14		
Nitrogen, Nitrate	**<0.10**	mg/L	0.10	1		02/19/21 09:14	14797-55-8	
Nitrogen, Nitrite	**<0.10**	mg/L	0.10	1		02/19/21 09:14	14797-65-0	
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Kansas City							
Orthophosphate as P	**0.13**	mg/L	0.10	1		02/20/21 10:01		
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Kansas City							
Phosphorus	**0.18**	mg/L	0.10	1	02/23/21 14:30	02/24/21 10:09	7723-14-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: MW-104-021821 **Lab ID: 60361508019** Collected: 02/18/21 15:50 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.25**	mg/L	0.20	1		02/22/21 09:08		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Sample: DUP-021821 **Lab ID: 60361508020** Collected: 02/18/21 11:55 Received: 02/18/21 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		02/22/21 09:06		H6
4500CL G Chlorine, Residual	Analytical Method: SM 4500-Cl G Pace Analytical Services - Kansas City							
Chlorine, Total Residual	**<0.050**	mg/L	0.050	1		02/22/21 10:27	7782-50-5	H6
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City							
Sulfide, Total	**<0.050**	mg/L	0.050	1		02/20/21 09:18	18496-25-8	
Total Organic Nitrogen Calc.	Analytical Method: TKN-NH3 Calculation Pace Analytical Services - Kansas City							
Total Organic Nitrogen	**<0.50**	mg/L	0.50	1		03/01/21 10:16		
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City							
Ammonium	**4.5**	mg/L	0.10	1		02/26/21 11:23		
Nitrogen, Ammonia	**3.5**	mg/L	0.10	1		02/26/21 11:23	7664-41-7	1e
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Kansas City							
Nitrogen, Kjeldahl, Total	**3.2**	mg/L	0.50	1	02/23/21 09:24	02/24/21 11:35	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		02/19/21 09:09		
Nitrogen, Nitrate	**<0.10**	mg/L	0.10	1		02/19/21 09:09	14797-55-8	
Nitrogen, Nitrite	**<0.10**	mg/L	0.10	1		02/19/21 09:09	14797-65-0	
365.1 Orthophosphate as P	Analytical Method: EPA 365.1 Pace Analytical Services - Kansas City							
Orthophosphate as P	**0.14**	mg/L	0.10	1		02/20/21 09:54		4e
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4 Pace Analytical Services - Kansas City							
Phosphorus	**<0.10**	mg/L	0.10	1	02/23/21 14:30	02/24/21 10:10	7723-14-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 704987 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: 60361508001, 60361508002, 60361508003, 60361508004, 60361508005, 60361508006, 60361508007, 60361508008, 60361508009

METHOD BLANK: 2839647 Matrix: Water
Associated Lab Samples: 60361508001, 60361508002, 60361508003, 60361508004, 60361508005, 60361508006, 60361508007, 60361508008, 60361508009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	mg/L	<0.050	0.050	02/22/21 17:16	

LABORATORY CONTROL SAMPLE: 2839648

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	10	9.7	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2839649 2839650

Parameter	Units	60361508001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	mg/L	2.7	10	10	12.5	12.5	98	98	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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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 704985
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508001, 60361508002, 60361508003, 60361508004, 60361508005, 60361508006, 60361508007, 60361508009

METHOD BLANK: 2839640 Matrix: Water
Associated Lab Samples: 60361508001, 60361508002, 60361508003, 60361508004, 60361508005, 60361508006, 60361508007, 60361508009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	mg/L	<0.050	0.050	02/22/21 16:36	

LABORATORY CONTROL SAMPLE: 2839641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	10	9.9	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2839642 2839643

Parameter	Units	60361508001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	mg/L	2.4	10	10	12.1	12.6	98	102	70-130	3	20	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 704988 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508001, 60361508002, 60361508005, 60361508006, 60361508007, 60361508008, 60361508009

METHOD BLANK: 2839651 Matrix: Water
Associated Lab Samples: 60361508001, 60361508002, 60361508005, 60361508006, 60361508007, 60361508008, 60361508009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	02/22/21 17:58	

LABORATORY CONTROL SAMPLE: 2839652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.99	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2839653 2839654

Parameter	Units	60361508002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.033	1	1	1.0	1.0	100	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 705068 | 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: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508019, 60361508020

METHOD BLANK: 2839984 Matrix: Water
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508019, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.20	0.20	02/22/21 09:02	H6

LABORATORY CONTROL SAMPLE: 2839985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	103	90-110	H6

SAMPLE DUPLICATE: 2839986

Parameter	Units	60361508014 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.20	<0.20		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 705137
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CL G Chlorine, Total Residual
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508011, 60361508018, 60361508020

METHOD BLANK: 2840166 Matrix: Water
Associated Lab Samples: 60361508011, 60361508018, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	<0.050	0.050	02/22/21 10:26	H6

LABORATORY CONTROL SAMPLE: 2840167

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Total Residual	mg/L	1	0.97	97	80-120	H6

SAMPLE DUPLICATE: 2840168

Parameter	Units	60361469002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chlorine, Total Residual	mg/L	0.051	<0.050		10	H6

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 705038 — Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D — Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508010, 60361508011, 60361508012, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

METHOD BLANK: 2839847 — Matrix: Water
Associated Lab Samples: 60361508010, 60361508011, 60361508012, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.050	0.050	02/20/21 09:07	

LABORATORY CONTROL SAMPLE: 2839848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	101	80-120	

MATRIX SPIKE SAMPLE: 2839849

Parameter	Units	60361426001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.43	0.5	0.91	97	75-125	

SAMPLE DUPLICATE: 2839850

Parameter	Units	60361519002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.040J	<0.050		20	

SAMPLE DUPLICATE: 2839851

Parameter	Units	60361508016 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.050	<0.050		20	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 705810 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

METHOD BLANK: 2842632 Matrix: Water
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ammonium	mg/L	<0.10	0.10	02/26/21 11:03	
Nitrogen, Ammonia	mg/L	<0.10	0.10	02/26/21 11:03	

LABORATORY CONTROL SAMPLE: 2842633

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ammonium	mg/L		6.7			
Nitrogen, Ammonia	mg/L	5	5.2	104	90-110	

MATRIX SPIKE SAMPLE: 2842634

Parameter	Units	60361508010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ammonium	mg/L	2.2		9.0			
Nitrogen, Ammonia	mg/L	1.7	5	7.0	106	90-110	

MATRIX SPIKE SAMPLE: 2842636

Parameter	Units	60361564001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ammonium	mg/L	1.2		7.9			
Nitrogen, Ammonia	mg/L	0.97	5	6.1	103	90-110	

SAMPLE DUPLICATE: 2842635

Parameter	Units	60361508011 Result	Dup Result	RPD	Max RPD	Qualifiers
Ammonium	mg/L	4.5	4.5	0		
Nitrogen, Ammonia	mg/L	3.5	3.5	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 705271 Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

METHOD BLANK: 2840436 Matrix: Water
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	<0.50	0.50	02/24/21 11:06	

LABORATORY CONTROL SAMPLE: 2840437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	5	4.9	97	90-110	

MATRIX SPIKE SAMPLE: 2840438

Parameter	Units	60361318002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	39.4	10	52.0	126	90-110	E,M1

MATRIX SPIKE SAMPLE: 2840440

Parameter	Units	60361496002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	53.6	10	59.8	61	90-110	M1

SAMPLE DUPLICATE: 2840439

Parameter	Units	60361336004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	35.0	29.4	17	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 704920
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

METHOD BLANK: 2839405 Matrix: Water
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	<0.10	0.10	02/19/21 08:53	
Nitrogen, Nitrite	mg/L	<0.10	0.10	02/19/21 08:53	
Nitrogen, NO2 plus NO3	mg/L	<0.10	0.10	02/19/21 08:53	

LABORATORY CONTROL SAMPLE: 2839406

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.99	99	70-130	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	99	90-110	

MATRIX SPIKE SAMPLE: 2839407

Parameter	Units	60361420002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	23.1	5	25.0	39	70-130	
Nitrogen, Nitrite	mg/L	1.1	5	5.9	96	90-110	
Nitrogen, NO2 plus NO3	mg/L	24.1	10	30.9	68	90-110	E,M1

MATRIX SPIKE SAMPLE: 2839409

Parameter	Units	60361508014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	<0.10	1	1.0	102	70-130	
Nitrogen, Nitrite	mg/L	<0.10	1	1.0	96	90-110	
Nitrogen, NO2 plus NO3	mg/L	<0.10	2	2.1	102	90-110	

SAMPLE DUPLICATE: 2839408

Parameter	Units	60361444003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	10.6	10.4	2	20	
Nitrogen, Nitrite	mg/L	0.82	0.81	1	20	
Nitrogen, NO2 plus NO3	mg/L	11.4	11.2	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 705037 — Analysis Method: EPA 365.1
QC Batch Method: EPA 365.1 — Analysis Description: 365.1 Orthophosphate as P
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

METHOD BLANK: 2839843 — Matrix: Water
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	<0.10	0.10	02/20/21 09:48	

LABORATORY CONTROL SAMPLE: 2839844

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	2	1.9	96	90-110	

MATRIX SPIKE SAMPLE: 2839845

Parameter	Units	60361508014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.68	2	2.6	95	90-110	H1

SAMPLE DUPLICATE: 2839846

Parameter	Units	60361508017 Result	Dup Result	RPD	Max RPD	Qualifiers
Orthophosphate as P	mg/L	<0.10	<0.10		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

QC Batch: 705378 Analysis Method: EPA 365.4
QC Batch Method: EPA 365.4 Analysis Description: 365.4 Phosphorus
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

METHOD BLANK: 2840862 Matrix: Water
Associated Lab Samples: 60361508010, 60361508011, 60361508014, 60361508016, 60361508017, 60361508018, 60361508020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/L	<0.10	0.10	02/24/21 09:39	

LABORATORY CONTROL SAMPLE: 2840863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 2840864

Parameter	Units	60361498001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	82.1	2	86.8	232	90-110	M1

MATRIX SPIKE SAMPLE: 2840866

Parameter	Units	60361495004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	2.6	2	4.4	92	90-110	

SAMPLE DUPLICATE: 2840865

Parameter	Units	60361628001 Result	Dup Result	RPD	Max RPD	Qualifiers
Phosphorus	mg/L	8.7	8.7	1	10	

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QUALIFIERS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

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.

SAMPLE QUALIFIERS

Sample: 60361508014

[1]	Sample was analyzed outside the recognized method holding time for 365.1 Orthophosphate; client notified and approved.

ANALYTE QUALIFIERS

1e	AMMONIA result is greater than the TKN. Data is within laboratory control limits
2e	AMMONIA result is greater than the TKN. Data is within laboratory control limits.
3e	Dissolved result is greater than the total. Results confirmed by bottle check.
4e	ORTHO PHOS result is greater than the TOTAL PHOS. Data is within laboratory control limits
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60361508001	**MW-38-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508002	**MW-39-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508003	**MW-N-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508004	**MW-101-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508005	**MW-102-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508006	**MW-103-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508007	**MW-104-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508008	**EQUIPMENT RINSATE-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508009	**DUP-021821**	EPA 200.7	704987	EPA 200.7	705065
60361508001	**MW-38-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508002	**MW-39-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508003	**MW-N-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508004	**MW-101-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508005	**MW-102-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508006	**MW-103-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508007	**MW-104-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508009	**DUP-021821**	EPA 200.7	704985	EPA 200.7	705063
60361508001	**MW-38-021821**	EPA 3010	704988	EPA 6010	705066
60361508002	**MW-39-021821**	EPA 3010	704988	EPA 6010	705066
60361508005	**MW-102-021821**	EPA 3010	704988	EPA 6010	705066
60361508006	**MW-103-021821**	EPA 3010	704988	EPA 6010	705066
60361508007	**MW-104-021821**	EPA 3010	704988	EPA 6010	705066
60361508008	**EQUIPMENT RINSATE-021821**	EPA 3010	704988	EPA 6010	705066
60361508009	**DUP-021821**	EPA 3010	704988	EPA 6010	705066
60361508010	**MW-38-021821**	SM 3500-Fe B#4	705068		
60361508011	**MW-39-021821**	SM 3500-Fe B#4	705068		
60361508014	**MW-N-021821**	SM 3500-Fe B#4	705068		
60361508016	**MW-101-021821**	SM 3500-Fe B#4	705068		
60361508017	**MW-102-021821**	SM 3500-Fe B#4	705068		
60361508018	**MW-103-021821**	SM 3500-Fe B#4	705068		
60361508019	**MW-104-021821**	SM 3500-Fe B#4	705068		
60361508020	**DUP-021821**	SM 3500-Fe B#4	705068		
60361508011	**MW-39-021821**	SM 4500-Cl G	705137		
60361508018	**MW-103-021821**	SM 4500-Cl G	705137		
60361508020	**DUP-021821**	SM 4500-Cl G	705137		
60361508010	**MW-38-021821**	SM 4500-S-2 D	705038		
60361508011	**MW-39-021821**	SM 4500-S-2 D	705038		
60361508012	**MW-D-021821**	SM 4500-S-2 D	705038		
60361508014	**MW-N-021821**	SM 4500-S-2 D	705038		
60361508016	**MW-101-021821**	SM 4500-S-2 D	705038		
60361508017	**MW-102-021821**	SM 4500-S-2 D	705038		
60361508018	**MW-103-021821**	SM 4500-S-2 D	705038		
60361508020	**DUP-021821**	SM 4500-S-2 D	705038		
60361508010	**MW-38-021821**	TKN-NH3 Calculation	706103		
60361508011	**MW-39-021821**	TKN-NH3 Calculation	706103		
60361508014	**MW-N-021821**	TKN-NH3 Calculation	706103		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60361508

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60361508016	**MW-101-021821**	TKN-NH3 Calculation	706103		
60361508017	**MW-102-021821**	TKN-NH3 Calculation	706103		
60361508018	**MW-103-021821**	TKN-NH3 Calculation	706103		
60361508020	**DUP-021821**	TKN-NH3 Calculation	706103		
60361508010	**MW-38-021821**	EPA 350.1	705810		
60361508011	**MW-39-021821**	EPA 350.1	705810		
60361508014	**MW-N-021821**	EPA 350.1	705810		
60361508016	**MW-101-021821**	EPA 350.1	705810		
60361508017	**MW-102-021821**	EPA 350.1	705810		
60361508018	**MW-103-021821**	EPA 350.1	705810		
60361508020	**DUP-021821**	EPA 350.1	705810		
60361508010	**MW-38-021821**	EPA 351.2	705271	EPA 351.2	705621
60361508011	**MW-39-021821**	EPA 351.2	705271	EPA 351.2	705621
60361508014	**MW-N-021821**	EPA 351.2	705271	EPA 351.2	705621
60361508016	**MW-101-021821**	EPA 351.2	705271	EPA 351.2	705621
60361508017	**MW-102-021821**	EPA 351.2	705271	EPA 351.2	705621
60361508018	**MW-103-021821**	EPA 351.2	705271	EPA 351.2	705621
60361508020	**DUP-021821**	EPA 351.2	705271	EPA 351.2	705621
60361508010	**MW-38-021821**	EPA 353.2	704920		
60361508011	**MW-39-021821**	EPA 353.2	704920		
60361508014	**MW-N-021821**	EPA 353.2	704920		
60361508016	**MW-101-021821**	EPA 353.2	704920		
60361508017	**MW-102-021821**	EPA 353.2	704920		
60361508018	**MW-103-021821**	EPA 353.2	704920		
60361508020	**DUP-021821**	EPA 353.2	704920		
60361508010	**MW-38-021821**	EPA 365.1	705037		
60361508011	**MW-39-021821**	EPA 365.1	705037		
60361508014	**MW-N-021821**	EPA 365.1	705037		
60361508016	**MW-101-021821**	EPA 365.1	705037		
60361508017	**MW-102-021821**	EPA 365.1	705037		
60361508018	**MW-103-021821**	EPA 365.1	705037		
60361508020	**DUP-021821**	EPA 365.1	705037		
60361508010	**MW-38-021821**	EPA 365.4	705378	EPA 365.4	705566
60361508011	**MW-39-021821**	EPA 365.4	705378	EPA 365.4	705566
60361508014	**MW-N-021821**	EPA 365.4	705378	EPA 365.4	705566
60361508016	**MW-101-021821**	EPA 365.4	705378	EPA 365.4	705566
60361508017	**MW-102-021821**	EPA 365.4	705378	EPA 365.4	705566
60361508018	**MW-103-021821**	EPA 365.4	705378	EPA 365.4	705566
60361508020	**DUP-021821**	EPA 365.4	705378	EPA 365.4	705566

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Sample Condition Upon Receipt

WO# : 60361508

60361508

Client Name: Evergy KS Central

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

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

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

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

Thermometer Used: T-298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 2.3/3.2 **Corr. Factor** -0.2 **Corrected** 2.1/3.0

Temperature should be above freezing to 6°C 2.6 2.4

Date and initials of person examining contents: PV 2/18/21

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	Nitrate Nitrite Field
Rush Turn Around Time requested: PV 2/18/21	☑Yes ☐No ☐N/A	3 Day
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.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	RUSH 3-DAY for Metals

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 6 (Phase 2)

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

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	Total Residual Chlorine	TON, TKN, NH3, NH4	NO2/NO3 (unpres)*	TP, PO4	Speciated Arsenic**	Total Sulfide	200.7 Total Fe	200.7 Diss. Fe	Ferrous Iron	6010 Total Li			Residual Chlorine (Y/N)
																		Y/N	N	N	N	N	N	N	N	Y	N	N			
1	MW-38-021821 BP3U 2BP3S	WT	G	-	-		02/18/21	1255	-	BP3Z		BP2U				BP3F	ZPLC		x	x	x	x	x	x	x	x	x	BP1N		
2	4ABR MW-39-021821	WT	G	-	-		02/18/21	1150	-										x	x	x	x	x	x	x	x	x			
3	MW-D-021821	WT	G	-	-		02/18/21	1450	-														x	x						
4	MW-K-021721	WT	G	-	-		02/17/21	1630	-														x							
5	MW-N-021821	WT	G	-	-		02/18/21	0925	-											x	x	x	x	x	x	x	x			
6	MW-P-021821	WT	G	-	-		02/18/21	1310	-														x							
7	MW-101-021821	WT	G	-	-		02/18/21	100	-											x	x	x		x	x	x	x			
8	MW-102-021821	WT	G	-	-		02/18/21	1140	-											x	x	x	x	x	x	x	x			
9	MW-103-021821	WT	G	-	-		02/18/21	1425	-										x	x	x	x	x	x	x	x	x			
10	MW-104-021821	WT	G	-	-		02/18/21	1550	-																x	x	x	x		
11	EQUIPMENT RINSATE-021821	WT	G	-	-		02/18/21	1630	-																x			x		BP1U
12	DUP - 021821	WT	G	-	-		02/18/21	1155	-										x	x	x	x	x	x	x	x	x	x		

Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. 60361508

3-DAY RUSH for Metals ONLY
*48-HOUR HOLD TIME NO2/NO3

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*48-HOUR SHORT HOLD TIME for NO2/NO3	Jason R. Franks / SCS	2/18/21	1730	EBrackett/Pace	2/18/21	1730
**Subcontract to Brooks Applied Labs for Speciated Arsenic Dissolved - Arsenite (AsIII)/Arsenate (AsV)						

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.1	Y	N	Y
3.0			
2.4			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/18/21

*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 Container Order #776623

Addresses

Order By :		Ship To :		Return To:	
Company	Evergy Kansas Central, Inc.	Company	SCS Engineers	Company	Pace Analytical Kansas
Contact	Kaney, Samantha	Contact	Jason Franks	Contact	Amerin, Jasmine
Email	skaney@haleyaldrich.com	Email	JFranks@scsengineers.com	Email	jasmine.amerin@pacelabs.com
Address	400 E Van Buren St	Address	8575 W 110th St	Address	9608 Loiret Blvd.
Address 2	Suite 545	Address 2	#100	Address 2	
City	Phoenix	City	Overland Park	City	Lenexa
State	AZ Zip 85004	State	KS Zip 66210	State	KS Zip 66219
Phone	(815)742-1363	Phone	(913) 302-3238	Phone	(913)599-5665

Info

Project Name	LEC Perimeter Ash Pond Wells CCR (Phase 2)	**Due Date**	02/12/2021	**Profile**	9655	**Quote**	
Project Manager	Amerin, Jasmine	**Return Date**		**Carrier**	Pace Courier	**Location**	KS

Trip Blanks

- [ ] Include Trip Blanks

Bottle Labels

- [ ] Blank
- [ ] Pre-Printed No Sample IDs
- [X] Pre-Printed With Sample IDs

Bottles

- [ ] Boxed Cases
- [ ] Individually Wrapped
- [X] Grouped By Sample ID/Matrix

Return Shipping Labels

- [X] No Shipper
- [ ] With Shipper

COC Options

- [ ] Number of Blanks
- [X] Pre-Printed 1

Misc

- [ ] Sampling Instructions
- [X] Custody Seal
- [X] Temp. Blanks
- [X] Coolers
- [ ] Syringes
- [ ] Extra Bubble Wrap
- [ ] Short Hold/Rush Stickers
- [X] DI Water 1L Liter(s)
- [ ] USDA Regulated Soils

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
8	WT	Metals	1L plastic w/HNO3	8	0	010421-2EEY	1 extra for DUP
8	WT	Dissolved Metals; Field Filtered	250mL plastic HNO3	8	0	011821-2AFW	FIELD FILTERED, 1 extra for DUP
8	WT	Ferrous Iron	500mL plastic unpres	8	0	112320-2EGO	1 extra for DUP
1	OT	DI Water	1L plastic unpres full of DI WATER	1	0	011821-2EFB	DI water to be used as Equipment Blank for Metals
3	WT	Chlorine, Residual by SM 4500Cl-G	4oz AmberBstn Rnd NO HEADSPACE	3	0	040620-1CBB	1 extra for DUP
7	WT	TON, TKN, NH3, NH4	250mL plastic H2SO4	7	0	011121-4EJA	1 extra for DUP
7	WT	NO3 or NO2	250mL plastic unpres	7	0	092820-2EJC	48-HOUR SHORT HOLD TIME, 1 extra for DUP
7	WT	TP, PO4	250 ml plastic H2SO4	7	0	011121-4EJA	1 extra for DUP

Hazard Shipping Placard In Place : NO

Sample receiving hours are Mon-Fri 7:00am-6:00pm and Sat 8:00am-2:00pm unless special arrangements are made with your project manager.

Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

Payment term are net 30 days.

Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	02/11/2021
Prepared By:	Skylar
Verified By:	

Sample

Containers bagged by well/sample ID; PP COC (1), PP labels w/ sample IDs, DI WATER for Equipment Blank; Lenexa return; ; *FIELD FILTERED DISS. METALS in 250mL plastic HNO3-preserved containers; *Total Metals in 1L plastic HNO3-preserved containers

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

Pace Container Order #776623

Addresses

Order By :

Company Evergy Kansas Central, Inc.
Contact Kaney, Samantha
Email skaney@haleyaldrich.com
Address 400 E Van Buren St
Address 2 Suite 545
City Phoenix
State AZ Zip 85004
Phone (815)742-1363

Ship To :

Company SCS Engineers
Contact Jason Franks
Email JFranks@scsengineers.com
Address 8575 W 110th St
Address 2 #100
City Overland Park
State KS Zip 66210
Phone (913) 302-3238

Return To:

Company Pace Analytical Kansas
Contact Amerin, Jasmine
Email jasmine.amerin@pacelabs.com
Address 9608 Loiret Blvd,
Address 2
City Lenexa
State KS Zip 66219
Phone (913)599-5665

Info

Project Name LEC Perimeter Ash Pond Wells CCR (Phase 2)
Due Date 02/12/2021
Profile 9655
Quote
Project Manager Amerin, Jasmine
Return Date
Carrier Pace Courier
Location KS

Trip Blanks

[ ] Include Trip Blanks

Bottle Labels

[ ] Blank
[ ] Pre-Printed No Sample IDs
[X] Pre-Printed With Sample IDs

Bottles

[ ] Boxed Cases
[ ] Individually Wrapped
[X] Grouped By Sample ID/Matrix

Return Shipping Labels

[X] No Shipper
[ ] With Shipper

COC Options

[ ] Number of Blanks
[X] Pre-Printed 1

Misc

[ ] Sampling Instructions
[X] Custody Seal
[X] Temp. Blanks
[X] Coolers
[ ] Syringes
[ ] Extra Bubble Wrap
[ ] Short Hold/Rush Stickers
[X] DI Water 1L Liter(s)
[ ] USDA Regulated Soils

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
8	WT	Sulfide by SM4500-S2-D	250mL plastic NaOH and Zinc Acetate	8	0	100520-2EJI	1 extra for DUP
6	WT	Lithium Stable Isotopes	250mL plastic UNPRESERVED	6	0	092820-2EJC	Analysis by other lab. 1 extra for DUP

Hazard Shipping Placard In Place : NO

Sample receiving hours are Mon-Fri 7:00am-6:00pm and Sat 8:00am-2:00pm unless special arrangements are made with your project manager.
Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.
Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.
Payment term are net 30 days.
Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date : 02/11/2021
Prepared By: Skylar
Verified By:

Sample

Containers bagged by well/sample ID; PP COC (1), PP labels w/ sample IDs, DI WATER for Equipment Blank; Lenexa return; ; *FIELD FILTERED DISS. METALS in 250mL plastic HNO3-preserved containers; *Total Metals in 1L plastic HNO3-preserved containers

CLIENT USE (Optional):

Date Rec'd:
Received By:
Verified By:

3.7
Small

BROOKS APPLIED LABS

18804 North Creek Parkway
Suite 100
Bothell, WA 98011
www.brooksapplied.com

Phone: 206-632-6206
Fax: 206-632-6017
Email: info@brooksapplied.com

Sample Container Order Form and Packing Slip

Date to ship by: ~~2/14/2021~~ 2/12/21 ADN 2/11/21
Date to Arrive: 2/15/2021 2/15/21

Shipper: **FedEx**
Service to Use: **FedEx - Priority Overnight**

Service Changed? ☐ Yes, for ________

Paired with tubing order? no

Project ID:	**PAC-LX2101**	Date:	**2/11/2021**
Ship To (Company):	**SCS Engineers**	Phone:	(913) 302-3238
Contact Name:	**Jason Franks**	Fax:	
Shipping Address:	**8575 W 110th St #100**	Cell:	
	Overland Park, KS 66210	Email:	
		BAL PM:	**Amy Goodall**

Bill to: Customer (FedEx), Shipping Account Number: **#179793709**

Ship Using: ☑ Cooler ☐ Cardboard Box

Comments:

Quantity Needed	Pre-preserved?	Description	Cleaning Lot Number	Amount per Lot
8	**no**	**As Speciation (HPLC): 2 x 10mL Vacutainer** *DO NOT USE ACID-CLEANED BOTTLES! - For BAL use* *SC: For vacutainers (10mL Lavendar lid), also need to include per container:* *25mL syringes* ☑ *0.45 µm syringe filters* ☑ *25 gauge needles* ☑ 1 *HDPE Sharps Container(s)* ☑ 20-0178 *(Need enough containers to include all syringes/sampling sites)* ***Please check boxes above once items have been packed*** ***Vacutainer Expiration date:*** 2021-03-31 ***(Should be no less than 2 months from today's date)*** *Notes:*	20-0217 20-0216	Vacutainers Syringe filters
1		**Other:** vacutainer sampling instructions		

Submitted By: **ACG** Assembled By: JMG Shipped By: DSK Reviewed By: DSK

A COPY OF THIS FORM SHOULD BE INCLUDED WITH THE SHIPMENT AS A PACKING SLIP

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Field Sampling Protocol Suggestions

The following protocol is derived from EPA Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels (July, 1996). This brief summary is meant to be used as an overview and a reference. For more comprehensive instructions and a complete description of the proper methods for sampling ambient water for trace levels of metals, please refer to EPA Method 1669.

Gloves - Sampling personnel are required to wear clean, non-powdered gloves (made of polyethylene, latex, or PVC) at all times when handling sampling equipment and sample containers. Gloves should be tested to show low levels of trace metals, especially mercury and zinc. Remember to change gloves in-between each sample collected.

Dirty Hands/Clean Hands - Upon arrival at the sampling site, one member of the sampling team is designated as "dirty hands" and the second member is designated as "clean hands".

"Dirty Hands" is responsible for all activities that do not involve direct contact with the sample. Examples of activities performed by "dirty hands" include:

- Removal of the double-bagged sample containers from the cooler
- Holding and opening of the outer ziplock bag
- If only two samplers are available, then "dirty hands" should also be responsible for performing all necessary documentation.
- Operation of any sampling apparatus involved in collection (peristaltic pump, grab sampling device)

"Clean Hands" only performs operations involving direct contact with the sample. These activities include:

- Opening and closing the inner ziplock bag
- All direct handling of the sample container, including or attachment/detachment of sample container to collection device
- Transfer of the sample from the sample collection device to the sample container.

Sampling - Whenever possible, samples are collected facing upstream and upwind of the sampling team. "Clean hands" should remove the sample container from the inner bag and reseal the inner bag in order to minimize potential contamination.

Surface samples are collected using a grab sampling technique. This technique involves rapid submersion of the sample container, filling and capping the container while still submersed to minimize exposure to airborne contamination. Prior to its final filling, the sample container should be partially filled and rinsed 3 times.

Note that some methods, such as EPA Method 1632 for arsenic speciation, require that samples be preserved in the field. For these methods, Brooks Applied Labs can include the proper amount of the appropriate preservative in each sample container. Sample containers with preservative **must not** be submersed or rinsed prior to sample collection. Instead, tip the top lip of the container gently below the water surface so that the preservative remains in the container while filling. Alternatively, you may use a second container (tripled rinsed with the native sample) without preservative to serve as a sample collection container. After collection, pour the sample from the non-preserved container into the container with preservative.

Any sampling equipment (tubing and in-line filter units) must be purged in the field prior to use for collecting samples. Brooks Applied Labs (BAL) has determined that purging the in-line filter units for 3 minutes (using 2-3 L of sample or ultra-pure reagent water) is sufficient to remove any metals contamination to levels below BAL's MRLs. EPA 1669 suggests that sampling tubing be purged for 5-10 minutes prior to collecting samples.

All sample containers should be completely filled to minimize contact with the atmosphere, and should immediately be tightly capped. Again, prior to its final filling, the sample container should be partially filled and rinsed 3 times.

Sample containers should be filled to minimize contact with the atmosphere and tightly capped immediately. While "dirty hands" holds open the outer ziplock bag, "clean hands" opens the inner bag, returns the filled sample container to the inner bag, and reseals the inner bag. "Dirty hands" then reseals the outer bag and places the sample in the cooler.

Sample Handling Notices

Coolant Materials: For analysis requiring samples to be kept cold (0-4°C) until lab preservation and/or analysis, please either pack the samples in crushed ice or refrigerate them immediately after collection. Then pack the samples with an abundant amount of crushed ice when shipping them to Brooks Applied. Please bag the ice to prevent leakage from the cooler. **Do not use "blue ice" as it will *not* effectively keep samples at the proper temperature for the analyses.**

Note that if water samples are to be analyzed for low-level mercury (by EPA Method 1631) only, samples are no longer required to be kept at 0-4 °C until preservation. EPA Method 1631E allows samples to be shipped at ambient temperatures and then preserved with HCl or BrCl in the lab within 28 days of collection.

Samples Requiring Filtration: All samples requiring filtration for dissolved analyses MUST be filtered within 2 days of sample collection and kept at 0-4 °C prior to filtration, with the following exceptions: (1) samples requiring filtration for dissolved mercury by EPA 1631 must be filtered within 24 hours of sample collection, (2) samples requiring filtration for dissolved trace elements by EPA 200.8 must be filtered within 15 minutes of collection (field-filtration is required), and (3) samples requiring filtration for dissolved arsenic species by EPA 1632 must be field-filtered.

Custody Seals: Two custody seals are included with each bottle shipment. Custody seals are intended for the outside of the cooler/package. If you would like to seal the sample itself, ***do not*** place the custody seal directly on the bottle. Instead, place the custody seal directly over the ziplock mechanism of the inner ziplock bag containing the sample.

Field Preservation: Brooks Applied typically ships sample containers empty, but some methods, such as EPA Method 1632 for arsenic speciation, require that samples be preserved in the field. In other cases, overnight shipping of the samples to Brooks Applied may not be feasible. In such cases, Brooks Applied includes the proper amount of the appropriate preservative in each sample container, which will be clearly marked as containing preservative (typically HCl). The sample container must not be rinsed prior to sample collection when the preservative is included in the sample container.

HDPE and FLPE Bottles: When collecting water samples for both mercury and for other metals, please be aware that the two bottle types that will be sent look very similar. HDPE bottles are generally intended for all other metals besides mercury and methyl mercury. FLPE bottles are typically for mercury and methyl mercury only. The difference can be noted by reading the imprint on the bottom of the bottle, which can be seen through the Ziploc bag. Generally, labels identifying the bottle type are present on the Ziploc bag.

Water Sample Field Blanks: If field blanks are to be collected, an additional bottle (usually 1-L or 2-L) will be included with the sampling kit. The bottle will be labeled "Reagent Water for Field Blanks". The contents of this bottle should be decanted into the appropriate sample container at the same time and location that the other samples are being collected. The field blank should be treated as if it were a field sample. As with nearly all samples to be collected, the sample bottle (usually a 250-mL bottle for THg, for example) should be rinsed three times with the supplied reagent water before the collection of the field blank sample.

Trip Blanks: Trip blanks are containers with ultra-clean deionized water provided by Brooks Applied Labs that travel with the containers provided to the client for their sampling purposes. Trip blanks have custody seals placed on them when they are prepared to confirm that the containers have never been opened prior to return receipt at the laboratory.

Sediment/Soil Samples: When collecting soil/sediment samples, avoid substances that may not be considered part of the sample matrix to be analyzed (i.e. rocks, twigs, roots). Avoid collecting excessively "wet" samples whenever possible. If any overlying water is present, please decant prior to shipping. If glass jars are used, please do not fill more than 2/3 full, otherwise jars may break upon freezing. Mercury and methyl mercury samples can be collected in HDPE jars.

Packing Instructions for Glass Containers: Wrap bottles individually in bubble wrap or Styrofoam sleeve as provided. Make sure samples are surrounded with packing materials so that they cannot move during shipment, and so that glass containers are never in direct contact with each other. If you have accidentally discarded the packing material provided, use standard Styrofoam (peanuts) or plastic (bubble wrap) packing materials. **NEVER use vermiculite as it contains very high levels of metals.**

BAL Sample Acceptance Policy

All samples received by Brooks Applied Labs must meet the following requirements. Results for samples that do not meet the requirements will be appropriately qualified and fully narrated to make it clear that the samples did not conform to the policy.

Proper, Full, and Complete Documentation of the Sample: Documentation sent with the sample must include sample identification, the location, date and time of collection, the collector's name, preservation type, sample type and any special remarks concerning the sample.

Sample Labeling: The sample must be received with a durable, water resistant label written with indelible ink. The sample must be uniquely identified so that it cannot be confused with any other sample in the shipment. This unique identifier must match the identifier for the sample included in the COC.

Containers: The sample must be sampled and received within a container appropriate to the analysis being requested.

Adherence to Holding Times: The sample must be received in adherence to the specific holding time for the analysis being requested. Sample holding time requirements will vary dependent upon whether the sample was preserved in the field or in the lab.

Adequate Sample Volume: Sufficient sample volume must be available to perform the necessary analyses.

Damage: The sample must be received without any evidence of damaged. Signs of damage may include dented cooler, broken sample container, etc.

Contamination: Samples must be received without any evidence of possible contamination. Signs of potential contamination may include loose container caps, unzipped or ripped baggies holding the sample container, broken custody seals, leakage from or into the sample container, particulate material in a sample indicated as being a dissolved fraction, etc.

Preservation: Samples must be received adequately preserved to meet the requirements of the analysis being requested.

Circumstances Under Which Samples Will Not Be Received: Chemically or biologically hazardous samples that BAL personnel are not trained to handle safely or BAL does not have the proper facilities to store, prepare, or analyze safely and/or legally will not be accepted for delivery.

Some issues can be resolved through discussion with the client. For example, missing documentation for the date and time of sample collection may be provided by the client after receipt of the samples. If the non-conformance is such that it can be corrected prior to reporting sample results, then those results will no longer require qualification.

Thank you for your cooperation. Please feel free to contact your Brooks Applied Labs Project Manager at 206-632-6206 if you have any further questions. Alternatively, you may contact Brooks Applied Labs at samples@brooksapplied.com.

SAFETY DATA SHEET

1. Identification

Product identifier BD Vacutainer® K2EDTA Tubes

Other means of identification

Product code 362089, 364661, 364664, 367838, 368274, 368499, 365300, 365312, 365329, 365330, 365331, 365900, 366164, 366643, 367386, 367525, 367839, 367864, 367873, 367918, 367924, 367941, 367950, 367978, 368267, 368834, 368841, 368843, 368856, 368860

Recommended use Blood collection (In-Vitro Diagnostic) device for collecting blood samples for analysis

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Company name Becton Dickinson UK Ltd.

Address The Danby Building, Edmund Halley Road
Oxford Science Park, OX4 4DQ, Oxford, United Kingdom

Telephone UK: +44 (0) 1752 701281
USA: 800-631-0174

e-mail pas_tech_services@bd.com

1.4. Emergency telephone number Chemtrec EU 703-527-3887 US 1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, inhalation Category 4

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Harmful if inhaled.

Precautionary statement

Prevention Avoid breathing vapors. Use only outdoors or in a well-ventilated area.

Response If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Low hazard for recommended handling by trained personnel.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Dipotassium dihydrogen ethylenediaminetetraacetate		25102-12-9	100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	No specific precautions due to the small quantities handled. However: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Skin contact	No specific precautions due to the small quantities handled. However: Wash skin thoroughly with soap and water. Get medical attention if irritation develops and persists.
Eye contact	No specific precautions due to the small quantities handled. However, rinse with water. Do not rub eye. Make sure to remove any contact lenses from the eyes before rinsing. Get medical attention if irritation develops and persists.
Ingestion	No specific precautions due to the small quantities handled. However: Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort occurs.
Most important symptoms/effects, acute and delayed	Under normal conditions of intended use, this material does not pose a risk to health.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical. Foam.
Unsuitable extinguishing media	Carbon dioxide (CO2).
Specific hazards arising from the chemical	Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.
General fire hazards	The product is not flammable.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Provide adequate ventilation. Avoid dust formation. Avoid inhalation of dust and contact with skin and eyes. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear suitable protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Minimize dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7. Handling and storage

Precautions for safe handling	No specific precautions due to the small quantities handled. However: Explosion-proof general and local exhaust ventilation. Minimize dust generation and accumulation. Provide adequate ventilation. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Keep the workplace clean. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks and open flame. Store in original tightly closed container. Store in a cool, dry place.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	No specific recommendation made, but protection against nuisance dust must be used when the general level exceeds 10 mg/m3.

Individual protection measures, such as personal protective equipment

Eye/face protection	It is a good industrial hygiene practice to minimize eye contact. Risk of contact: Wear dust goggles.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
Respiratory protection	No protection is ordinarily required under normal conditions of use and with adequate ventilation. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Wash hands after handling and before eating. Keep away from food and drink.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Crystalline.
Color	White.
Odor	Odorless.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	485.6 °F (252 °C)
Initial boiling point and boiling range	Decomposes.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Fine particles may form explosive mixtures with air.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	108 g/l (20°C, pH: 5.3)
Partition coefficient (n-octanol/water)	Log Pow: -4.3 (25°C, pH: 4.5)
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Molecular formula	C10H16N2O8.2H2O.2K
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	Avoid dust formation.
Incompatible materials	None known.
Hazardous decomposition products	Thermal decomposition: > 150°C.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled. Dust may irritate respiratory system.
Skin contact	Dust may irritate skin.
Eye contact	Dust may irritate the eyes.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Under normal conditions of intended use, this material does not pose a risk to health.

Information on toxicological effects

Acute toxicity Harmful if inhaled.

Components	Species	Test Results
Dipotassium dihydrogen ethylenediaminetetraacetate (CAS 25102-12-9)		
Acute		
Oral		
LD50	Rat	3735 mg/kg, (Male) 3690 mg/kg, (Female)

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization	
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Due to lack of data the classification is not possible.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Due to lack of data the classification is not possible.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	No other specific chronic health impact noted.
Further information	No additional adverse health effects noted.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Dipotassium dihydrogen ethylenediaminetetraacetate (CAS 25102-12-9)			
Aquatic			
Crustacea	EC0	Daphnia magna	310 mg/l, 24 hours

Components	Species	Test Results
	EC100 Daphnia magna	1250 mg/l, 24 hours
	EC50 Daphnia magna	610 - 625 mg/l, 24 hours

Persistence and degradability Expected to be readily biodegradable.

Bioaccumulative potential Based on available data, the classification criteria are not met.

Mobility in soil No data available.

Mobility in general The product is slightly soluble in water.

Other adverse effects The product is not volatile but may be spread by dust-raising handling.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 15-September-2015

Revision date -

Version # 01

HMIS® ratings Health: 2
Flammability: 1
Physical hazard: 0

NFPA ratings

List of abbreviations

LD50: Lethal Dose, 50%.
EC0: Effective Concentration 0%.
EC50: Effective Concentration, 50%.
EC100: Effective Concentration 100%.

References	REACH dossier for substance. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices US. IARC Monographs on Occupational Exposures to Chemical Agents IARC Monographs. Overall Evaluation of Carcinogenicity
Disclaimer	BD Diagnostics Preanalytical Systems cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.
This SDS contains revisions in the following section(s):	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 15, 16.

BROOKS APPLIED LABS
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March 10, 2021

Pace Analytical Services – Lenexa
ATTN: Jasmine Amerin
9608 Loiret Boulevard
Lenexa, KS 66219
jasmine.amerin@pacelabs.com

RE: Project PAC-LX2101 Client Project: 60361508

Dear Ms. Jasmine Amerin,

On February 24, 2021, Brooks Applied Labs (BAL) received nine (9) water samples at a temperature of 6.3°C. The samples were logged-in for the analyses of Arsenic Speciation (arsenite [*As(III)*], arsenate [*As(V)*], monomethylarsonic acid [*MMAs*], and dimethylarsinic acid [*DMAs*]) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Samples were field filtered.

BAL strongly recommends that all samples submitted for arsenic speciation remain at a temperature of less than or equal to 6°C to maintain sample integrity prior to analysis. Consequently, the As speciation results were qualified (**Z**), indicating that the samples were received above the recommended temperature.

Arsenic Speciation Quantitation by IC-ICP-CRC-MS (BAL SOP BAL-4100)
The arsenic speciation analysis was performed by ion chromatography coupled to an inductively coupled plasma collision reaction cell mass spectrometer (IC-ICP-CRC-MS). Prior to analysis, an aliquot of each sample was filtered with a syringe filter (0.45-µm) and injected directly into a sealed autosampler vial. No further sample preparation was performed as any chemical alteration of a sample may shift the equilibrium of the system, resulting in changes in speciation ratios.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (**N/C**).

Possible thioarsenicals were present in the chromatographs of samples 2102187-01, 2102187-04, and 2102187-08. These peaks were near or below the MRL for these samples.

The results were not method blank corrected as described in the calculations section of the relevant BAL SOP(s) and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Furthermore, products presented in this document may be protected by Federal Patent laws and infringement will be subject to prosecution in accordance with Title 35 US Code 271.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations /certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received
BAL	Brooks Applied Labs
BLK	method blank
BS	blank spike
CAL	calibration standard
CCB	continuing calibration blank
CCV	continuing calibration verification
COC	chain of custody record
D	dissolved fraction
DUP	duplicate
IBL	instrument blank
ICV	initial calibration verification
MDL	method detection limit
MRL	method reporting limit
MS	matrix spike
MSD	matrix spike duplicate
ND	non-detect
NR	non-reportable
N/C	not calculated
PS	post preparation spike
REC	percent recovery
RPD	relative percent difference
SCV	secondary calibration verification
SOP	standard operating procedure
SRM	reference material
T	total fraction
TR	total recoverable fraction

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

Accreditation Information

Table 1. Accredited method/matrix/analytes for TNI

Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)
Issued on: July 27, 2020; Valid to: June 30, 2021
Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness

Accreditation Information

Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Tl, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.

Project ID: PAC-LX2101
PM: Amy Goodall

Client PM: Jasmine Amerin
Client Project: 60361508

Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
MW-38-021821	60361508010	2102187-01	Water	Sample	02/18/2021	02/24/2021
MW-39-021821	60361508011	2102187-02	Water	Sample	02/18/2021	02/24/2021
MW-D-021821	60361508012	2102187-03	Water	Sample	02/18/2021	02/24/2021
MW-K-021721	60361508013	2102187-04	Water	Sample	02/17/2021	02/24/2021
MW-N-021821	60361508014	2102187-05	Water	Sample	02/18/2021	02/24/2021
MW-P-021821	60361508015	2102187-06	Water	Sample	02/18/2021	02/24/2021
MW-102-021821	60361508017	2102187-07	Water	Sample	02/18/2021	02/24/2021
MW-103-021821	60361508018	2102187-08	Water	Sample	02/18/2021	02/24/2021
DUP-021821	60361508020	2102187-09	Water	Sample	02/18/2021	02/24/2021

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
As(III)	Water	SOP BAL-4100	03/02/2021	03/03/2021	B210484	S210238
As(V)	Water	SOP BAL-4100	03/02/2021	03/03/2021	B210484	S210238
DMAs	Water	SOP BAL-4100	03/02/2021	03/03/2021	B210484	S210238
MMAs	Water	SOP BAL-4100	03/02/2021	03/03/2021	B210484	S210238

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Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-38-021821, 60361508010										
2102187-01	As(III)	Water	D	12.7	Z	0.200	1.05	µg/L	B210484	S210238
2102187-01	As(V)	Water	D	1.02	Z J	0.200	1.05	µg/L	B210484	S210238
2102187-01	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-01	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
MW-39-021821, 60361508011										
2102187-02	As(III)	Water	D	9.90	Z	0.200	1.05	µg/L	B210484	S210238
2102187-02	As(V)	Water	D	0.895	Z J	0.200	1.05	µg/L	B210484	S210238
2102187-02	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-02	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
MW-D-021821, 60361508012										
2102187-03	As(III)	Water	D	1.19	Z	0.200	1.05	µg/L	B210484	S210238
2102187-03	As(V)	Water	D	0.618	Z J	0.200	1.05	µg/L	B210484	S210238
2102187-03	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-03	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
MW-K-021721, 60361508013										
2102187-04	As(III)	Water	D	51.7	Z	0.200	1.05	µg/L	B210484	S210238
2102187-04	As(V)	Water	D	2.67	Z	0.200	1.05	µg/L	B210484	S210238
2102187-04	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-04	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
MW-N-021821, 60361508014										
2102187-05	As(III)	Water	D	2.32	Z	0.200	1.05	µg/L	B210484	S210238
2102187-05	As(V)	Water	D	3.84	Z	0.200	1.05	µg/L	B210484	S210238
2102187-05	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-05	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
MW-P-021821, 60361508015										
2102187-06	As(III)	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
2102187-06	As(V)	Water	D	1.79	Z	0.200	1.05	µg/L	B210484	S210238
2102187-06	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-06	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-102-021821, 60361508017										
2102187-07	As(III)	Water	D	0.569	Z J	0.200	1.05	µg/L	B210484	S210238
2102187-07	As(V)	Water	D	2.78	Z	0.200	1.05	µg/L	B210484	S210238
2102187-07	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-07	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
MW-103-021821, 60361508018										
2102187-08	As(III)	Water	D	2.72	Z	0.200	1.05	µg/L	B210484	S210238
2102187-08	As(V)	Water	D	0.276	Z J	0.200	1.05	µg/L	B210484	S210238
2102187-08	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-08	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238
DUP-021821, 60361508020										
2102187-09	As(III)	Water	D	11.8	Z	0.200	1.05	µg/L	B210484	S210238
2102187-09	As(V)	Water	D	0.506	Z J	0.200	1.05	µg/L	B210484	S210238
2102187-09	DMAs	Water	D	≤ 0.250	Z U	0.250	1.05	µg/L	B210484	S210238
2102187-09	MMAs	Water	D	≤ 0.200	Z U	0.200	1.05	µg/L	B210484	S210238

Accuracy & Precision Summary

Batch: B210484
Lab Matrix: Water
Method: SOP BAL-4100

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B210484-BS1	**Blank Spike, (2104036)**						
	As(III)		5.150	4.513	µg/L	88% 75-125	
	As(V)		5.200	4.850	µg/L	93% 75-125	
	DMAs		5.210	5.453	µg/L	105% 75-125	
B210484-BS2	**Blank Spike, (2107001)**						
	MMAs		5.000	4.981	µg/L	100% 75-125	
B210484-DUP4	**Duplicate, (2102187-03)**						
	As(III)	1.188		1.176	µg/L		1% 25
	As(V)	0.618		0.634	µg/L		3% 25
	DMAs	ND		ND	µg/L		N/C 25
	MMAs	ND		ND	µg/L		N/C 25
B210484-MS4	**Matrix Spike, (2102187-03)**						
	As(III)	1.188	52.25	53.40	µg/L	100% 75-125	
	As(V)	0.618	48.55	48.76	µg/L	99% 75-125	
	DMAs	ND	50.00	50.34	µg/L	101% 75-125	
	MMAs	ND	50.00	49.75	µg/L	100% 75-125	
B210484-MSD4	**Matrix Spike Duplicate, (2102187-03)**						
	As(III)	1.188	52.25	53.45	µg/L	100% 75-125	0.09% 25
	As(V)	0.618	48.55	49.84	µg/L	101% 75-125	2% 25
	DMAs	ND	50.00	50.20	µg/L	100% 75-125	0.3% 25
	MMAs	ND	50.00	50.25	µg/L	100% 75-125	1% 25

Method Blanks & Reporting Limits

Batch: B210484
Matrix: Water
Method: SOP BAL-4100
Analyte: As(III)

Sample	Result	Units
B210484-BLK1	0.00	µg/L
B210484-BLK2	0.00	µg/L
B210484-BLK3	0.00	µg/L
B210484-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021
MDL: 0.004
MRL: 0.021

Analyte: As(V)

Sample	Result	Units
B210484-BLK1	0.00	µg/L
B210484-BLK2	0.00	µg/L
B210484-BLK3	0.00	µg/L
B210484-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021
MDL: 0.004
MRL: 0.021

Analyte: DMAs

Sample	Result	Units
B210484-BLK1	0.00	µg/L
B210484-BLK2	0.00	µg/L
B210484-BLK3	0.00	µg/L
B210484-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021
MDL: 0.005
MRL: 0.021

Project ID: PAC-LX2101
PM: Amy Goodall

Client PM: Jasmine Amerin
Client Project: 60361508

Method Blanks & Reporting Limits

Analyte: MMAs

Sample	Result	Units
B210484-BLK1	0.00	µg/L
B210484-BLK2	0.00	µg/L
B210484-BLK3	0.00	µg/L
B210484-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021

MDL: 0.004
MRL: 0.021

Sample Containers

Lab ID: 2102187-01 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: MW-38-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187
B	XTRA_VOL	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Lab ID: 2102187-02 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: MW-39-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187
B	XTRA_VOL	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Lab ID: 2102187-03 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: MW-D-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Lab ID: 2102187-04 **Report Matrix:** Water **Collected:** 02/17/2021
Sample: MW-K-021721 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187
B	XTRA_VOL	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Lab ID: 2102187-05 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: MW-N-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187
B	XTRA_VOL	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Sample Containers

Lab ID: 2102187-06 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: MW-P-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187
B	XTRA_VOL	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Lab ID: 2102187-07 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: MW-102-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187
B	XTRA_VOL	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Lab ID: 2102187-08 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: MW-103-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Lab ID: 2102187-09 **Report Matrix:** Water **Collected:** 02/18/2021
Sample: DUP-021821 **Sample Type:** Sample **Received:** 02/24/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187
B	XTRA_VOL	10 mL	20-0217	EDTA (vial)	na	na	Cooler 1 - 2102187

Project ID: PAC-LX2101
PM: Amy Goodall

Client PM: Jasmine Amerin
Client Project: 60361508

Shipping Containers

Cooler 1 - 2102187

Received: February 24, 2021 10:00
Tracking No: 9308 4771 3338 via FedEx
Coolant Type: Ice
Temperature: 6.3 °C

Description: Cooler 1
Damaged in transit? No
Returned to client? No
Comments: IR 31

Custody seals present? Yes
Custody seals intact? No
COC present? Yes

Chain of Custody

PASI Kansas Laboratory

BAL Report 2102187

Pace Analytical®
www.pacelabs.com

Workorder: 60361508 **Workorder Name:** LEC PERIMETER ASH POND WELLS C **Results Requested By:** 3/09/2021

Report / Invoice To	Subcontract To
Jasmine Amerin Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665 Email: jasmine.amerin@pacelabs.com	Brooks Applied Labs P.O. SUB-104849 C/O Sample Control 18804 North Creek Parkway Suite 100 Bothell, WA 98011

State of Sample Origin: KS

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Speciated Arsenic	LAB USE ONLY
1	MW-38-021821	2/18/2021 12:55	60361508010	Water	1	X	
2	MW-39-021821	2/18/2021 12:55	60361508011	Water	1	X	
3	MW-D-021821	2/18/2021 14:50	60361508012	Water	1	X	
4	MW-K-021721	2/17/2021 16:30	60361508013	Water	1	X	
5	MW-N-021821	2/18/2021 09:25	60361508014	Water	1	X	
6	MW-P-021821	2/18/2021 13:10	60361508015	Water	1	X	
7	MW-102-021821	2/18/2021 11:40	60361508017	Water	1	X	
8	MW-103-021821	2/18/2021 14:25	60361508018	Water	1	X	
9	DUP-021821	2/18/2021 11:55	60361508020	Water	1	X	
10							
11							
12							
13							

Transfers	Released By	Date/Time	Received By	Date/Time
1	Dawson Pace	2/22/21 1800	Spencer Shilenya	2/24/21 10:00
2				
3				

Comments

1 ZPLC per sample, each ZPLC w/ 2 Vacutainers for Speciated Arsenic analysis

Cooler Temperature on Receipt 6.3 °C **Custody Seal** Y or N **Received on Ice** (Y) or N **Samples Intact** Y or N

ATTACHMENT 2-2-3
March 2021 Sampling Event
Laboratory Analytical Report

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

March 22, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on March 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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

CERTIFICATIONS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

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: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60363603001	**MW-37-030921**	Water	03/09/21 14:20	03/11/21 14:30
60363603002	**MW-38-030921**	Water	03/09/21 15:40	03/11/21 14:30
60363603003	**MW-39-030921**	Water	03/09/21 11:50	03/11/21 14:30
60363603004	**MW-40-030921**	Water	03/09/21 13:10	03/11/21 14:30
60363603005	**MW-K-030921**	Water	03/09/21 09:25	03/11/21 14:30
60363603006	**MW-L-030921**	Water	03/09/21 10:40	03/11/21 14:30
60363603007	**DUP-AP-030922**	Water	03/09/21 11:55	03/11/21 14:30

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SAMPLE ANALYTE COUNT

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60363603001	**MW-37-030921**	EPA 200.7	JLH	5	PASI-K
		EPA 200.7	TDS	2	PASI-K
		SM 2320B	BLA	2	PASI-K
60363603002	**MW-38-030921**	EPA 200.7	JLH	5	PASI-K
		EPA 200.7	TDS	2	PASI-K
		SM 2320B	BLA	2	PASI-K
60363603003	**MW-39-030921**	EPA 200.7	JLH	5	PASI-K
		EPA 200.7	TDS	2	PASI-K
		SM 2320B	BLA	2	PASI-K
60363603004	**MW-40-030921**	EPA 200.7	JLH	5	PASI-K
		EPA 200.7	TDS	2	PASI-K
		SM 2320B	BLA	2	PASI-K
60363603005	**MW-K-030921**	EPA 200.7	JLH	5	PASI-K
		EPA 200.7	TDS	2	PASI-K
		SM 2320B	BLA	2	PASI-K
60363603006	**MW-L-030921**	EPA 200.7	JLH	5	PASI-K
		EPA 200.7	TDS	2	PASI-K
		SM 2320B	BLA	2	PASI-K
60363603007	**DUP-AP-030922**	EPA 200.7	JLH	5	PASI-K
		EPA 200.7	TDS	2	PASI-K
		SM 2320B	BLA	2	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: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Sample: MW-37-030921 **Lab ID: 60363603001** Collected: 03/09/21 14:20 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**11.0**	mg/L	0.050	1	03/16/21 10:18	03/16/21 18:57	7439-89-6	
Magnesium, Total Recoverable	**21.0**	mg/L	0.050	1	03/16/21 10:18	03/16/21 18:57	7439-95-4	
Manganese, Total Recoverable	**1.0**	mg/L	0.0050	1	03/16/21 10:18	03/16/21 18:57	7439-96-5	
Potassium, Total Recoverable	**8.0**	mg/L	0.50	1	03/16/21 10:18	03/16/21 18:57	7440-09-7	
Sodium, Total Recoverable	**72.2**	mg/L	0.50	1	03/16/21 10:18	03/16/21 18:57	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**2.2**	mg/L	0.050	1	03/16/21 15:38	03/19/21 10:39	7439-89-6	
Manganese, Dissolved	**1.1**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 10:39	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**344**	mg/L	20.0	1		03/22/21 11:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:04		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Sample: MW-38-030921 **Lab ID: 60363603002** Collected: 03/09/21 15:40 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**2.4**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:04	7439-89-6	
Magnesium, Total Recoverable	**119**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:04	7439-95-4	
Manganese, Total Recoverable	**0.61**	mg/L	0.0050	1	03/16/21 10:18	03/16/21 19:04	7439-96-5	
Potassium, Total Recoverable	**27.6**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:04	7440-09-7	
Sodium, Total Recoverable	**238**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:04	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**2.4**	mg/L	0.050	1	03/16/21 15:38	03/19/21 10:41	7439-89-6	
Manganese, Dissolved	**0.63**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 10:41	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**289**	mg/L	20.0	1		03/22/21 11:09		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:09		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Sample: MW-39-030921 **Lab ID: 60363603003** Collected: 03/09/21 11:50 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**0.79**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:07	7439-89-6	
Magnesium, Total Recoverable	**53.8**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:07	7439-95-4	
Manganese, Total Recoverable	**3.0**	mg/L	0.0050	1	03/16/21 10:18	03/16/21 19:07	7439-96-5	
Potassium, Total Recoverable	**26.1**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:07	7440-09-7	
Sodium, Total Recoverable	**354**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:07	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.75**	mg/L	0.050	1	03/16/21 15:38	03/19/21 10:44	7439-89-6	
Manganese, Dissolved	**3.1**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 10:44	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**185**	mg/L	20.0	1		03/22/21 11:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:14		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Sample: MW-40-030921 **Lab ID: 60363603004** Collected: 03/09/21 13:10 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**5.8**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:10	7439-89-6	
Magnesium, Total Recoverable	**47.9**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:10	7439-95-4	
Manganese, Total Recoverable	**2.3**	mg/L	0.0050	1	03/16/21 10:18	03/16/21 19:10	7439-96-5	
Potassium, Total Recoverable	**22.7**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:10	7440-09-7	
Sodium, Total Recoverable	**255**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:10	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**5.4**	mg/L	0.050	1	03/16/21 15:38	03/19/21 10:47	7439-89-6	
Manganese, Dissolved	**2.4**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 10:47	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**169**	mg/L	20.0	1		03/22/21 11:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:28		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Sample: MW-K-030921 **Lab ID: 60363603005** Collected: 03/09/21 09:25 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**5.9**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:12	7439-89-6	
Magnesium, Total Recoverable	**162**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:12	7439-95-4	
Manganese, Total Recoverable	**2.4**	mg/L	0.0050	1	03/16/21 10:18	03/16/21 19:12	7439-96-5	
Potassium, Total Recoverable	**50.2**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:12	7440-09-7	
Sodium, Total Recoverable	**498**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:12	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**6.0**	mg/L	0.050	1	03/16/21 15:38	03/19/21 10:55	7439-89-6	
Manganese, Dissolved	**2.7**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 10:55	7439-96-5	D9
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**259**	mg/L	20.0	1		03/22/21 11:34		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Sample: MW-L-030921 **Lab ID: 60363603006** Collected: 03/09/21 10:40 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**6.9**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:23	7439-89-6	
Magnesium, Total Recoverable	**144**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:23	7439-95-4	
Manganese, Total Recoverable	**5.5**	mg/L	0.0050	1	03/16/21 10:18	03/16/21 19:23	7439-96-5	
Potassium, Total Recoverable	**33.7**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:23	7440-09-7	
Sodium, Total Recoverable	**436**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:23	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**6.6**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:05	7439-89-6	
Manganese, Dissolved	**5.4**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:05	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**296**	mg/L	20.0	1		03/22/21 11:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Sample: DUP-AP-030922 **Lab ID: 60363603007** Collected: 03/09/21 11:55 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Total Recoverable	**0.78**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:26	7439-89-6	
Magnesium, Total Recoverable	**53.3**	mg/L	0.050	1	03/16/21 10:18	03/16/21 19:26	7439-95-4	
Manganese, Total Recoverable	**3.0**	mg/L	0.0050	1	03/16/21 10:18	03/16/21 19:26	7439-96-5	
Potassium, Total Recoverable	**26.2**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:26	7440-09-7	
Sodium, Total Recoverable	**359**	mg/L	0.50	1	03/16/21 10:18	03/16/21 19:26	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.76**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:08	7439-89-6	
Manganese, Dissolved	**3.1**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:08	7439-96-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**182**	mg/L	20.0	1		03/22/21 11:44		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:44		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

QC Batch: 708838
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: 60363603001, 60363603002, 60363603003, 60363603004, 60363603005, 60363603006, 60363603007

METHOD BLANK: 2854518 Matrix: Water
Associated Lab Samples: 60363603001, 60363603002, 60363603003, 60363603004, 60363603005, 60363603006, 60363603007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	mg/L	<0.050	0.050	03/16/21 18:52	
Magnesium	mg/L	<0.050	0.050	03/16/21 18:52	
Manganese	mg/L	<0.0050	0.0050	03/16/21 18:52	
Potassium	mg/L	<0.50	0.50	03/16/21 18:52	
Sodium	mg/L	<0.50	0.50	03/16/21 18:52	

LABORATORY CONTROL SAMPLE: 2854519

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	10	9.9	99	85-115	
Magnesium	mg/L	10	10.8	108	85-115	
Manganese	mg/L	1	0.97	97	85-115	
Potassium	mg/L	10	10.5	105	85-115	
Sodium	mg/L	10	9.9	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854520 2854521

Parameter	Units	60363603001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	mg/L	11.0	10	10	20.8	21.0	97	99	70-130	1	20	
Magnesium	mg/L	21.0	10	10	31.3	31.5	102	105	70-130	1	20	
Manganese	mg/L	1.0	1	1	2.0	2.0	95	96	70-130	1	20	
Potassium	mg/L	8.0	10	10	18.7	18.8	107	108	70-130	1	20	
Sodium	mg/L	72.2	10	10	82.9	83.7	107	114	70-130	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: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

QC Batch: 708940
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363603001, 60363603002, 60363603003, 60363603004, 60363603005, 60363603006, 60363603007

METHOD BLANK: 2854922 Matrix: Water
Associated Lab Samples: 60363603001, 60363603002, 60363603003, 60363603004, 60363603005, 60363603006, 60363603007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	mg/L	<0.050	0.050	03/19/21 17:30	
Manganese, Dissolved	mg/L	<0.0050	0.0050	03/19/21 17:30	

LABORATORY CONTROL SAMPLE: 2854923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	10	10.4	104	85-115	
Manganese, Dissolved	mg/L	1	1.0	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854924 2854925

Parameter	Units	60363603004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	mg/L	5.4	10	10	15.5	15.5	101	100	70-130	0	20	
Manganese, Dissolved	mg/L	2.4	1	1	3.4	3.5	100	105	70-130	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: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

QC Batch: 709834 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363603001, 60363603002, 60363603003, 60363603004, 60363603005, 60363603006, 60363603007

METHOD BLANK: 2858168 Matrix: Water
Associated Lab Samples: 60363603001, 60363603002, 60363603003, 60363603004, 60363603005, 60363603006, 60363603007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	03/22/21 10:14	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	03/22/21 10:14	

SAMPLE DUPLICATE: 2858170

Parameter	Units	60363030002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	178	181	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2858171

Parameter	Units	60363603007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	182	186	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

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.

ANALYTE QUALIFIERS

D9 Dissolved result is greater than the total. Data is within laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ADDTL ANALYSES-LEC INACTIVE AS
Pace Project No.: 60363603

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363603001	**MW-37-030921**	EPA 200.7	708838	EPA 200.7	708954
60363603002	**MW-38-030921**	EPA 200.7	708838	EPA 200.7	708954
60363603003	**MW-39-030921**	EPA 200.7	708838	EPA 200.7	708954
60363603004	**MW-40-030921**	EPA 200.7	708838	EPA 200.7	708954
60363603005	**MW-K-030921**	EPA 200.7	708838	EPA 200.7	708954
60363603006	**MW-L-030921**	EPA 200.7	708838	EPA 200.7	708954
60363603007	**DUP-AP-030922**	EPA 200.7	708838	EPA 200.7	708954
60363603001	**MW-37-030921**	EPA 200.7	708940	EPA 200.7	709004
60363603002	**MW-38-030921**	EPA 200.7	708940	EPA 200.7	709004
60363603003	**MW-39-030921**	EPA 200.7	708940	EPA 200.7	709004
60363603004	**MW-40-030921**	EPA 200.7	708940	EPA 200.7	709004
60363603005	**MW-K-030921**	EPA 200.7	708940	EPA 200.7	709004
60363603006	**MW-L-030921**	EPA 200.7	708940	EPA 200.7	709004
60363603007	**DUP-AP-030922**	EPA 200.7	708940	EPA 200.7	709004
60363603001	**MW-37-030921**	SM 2320B	709834		
60363603002	**MW-38-030921**	SM 2320B	709834		
60363603003	**MW-39-030921**	SM 2320B	709834		
60363603004	**MW-40-030921**	SM 2320B	709834		
60363603005	**MW-K-030921**	SM 2320B	709834		
60363603006	**MW-L-030921**	SM 2320B	709834		
60363603007	**DUP-AP-030922**	SM 2320B	709834		

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Sample Condition Upon Receipt

WO# : 60363603

60363603

Client Name: Evergy Kansas Central

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** 5.4 **Corr. Factor** 0.0 **Corrected** 5.4

Date and initials of person examining contents: 3/12/21 SR

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# 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: _____ 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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	7 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Oberr
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	Addtl Analyses-LEC Inactive Ash Ponds CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 4

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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 Total Metals*	200.7 Diss. Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-37-030921	WT	G	-	-	03/09/21	14:20		3	1		2						X	X	X	X			L0036603
2	MW-38-030921	WT	G	-	-	03/09/21	15:40		3	1		2						X	X	X	X			
3	MW-39-030921	WT	G	-	-	03/09/21	11:50		3	1		2						X	X	X	X			
4	MW-40-030921	WT	G	-	-	03/09/21	13:10		3	1		2						X	X	X	X			
5	MW-K-030921	WT	G	-	-	03/09/21	9:25		3	1		2						X	X	X	X			
6	MW-L-030921	WT	G	-	-	03/09/21	10:40		3	1		2						X	X	X	X			
7	DUP-AP-030921	WT	G	-	-	03/09/21	11:55		3	1		2						X	X	X	X			
8																								
9																								
10																								
11																								
12																								

Requested Analysis Filtered (Y/N)

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)
200.7 Total Metals*: Mg, Na, K, Fe, Mn (5 metals)	Jason R. Franks / SCS	3/11/21	14:30	Edwarda Pace	3/11/21	1430	5.4	Y	N	Y
200.7 Dissolved Metals**: Fe, Mn (2 metals, FIELD FILTERED)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 3/10/21

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

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

March 24, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on March 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60363608001	MW-101-030921	Water	03/09/21 17:00	03/11/21 14:30
60363608002	MW-102-031021	Water	03/10/21 09:20	03/11/21 14:30
60363608003	MW-103-030921	Water	03/09/21 10:15	03/11/21 14:30
60363608004	MW-104-030921	Water	03/09/21 12:20	03/11/21 14:30
60363608005	MW-106-031021	Water	03/10/21 09:05	03/11/21 14:30
60363608006	MW-B-030921	Water	03/09/21 18:25	03/11/21 14:30
60363608007	MW-C-030921	Water	03/09/21 12:35	03/11/21 14:30
60363608008	MW-D-030921	Water	03/09/21 14:40	03/11/21 14:30
60363608009	MW-G-031021	Water	03/10/21 12:10	03/11/21 14:30
60363608010	MW-M-030921	Water	03/09/21 13:50	03/11/21 14:30
60363608011	MW-N-031021	Water	03/10/21 13:00	03/11/21 14:30
60363608012	MW-O-031021	Water	03/10/21 10:45	03/11/21 14:30
60363608013	MW-P-030921	Water	03/09/21 10:25	03/11/21 14:30
60363608014	DUP-AP NE-030921	Water	03/09/21 10:15	03/11/21 14:30
60363608015	EQUIPMENT RINSATE-031021	Water	03/10/21 13:30	03/11/21 14:30

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60363608001	**MW-101-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608002	**MW-102-031021**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608003	**MW-103-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608004	**MW-104-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608005	**MW-106-031021**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608006	**MW-B-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608007	**MW-C-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608008	**MW-D-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608009	**MW-G-031021**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608010	**MW-M-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608011	**MW-N-031021**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608012	**MW-O-031021**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608013	**MW-P-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60363608014	**DUP-AP NE-030921**	EPA 200.7	JLH	8	PASI-K
		EPA 200.7	TDS	2	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	BLA	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60363608015	**EQUIPMENT RINSATE-031021**	EPA 300.0	CRN2	3	PASI-K
		EPA 200.7	JLH	8	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-101-030921 **Lab ID: 60363608001** Collected: 03/09/21 17:00 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
	Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.15**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 20:55	7440-39-3	
Boron, Total Recoverable	**0.46**	mg/L	0.10	1	03/16/21 10:18	03/19/21 20:55	7440-42-8	
Calcium, Total Recoverable	**104**	mg/L	0.20	1	03/16/21 10:18	03/19/21 20:55	7440-70-2	
Iron, Total Recoverable	**0.83**	mg/L	0.050	1	03/16/21 10:18	03/19/21 20:55	7439-89-6	
Magnesium, Total Recoverable	**22.2**	mg/L	0.050	1	03/16/21 10:18	03/19/21 20:55	7439-95-4	
Manganese, Total Recoverable	**0.15**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 20:55	7439-96-5	
Potassium, Total Recoverable	**6.6**	mg/L	0.50	1	03/16/21 10:18	03/19/21 20:55	7440-09-7	
Sodium, Total Recoverable	**19.2**	mg/L	0.50	1	03/16/21 10:18	03/19/21 20:55	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
	Pace Analytical Services - Kansas City							
Iron, Dissolved	**2.3**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:16	7439-89-6	1e
Manganese, Dissolved	**0.41**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:16	7439-96-5	1e
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.022**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:02	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0011**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:19	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:19	7440-48-4	
Molybdenum, Total Recoverable	**0.035**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:19	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**336**	mg/L	20.0	1		03/22/21 11:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 11:54		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Kansas City							
Total Dissolved Solids	**510**	mg/L	10.0	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		03/15/21 11:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
	Pace Analytical Services - Kansas City							
Chloride	**45.4**	mg/L	10.0	10		03/18/21 02:12	16887-00-6	
Fluoride	**0.96**	mg/L	0.20	1		03/18/21 01:56	16984-48-8	
Sulfate	**33.6**	mg/L	10.0	10		03/18/21 02:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-102-031021 **Lab ID: 60363608002** Collected: 03/10/21 09:20 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.12**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:02	7440-39-3	
Boron, Total Recoverable	**1.2**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:02	7440-42-8	
Calcium, Total Recoverable	**106**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:02	7440-70-2	
Iron, Total Recoverable	**1.6**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:02	7439-89-6	
Magnesium, Total Recoverable	**37.9**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:02	7439-95-4	
Manganese, Total Recoverable	**0.46**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:02	7439-96-5	
Potassium, Total Recoverable	**9.0**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:02	7440-09-7	
Sodium, Total Recoverable	**29.0**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:02	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**1.3**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:18	7439-89-6	
Manganese, Dissolved	**0.44**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:18	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.038**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:04	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0099**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:32	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:32	7440-48-4	
Molybdenum, Total Recoverable	**0.066**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:32	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**433**	mg/L	20.0	1		03/22/21 12:00		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**543**	mg/L	10.0	1		03/16/21 10:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		03/15/21 11:31		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**13.1**	mg/L	1.0	1		03/18/21 03:00	16887-00-6	
Fluoride	**4.0**	mg/L	0.20	1		03/18/21 03:00	16984-48-8	
Sulfate	**64.3**	mg/L	10.0	10		03/18/21 03:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-103-030921 **Lab ID: 60363608003** Collected: 03/09/21 10:15 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.045**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:05	7440-39-3	
Boron, Total Recoverable	**5.5**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:05	7440-42-8	
Calcium, Total Recoverable	**389**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:05	7440-70-2	
Iron, Total Recoverable	**3.9**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:05	7439-89-6	
Magnesium, Total Recoverable	**62.4**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:05	7439-95-4	
Manganese, Total Recoverable	**1.9**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:05	7439-96-5	
Potassium, Total Recoverable	**25.3**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:05	7440-09-7	
Sodium, Total Recoverable	**343**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:05	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**5.1**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:21	7439-89-6	1e
Manganese, Dissolved	**2.1**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:21	7439-96-5	D9
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.052**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:17	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0038**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:41	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:41	7440-48-4	
Molybdenum, Total Recoverable	**0.20**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:41	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**237**	mg/L	20.0	1		03/22/21 12:06		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:06		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3170**	mg/L	66.7	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 11:33		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**341**	mg/L	50.0	50		03/19/21 00:07	16887-00-6	
Fluoride	**2.7**	mg/L	0.20	1		03/18/21 03:31	16984-48-8	
Sulfate	**1730**	mg/L	200	200		03/19/21 00:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-104-030921 **Lab ID: 60363608004** Collected: 03/09/21 12:20 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.064**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:08	7440-39-3	
Boron, Total Recoverable	**1.9**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:08	7440-42-8	
Calcium, Total Recoverable	**285**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:08	7440-70-2	
Iron, Total Recoverable	**5.5**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:08	7439-89-6	
Magnesium, Total Recoverable	**31.1**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:08	7439-95-4	
Manganese, Total Recoverable	**1.9**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:08	7439-96-5	
Potassium, Total Recoverable	**48.6**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:08	7440-09-7	
Sodium, Total Recoverable	**157**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:08	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**4.6**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:37	7439-89-6	
Manganese, Dissolved	**1.8**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:37	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.057**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:19	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0036**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:45	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:45	7440-48-4	
Molybdenum, Total Recoverable	**0.034**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:45	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**371**	mg/L	20.0	1		03/22/21 12:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1980**	mg/L	40.0	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 11:34		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**231**	mg/L	20.0	20		03/19/21 00:36	16887-00-6	
Fluoride	**0.89**	mg/L	0.20	1		03/18/21 04:03	16984-48-8	
Sulfate	**478**	mg/L	100	100		03/19/21 00:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-106-031021 **Lab ID: 60363608005** Collected: 03/10/21 09:05 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.16**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:16	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:16	7440-42-8	
Calcium, Total Recoverable	**41.8**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:16	7440-70-2	
Iron, Total Recoverable	**<0.050**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:16	7439-89-6	
Magnesium, Total Recoverable	**6.4**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:16	7439-95-4	
Manganese, Total Recoverable	**0.012**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:16	7439-96-5	
Potassium, Total Recoverable	**2.2**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:16	7440-09-7	
Sodium, Total Recoverable	**43.1**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:16	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:39	7439-89-6	
Manganese, Dissolved	**0.011**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:39	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.015**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:22	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:49	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:49	7440-48-4	
Molybdenum, Total Recoverable	**0.0015**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:49	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**222**	mg/L	20.0	1		03/22/21 12:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**280**	mg/L	5.0	1		03/16/21 10:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		03/15/21 11:36		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**3.0**	mg/L	1.0	1		03/18/21 04:35	16887-00-6	
Fluoride	**0.30**	mg/L	0.20	1		03/18/21 04:35	16984-48-8	
Sulfate	**6.0**	mg/L	1.0	1		03/18/21 04:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-B-030921 **Lab ID: 60363608006** Collected: 03/09/21 18:25 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.20**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:18	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:18	7440-42-8	
Calcium, Total Recoverable	**169**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:18	7440-70-2	
Iron, Total Recoverable	**<0.050**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:18	7439-89-6	
Magnesium, Total Recoverable	**17.9**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:18	7439-95-4	
Manganese, Total Recoverable	**0.21**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:18	7439-96-5	
Potassium, Total Recoverable	**7.3**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:18	7440-09-7	
Sodium, Total Recoverable	**5.1**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:18	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:42	7439-89-6	
Manganese, Dissolved	**0.40**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:42	7439-96-5	1e
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.018**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:25	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0061**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:53	7440-38-2	
Cobalt, Total Recoverable	**0.0011**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:53	7440-48-4	
Molybdenum, Total Recoverable	**0.017**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:53	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**451**	mg/L	20.0	1		03/22/21 12:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:32		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**759**	mg/L	10.0	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 11:37		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**13.4**	mg/L	1.0	1		03/17/21 19:53	16887-00-6	
Fluoride	**0.59**	mg/L	0.20	1		03/17/21 19:53	16984-48-8	
Sulfate	**110**	mg/L	20.0	20		03/17/21 20:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-C-030921 **Lab ID: 60363608007** Collected: 03/09/21 12:35 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.086**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:23	7440-39-3	
Boron, Total Recoverable	**0.28**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:23	7440-42-8	
Calcium, Total Recoverable	**130**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:23	7440-70-2	
Iron, Total Recoverable	**0.11**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:23	7439-89-6	
Magnesium, Total Recoverable	**14.3**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:23	7439-95-4	
Manganese, Total Recoverable	**0.052**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:23	7439-96-5	
Potassium, Total Recoverable	**5.3**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:23	7440-09-7	
Sodium, Total Recoverable	**27.8**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:23	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:44	7439-89-6	
Manganese, Dissolved	**0.0070**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:44	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.020**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:27	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0033**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:57	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:57	7440-48-4	
Molybdenum, Total Recoverable	**0.0094**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 15:57	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**334**	mg/L	20.0	1		03/22/21 12:38		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**598**	mg/L	10.0	1		03/16/21 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 11:40		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**28.9**	mg/L	5.0	5		03/19/21 01:19	16887-00-6	
Fluoride	**0.39**	mg/L	0.20	1		03/17/21 20:24	16984-48-8	
Sulfate	**118**	mg/L	20.0	20		03/17/21 20:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-D-030921 **Lab ID: 60363608008** Collected: 03/09/21 14:40 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.16**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:26	7440-39-3	
Boron, Total Recoverable	**0.46**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:26	7440-42-8	
Calcium, Total Recoverable	**173**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:26	7440-70-2	
Iron, Total Recoverable	**3.9**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:26	7439-89-6	
Magnesium, Total Recoverable	**28.7**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:26	7439-95-4	
Manganese, Total Recoverable	**2.8**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:26	7439-96-5	
Potassium, Total Recoverable	**6.6**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:26	7440-09-7	
Sodium, Total Recoverable	**23.1**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:26	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.61**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:47	7439-89-6	
Manganese, Dissolved	**2.8**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:47	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:30	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0040**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:06	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:06	7440-48-4	
Molybdenum, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:06	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**539**	mg/L	20.0	1		03/22/21 12:44		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:44		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**675**	mg/L	10.0	1		03/16/21 10:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.8**	Std. Units	0.10	1		03/15/21 12:34		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**6.5**	mg/L	1.0	1		03/17/21 20:56	16887-00-6	
Fluoride	**0.42**	mg/L	0.20	1		03/17/21 20:56	16984-48-8	
Sulfate	**61.6**	mg/L	20.0	20		03/17/21 21:28	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-G-031021 **Lab ID: 60363608009** Collected: 03/10/21 12:10 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.041**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:29	7440-39-3	
Boron, Total Recoverable	**1.9**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:29	7440-42-8	
Calcium, Total Recoverable	**213**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:29	7440-70-2	
Iron, Total Recoverable	**5.1**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:29	7439-89-6	
Magnesium, Total Recoverable	**30.0**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:29	7439-95-4	
Manganese, Total Recoverable	**0.77**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:29	7439-96-5	
Potassium, Total Recoverable	**8.4**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:29	7440-09-7	
Sodium, Total Recoverable	**87.2**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:29	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**2.9**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:52	7439-89-6	
Manganese, Dissolved	**0.76**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:52	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:32	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.015**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:10	7440-38-2	
Cobalt, Total Recoverable	**0.0022**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:10	7440-48-4	
Molybdenum, Total Recoverable	**0.0050**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:10	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**338**	mg/L	20.0	1		03/22/21 12:50		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 12:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1200**	mg/L	13.3	1		03/16/21 10:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		03/15/21 12:47		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**27.9**	mg/L	5.0	5		03/19/21 01:33	16887-00-6	
Fluoride	**0.28**	mg/L	0.20	1		03/17/21 22:00	16984-48-8	
Sulfate	**543**	mg/L	50.0	50		03/19/21 02:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-M-030921 **Lab ID: 60363608010** Collected: 03/09/21 13:50 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.16**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:31	7440-39-3	
Boron, Total Recoverable	**1.3**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:31	7440-42-8	
Calcium, Total Recoverable	**269**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:31	7440-70-2	M1
Iron, Total Recoverable	**0.11**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:31	7439-89-6	
Magnesium, Total Recoverable	**46.0**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:31	7439-95-4	
Manganese, Total Recoverable	**1.0**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:31	7439-96-5	
Potassium, Total Recoverable	**10.6**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:31	7440-09-7	
Sodium, Total Recoverable	**62.5**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:31	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:54	7439-89-6	
Manganese, Dissolved	**1.9**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:54	7439-96-5	1e
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.031**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:35	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0057**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:14	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:14	7440-48-4	
Molybdenum, Total Recoverable	**0.0061**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:14	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**430**	mg/L	20.0	1		03/22/21 13:19		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 13:19		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1200**	mg/L	13.3	1		03/16/21 10:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		03/15/21 12:49		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**69.3**	mg/L	20.0	20		03/17/21 23:19	16887-00-6	
Fluoride	**0.97**	mg/L	0.20	1		03/17/21 23:03	16984-48-8	
Sulfate	**442**	mg/L	50.0	50		03/19/21 02:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-N-031021 **Lab ID: 60363608011** Collected: 03/10/21 13:00 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
	Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.14**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:36	7440-39-3	
Boron, Total Recoverable	**1.3**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:36	7440-42-8	
Calcium, Total Recoverable	**119**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:36	7440-70-2	
Iron, Total Recoverable	**8.4**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:36	7439-89-6	
Magnesium, Total Recoverable	**48.8**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:36	7439-95-4	
Manganese, Total Recoverable	**0.48**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:36	7439-96-5	
Potassium, Total Recoverable	**17.4**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:36	7440-09-7	
Sodium, Total Recoverable	**54.0**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:36	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
	Pace Analytical Services - Kansas City							
Iron, Dissolved	**0.73**	mg/L	0.050	1	03/16/21 15:38	03/19/21 11:57	7439-89-6	
Manganese, Dissolved	**0.39**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 11:57	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.052**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:38	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.039**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:18	7440-38-2	
Cobalt, Total Recoverable	**0.0011**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:18	7440-48-4	
Molybdenum, Total Recoverable	**0.026**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:18	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**481**	mg/L	20.0	1		03/22/21 13:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 13:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Kansas City							
Total Dissolved Solids	**722**	mg/L	10.0	1		03/16/21 10:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		03/15/21 12:50		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
	Pace Analytical Services - Kansas City							
Chloride	**30.3**	mg/L	5.0	5		03/19/21 02:45	16887-00-6	
Fluoride	**4.4**	mg/L	0.20	1		03/17/21 23:35	16984-48-8	
Sulfate	**128**	mg/L	20.0	20		03/17/21 23:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-O-031021 **Lab ID: 60363608012** Collected: 03/10/21 10:45 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.043**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:39	7440-39-3	
Boron, Total Recoverable	**2.9**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:39	7440-42-8	
Calcium, Total Recoverable	**510**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:39	7440-70-2	
Iron, Total Recoverable	**10.8**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:39	7439-89-6	
Magnesium, Total Recoverable	**168**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:39	7439-95-4	
Manganese, Total Recoverable	**1.6**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:39	7439-96-5	
Potassium, Total Recoverable	**29.5**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:39	7440-09-7	
Sodium, Total Recoverable	**404**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:39	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**8.1**	mg/L	0.050	1	03/16/21 15:38	03/19/21 12:16	7439-89-6	
Manganese, Dissolved	**1.6**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 12:16	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.096**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:48	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.015**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:31	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:31	7440-48-4	
Molybdenum, Total Recoverable	**0.049**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:31	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**255**	mg/L	20.0	1		03/22/21 13:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 13:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**4350**	mg/L	100	1		03/16/21 10:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 12:52		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**583**	mg/L	200	200		03/19/21 02:59	16887-00-6	
Fluoride	**3.8**	mg/L	0.20	1		03/18/21 00:07	16984-48-8	
Sulfate	**2050**	mg/L	200	200		03/19/21 02:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: MW-P-030921 **Lab ID: 60363608013** Collected: 03/09/21 10:25 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.036**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:47	7440-39-3	
Boron, Total Recoverable	**1.5**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:47	7440-42-8	
Calcium, Total Recoverable	**172**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:47	7440-70-2	
Iron, Total Recoverable	**1.7**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:47	7439-89-6	
Magnesium, Total Recoverable	**34.6**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:47	7439-95-4	
Manganese, Total Recoverable	**1.6**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:47	7439-96-5	
Potassium, Total Recoverable	**13.3**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:47	7440-09-7	
Sodium, Total Recoverable	**83.2**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:47	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Iron, Dissolved	**<0.050**	mg/L	0.050	1	03/16/21 15:38	03/19/21 12:19	7439-89-6	
Manganese, Dissolved	**1.4**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 12:19	7439-96-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.028**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:51	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0049**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:35	7440-38-2	
Cobalt, Total Recoverable	**0.0014**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:35	7440-48-4	
Molybdenum, Total Recoverable	**0.048**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:35	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**404**	mg/L	20.0	1		03/22/21 13:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 13:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**981**	mg/L	13.3	1		03/16/21 10:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		03/15/21 12:53		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**61.1**	mg/L	20.0	20		03/18/21 00:54	16887-00-6	
Fluoride	**2.7**	mg/L	0.20	1		03/18/21 00:38	16984-48-8	
Sulfate	**301**	mg/L	20.0	20		03/18/21 00:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: DUP-AP NE-030921 **Lab ID: 60363608014** Collected: 03/09/21 10:15 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
	Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.044**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:50	7440-39-3	
Boron, Total Recoverable	**5.6**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:50	7440-42-8	
Calcium, Total Recoverable	**398**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:50	7440-70-2	
Iron, Total Recoverable	**4.7**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:50	7439-89-6	
Magnesium, Total Recoverable	**66.5**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:50	7439-95-4	
Manganese, Total Recoverable	**2.0**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:50	7439-96-5	
Potassium, Total Recoverable	**25.3**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:50	7440-09-7	
Sodium, Total Recoverable	**344**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:50	7440-23-5	
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
	Pace Analytical Services - Kansas City							
Iron, Dissolved	**5.4**	mg/L	0.050	1	03/16/21 15:38	03/19/21 12:21	7439-89-6	
Manganese, Dissolved	**2.1**	mg/L	0.0050	1	03/16/21 15:38	03/19/21 12:21	7439-96-5	D9
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.050**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:53	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0042**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:39	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:39	7440-48-4	
Molybdenum, Total Recoverable	**0.20**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:39	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**248**	mg/L	20.0	1		03/22/21 13:47		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		03/22/21 13:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3290**	mg/L	66.7	1		03/16/21 10:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/15/21 12:54		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
	Pace Analytical Services - Kansas City							
Chloride	**346**	mg/L	20.0	20		03/18/21 01:58	16887-00-6	
Fluoride	**2.9**	mg/L	0.20	1		03/18/21 01:10	16984-48-8	
Sulfate	**1680**	mg/L	200	200		03/19/21 03:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Sample: EQUIPMENT RINSATE-031021 **Lab ID: 60363608015** Collected: 03/10/21 13:30 Received: 03/11/21 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:55	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	03/16/21 10:18	03/19/21 21:55	7440-42-8	
Calcium, Total Recoverable	**<0.20**	mg/L	0.20	1	03/16/21 10:18	03/19/21 21:55	7440-70-2	
Iron, Total Recoverable	**<0.050**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:55	7439-89-6	
Magnesium, Total Recoverable	**<0.050**	mg/L	0.050	1	03/16/21 10:18	03/19/21 21:55	7439-95-4	
Manganese, Total Recoverable	**<0.0050**	mg/L	0.0050	1	03/16/21 10:18	03/19/21 21:55	7439-96-5	
Potassium, Total Recoverable	**<0.50**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:55	7440-09-7	
Sodium, Total Recoverable	**<0.50**	mg/L	0.50	1	03/16/21 10:18	03/19/21 21:55	7440-23-5	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	03/17/21 09:29	03/22/21 13:56	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:44	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:44	7440-48-4	
Molybdenum, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/15/21 15:37	03/19/21 16:44	7439-98-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708839
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: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014, 60363608015

METHOD BLANK: 2854524 Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014, 60363608015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	03/19/21 20:47	
Boron	mg/L	<0.10	0.10	03/19/21 20:47	
Calcium	mg/L	<0.20	0.20	03/19/21 20:47	
Iron	mg/L	<0.050	0.050	03/19/21 20:47	
Magnesium	mg/L	<0.050	0.050	03/19/21 20:47	
Manganese	mg/L	<0.0050	0.0050	03/19/21 20:47	
Potassium	mg/L	<0.50	0.50	03/19/21 20:47	
Sodium	mg/L	<0.50	0.50	03/22/21 17:27	

LABORATORY CONTROL SAMPLE: 2854525

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.97	97	85-115	
Boron	mg/L	1	0.98	98	85-115	
Calcium	mg/L	10	9.6	96	85-115	
Iron	mg/L	10	9.7	97	85-115	
Magnesium	mg/L	10	9.6	96	85-115	
Manganese	mg/L	1	1.0	100	85-115	
Potassium	mg/L	10	9.8	98	85-115	
Sodium	mg/L	10	10.6	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854526 2854527

Parameter	Units	60363608001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.15	1	1	1.1	1.1	96	96	70-130	0	20	
Boron	mg/L	0.46	1	1	1.4	1.4	98	98	70-130	0	20	
Calcium	mg/L	104	10	10	112	112	83	84	70-130	0	20	
Iron	mg/L	0.83	10	10	10.4	10.4	96	96	70-130	0	20	
Magnesium	mg/L	22.2	10	10	31.4	31.3	92	91	70-130	0	20	
Manganese	mg/L	0.15	1	1	1.1	1.1	98	98	70-130	0	20	
Potassium	mg/L	6.6	10	10	16.2	16.2	96	96	70-130	0	20	
Sodium	mg/L	19.2	10	10	28.8	28.7	95	95	70-130	0	20	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

MATRIX SPIKE SAMPLE: 2854528

Parameter	Units	60363608010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.16	1	1.1	97	70-130	
Boron	mg/L	1.3	1	2.2	96	70-130	
Calcium	mg/L	269	10	275	56	70-130	M1
Iron	mg/L	0.11	10	9.8	97	70-130	
Magnesium	mg/L	46.0	10	53.8	78	70-130	
Manganese	mg/L	1.0	1	2.2	116	70-130	
Potassium	mg/L	10.6	10	20.2	96	70-130	
Sodium	mg/L	62.5	10	70.1	76	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708937 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

METHOD BLANK: 2854917 Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	mg/L	<0.050	0.050	03/19/21 17:27	
Manganese, Dissolved	mg/L	<0.0050	0.0050	03/19/21 17:27	

LABORATORY CONTROL SAMPLE: 2854918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	10	9.8	98	85-115	
Manganese, Dissolved	mg/L	1	0.98	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854919 2854920

Parameter	Units	60363608003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	mg/L	5.1	10	10	14.6	14.7	95	96	70-130	1	20	
Manganese, Dissolved	mg/L	2.1	1	1	3.0	3.0	98	94	70-130	1	20	

MATRIX SPIKE SAMPLE: 2854921

Parameter	Units	60363608008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	0.61	10	10.4	97	70-130	
Manganese, Dissolved	mg/L	2.8	1	3.7	89	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708661
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: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014, 60363608015

METHOD BLANK: 2854174 Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014, 60363608015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	03/19/21 15:15	
Cobalt	mg/L	<0.0010	0.0010	03/19/21 15:15	
Molybdenum	mg/L	<0.0010	0.0010	03/19/21 15:15	

LABORATORY CONTROL SAMPLE: 2854175

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.041	104	85-115	
Cobalt	mg/L	0.04	0.041	102	85-115	
Molybdenum	mg/L	0.04	0.040	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854176 2854177

Parameter	Units	60363608001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0011	0.04	0.04	0.044	0.043	106	106	70-130	0	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.041	0.041	101	102	70-130	0	20	
Molybdenum	mg/L	0.035	0.04	0.04	0.075	0.076	102	103	70-130	0	20	

MATRIX SPIKE SAMPLE: 2854178

Parameter	Units	60363608011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.039	0.04	0.078	97	70-130	
Cobalt	mg/L	0.0011	0.04	0.040	96	70-130	
Molybdenum	mg/L	0.026	0.04	0.059	84	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 709013
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014, 60363608015

METHOD BLANK: 2855061 Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014, 60363608015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	03/22/21 12:57	

LABORATORY CONTROL SAMPLE: 2855062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2855063 2855064

Parameter	Units	60363608002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.038	1	1	1.1	1.1	106	105	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 709834 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009

METHOD BLANK: 2858168 — Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007, 60363608008, 60363608009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	03/22/21 10:14	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	03/22/21 10:14	

SAMPLE DUPLICATE: 2858170

Parameter	Units	60363030002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	178	181	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2858171

Parameter	Units	60363603007 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	182	186	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 709888 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

METHOD BLANK: 2858392 Matrix: Water
Associated Lab Samples: 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	03/22/21 13:06	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	03/22/21 13:06	

SAMPLE DUPLICATE: 2858394

Parameter	Units	60363608010 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	430	415	4	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708643 — Analysis Method: SM 2540C
QC Batch Method: SM 2540C — Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608001, 60363608003, 60363608004, 60363608006, 60363608007, 60363608008, 60363608010, 60363608013, 60363608014

METHOD BLANK: 2854124 — Matrix: Water
Associated Lab Samples: 60363608001, 60363608003, 60363608004, 60363608006, 60363608007, 60363608008, 60363608010, 60363608013, 60363608014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	03/16/21 10:13	

LABORATORY CONTROL SAMPLE: 2854125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	998	100	80-120	

SAMPLE DUPLICATE: 2854126

Parameter	Units	60363585001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	977	1000	3	10	

SAMPLE DUPLICATE: 2854607

Parameter	Units	60363707003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1070	1050	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708645 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608002, 60363608005, 60363608009, 60363608011, 60363608012

METHOD BLANK: 2854132 Matrix: Water
Associated Lab Samples: 60363608002, 60363608005, 60363608009, 60363608011, 60363608012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	03/16/21 10:16	

LABORATORY CONTROL SAMPLE: 2854133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1040	104	80-120	

SAMPLE DUPLICATE: 2854134

Parameter	Units	60363707004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1100	1070	3	10	

SAMPLE DUPLICATE: 2854135

Parameter	Units	60363608012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4350	4530	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708501
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005, 60363608006, 60363608007

SAMPLE DUPLICATE: 2853772

Parameter	Units	60363585001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	7.2	5	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708502
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

SAMPLE DUPLICATE: 2853773

Parameter	Units	60363608008 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.9	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 708923
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: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005

METHOD BLANK: 2854866 Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/17/21 09:29	
Fluoride	mg/L	<0.20	0.20	03/17/21 09:29	
Sulfate	mg/L	<1.0	1.0	03/17/21 09:29	

METHOD BLANK: 2857386 Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/18/21 17:40	
Fluoride	mg/L	<0.20	0.20	03/18/21 17:40	
Sulfate	mg/L	<1.0	1.0	03/18/21 17:40	

METHOD BLANK: 2857667 Matrix: Water
Associated Lab Samples: 60363608001, 60363608002, 60363608003, 60363608004, 60363608005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/19/21 08:52	
Fluoride	mg/L	<0.20	0.20	03/19/21 08:52	
Sulfate	mg/L	<1.0	1.0	03/19/21 08:52	

LABORATORY CONTROL SAMPLE: 2854867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

LABORATORY CONTROL SAMPLE: 2857387

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

LABORATORY CONTROL SAMPLE: 2857668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2854868 2854869

Parameter	Units	60363693001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	19.3	5	5	24.9	24.9	111	111	80-120	0	15	E
Fluoride	mg/L	0.68	2.5	2.5	3.2	3.2	100	100	80-120	0	15	
Sulfate	mg/L	13.1	5	5	18.2	18.2	104	104	80-120	0	15	

MATRIX SPIKE SAMPLE: 2854870

Parameter	Units	60363587001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	3570	2500	6200	105	80-120	
Fluoride	mg/L	0.29	2.5	2.5	90	80-120	
Sulfate	mg/L	122	100	255	133	80-120	M1

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

QC Batch: 709245 | 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: 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

METHOD BLANK: 2855786 Matrix: Water
Associated Lab Samples: 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/17/21 09:29	
Fluoride	mg/L	<0.20	0.20	03/17/21 09:29	
Sulfate	mg/L	<1.0	1.0	03/17/21 09:29	

METHOD BLANK: 2857388 Matrix: Water
Associated Lab Samples: 60363608006, 60363608007, 60363608008, 60363608009, 60363608010, 60363608011, 60363608012, 60363608013, 60363608014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/18/21 17:40	
Fluoride	mg/L	<0.20	0.20	03/18/21 17:40	
Sulfate	mg/L	<1.0	1.0	03/18/21 17:40	

LABORATORY CONTROL SAMPLE: 2855787

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	98	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 2857389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2855788 2855789

Parameter	Units	60363863001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	333	250	250	605	601	109	107	80-120	1	15	
Fluoride	mg/L	ND	125	125	133	133	107	107	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2855788 2855789

Parameter	Units	60363863001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	105	250	250	361	360	102	102	80-120	0	15	

MATRIX SPIKE SAMPLE: 2855790

Parameter	Units	60363608008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	6.5	5	11.7	104	80-120	
Fluoride	mg/L	0.42	2.5	3.2	111	80-120	
Sulfate	mg/L	61.6	100	185	124	80-120	M1

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

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.

ANALYTE QUALIFIERS

1e	Dissolved result is greater than the total. Results confirmed by secondary analysis.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363608001	MW-101-030921	EPA 200.7	708839	EPA 200.7	708956
60363608002	MW-102-031021	EPA 200.7	708839	EPA 200.7	708956
60363608003	MW-103-030921	EPA 200.7	708839	EPA 200.7	708956
60363608004	MW-104-030921	EPA 200.7	708839	EPA 200.7	708956
60363608005	MW-106-031021	EPA 200.7	708839	EPA 200.7	708956
60363608006	MW-B-030921	EPA 200.7	708839	EPA 200.7	708956
60363608007	MW-C-030921	EPA 200.7	708839	EPA 200.7	708956
60363608008	MW-D-030921	EPA 200.7	708839	EPA 200.7	708956
60363608009	MW-G-031021	EPA 200.7	708839	EPA 200.7	708956
60363608010	MW-M-030921	EPA 200.7	708839	EPA 200.7	708956
60363608011	MW-N-031021	EPA 200.7	708839	EPA 200.7	708956
60363608012	MW-O-031021	EPA 200.7	708839	EPA 200.7	708956
60363608013	MW-P-030921	EPA 200.7	708839	EPA 200.7	708956
60363608014	DUP-AP NE-030921	EPA 200.7	708839	EPA 200.7	708956
60363608015	EQUIPMENT RINSATE-031021	EPA 200.7	708839	EPA 200.7	708956
60363608001	MW-101-030921	EPA 200.7	708937	EPA 200.7	709002
60363608002	MW-102-031021	EPA 200.7	708937	EPA 200.7	709002
60363608003	MW-103-030921	EPA 200.7	708937	EPA 200.7	709002
60363608004	MW-104-030921	EPA 200.7	708937	EPA 200.7	709002
60363608005	MW-106-031021	EPA 200.7	708937	EPA 200.7	709002
60363608006	MW-B-030921	EPA 200.7	708937	EPA 200.7	709002
60363608007	MW-C-030921	EPA 200.7	708937	EPA 200.7	709002
60363608008	MW-D-030921	EPA 200.7	708937	EPA 200.7	709002
60363608009	MW-G-031021	EPA 200.7	708937	EPA 200.7	709002
60363608010	MW-M-030921	EPA 200.7	708937	EPA 200.7	709002
60363608011	MW-N-031021	EPA 200.7	708937	EPA 200.7	709002
60363608012	MW-O-031021	EPA 200.7	708937	EPA 200.7	709002
60363608013	MW-P-030921	EPA 200.7	708937	EPA 200.7	709002
60363608014	DUP-AP NE-030921	EPA 200.7	708937	EPA 200.7	709002
60363608001	MW-101-030921	EPA 3010	709013	EPA 6010	709233
60363608002	MW-102-031021	EPA 3010	709013	EPA 6010	709233
60363608003	MW-103-030921	EPA 3010	709013	EPA 6010	709233
60363608004	MW-104-030921	EPA 3010	709013	EPA 6010	709233
60363608005	MW-106-031021	EPA 3010	709013	EPA 6010	709233
60363608006	MW-B-030921	EPA 3010	709013	EPA 6010	709233
60363608007	MW-C-030921	EPA 3010	709013	EPA 6010	709233
60363608008	MW-D-030921	EPA 3010	709013	EPA 6010	709233
60363608009	MW-G-031021	EPA 3010	709013	EPA 6010	709233
60363608010	MW-M-030921	EPA 3010	709013	EPA 6010	709233
60363608011	MW-N-031021	EPA 3010	709013	EPA 6010	709233
60363608012	MW-O-031021	EPA 3010	709013	EPA 6010	709233
60363608013	MW-P-030921	EPA 3010	709013	EPA 6010	709233
60363608014	DUP-AP NE-030921	EPA 3010	709013	EPA 6010	709233
60363608015	EQUIPMENT RINSATE-031021	EPA 3010	709013	EPA 6010	709233
60363608001	MW-101-030921	EPA 200.8	708661	EPA 200.8	708805
60363608002	MW-102-031021	EPA 200.8	708661	EPA 200.8	708805
60363608003	MW-103-030921	EPA 200.8	708661	EPA 200.8	708805

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363608004	MW-104-030921	EPA 200.8	708661	EPA 200.8	708805
60363608005	MW-106-031021	EPA 200.8	708661	EPA 200.8	708805
60363608006	MW-B-030921	EPA 200.8	708661	EPA 200.8	708805
60363608007	MW-C-030921	EPA 200.8	708661	EPA 200.8	708805
60363608008	MW-D-030921	EPA 200.8	708661	EPA 200.8	708805
60363608009	MW-G-031021	EPA 200.8	708661	EPA 200.8	708805
60363608010	MW-M-030921	EPA 200.8	708661	EPA 200.8	708805
60363608011	MW-N-031021	EPA 200.8	708661	EPA 200.8	708805
60363608012	MW-O-031021	EPA 200.8	708661	EPA 200.8	708805
60363608013	MW-P-030921	EPA 200.8	708661	EPA 200.8	708805
60363608014	DUP-AP NE-030921	EPA 200.8	708661	EPA 200.8	708805
60363608015	EQUIPMENT RINSATE-031021	EPA 200.8	708661	EPA 200.8	708805
60363608001	MW-101-030921	SM 2320B	709834		
60363608002	MW-102-031021	SM 2320B	709834		
60363608003	MW-103-030921	SM 2320B	709834		
60363608004	MW-104-030921	SM 2320B	709834		
60363608005	MW-106-031021	SM 2320B	709834		
60363608006	MW-B-030921	SM 2320B	709834		
60363608007	MW-C-030921	SM 2320B	709834		
60363608008	MW-D-030921	SM 2320B	709834		
60363608009	MW-G-031021	SM 2320B	709834		
60363608010	MW-M-030921	SM 2320B	709888		
60363608011	MW-N-031021	SM 2320B	709888		
60363608012	MW-O-031021	SM 2320B	709888		
60363608013	MW-P-030921	SM 2320B	709888		
60363608014	DUP-AP NE-030921	SM 2320B	709888		
60363608001	MW-101-030921	SM 2540C	708643		
60363608002	MW-102-031021	SM 2540C	708645		
60363608003	MW-103-030921	SM 2540C	708643		
60363608004	MW-104-030921	SM 2540C	708643		
60363608005	MW-106-031021	SM 2540C	708645		
60363608006	MW-B-030921	SM 2540C	708643		
60363608007	MW-C-030921	SM 2540C	708643		
60363608008	MW-D-030921	SM 2540C	708643		
60363608009	MW-G-031021	SM 2540C	708645		
60363608010	MW-M-030921	SM 2540C	708643		
60363608011	MW-N-031021	SM 2540C	708645		
60363608012	MW-O-031021	SM 2540C	708645		
60363608013	MW-P-030921	SM 2540C	708643		
60363608014	DUP-AP NE-030921	SM 2540C	708643		
60363608001	MW-101-030921	SM 4500-H+B	708501		
60363608002	MW-102-031021	SM 4500-H+B	708501		
60363608003	MW-103-030921	SM 4500-H+B	708501		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60363608

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363608004	**MW-104-030921**	SM 4500-H+B	708501		
60363608005	**MW-106-031021**	SM 4500-H+B	708501		
60363608006	**MW-B-030921**	SM 4500-H+B	708501		
60363608007	**MW-C-030921**	SM 4500-H+B	708501		
60363608008	**MW-D-030921**	SM 4500-H+B	708502		
60363608009	**MW-G-031021**	SM 4500-H+B	708502		
60363608010	**MW-M-030921**	SM 4500-H+B	708502		
60363608011	**MW-N-031021**	SM 4500-H+B	708502		
60363608012	**MW-O-031021**	SM 4500-H+B	708502		
60363608013	**MW-P-030921**	SM 4500-H+B	708502		
60363608014	**DUP-AP NE-030921**	SM 4500-H+B	708502		
60363608001	**MW-101-030921**	EPA 300.0	708923		
60363608002	**MW-102-031021**	EPA 300.0	708923		
60363608003	**MW-103-030921**	EPA 300.0	708923		
60363608004	**MW-104-030921**	EPA 300.0	708923		
60363608005	**MW-106-031021**	EPA 300.0	708923		
60363608006	**MW-B-030921**	EPA 300.0	709245		
60363608007	**MW-C-030921**	EPA 300.0	709245		
60363608008	**MW-D-030921**	EPA 300.0	709245		
60363608009	**MW-G-031021**	EPA 300.0	709245		
60363608010	**MW-M-030921**	EPA 300.0	709245		
60363608011	**MW-N-031021**	EPA 300.0	709245		
60363608012	**MW-O-031021**	EPA 300.0	709245		
60363608013	**MW-P-030921**	EPA 300.0	709245		
60363608014	**DUP-AP NE-030921**	EPA 300.0	709245		

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Sample Condition Upon Receipt

WO# : 60363608

60363608

Client Name: Evergy Kansas Central, Inc

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** 5.2 **Corr. Factor** 0.0 **Corrected** 5.2

Temperature should be above freezing to 6°C 2.7 3.6 2.7 3.6

Date and initials of person examining contents: 3/12/21 SK

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# 1003173	☑Yes ☑No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added. MW-103 BPIU - PH 6.0 added 2ml HNO3 final 2.0 MW-104 BPIU PH 3.0 Added 1ml HNO3 Final 2.0 MW-B, MW-D, MW-M, ~~MW-N~~ discrepancy BPIUS PH 6.0 MW-O BPIU PH 3.0 MW-N BPIU PH 3.0
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	MW-B Added ~~2~~ 1ml HNO3 Final pH 2.0 MW-D Added 2ml HNO3 Final pH 2.0
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	MW-M, MW-N & MW-O Added 1ml HNO3 Final pH 2.0
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	

Section B — **Required** Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location — **STATE:** KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	Section D Required Client Information (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	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS	4500H+ pH	200.7 Total Metals*	200.7 Diss. Metals (FF)**	200.8 Total Metals***	6010 Total Metals****	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	Y	N	N		
1	MW-101-030921	WT	G	-	-	03/09/21	17:00		4	2		2							x	x	x	x	x	x	x	x	x		40364608
2	MW-102-031021	WT	G	-	-	03/10/21	9:20		4	2		2							x	x	x	x	x	x	x	x	x		
3	MW-103-030921	WT	G	-	-	03/09/21	10:15		4	2		2							x	x	x	x	x	x	x	x	x		
4	MW-104-030921	WT	G	-	-	03/09/21	12:20		4	2		2							x	x	x	x	x	x	x	x	x		
5	MW-106-031021	WT	G	-	-	03/10/21	9:05		4	2		2							x	x	x	x	x	x	x	x	x		
6	MW-B-030921	WT	G	-	-	03/09/21	18:25		4	2		2							x	x	x	x	x	x	x	x	x		
7	MW-C-030921	WT	G	-	-	03/09/21	12:35		4	2		2							x	x	x	x	x	x	x	x	x		
8	MW-D-030921	WT	G	-	-	03/09/21	14:40		4	2		2							x	x	x	x	x	x	x	x	x		
9	MW-G-031021	WT	G	-	-	03/10/21	12:10		4	2		2							x	x	x	x	x	x	x	x	x		
10	MW-M-030921	WT	G	-	-	03/09/21	13:50		4	2		2							x	x	x	x	x	x	x	x	x		
11	MW-N-031021	WT	G	-	-	03/10/21	13:00		4	2		2							x	x	x	x	x	x	x	x	x		
12	MW-O-031021	WT	G	-	-	03/10/21	10:45		4	2		2							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)
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na (8 metals)	Jason R. Franks / SCS	3/11/21	14:30	[illegible]	3/11/21	1430	5.2	Y	N	Y
200.7 Dissolved Metals**: Fe, Mn (2 metals, FIELD FILTERED)							2.7	Y	N	Y
200.8 Total Metals***: As, Co, Mo (3 metals)							3.6	Y	N	Y
6010 Total Metals****: Li (1 metal)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 3/10/21

*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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	Section D Required Client Information	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	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS	4500H+ pH	200.7 Total Metals*	200.7 Diss. Metals (FF)**	200.8 Total Metals***	6010 Total Metals****	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	N	Y	N	N		
1	MW-P-030921	WT	G	-	-	03/09/21	10:25		4	2		2							X	X	X	X	X	X	X	X	X		L#036036 08
2	DUP-AP NE-030921	WT	G	-	-	03/09/21	10:15		4	2		2							X	X	X	X	X	X	X	X	X		
3	Equipment Rinsate-031021	WT	G	-	-	03/10/21	13:30		1			1												X		X	X		
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na (8 metals)	Jason R. Franks / SCS	3/11/21	14:30	S Woodis / Pace	3/11/21	1430	5.2	Y	N	Y
200.7 Dissolved Metals**: Fe, Mn (2 metals, FIELD FILTERED)							2.7	Y	N	Y
200.8 Total Metals***: As, Co, Mo (3 metals)							3.6	Y	N	Y
6010 Total Metals****: Li (1 metal)										
							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: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 3/10/21

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

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

April 02, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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CERTIFICATIONS

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

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

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SAMPLE SUMMARY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60363786001	**MW-101-030921**	Water	03/09/21 17:00	03/12/21 09:35
60363786002	**MW-102-031021**	Water	03/10/21 09:20	03/12/21 09:35
60363786003	**MW-103-030921**	Water	03/09/21 10:15	03/12/21 09:35
60363786004	**MW-104-030921**	Water	03/09/21 12:20	03/12/21 09:35
60363786005	**MW-106-031021**	Water	03/10/21 09:05	03/12/21 09:35
60363786006	**MW-B-030921**	Water	03/09/21 18:25	03/12/21 09:35
60363786007	**MW-C-030921**	Water	03/09/21 12:35	03/12/21 09:35
60363786008	**MW-D-030921**	Water	03/09/21 14:40	03/12/21 09:35
60363786009	**MW-G-031021**	Water	03/10/21 12:10	03/12/21 09:35
60363786010	**MW-M-030921**	Water	03/09/21 13:50	03/12/21 09:35
60363786011	**MW-N-031021**	Water	03/10/21 13:00	03/12/21 09:35
60363786012	**MW-O-031021**	Water	03/10/21 10:45	03/12/21 09:35
60363786013	**MW-P-030921**	Water	03/09/21 10:25	03/12/21 09:35
60363786014	**DUP-AP NE-030921**	Water	03/09/21 10:15	03/12/21 09:35

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SAMPLE ANALYTE COUNT

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60363786001	MW-101-030921	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786002	MW-102-031021	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786003	MW-103-030921	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786004	MW-104-030921	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786005	MW-106-031021	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786006	MW-B-030921	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786007	MW-C-030921	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786008	MW-D-030921	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786009	MW-G-031021	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786010	MW-M-030921	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786011	MW-N-031021	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786012	MW-O-031021	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786013	MW-P-030921	EPA 903.1	MK1	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363786014	**DUP-AP NE-030921**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-101-030921 **Lab ID: 60363786001** Collected: 03/09/21 17:00 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.476 ± 0.407 (0.552) C:NA T:97%**	pCi/L	03/30/21 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.353 ± 0.537 (1.16) C:72% T:85%**	pCi/L	04/01/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.829 ± 0.674 (1.16)**	pCi/L	04/02/21 15:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-102-031021 **Lab ID: 60363786002** Collected: 03/10/21 09:20 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.201 ± 0.395 (0.723) C:NA T:98%**	pCi/L	03/30/21 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.553 ± 0.441 (0.886) C:71% T:92%**	pCi/L	04/01/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.754 ± 0.592 (0.886)**	pCi/L	04/02/21 15:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-103-030921 **Lab ID: 60363786003** Collected: 03/09/21 10:15 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.222 ± 0.561 (1.04) C:NA T:88%**	pCi/L	03/30/21 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.940 ± 0.642 (1.26) C:68% T:76%**	pCi/L	04/01/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.16 ± 0.853 (1.26)**	pCi/L	04/02/21 15:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-104-030921 **Lab ID: 60363786004** Collected: 03/09/21 12:20 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.188 ± 0.370 (0.676) C:NA T:89%**	pCi/L	03/30/21 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.936 ± 0.629 (1.24) C:68% T:81%**	pCi/L	04/01/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.12 ± 0.730 (1.24)**	pCi/L	04/02/21 15:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-106-031021 **Lab ID: 60363786005** Collected: 03/10/21 09:05 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0591 ± 0.348 (0.710) C:NA T:94%**	pCi/L	03/30/21 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0976 ± 0.427 (0.966) C:71% T:84%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.157 ± 0.551 (0.966)**	pCi/L	04/02/21 15:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-B-030921 **Lab ID: 60363786006** Collected: 03/09/21 18:25 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.558 ± 0.478 (0.648) C:NA T:87%**	pCi/L	03/30/21 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.14 ± 0.550 (0.964) C:70% T:84%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.70 ± 0.729 (0.964)**	pCi/L	04/02/21 15:22	7440-14-4	

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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-C-030921 **Lab ID: 60363786007** Collected: 03/09/21 12:35 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.122 ± 0.378 (0.732) C:NA T:93%**	pCi/L	03/30/21 15:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.751 ± 0.537 (1.05) C:67% T:79%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.873 ± 0.657 (1.05)**	pCi/L	04/02/21 15:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-D-030921 **Lab ID: 60363786008** Collected: 03/09/21 14:40 Received: 03/12/21 09:35 Matrix: Water
PWS: Site 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 ± 0.405 (0.856) C:NA T:88%**	pCi/L	03/30/21 16:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.62 ± 0.665 (1.09) C:67% T:79%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.62 ± 0.779 (1.09)**	pCi/L	04/02/21 15:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-G-031021 **Lab ID: 60363786009** Collected: 03/10/21 12:10 Received: 03/12/21 09:35 Matrix: Water
PWS: Site 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 ± 0.404 (0.900) C:NA T:91%**	pCi/L	03/30/21 16:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.743 ± 0.476 (0.913) C:73% T:85%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.743 ± 0.624 (0.913)**	pCi/L	04/02/21 15:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-M-030921 **Lab ID: 60363786010** Collected: 03/09/21 13:50 Received: 03/12/21 09:35 Matrix: Water
PWS: Site 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 ± 0.353 (0.764) C:NA T:91%**	pCi/L	03/30/21 16:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.356 ± 0.459 (0.980) C:68% T:86%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.356 ± 0.579 (0.980)**	pCi/L	04/02/21 15:26	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-N-031021 **Lab ID: 60363786011** Collected: 03/10/21 13:00 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.309 ± 0.525 (0.927) C:NA T:84%**	pCi/L	03/30/21 16:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.47 ± 0.648 (1.10) C:71% T:72%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.78 ± 0.834 (1.10)**	pCi/L	04/02/21 15:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-O-031021 **Lab ID: 60363786012** Collected: 03/10/21 10:45 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.188 ± 0.287 (0.752) C:NA T:95%**	pCi/L	03/30/21 16:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.28 ± 0.610 (1.07) C:68% T:80%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.28 ± 0.674 (1.07)**	pCi/L	04/02/21 15:26	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: MW-P-030921 **Lab ID: 60363786013** Collected: 03/09/21 10:25 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.390 ± 0.316 (0.176) C:NA T:89%**	pCi/L	03/30/21 16:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.813 ± 0.494 (0.936) C:71% T:85%**	pCi/L	04/01/21 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.20 ± 0.586 (0.936)**	pCi/L	04/02/21 15:26	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Sample: DUP-AP NE-030921 **Lab ID: 60363786014** Collected: 03/09/21 10:15 Received: 03/12/21 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.394 ± 0.548 (0.927) C:NA T:93%**	pCi/L	03/30/21 16:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.22 ± 0.494 (0.774) C:72% T:86%**	pCi/L	04/01/21 15:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.61 ± 0.738 (0.927)**	pCi/L	04/02/21 15:26	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

QC Batch: 439324 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: 60363786001, 60363786002, 60363786003, 60363786004, 60363786005, 60363786006, 60363786007, 60363786008, 60363786009, 60363786010, 60363786011, 60363786012, 60363786013, 60363786014

METHOD BLANK: 2120925 Matrix: Water
Associated Lab Samples: 60363786001, 60363786002, 60363786003, 60363786004, 60363786005, 60363786006, 60363786007, 60363786008, 60363786009, 60363786010, 60363786011, 60363786012, 60363786013, 60363786014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.106 ± 0.241 (0.569) C:NA T:93%	pCi/L	03/30/21 16:04	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

QC Batch: 439325 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: 60363786001, 60363786002, 60363786003, 60363786004, 60363786005, 60363786006, 60363786007, 60363786008, 60363786009, 60363786010, 60363786011, 60363786012, 60363786013, 60363786014

METHOD BLANK: 2120927 Matrix: Water
Associated Lab Samples: 60363786001, 60363786002, 60363786003, 60363786004, 60363786005, 60363786006, 60363786007, 60363786008, 60363786009, 60363786010, 60363786011, 60363786012, 60363786013, 60363786014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0950 ± 0.300 (0.676) C:72% T:88%	pCi/L	04/01/21 12:39	

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: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60363786

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363786001	MW-101-030921	EPA 903.1	439324		
60363786002	MW-102-031021	EPA 903.1	439324		
60363786003	MW-103-030921	EPA 903.1	439324		
60363786004	MW-104-030921	EPA 903.1	439324		
60363786005	MW-106-031021	EPA 903.1	439324		
60363786006	MW-B-030921	EPA 903.1	439324		
60363786007	MW-C-030921	EPA 903.1	439324		
60363786008	MW-D-030921	EPA 903.1	439324		
60363786009	MW-G-031021	EPA 903.1	439324		
60363786010	MW-M-030921	EPA 903.1	439324		
60363786011	MW-N-031021	EPA 903.1	439324		
60363786012	MW-O-031021	EPA 903.1	439324		
60363786013	MW-P-030921	EPA 903.1	439324		
60363786014	DUP-AP NE-030921	EPA 903.1	439324		
60363786001	MW-101-030921	EPA 904.0	439325		
60363786002	MW-102-031021	EPA 904.0	439325		
60363786003	MW-103-030921	EPA 904.0	439325		
60363786004	MW-104-030921	EPA 904.0	439325		
60363786005	MW-106-031021	EPA 904.0	439325		
60363786006	MW-B-030921	EPA 904.0	439325		
60363786007	MW-C-030921	EPA 904.0	439325		
60363786008	MW-D-030921	EPA 904.0	439325		
60363786009	MW-G-031021	EPA 904.0	439325		
60363786010	MW-M-030921	EPA 904.0	439325		
60363786011	MW-N-031021	EPA 904.0	439325		
60363786012	MW-O-031021	EPA 904.0	439325		
60363786013	MW-P-030921	EPA 904.0	439325		
60363786014	DUP-AP NE-030921	EPA 904.0	439325		
60363786001	MW-101-030921	Total Radium Calculation	441636		
60363786002	MW-102-031021	Total Radium Calculation	441636		
60363786003	MW-103-030921	Total Radium Calculation	441636		
60363786004	MW-104-030921	Total Radium Calculation	441636		
60363786005	MW-106-031021	Total Radium Calculation	441636		
60363786006	MW-B-030921	Total Radium Calculation	441636		
60363786007	MW-C-030921	Total Radium Calculation	441636		
60363786008	MW-D-030921	Total Radium Calculation	441636		
60363786009	MW-G-031021	Total Radium Calculation	441637		
60363786010	MW-M-030921	Total Radium Calculation	441637		
60363786011	MW-N-031021	Total Radium Calculation	441637		
60363786012	MW-O-031021	Total Radium Calculation	441637		
60363786013	MW-P-030921	Total Radium Calculation	441637		
60363786014	DUP-AP NE-030921	Total Radium Calculation	441637		

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
	Requested Analysis Filtered (Y/N)																	N	N	N		
1	MW-101-030921	WT	G	-	-	03/09/21	17:00		2			2						X	X	X		001
2	MW-102-031021	WT	G	-	-	03/10/21	9:20		2			2						X	X	X		002
3	MW-103-030921	WT	G	-	-	03/09/21	10:15		2			2						X	X	X		003
4	MW-104-030921	WT	G	-	-	03/09/21	12:20		2			2						X	X	X		004
5	MW-106-031021	WT	G	-	-	03/10/21	9:05		2			2						X	X	X		005
6	MW-B-030921	WT	G	-	-	03/09/21	18:25		2			2						X	X	X		006
7	MW-C-030921	WT	G	-	-	03/09/21	12:35		2			2						X	X	X		007
8	MW-D-030921	WT	G	-	-	03/09/21	14:40		2			2						X	X	X		008
9	MW-G-031021	WT	G	-	-	03/10/21	12:10		2			2						X	X	X		009
10	MW-M-030921	WT	G	-	-	03/09/21	13:50		2			2						X	X	X		010
11	MW-N-031021	WT	G	-	-	03/10/21	13:00		2			2						X	X	X		011
12	MW-O-031021	WT	G	-	-	03/10/21	10:45		2			2						X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	3/11/21	14:30	Pace	3-12-21	0935	N/A	N	Y	Y

Dept: 6003 Date : 05Mar21 Shipping : 0.00
Customer : 783027 Weight : 50 LBS Special : 0.00
Phone : (317)875-5894 COD : Handling : 0.00
Dept: client services DV : 0.00 Total : 0.00

Page 24 of 35

Sync STANDARD OVERNIGHT Master 9308 4772 0395
TRCK: 9308 4772 0400

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks DATE Signed (MM/DD/YY): 3/10/21

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.

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-P-030921	WT	G	-	-	03/09/21	10:25		2			2						X	X	X			013
2	DUP-AP NE-030921	WT	G	-	-	03/09/21	10:15		2			2						X	X	X			014
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	3/11/21	14:30	Pace	3-12-21	0935	N/A	N	Y	Y

Dept: 6003 Date : 05Mar21
Customer : 783027 Weight : 50 LBS
Phone : (317)875-5894 COD :
Dept: client services DV : 0.00 Total :

Shipping : 0.00
Special : 0.00
Handling : 0.00
0.00

Sysa: STANDARD OVERNIGHT Master 9308 4772 0395
TRCK: 9308 4772 0410

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 3/10/21

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.

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: _____ Project # _____

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

Label RM
LIMS Login RM

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue ~~None~~

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 1001101 / Date and Initials of person examining contents: RM 3-16-21
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC: -Includes date/time/ID Matrix: W T	/			5.
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:		/		8.
Sufficient Volume:	/			9.
Correct Containers Used: -Pace Containers Used:	/ /			10.
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Hex Cr Aqueous sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	/			16. pH < 2
All containers meet method preservation requirements.	/			Initial when completed RM / Date/time of preservation / Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
Trip Blank Custody Seals Present			/	
Rad Samples Screened < 0.5 mrem/hr	/			Initial when completed: RM / Date: 3-16-21 / Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Pace Container Order #783045

Addresses

Order By :		Ship To :		Return To:	
Company	Evergy Kansas Central, Inc.	Company	Hold for Client Pickup	Company	Pace Analytical Pittsburgh
Contact	Kaney, Samantha	Contact		Contact	Ferris, Carin
Email	skaney@haleyaldrich.com	Email		Email	carin.ferris@pacelabs.com
Address	400 E Van Buren St	Address		Address	1638 Roseytown Road
Address 2	Suite 545	Address 2		Address 2	Suites 2,3,4
City	Phoenix	City		City	Greensburg
State	AZ Zip 85004	State	Zip	State	PA Zip 15601
Phone	(815)742-1363	Phone		Phone	724-850-5615

Info

Project Name	LEC Perimeter Ash Pond Wells CCR - App IV Radium	**Due Date**	03/05/2021	**Profile**	9655, 1	**Quote**	
Project Manager	Amerin, Jasmine	**Return Date**		**Carrier**	Client Pick Up	**Location**	KS

Trip Blanks

- [ ] Include Trip Blanks

Bottle Labels

- [ ] Blank
- [X] Pre-Printed No Sample IDs
- [ ] Pre-Printed With Sample IDs

Bottles

- [ ] Boxed Cases
- [ ] Individually Wrapped
- [ ] Grouped By Sample ID/Matrix

Return Shipping Labels

- [ ] No Shipper
- [X] With Shipper

COC Options

- [ ] Number of Blanks
- [X] Pre-Printed 1

Misc

- [ ] Sampling Instructions
- [X] Custody Seal
- [X] Temp. Blanks
- [X] Coolers
- [ ] Syringes
- [ ] Extra Bubble Wrap
- [ ] Short Hold/Rush Stickers
- [ ] DI Water Liter(s)
- [ ] USDA Regulated Soils

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
14	WT	Radium 226	1-1L plastic w/HNO3	14	0	010421-2EEY	
14	WT	Radium 228	1-1L Plastic w/ HNO3	14	0	010421-2EEY	
1	OT	FEDEX Prepaid Return-Pittsburgh lab	None	0	0		Pittsburgh PA return

Hazard Shipping Placard In Place : NO

'Sample receiving hours are typically 8am-5pm, but may differ by location. Please check with your Pace Project Manager.

'Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

'Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

'Payment term are net 30 days.

'Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	03/05/2021
Prepared By:	Skylar
Verified By:	

Sample

PP COC (2 PAGES), PP labels w/o sample IDs
RETURN SHIPPING TO PITTSBURGH LAB

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: KS
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 3/12/2021 **Results Requested By:** 4/2/2021

Workorder: 60363786 **Workorder Name:** LEC Perimeter Ash Pond Wells C

Report To	Subcontract To
Jasmine Amerin Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600 Profile 11795 Provide QC sheets

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Requested Analysis: Radium-226 & Total Radium	Radium-228	LAB USE ONLY
1	MW-101-030921	PS	3/9/2021 17:00	60363786001	Water	2	X	X	001
2	MW-102-031021	PS	3/10/2021 09:20	60363786002	Water	2	X	X	002
3	MW-103-030921	PS	3/9/2021 10:15	60363786003	Water	2	X	X	003
4	MW-104-030921	PS	3/9/2021 12:20	60363786004	Water	2	X	X	004
5	MW-106-031021	PS	3/10/2021 09:05	60363786005	Water	2	X	X	005
6	MW-B-030921	PS	3/9/2021 18:25	60363786006	Water	2	X	X	006
7	MW-C-030921	PS	3/9/2021 12:35	60363786007	Water	2	X	X	007
8	MW-D-030921	PS	3/9/2021 14:40	60363786008	Water	2	X	X	008
9	MW-G-031021	PS	3/10/2021 12:10	60363786009	Water	2	X	X	009
10	MW-M-030921	PS	3/9/2021 13:50	60363786010	Water	2	X	X	010
11	MW-N-031021	PS	3/10/2021 13:00	60363786011	Water	2	X	X	011
12	MW-O-031021	PS	3/10/2021 10:45	60363786012	Water	2	X	X	012
13	MW-P-030921	PS	3/9/2021 10:25	60363786013	Water	2	X	X	013
14	DUP-AP NE-030921	PS	3/9/2021 10:15	60363786014	Water	2	X	X	014

WO# : 30410555

30410555

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1				3-12-21	~~0935~~ 3-16-21 0935
2					
3					

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

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

#_30410555

Pittsburgh Lab Sample Condition Upon Receipt

30410555

Pace Analytical

Client Name: Pace KS Project #

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

Label

Tracking #:

LIMS Login

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue None

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

Temp should be above freezing to 6°C

pH paper Lot# 100101 Date and Initials of person examining contents: 3-16-21

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC: -Includes date/time/ID Matrix: W T	/			5.
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:		/		8.
Sufficient Volume:	/			9.
Correct Containers Used: -Pace Containers Used:	/ /			10.
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Hex Cr Aqueous sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	/			16. pH<2
All containers meet method preservation requirements.	/			Initial when completed: Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
Trip Blank Custody Seals Present			/	
Rad Samples Screened < 0.5 mrem/hr	/			Initial when completed: Date: 3-16-21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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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.

30410555

Section A Required Client Information:

Company:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton
Purchase Order No.:	
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																	Requested Analysis Filtered (Y/N)	N	N	N		
1	MW-101-030921	WT	G	-	-	03/09/21	17:00		2			2						X	X	X		001
2	MW-102-031021	WT	G	-	-	03/10/21	9:20		2			2						X	X	X		002
3	MW-103-030921	WT	G	-	-	03/09/21	10:15		2			2						X	X	X		003
4	MW-104-030921	WT	G	-	-	03/09/21	12:20		2			2						X	X	X		004
5	MW-106-031021	WT	G	-	-	03/10/21	9:05		2			2						X	X	X		005
6	MW-B-030921	WT	G	-	-	03/09/21	18:25		2			2						X	X	X		006
7	MW-C-030921	WT	G	-	-	03/09/21	12:35		2			2						X	X	X		007
8	MW-D-030921	WT	G	-	-	03/09/21	14:40		2			2						X	X	X		008
9	MW-G-031021	WT	G	-	-	03/10/21	12:10		2			2						X	X	X		009
10	MW-M-030921	WT	G	-	-	03/09/21	13:50		2			2						X	X	X		010
11	MW-N-031021	WT	G	-	-	03/10/21	13:00		2			2						X	X	X		011
12	MW-O-031021	WT	G	-	-	03/10/21	10:45		2			2						X	X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	3/11/21	14:30	Pace	3-12-21	0935	N/A	N	Y	Y

Dept: 8003 Date : 05Mar21 Shipping : 0.00
Customer : 783027 Weight : 50 LBS Special : 0.00
Phone : (317)875-5894 COD : Handling : 0.00
Dept: client services DV : 0.00 Total : 0.00

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jason R. Franks
SIGNATURE of SAMPLER: Jason R. Franks DATE Signed (MM/DD/YY): 3/10/21

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

Sure: STANDARD OVERNIGHT Master 9308 4772 0395
TRCK: 9308 4772 0400

*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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CHAIN-OF-CUSTODY / Analytical Request Document

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

30410555

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	EVERGY KANSAS CENTRAL, INC.	Report To:	Melissa Michels, Samantha Kaney, Danielle Ober	Attention:	Accounts Payable
Address:	Lawrence Energy Center (LEC)	Copy To:	Jared Morrison, Jake Humphrey, Laura Hines	Company Name:	EVERGY KANSAS CENTRAL, INC
	818 Kansas Ave, Topeka, KS 66612		Andrew Hare, Tabitha Hylton	Address:	SAME AS A
Email To:	melissa.michels@evergy.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	785-575-8113 Fax:	Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu	Pace Project Manager:	Jasmine Amerin, 913-563-1403
Requested Due Date/TAT:	15 day	Project Number:		Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-P-030921	WT	G	-	-	03/09/21	10:25		2			2							X	X	X		013
2	DUP-AP NE-030921	WT	G	-	-	03/09/21	10:15		2			2							X	X	X		014
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	3/11/21	14:30	Pace	3-12-21	0935	N/A	N	Y	Y

Dept: 6003 Date : 05Mar21 Shipping : 0.00
Customer : 783027 Weight : 50 LBS Special : 0.00
Phone : (317)875-5894 COD : Handling : 0.00
Dept: client services DV : 0.00 Total : 0.00
Svce: STANDARD OVERNIGHT Master 9308 4772 0395
TRCK: 9308 4772 0410

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks **DATE Signed (MM/DD/YY):** 3/10/21

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 Greensburg Lab -Sample Container Count

Pace Analytical®

Client: Pace KS

Profile Number: 11795

Site: 60363786/Evergy Kansas Central, Inc.

Notes:

Sample Line Item	Matrix	AG1H	AG1S	AG1T	AG2U	AG3S	AG3U	AG5U	AG5T	BG1U	BG2U	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	GCUB	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC	
1	WT											2																	
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Container Codes

14

Glass

GJN	1 Gallon Jug with HNO3	DG9S	40mL amber VOA vial H2SO4
AG5U	100mL amber glass unprserved	VG9U	40mL clear VOA vial
AG5T	100mL amber glass Na Thiosulfate	VG9T	40mL clear VOA vial Na Thiosul
GJN	1 Gallon Jug	VG9H	40mL clear VOA vial HCl
AG1S	1L amber glass H2SO4	JGFU	4oz amber wide jar
AG1H	1L amber glass HCl	WGFU	4oz wide jar unpreserved
AG1T	1L amber glass Na Thiosulfate	BG2U	500mL clear glass unpreserved
BG1U	1L clear glass unpreserved	AG2U	500mL amber glass unpreserve
AG3S	250mL amber glass H2SO4	WGKU	8oz wide jar unpreserved
AG3U	250mL amber glass unpreserved		

Plastic / Misc.

GCUB	1 Gallon Cubitainer
12GN	1/2 Gallon Cubitainer
SP5T	120mL Coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unpreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3C	250ml plastic NAOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved

EZI	5g Encore
VOAK	Kit for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag

WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe

#_30410555

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	MK1
Date:	3/24/2021
Batch ID:	59409
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2120925
MB concentration:	-0.106
M/B Counting Uncertainty:	0.207
MB MDC:	0.569
MB Numerical Performance Indicator:	-1.00
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59409	LCSD59409
Count Date:	3/30/2021	
Spike I.D.:	20-032	
Spike Concentration (pCi/mL):	32.177	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.652	
Target Conc. (pCi/L, g, F):	4.934	
Uncertainty (Calculated):	0.232	
Result (pCi/L, g, F):	4.446	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.963	
Numerical Performance Indicator:	-0.97	
Percent Recovery:	90.10%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	3/10/2021	
Sample I.D.	35618668001	
Sample MS I.D.	35618668001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.177	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.653	
MS Target Conc.(pCi/L, g, F):	9.860	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.463	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.247	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.216	
Sample Matrix Spike Result:	9.248	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.385	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	-1.141	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	91.29%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	35618776001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	35618776001DUP	
Sample Result (pCi/L, g, F):	0.245	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.339	
Sample Duplicate Result (pCi/L, g, F):	0.473	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.366	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.896	35618776001
Duplicate RPD:	63.60%	35618776001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

***Batch must be re-prepped due to unacceptable precision.

SLC 3/30/2021

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	3/30/2021
Worklist:	59410
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2120927
MB concentration:	0.095
M/B 2 Sigma CSU:	0.300
MB MDC:	0.676
MB Numerical Performance Indicator:	0.62
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59410	LCSD59410
Count Date:	4/1/2021	
Spike I.D.:	21-003	
Decay Corrected Spike Concentration (pCi/mL):	38.242	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.816	
Target Conc. (pCi/L, g, F):	4.688	
Uncertainty (Calculated):	0.230	
Result (pCi/L, g, F):	4.577	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.029	
Numerical Performance Indicator:	-0.21	
Percent Recovery:	97.64%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	3/10/2021	
Sample I.D.	35618668003	
Sample MS I.D.	35618668003MS	
Sample MSD I.D.		
Spike I.D.:	21-003	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	38.519	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.808	
MS Target Conc.(pCi/L, g, F):	9.540	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.467	
MSD Spike Uncertainty (calculated):		
Sample Result:	-0.115	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.341	
Sample Matrix Spike Result:	9.618	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.934	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	0.187	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	102.02%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	35618668002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	35618668002DUP	
Sample Result (pCi/L, g, F):	0.424	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.367	
Sample Duplicate Result (pCi/L, g, F):	0.280	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.338	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.569	35618668002
Duplicate RPD:	41.09%	35618668002DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

CM 4/2/21

ATTACHMENT 2-2-4
June 2021 Sampling Event
Laboratory Analytical Report

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

June 07, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60371279001	**MW-108-060321**	Water	06/03/21 13:35	06/04/21 14:10
60371279002	**MW-107-060421**	Water	06/04/21 10:40	06/04/21 14:10

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60371279001	**MW-108-060321**	EPA 200.7	JDE	9	PASI-K
		EPA 200.7	JDE	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JDE	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	MAW	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-H+B	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	BLA	1	PASI-K
		EPA 9060	BLA	5	PASI-K
60371279002	**MW-107-060421**	EPA 200.7	JDE	9	PASI-K
		EPA 200.7	JDE	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JDE	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	MAW	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-H+B	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	BLA	1	PASI-K
		EPA 9060	BLA	5	PASI-K

PASI-K = Pace Analytical Services - Kansas City

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Sample: MW-108-060321 **Lab ID: 60371279001** Collected: 06/03/21 13:35 Received: 06/04/21 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.21**	mg/L	0.0050	1	06/04/21 15:46	06/07/21 10:54	7440-39-3	
Boron, Total Recoverable	**0.53**	mg/L	0.10	1	06/04/21 15:46	06/07/21 10:54	7440-42-8	
Calcium, Total Recoverable	**85.1**	mg/L	0.20	1	06/04/21 15:46	06/07/21 10:54	7440-70-2	
Iron, Total Recoverable	**0.92**	mg/L	0.050	1	06/04/21 15:46	06/07/21 10:54	7439-89-6	
Magnesium, Total Recoverable	**32.9**	mg/L	0.050	1	06/04/21 15:46	06/07/21 10:54	7439-95-4	
Manganese, Total Recoverable	**0.32**	mg/L	0.0050	1	06/04/21 15:46	06/07/21 10:54	7439-96-5	
Potassium, Total Recoverable	**12.0**	mg/L	0.50	1	06/04/21 15:46	06/07/21 10:54	7440-09-7	
Sodium, Total Recoverable	**28.2**	mg/L	0.50	1	06/04/21 15:46	06/07/21 10:54	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**348**	mg/L	0.50	1	06/04/21 15:46	06/07/21 10:54		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	06/04/21 15:46	06/07/21 10:40	7440-38-2	
Iron, Dissolved	**0.91**	mg/L	0.050	1	06/04/21 15:46	06/07/21 10:40	7439-89-6	
Manganese, Dissolved	**0.33**	mg/L	0.0050	1	06/04/21 15:46	06/07/21 10:40	7439-96-5	D9
Molybdenum, Dissolved	**0.035**	mg/L	0.020	1	06/04/21 15:46	06/07/21 10:40	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.026**	mg/L	0.010	1	06/04/21 15:46	06/07/21 13:30	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.020**	mg/L	0.010	1	06/04/21 15:46	06/07/21 11:14	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0058**	mg/L	0.0010	1	06/04/21 15:46	06/07/21 13:15	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/04/21 15:46	06/07/21 13:15	7440-48-4	
Molybdenum, Total Recoverable	**0.033**	mg/L	0.0010	1	06/04/21 15:46	06/07/21 13:15	7439-98-7	1e
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**318**	mg/L	20.0	1		06/07/21 16:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		06/07/21 16:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**499**	mg/L	10.0	1		06/04/21 15:44		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		06/07/21 14:38		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Sample: MW-108-060321 **Lab ID: 60371279001** Collected: 06/03/21 13:35 Received: 06/04/21 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		06/07/21 14:09		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**56.8**	mg/L	5.0	5		06/07/21 11:27	16887-00-6	
Fluoride	**2.3**	mg/L	0.20	1		06/07/21 10:58	16984-48-8	
Sulfate	**66.4**	mg/L	5.0	5		06/07/21 11:27	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**2.3**	mg/L	1.0	1		06/07/21 11:17		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**2.0**	mg/L	1.0	1		06/07/21 07:55	7440-44-0	
Total Organic Carbon	**2.5**	mg/L	1.0	1		06/07/21 07:55	7440-44-0	
Total Organic Carbon	**2.6**	mg/L	1.0	1		06/07/21 07:55	7440-44-0	
Total Organic Carbon	**2.5**	mg/L	1.0	1		06/07/21 07:55	7440-44-0	
Mean Total Organic Carbon	**2.4**	mg/L	1.0	1		06/07/21 07:55	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Sample: MW-107-060421 **Lab ID: 60371279002** Collected: 06/04/21 10:40 Received: 06/04/21 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.17**	mg/L	0.0050	1	06/04/21 15:46	06/07/21 11:06	7440-39-3	
Boron, Total Recoverable	**0.34**	mg/L	0.10	1	06/04/21 15:46	06/07/21 11:06	7440-42-8	
Calcium, Total Recoverable	**115**	mg/L	0.20	1	06/04/21 15:46	06/07/21 11:06	7440-70-2	
Iron, Total Recoverable	**3.0**	mg/L	0.050	1	06/04/21 15:46	06/07/21 11:06	7439-89-6	
Magnesium, Total Recoverable	**35.9**	mg/L	0.050	1	06/04/21 15:46	06/07/21 11:06	7439-95-4	
Manganese, Total Recoverable	**0.60**	mg/L	0.0050	1	06/04/21 15:46	06/07/21 11:06	7439-96-5	
Potassium, Total Recoverable	**7.9**	mg/L	0.50	1	06/04/21 15:46	06/07/21 11:06	7440-09-7	
Sodium, Total Recoverable	**12.6**	mg/L	0.50	1	06/04/21 15:46	06/07/21 11:06	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**436**	mg/L	0.50	1	06/04/21 15:46	06/07/21 11:06		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**0.010**	mg/L	0.010	1	06/04/21 15:46	06/07/21 10:47	7440-38-2	
Iron, Dissolved	**3.0**	mg/L	0.050	1	06/04/21 15:46	06/07/21 10:47	7439-89-6	
Manganese, Dissolved	**0.59**	mg/L	0.0050	1	06/04/21 15:46	06/07/21 10:47	7439-96-5	
Molybdenum, Dissolved	**0.040**	mg/L	0.020	1	06/04/21 15:46	06/07/21 10:47	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.028**	mg/L	0.010	1	06/04/21 15:46	06/07/21 13:37	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.026**	mg/L	0.010	1	06/04/21 15:46	06/07/21 11:21	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0091**	mg/L	0.0010	1	06/04/21 15:46	06/07/21 13:17	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/04/21 15:46	06/07/21 13:17	7440-48-4	
Molybdenum, Total Recoverable	**0.037**	mg/L	0.0010	1	06/04/21 15:46	06/07/21 13:17	7439-98-7	1e
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**406**	mg/L	20.0	1		06/07/21 17:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		06/07/21 17:04		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**557**	mg/L	10.0	1		06/04/21 15:44		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		06/07/21 14:39		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Sample: MW-107-060421 **Lab ID: 60371279002** Collected: 06/04/21 10:40 Received: 06/04/21 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		06/07/21 14:12		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**23.6**	mg/L	5.0	5		06/07/21 11:52	16887-00-6	
Fluoride	**1.8**	mg/L	0.20	1		06/07/21 11:39	16984-48-8	
Sulfate	**66.9**	mg/L	5.0	5		06/07/21 11:52	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		06/07/21 11:57		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.6**	mg/L	1.0	1		06/07/21 09:51	7440-44-0	
Total Organic Carbon	**2.1**	mg/L	1.0	1		06/07/21 09:51	7440-44-0	
Total Organic Carbon	**2.0**	mg/L	1.0	1		06/07/21 09:51	7440-44-0	
Total Organic Carbon	**2.2**	mg/L	1.0	1		06/07/21 09:51	7440-44-0	
Mean Total Organic Carbon	**2.0**	mg/L	1.0	1		06/07/21 09:51	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724626
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: 60371279001, 60371279002

METHOD BLANK: 2912523 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	06/07/21 10:49	
Boron	mg/L	<0.10	0.10	06/07/21 10:49	
Calcium	mg/L	<0.20	0.20	06/07/21 10:49	
Hardness, Total(SM 2340B)	mg/L	<0.50	0.50	06/07/21 10:49	
Iron	mg/L	<0.050	0.050	06/07/21 10:49	
Magnesium	mg/L	<0.050	0.050	06/07/21 10:49	
Manganese	mg/L	<0.0050	0.0050	06/07/21 10:49	
Potassium	mg/L	<0.50	0.50	06/07/21 10:49	
Sodium	mg/L	<0.50	0.50	06/07/21 10:49	

LABORATORY CONTROL SAMPLE: 2912524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.98	98	85-115	
Boron	mg/L	1	0.93	93	85-115	
Calcium	mg/L	10	9.9	99	85-115	
Hardness, Total(SM 2340B)	mg/L	66.2	65.0	98	85-115	
Iron	mg/L	10	10	100	85-115	
Magnesium	mg/L	10	9.8	98	85-115	
Manganese	mg/L	1	0.97	97	85-115	
Potassium	mg/L	10	10	100	85-115	
Sodium	mg/L	10	9.6	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912525 2912526

Parameter	Units	60371279001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.21	1	1	1.2	1.2	98	98	70-130	1	20	
Boron	mg/L	0.53	1	1	1.5	1.5	97	96	70-130	1	20	
Calcium	mg/L	85.1	10	10	96.5	95.8	114	108	70-130	1	20	
Hardness, Total(SM 2340B)	mg/L	348	66.2	66.2	420	417	109	104	70-130	1	20	
Iron	mg/L	0.92	10	10	10.7	10.8	98	98	70-130	0	20	
Magnesium	mg/L	32.9	10	10	43.5	43.1	106	102	70-130	1	20	
Manganese	mg/L	0.32	1	1	1.3	1.3	98	97	70-130	1	20	
Potassium	mg/L	12.0	10	10	22.3	22.3	102	102	70-130	0	20	
Sodium	mg/L	28.2	10	10	38.4	38.0	101	98	70-130	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

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724631
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371279001, 60371279002

METHOD BLANK: 2912542 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.010	0.010	06/07/21 10:35	
Iron, Dissolved	mg/L	<0.050	0.050	06/07/21 10:35	
Manganese, Dissolved	mg/L	<0.0050	0.0050	06/07/21 10:35	
Molybdenum, Dissolved	mg/L	<0.020	0.020	06/07/21 10:35	

LABORATORY CONTROL SAMPLE: 2912543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	1	1.0	100	85-115	
Iron, Dissolved	mg/L	10	10.2	102	85-115	
Manganese, Dissolved	mg/L	1	1.0	102	85-115	
Molybdenum, Dissolved	mg/L	1	1.0	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912544 2912545

Parameter	Units	60371279002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.010	1	1	1.0	1.0	100	99	70-130	0	20	
Iron, Dissolved	mg/L	3.0	10	10	13.0	12.8	100	99	70-130	1	20	
Manganese, Dissolved	mg/L	0.59	1	1	1.6	1.6	100	98	70-130	1	20	
Molybdenum, Dissolved	mg/L	0.040	1	1	1.1	1.1	102	102	70-130	0	20	

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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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724627
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: 60371279001, 60371279002

METHOD BLANK: 2912527 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	06/07/21 13:10	
Cobalt	mg/L	<0.0010	0.0010	06/07/21 13:10	
Molybdenum	mg/L	<0.0010	0.0010	06/07/21 13:10	

LABORATORY CONTROL SAMPLE: 2912528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.037	91	85-115	
Cobalt	mg/L	0.04	0.035	88	85-115	
Molybdenum	mg/L	0.04	0.037	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912529 2912530

Parameter	Units	60371279002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0091	0.04	0.04	0.046	0.047	93	95	70-130	1	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.035	0.035	86	88	70-130	2	20	
Molybdenum	mg/L	0.037	0.04	0.04	0.078	0.078	101	102	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724628
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371279001, 60371279002

METHOD BLANK: 2912531 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	06/07/21 13:25	

LABORATORY CONTROL SAMPLE: 2912532

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912533 2912534

Parameter	Units	60371279001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.026	1	1	1.0	1.0	101	99	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724629
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371279001, 60371279002

METHOD BLANK: 2912535 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	mg/L	<0.010	0.010	06/07/21 11:09	

LABORATORY CONTROL SAMPLE: 2912536

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912537 2912538

Parameter	Units	60371279001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	mg/L	0.020	1	1	1.0	1.0	99	99	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724624
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371279001, 60371279002

METHOD BLANK: 2912512 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	06/07/21 16:42	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	06/07/21 16:42	

SAMPLE DUPLICATE: 2912514

Parameter	Units	60371279001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	318	325	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724630
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371279001, 60371279002

METHOD BLANK: 2912539 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	06/04/21 15:44	

LABORATORY CONTROL SAMPLE: 2912540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	981	98	80-120	

SAMPLE DUPLICATE: 2912541

Parameter	Units	60371279001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	499	525	5	10	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724676
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: 60371279001, 60371279002

METHOD BLANK: 2912798 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.20	0.20	06/07/21 14:34	H6

LABORATORY CONTROL SAMPLE: 2912799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	103	90-110	H6

SAMPLE DUPLICATE: 2912800

Parameter	Units	60371279001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	<0.20	<0.20		20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724677
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60371279001, 60371279002

SAMPLE DUPLICATE: 2912801

Parameter	Units	60370887001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.8	8	5	D6,H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724706
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: 60371279001, 60371279002

METHOD BLANK: 2912947 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	06/07/21 09:35	
Fluoride	mg/L	<0.20	0.20	06/07/21 09:35	
Sulfate	mg/L	<1.0	1.0	06/07/21 09:35	

LABORATORY CONTROL SAMPLE: 2912948

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	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912949 2912950

Parameter	Units	60371184001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	17.0	25	25	48.8	54.2	127	149	80-120	10	15	M1
Fluoride	mg/L	1.5	12.5	12.5	18.4	21.9	135	163	80-120	17	15	M1,R1
Sulfate	mg/L	228	100	100	391	356	162	128	80-120	9	15	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724652
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371279001, 60371279002

METHOD BLANK: 2912661 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	<1.0	1.0	06/07/21 10:50	

LABORATORY CONTROL SAMPLE: 2912662

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912664 2912665

Parameter	Units	10563106002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	2.2	5	5	7.4	7.8	105	112	80-120	5	25	

SAMPLE DUPLICATE: 2912663

Parameter	Units	10563106002 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	2.2	2.2	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

QC Batch: 724653
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371279001, 60371279002

METHOD BLANK: 2912666 Matrix: Water
Associated Lab Samples: 60371279001, 60371279002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 06:55	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 06:55	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 06:55	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 06:55	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 06:55	

LABORATORY CONTROL SAMPLE: 2912667

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	5	4.7	93	80-120	
Total Organic Carbon	mg/L	5	4.7	94	80-120	
Total Organic Carbon	mg/L	5	4.7	95	80-120	
Total Organic Carbon	mg/L	5	4.5	90	80-120	
Total Organic Carbon	mg/L	5	4.7	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2912668 2912669

Parameter	Units	60371279001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	2.4	5	5	6.8	6.8	88	87	80-120	1	25	
Total Organic Carbon	mg/L	2.5	5	5	7.1	6.8	92	87	80-120	4	25	
Total Organic Carbon	mg/L	2.5	5	5	7.0	6.8	88	85	80-120	3	25	
Total Organic Carbon	mg/L	2.0	5	5	6.2	6.3	84	87	80-120	2	25	
Total Organic Carbon	mg/L	2.6	5	5	7.0	7.1	89	91	80-120	1	25	

SAMPLE DUPLICATE: 2912670

Parameter	Units	60371279002 Result	Dup Result	RPD	Max RPD	Qualifiers
Mean Total Organic Carbon	mg/L	2.0	1.9	6	25	
Total Organic Carbon	mg/L	1.6	1.6	0	25	
Total Organic Carbon	mg/L	2.1	1.9	7	25	
Total Organic Carbon	mg/L	2.0	2.0	2	25	
Total Organic Carbon	mg/L	2.2	1.9	16	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

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.

ANALYTE QUALIFIERS

1e	Intrerference Check Standards Failed Mo High, Result should be considered as an Estimate
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within 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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371279

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60371279001	**MW-108-060321**	EPA 200.7	724626	EPA 200.7	724636
60371279002	**MW-107-060421**	EPA 200.7	724626	EPA 200.7	724636
60371279001	**MW-108-060321**	EPA 200.7	724631	EPA 200.7	724633
60371279002	**MW-107-060421**	EPA 200.7	724631	EPA 200.7	724633
60371279001	**MW-108-060321**	EPA 3010	724628	EPA 6010	724637
60371279002	**MW-107-060421**	EPA 3010	724628	EPA 6010	724637
60371279001	**MW-108-060321**	EPA 3010	724629	EPA 6010	724634
60371279002	**MW-107-060421**	EPA 3010	724629	EPA 6010	724634
60371279001	**MW-108-060321**	EPA 200.8	724627	EPA 200.8	724632
60371279002	**MW-107-060421**	EPA 200.8	724627	EPA 200.8	724632
60371279001	**MW-108-060321**	SM 2320B	724624		
60371279002	**MW-107-060421**	SM 2320B	724624		
60371279001	**MW-108-060321**	SM 2540C	724630		
60371279002	**MW-107-060421**	SM 2540C	724630		
60371279001	**MW-108-060321**	SM 3500-Fe B#4	724676		
60371279002	**MW-107-060421**	SM 3500-Fe B#4	724676		
60371279001	**MW-108-060321**	SM 4500-H+B	724677		
60371279002	**MW-107-060421**	SM 4500-H+B	724677		
60371279001	**MW-108-060321**	EPA 300.0	724706		
60371279002	**MW-107-060421**	EPA 300.0	724706		
60371279001	**MW-108-060321**	SM 5310C	724652		
60371279002	**MW-107-060421**	SM 5310C	724652		
60371279001	**MW-108-060321**	EPA 9060	724653		
60371279002	**MW-107-060421**	EPA 9060	724653		

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Sample Condition Upon Receipt

WO#: 60371279

60371279

Client Name: Evergy KS Central

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 l

Thermometer Used: T290 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 4.6 **Corr. Factor** 0.0 **Corrected** 4.6

Date and initials of person examining contents: 6/4 ML

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	1 day
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# 608173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone:	785-575-8113 Fax:
Requested Due Date/TAT:	1-DAY RUSH TAT

Section B
Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbreckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C
Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 5 (Waters)

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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)	200.7 Total Metals*	200.7 Diss. Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS, 4500H+ pH	Ferrous Iron	9060 TOC	5310C DOC	200.8 Total Metals***	6010 Total Metals****	6010 Diss. Metals (FF)****	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60371279
Filtered (Y/N)																				Y										Y		
1	MW-108-060321	WT		06/03/21	1300	06/03/21	1335		7	X	X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	1-DAY RUSH TAT
2		WT		–	–	6/3/21	1300																									
3	MW-107-060421	WT				6/4/21	1040		7	X	X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	1-DAY RUSH TAT
4		WT																														
5		WT																														
6		WT																														
7		WT																														
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na, Total Hardness (8 metals & Hardness)	Sam Larkin / Haley & Aldrich	06/04/21	12:05	[signature]	6-4	12:05				
200.7 Diss. Metals**: As, Fe, Mn, Mo (4 metals, FIELD FILTERED)				[signature] / PACE	6-4-21	1410	4.6	Y	Y	Y
200.8 Total Metals***: As, Co, Mo (3 metals)										
6010 Total Metals****: Li (1 metal) / 6010 Diss. Metals****: Li (1 metal, FIELD FILTERED)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

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

Sample conditions columns: 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.

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

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

June 09, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60371361001	**MW-110-060521**	Water	06/05/21 10:40	06/07/21 07:50
60371361002	**MW-109-060621**	Water	06/06/21 09:50	06/07/21 07:50

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SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60371361001	**MW-110-060521**	EPA 200.7	JDE	9	PASI-K
		EPA 200.7	JDE	4	PASI-K
		EPA 6010	JDE	1	PASI-K
		EPA 6010	JDE	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	MAW	2	PASI-K
		SM 2540C	ALH	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	BLA	1	PASI-K
		EPA 9060	BLA	5	PASI-K
60371361002	**MW-109-060621**	EPA 200.7	JDE	9	PASI-K
		EPA 200.7	JDE	4	PASI-K
		EPA 6010	JDE	1	PASI-K
		EPA 6010	JDE	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	MAW	2	PASI-K
		SM 2540C	ALH	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	BLA	1	PASI-K
		EPA 9060	BLA	5	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Sample: MW-110-060521 **Lab ID: 60371361001** Collected: 06/05/21 10:40 Received: 06/07/21 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.054**	mg/L	0.0050	1	06/07/21 16:12	06/08/21 13:16	7440-39-3	
Boron, Total Recoverable	**5.0**	mg/L	0.10	1	06/07/21 16:12	06/08/21 13:16	7440-42-8	
Calcium, Total Recoverable	**458**	mg/L	0.20	1	06/07/21 16:12	06/08/21 13:16	7440-70-2	M1
Iron, Total Recoverable	**6.6**	mg/L	0.050	1	06/07/21 16:12	06/08/21 13:16	7439-89-6	
Magnesium, Total Recoverable	**147**	mg/L	0.050	1	06/07/21 16:12	06/08/21 13:16	7439-95-4	
Manganese, Total Recoverable	**1.4**	mg/L	0.0050	1	06/07/21 16:12	06/08/21 13:16	7439-96-5	
Potassium, Total Recoverable	**27.6**	mg/L	0.50	1	06/07/21 16:12	06/08/21 13:16	7440-09-7	
Sodium, Total Recoverable	**375**	mg/L	0.50	1	06/07/21 16:12	06/08/21 13:16	7440-23-5	M1
Total Hardness by 2340B, Total Recoverable	**1750**	mg/L	0.50	1	06/07/21 16:12	06/08/21 13:16		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	06/07/21 16:12	06/08/21 12:08	7440-38-2	
Iron, Dissolved	**6.1**	mg/L	0.050	1	06/07/21 16:12	06/08/21 12:08	7439-89-6	
Manganese, Dissolved	**1.4**	mg/L	0.0050	1	06/07/21 16:12	06/08/21 12:08	7439-96-5	
Molybdenum, Dissolved	**0.11**	mg/L	0.020	1	06/07/21 16:12	06/08/21 12:08	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.072**	mg/L	0.010	1	06/07/21 16:12	06/08/21 12:44	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.075**	mg/L	0.010	1	06/07/21 16:12	06/08/21 12:24	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0040**	mg/L	0.0010	1	06/07/21 16:12	06/08/21 11:52	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/07/21 16:12	06/08/21 11:52	7440-48-4	
Molybdenum, Total Recoverable	**0.11**	mg/L	0.0010	1	06/07/21 16:12	06/08/21 11:52	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**199**	mg/L	20.0	1		06/08/21 11:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		06/08/21 11:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3400**	mg/L	66.7	1		06/08/21 08:10		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.25**	mg/L	0.20	1		06/08/21 12:55		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Sample: MW-110-060521 **Lab ID: 60371361001** Collected: 06/05/21 10:40 Received: 06/07/21 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		06/08/21 14:55		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**590**	mg/L	50.0	50		06/08/21 10:27	16887-00-6	M1
Fluoride	**4.0**	mg/L	0.20	1		06/08/21 09:23	16984-48-8	
Sulfate	**1930**	mg/L	200	200		06/08/21 11:05	14808-79-8	M1
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.3**	mg/L	1.0	1		06/07/21 22:02		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.3**	mg/L	1.0	1		06/07/21 18:26	7440-44-0	M1
Total Organic Carbon	**1.7**	mg/L	1.0	1		06/07/21 18:26	7440-44-0	M1
Total Organic Carbon	**1.8**	mg/L	1.0	1		06/07/21 18:26	7440-44-0	M1
Total Organic Carbon	**1.8**	mg/L	1.0	1		06/07/21 18:26	7440-44-0	M1
Mean Total Organic Carbon	**1.6**	mg/L	1.0	1		06/07/21 18:26	7440-44-0	M1

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Sample: MW-109-060621 **Lab ID: 60371361002** Collected: 06/06/21 09:50 Received: 06/07/21 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.040**	mg/L	0.0050	1	06/07/21 16:12	06/08/21 13:23	7440-39-3	
Boron, Total Recoverable	**5.5**	mg/L	0.10	1	06/07/21 16:12	06/08/21 13:23	7440-42-8	
Calcium, Total Recoverable	**470**	mg/L	0.20	1	06/07/21 16:12	06/08/21 13:23	7440-70-2	
Iron, Total Recoverable	**5.3**	mg/L	0.050	1	06/07/21 16:12	06/08/21 13:23	7439-89-6	
Magnesium, Total Recoverable	**118**	mg/L	0.050	1	06/07/21 16:12	06/08/21 13:23	7439-95-4	
Manganese, Total Recoverable	**2.9**	mg/L	0.0050	1	06/07/21 16:12	06/08/21 13:23	7439-96-5	
Potassium, Total Recoverable	**25.1**	mg/L	0.50	1	06/07/21 16:12	06/08/21 13:23	7440-09-7	
Sodium, Total Recoverable	**359**	mg/L	0.50	1	06/07/21 16:12	06/08/21 13:23	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**1660**	mg/L	0.50	1	06/07/21 16:12	06/08/21 13:23		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**0.014**	mg/L	0.010	1	06/07/21 16:12	06/08/21 12:16	7440-38-2	
Iron, Dissolved	**5.0**	mg/L	0.050	1	06/07/21 16:12	06/08/21 12:16	7439-89-6	
Manganese, Dissolved	**2.9**	mg/L	0.0050	1	06/07/21 16:12	06/08/21 12:16	7439-96-5	
Molybdenum, Dissolved	**0.13**	mg/L	0.020	1	06/07/21 16:12	06/08/21 12:16	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.044**	mg/L	0.010	1	06/07/21 16:12	06/08/21 12:47	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.043**	mg/L	0.010	1	06/07/21 16:12	06/08/21 12:27	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0065**	mg/L	0.0010	1	06/07/21 16:12	06/08/21 11:57	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/07/21 16:12	06/08/21 11:57	7440-48-4	
Molybdenum, Total Recoverable	**0.12**	mg/L	0.0010	1	06/07/21 16:12	06/08/21 11:57	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**143**	mg/L	20.0	1		06/08/21 11:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		06/08/21 11:14		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3360**	mg/L	66.7	1		06/08/21 08:10		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		06/08/21 12:56		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Sample: MW-109-060621 **Lab ID: 60371361002** Collected: 06/06/21 09:50 Received: 06/07/21 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		06/08/21 14:57		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**339**	mg/L	50.0	50		06/08/21 12:20	16887-00-6	
Fluoride	**3.1**	mg/L	0.20	1		06/08/21 12:08	16984-48-8	
Sulfate	**1780**	mg/L	200	200		06/08/21 12:33	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.2**	mg/L	1.0	1		06/07/21 22:42		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.0**	mg/L	1.0	1		06/07/21 20:22	7440-44-0	
Total Organic Carbon	**1.5**	mg/L	1.0	1		06/07/21 20:22	7440-44-0	
Total Organic Carbon	**1.6**	mg/L	1.0	1		06/07/21 20:22	7440-44-0	
Total Organic Carbon	**1.5**	mg/L	1.0	1		06/07/21 20:22	7440-44-0	
Mean Total Organic Carbon	**1.4**	mg/L	1.0	1		06/07/21 20:22	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724835
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: 60371361001, 60371361002

METHOD BLANK: 2913319 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	06/08/21 13:13	
Boron	mg/L	<0.10	0.10	06/08/21 13:13	
Calcium	mg/L	<0.20	0.20	06/08/21 13:13	
Hardness, Total(SM 2340B)	mg/L	<0.50	0.50	06/08/21 13:13	
Iron	mg/L	<0.050	0.050	06/08/21 13:13	
Magnesium	mg/L	<0.050	0.050	06/08/21 13:13	
Manganese	mg/L	<0.0050	0.0050	06/08/21 13:13	
Potassium	mg/L	<0.50	0.50	06/08/21 13:13	
Sodium	mg/L	<0.50	0.50	06/08/21 13:13	

LABORATORY CONTROL SAMPLE: 2913320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	100	85-115	
Boron	mg/L	1	0.99	99	85-115	
Calcium	mg/L	10	9.9	99	85-115	
Hardness, Total(SM 2340B)	mg/L	66.2	66.4	100	85-115	
Iron	mg/L	10	10.4	104	85-115	
Magnesium	mg/L	10	10.1	101	85-115	
Manganese	mg/L	1	1.0	102	85-115	
Potassium	mg/L	10	10.0	100	85-115	
Sodium	mg/L	10	10.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913321 2913322

Parameter	Units	60371361001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.054	1	1	1.1	1.0	100	98	70-130	2	20	
Boron	mg/L	5.0	1	1	6.0	5.9	106	90	70-130	3	20	
Calcium	mg/L	458	10	10	482	461	234	24	70-130	4	20	M1
Hardness, Total(SM 2340B)	mg/L	1750	66.2	66.2	1860	1790	169	59	70-130	4	20	
Iron	mg/L	6.6	10	10	17.0	16.6	104	100	70-130	3	20	
Magnesium	mg/L	147	10	10	160	155	130	80	70-130	3	20	
Manganese	mg/L	1.4	1	1	2.4	2.4	102	96	70-130	2	20	
Potassium	mg/L	27.6	10	10	38.5	37.3	109	97	70-130	3	20	
Sodium	mg/L	375	10	10	392	378	172	35	70-130	4	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

Pace Analytical Services, LLC
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Lenexa, KS 66219
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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724837
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371361001, 60371361002

METHOD BLANK: 2913323 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.010	0.010	06/08/21 12:06	
Iron, Dissolved	mg/L	<0.050	0.050	06/08/21 12:06	
Manganese, Dissolved	mg/L	<0.0050	0.0050	06/08/21 12:06	
Molybdenum, Dissolved	mg/L	<0.020	0.020	06/08/21 12:06	

LABORATORY CONTROL SAMPLE: 2913324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	1	1.0	100	85-115	
Iron, Dissolved	mg/L	10	10.2	102	85-115	
Manganese, Dissolved	mg/L	1	1.0	100	85-115	
Molybdenum, Dissolved	mg/L	1	1.0	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913325 2913326

Parameter	Units	60371361001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	<0.010	1	1	1.1	1.1	109	108	70-130	1	20	
Iron, Dissolved	mg/L	6.1	10	10	16.5	16.5	104	104	70-130	0	20	
Manganese, Dissolved	mg/L	1.4	1	1	2.5	2.4	109	106	70-130	1	20	
Molybdenum, Dissolved	mg/L	0.11	1	1	1.2	1.2	107	107	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724839
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: 60371361001, 60371361002

METHOD BLANK: 2913333 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	06/08/21 11:49	
Cobalt	mg/L	<0.0010	0.0010	06/08/21 11:49	
Molybdenum	mg/L	<0.0010	0.0010	06/08/21 11:49	

LABORATORY CONTROL SAMPLE: 2913334

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.042	104	85-115	
Cobalt	mg/L	0.04	0.039	98	85-115	
Molybdenum	mg/L	0.04	0.043	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913335 2913336

Parameter	Units	60371361001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0040	0.04	0.04	0.045	0.044	103	100	70-130	2	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.037	0.036	91	89	70-130	2	20	
Molybdenum	mg/L	0.11	0.04	0.04	0.15	0.14	103	84	70-130	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724840
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371361001, 60371361002

METHOD BLANK: 2913339 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	06/08/21 12:42	

LABORATORY CONTROL SAMPLE: 2913340

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913341 2913342

Parameter	Units	60371361002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.044	1	1	1.1	1.1	108	111	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724842
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371361001, 60371361002

METHOD BLANK: 2913348 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	mg/L	<0.010	0.010	06/08/21 12:21	

LABORATORY CONTROL SAMPLE: 2913349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913350 2913351

Parameter	Units	60371361002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	mg/L	0.043	1	1	1.1	1.1	107	106	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724943
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371361001, 60371361002

METHOD BLANK: 2913593 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	06/08/21 09:00	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	06/08/21 09:00	

SAMPLE DUPLICATE: 2913595

Parameter	Units	60370705004 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	129	132	2	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2913596

Parameter	Units	60370890002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	278	278	0	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724916
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371361001, 60371361002

METHOD BLANK: 2913542 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	06/08/21 08:10	

LABORATORY CONTROL SAMPLE: 2913543

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

SAMPLE DUPLICATE: 2913544

Parameter	Units	60371361001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3400	3520	3	10	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724944
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: 60371361001, 60371361002

METHOD BLANK: 2913597 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.20	0.20	06/08/21 12:50	H6

LABORATORY CONTROL SAMPLE: 2913598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	1.9	96	90-110	H6

SAMPLE DUPLICATE: 2913599

Parameter	Units	60371361001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.25	0.26	5	20	H6

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724885
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60371361001, 60371361002

SAMPLE DUPLICATE: 2913483

Parameter	Units	60371212002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.6	0	5	H6

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724945
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: 60371361001, 60371361002

METHOD BLANK: 2913612 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	06/08/21 08:58	
Fluoride	mg/L	<0.20	0.20	06/08/21 08:58	
Sulfate	mg/L	<1.0	1.0	06/08/21 08:58	

LABORATORY CONTROL SAMPLE: 2913613

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	93	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913614 2913615

Parameter	Units	60371361001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	590	250	250	902	937	125	139	80-120	4	15	M1
Fluoride	mg/L	4.0	2.5	2.5	6.5	6.6	102	104	80-120	1	15	
Sulfate	mg/L	1930	1000	1000	2680	2710	75	78	80-120	1	15	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724848
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371361001, 60371361002

METHOD BLANK: 2913368 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	<1.0	1.0	06/07/21 21:35	

LABORATORY CONTROL SAMPLE: 2913369

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913371 2913372

Parameter	Units	10562380002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	5.1	5	5	10.1	10.3	100	104	80-120	2	25	

SAMPLE DUPLICATE: 2913370

Parameter	Units	10562380002 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	5.1	5.1	0	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

QC Batch: 724851
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371361001, 60371361002

METHOD BLANK: 2913378 Matrix: Water
Associated Lab Samples: 60371361001, 60371361002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 17:26	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 17:26	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 17:26	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 17:26	
Total Organic Carbon	mg/L	<1.0	1.0	06/07/21 17:26	

LABORATORY CONTROL SAMPLE: 2913379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	5	4.6	92	80-120	
Total Organic Carbon	mg/L	5	4.6	91	80-120	
Total Organic Carbon	mg/L	5	4.6	91	80-120	
Total Organic Carbon	mg/L	5	4.6	91	80-120	
Total Organic Carbon	mg/L	5	4.6	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2913380 2913381

Parameter	Units	60371361001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	1.6	5	5	4.4	4.4	56	55	80-120	2	25	M1
Total Organic Carbon	mg/L	1.3	5	5	3.6	3.6	46	47	80-120	1	25	M1
Total Organic Carbon	mg/L	1.7	5	5	4.5	4.4	56	55	80-120	2	25	M1
Total Organic Carbon	mg/L	1.8	5	5	4.7	4.6	58	57	80-120	2	25	M1
Total Organic Carbon	mg/L	1.8	5	5	5.0	4.8	65	61	80-120	4	25	M1

SAMPLE DUPLICATE: 2913382

Parameter	Units	60371361001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mean Total Organic Carbon	mg/L	1.6	1.4	13	25	
Total Organic Carbon	mg/L	1.3	1.0	20	25	
Total Organic Carbon	mg/L	1.7	1.5	9	25	
Total Organic Carbon	mg/L	1.8	1.5	18	25	
Total Organic Carbon	mg/L	1.8	1.7	5	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

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.

ANALYTE QUALIFIERS

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60371361

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60371361001	**MW-110-060521**	EPA 200.7	724835	EPA 200.7	724928
60371361002	**MW-109-060621**	EPA 200.7	724835	EPA 200.7	724928
60371361001	**MW-110-060521**	EPA 200.7	724837	EPA 200.7	724927
60371361002	**MW-109-060621**	EPA 200.7	724837	EPA 200.7	724927
60371361001	**MW-110-060521**	EPA 3010	724840	EPA 6010	724930
60371361002	**MW-109-060621**	EPA 3010	724840	EPA 6010	724930
60371361001	**MW-110-060521**	EPA 3010	724842	EPA 6010	724929
60371361002	**MW-109-060621**	EPA 3010	724842	EPA 6010	724929
60371361001	**MW-110-060521**	EPA 200.8	724839	EPA 200.8	724926
60371361002	**MW-109-060621**	EPA 200.8	724839	EPA 200.8	724926
60371361001	**MW-110-060521**	SM 2320B	724943		
60371361002	**MW-109-060621**	SM 2320B	724943		
60371361001	**MW-110-060521**	SM 2540C	724916		
60371361002	**MW-109-060621**	SM 2540C	724916		
60371361001	**MW-110-060521**	SM 3500-Fe B#4	724944		
60371361002	**MW-109-060621**	SM 3500-Fe B#4	724944		
60371361001	**MW-110-060521**	SM 4500-H+B	724885		
60371361002	**MW-109-060621**	SM 4500-H+B	724885		
60371361001	**MW-110-060521**	EPA 300.0	724945		
60371361002	**MW-109-060621**	EPA 300.0	724945		
60371361001	**MW-110-060521**	SM 5310C	724848		
60371361002	**MW-109-060621**	SM 5310C	724848		
60371361001	**MW-110-060521**	EPA 9060	724851		
60371361002	**MW-109-060621**	EPA 9060	724851		

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Sample Condition Upon Receipt

WO# : 60371361

60371361

Client Name: Evergy KS Central

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 4.4 Corr. Factor 0.0 Corrected 4.4

Date and initials of person examining contents: 6/7 ML

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	6721 NLL Fe2+
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: _____

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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 5 (Waters)

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Y/N	Analysis Test: 200.7 Total Metals*	200.7 Diss.Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS, 4500H+ pH	Ferrous Iron	9060 TOC	5310C DOC	200.8 Total Metals***	6010 Total Metals****	6010 Diss. Metals (FF)***	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-110-060521	WT	G			06/05/21	10:40		7	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		605713601
2	MW-109-060621	WT	G			06/05/21	09:50		7	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3		WT																														
4		WT																														
5		WT																														
6		WT																														
7		WT																														
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na, Total Hardness (8 metals & Hardness)	Sean Cottrell / Hadley Aldrich	06/07/21	07:50		6/7/21	07:50	4.4	Y	N	Y
200.7 Diss. Metals**: As, Fe, Mn, Mo (m Metals, FIELD FILTERED)										
200.8 Total Metals***: As, Co, Mo (3 metals)										
6010 Total Metals****: Li (1 metal) / 6010 Diss.Metals****: Li (1 metal, FIELD FILTERED)										
							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:

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

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

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

July 06, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 08, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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CERTIFICATIONS

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

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

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SAMPLE SUMMARY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60371829001	**MW-108-060321**	Water	06/03/21 13:00	06/08/21 10:15
60371829002	**MW-107-060421**	Water	06/04/21 10:40	06/08/21 10:15
60371829003	**MW-110-060521**	Water	06/05/21 10:40	06/08/21 10:15
60371829004	**MW-109-060621**	Water	06/06/21 09:50	06/08/21 10:15

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SAMPLE ANALYTE COUNT

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60371829001	**MW-108-060321**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60371829002	**MW-107-060421**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60371829003	**MW-110-060521**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60371829004	**MW-109-060621**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Sample: MW-108-060321 **Lab ID: 60371829001** Collected: 06/03/21 13:00 Received: 06/08/21 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0625 ± 0.324 (0.751) C:NA T:87%**	pCi/L	06/30/21 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.11 ± 0.514 (0.875) C:71% T:83%**	pCi/L	06/28/21 14:23	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.11 ± 0.608 (0.875)**	pCi/L	07/02/21 14:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Sample: MW-107-060421 **Lab ID: 60371829002** Collected: 06/04/21 10:40 Received: 06/08/21 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 2.5 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.115 ± 0.450 (0.862) C:NA T:94%**	pCi/L	06/30/21 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.41 ± 0.550 (0.851) C:73% T:82%**	pCi/L	06/28/21 14:23	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.53 ± 0.711 (0.862)**	pCi/L	07/02/21 14:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Sample: MW-110-060521 **Lab ID: 60371829003** Collected: 06/05/21 10:40 Received: 06/08/21 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.181 ± 0.489 (0.908) C:NA T:91%**	pCi/L	06/30/21 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.39 ± 0.509 (0.741) C:73% T:88%**	pCi/L	06/28/21 14:23	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.57 ± 0.706 (0.908)**	pCi/L	07/02/21 14:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Sample: MW-109-060621 **Lab ID: 60371829004** Collected: 06/06/21 09:50 Received: 06/08/21 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0631 ± 0.371 (0.758) C:NA T:91%**	pCi/L	06/30/21 13:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.173 ± 0.356 (0.785) C:72% T:90%**	pCi/L	06/28/21 14:24	15262-20-1	1e
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.236 ± 0.514 (0.785)**	pCi/L	07/02/21 14:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

QC Batch: 452699
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: 60371829001, 60371829002, 60371829003, 60371829004

METHOD BLANK: 2185412 Matrix: Water
Associated Lab Samples: 60371829001, 60371829002, 60371829003, 60371829004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.440 ± 0.357 (0.714) C:76% T:88%	pCi/L	07/01/21 10:59	3e
Radium-228	1.42 ± 0.515 (0.758) C:71% T:88%	pCi/L	06/28/21 11:11	2e

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

QC Batch: 452696
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: 60371829001, 60371829002, 60371829003, 60371829004

METHOD BLANK: 2185409 Matrix: Water
Associated Lab Samples: 60371829001, 60371829002, 60371829003, 60371829004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0999 ± 0.367 (0.704) C:NA T:87%	pCi/L	06/30/21 13:41	

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: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

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

1e	Analyte detected in Method Blank above reporting limit of 1.0 pCi/L. Samples with activity results below their associated MDC or the client RDL are reportable without qualification.
2e	Analyte detected in Method Blank above reporting limit of 1.0 pCi/L. Samples with activity results below their associated MDC or the client RDL are reportable without qualification. Results for sample with activity greater than the client RDL may be qualified.
3e	Method Blank re-analyzed due to activity > MDC. Re-analysis results are satisfactory.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60371829

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60371829001	**MW-108-060321**	EPA 903.1	452696		
60371829002	**MW-107-060421**	EPA 903.1	452696		
60371829003	**MW-110-060521**	EPA 903.1	452696		
60371829004	**MW-109-060621**	EPA 903.1	452696		
60371829001	**MW-108-060321**	EPA 904.0	452699		
60371829002	**MW-107-060421**	EPA 904.0	452699		
60371829003	**MW-110-060521**	EPA 904.0	452699		
60371829004	**MW-109-060621**	EPA 904.0	452699		
60371829001	**MW-108-060321**	Total Radium Calculation	455016		
60371829002	**MW-107-060421**	Total Radium Calculation	455016		
60371829003	**MW-110-060521**	Total Radium Calculation	455016		
60371829004	**MW-109-060621**	Total Radium Calculation	455016		

Pace Analytical Services-Pittsburgh
Cooler Issue Tracking Form

Issue Number	061021-06
Date/Time Received	06/08/21 1015
Received Via	Express
Tracking Number (if known)	5002 0648 1929
Client (if known)	Evergy Kansas Central Inc.
Holdtime issues (if known)	N/A
Temperature (if applicable)	
Number of Coolers	1
Location of Coolers	under bench

Issue preventing login

Initials of person writing up issue: JAG

1 profile or line not set up
(A-not set up B-set up, could not find)
2 limited volume
3 temperature issue
4 cannot determine client or contact
(A-not in LIMS B-could not find)
5 broken bottles
6 incorrect bottles
(7) waiting for IRWO (list lab ID)
8 missing COC
9 other - comment

Folder given to initials/date:	Scanned to CAF 6/10/21 1530
status check initials/date	6
status check initials/date	
status check initials/date	
Folder returned to receiving on date:	

Workorder # added to Logbook: **Y or N**

10/12/21

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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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-109-060321	WT		06/03/21	1800	06/03/21	1300		2										✓	✓	✓		
2	MW-107-060421	WT				06/04/21	1040		2										✓	✓	✓		
3	MW-110-060521	WT				06/05/21	1040		2										✓	✓	✓		
4	MW-109-060621	WT				06/06/21	0950		2										✓	✓	✓		
5		WT																					
6		WT																					
7		WT																					
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship directly to Pace PA on plenty of ice ASAP after sampling.	Sean Larkin/HEA	06/07/21	1545		6-8-21	10:15	-	N	Y	Y

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	Sean Larkin			
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY):	06/07/21	

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.

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Evergy Kansas Central Project # _____

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

Label _____

LIMS Login

Tracking #: 5002 0648 1929

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Thermometer Used _____ Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

pH paper Lot# 10D3801 Date and Initials of person examining contents: 6-10-21 SA

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. added 2.5 mL HNO_3 to samples MW107-060421
All containers meet method preservation requirements.		✓		Initial when completed: JR Date/time of preservation: 6-10-21 13:35 Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
~~Rad Samples Screened < 0.5 mrem/hr~~	✓			Initial when completed: SA Date: 6-10-21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Internal Transfer Chain of Custody

WO# : 30425400

30425400

☐ Samples Pre-Logged into eCOC.

State Of Origin: KS
Cert. Needed: ☒ Yes

Workorder: 60371829 **Workorder Name:** LEC Perimeter Ash Pond Wells C **Owner Received Date:** 6/8/2021 **Results Requested By:** 6/29/2021

Report To	Subcontract To
Jasmine Amerin Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Radium-226	Radium-228 & Total Radium	LAB USE ONLY
1	MW-108-060321	PS	6/3/2021 13:00	60371829001	Water	2	X	X	001
2	MW-107-060421	PS	6/4/2021 10:40	60371829002	Water	2	X	X	002
3	MW-110-060521	PS	6/5/2021 10:40	60371829003	Water	2	X	X	003
4	MW-109-060621	PS	6/6/2021 09:50	60371829004	Water	2	X	X	004
5									

Transfers	Released By	Date/Time	Received By	Date/Time
1				6/8/21 1015
2				
3				

Comments

Please provide QC sheets.
Use Pittsburgh profile 11795.

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

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

Pittsburgh Lab Sample Condition Upon Receipt

30425400

Pace Analytical

Client Name: Evergy Kansas Central Project #

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

Label TDM
LIMS Login TDM

Tracking #: 5002 0648 1929

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

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

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

Temp should be above freezing to 6°C

pH paper Lot# 10D3801 | Date and Initials of person examining contents: 6-10-21 JA

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. added 2.5 mL HNO_3 to samples MW107-060421
All containers meet method preservation requirements.		✓		Initial when completed JA Date/time of preservation 6-10-21 13:35 Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: JA Date: 6-10-21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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: Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-109-060321	WT		06/03/21	1130	06/03/21	1300		2									✓	✓	✓		40254400
2	MW-107-060421	WT				06/04/21	1040		2									✓	✓	✓		
3	MW-110-060521	WT				06/05/21	1040		2									✓	✓	✓		
4	MW-109-060621	WT				06/06/21	0950		2									✓	✓	✓		
5		WT																				
6		WT																				
7		WT																				
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship directly to Pace PA on plenty of ice ASAP after sampling.	Sean Larkin/HEA	06/07/21	1545		6-8-21	10:15	-	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sean Larkin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/07/21

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.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	MK1
Date:	6/22/2021
Batch ID:	61205
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2185409
MB concentration:	0.100
M/B Counting Uncertainty:	0.366
MB MDC:	0.704
MB Numerical Performance Indicator:	0.53
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS61205	LCSD61205
Count Date:	6/30/2021	
Spike I.D.:	20-032	
Spike Concentration (pCi/mL):	32.173	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.652	
Target Conc. (pCi/L, g, F):	4.936	
Uncertainty (Calculated):	0.232	
Result (pCi/L, g, F):	4.329	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.904	
Numerical Performance Indicator:	-1.28	
Percent Recovery:	87.70%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	6/8/2021	
Sample I.D.	30425198001	
Sample MS I.D.	30425198001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.174	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.658	
MS Target Conc.(pCi/L, g, F):	9.783	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.460	
MSD Spike Uncertainty (calculated):		
Sample Result:	-0.095	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.186	
Sample Matrix Spike Result:	11.072	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.613	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	1.607	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	114.14%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	7374192021	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	7374192021DUP	
Sample Result (pCi/L, g, F):	-0.118	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.231	
Sample Duplicate Result (pCi/L, g, F):	0.062	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.209	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.129	7374192021
Duplicate RPD:	-638.16%	7374192021DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

6-30-21

6/30/21

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test: Ra-228
Analyst: VAL
Date: 6/23/2021
Worklist: 61206
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2185412
MB concentration:	1.420
M/B 2 Sigma CSU:	0.515
MB MDC:	0.758
MB Numerical Performance Indicator:	5.41
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Fail*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS61206	LCSD61206
Count Date:	6/28/2021	
Spike I.D.:	21-003	
Decay Corrected Spike Concentration (pCi/mL):	37.148	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.825	
Target Conc. (pCi/L, g, F):	4.502	
Uncertainty (Calculated):	0.221	
Result (pCi/L, g, F):	3.868	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.941	
Numerical Performance Indicator:	-1.29	
Percent Recovery:	85.91%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	6/3/2021	
Sample I.D.	30425247001	
Sample MS I.D.	30425247001MS	
Sample MSD I.D.		
Spike I.D.:	21-003	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	37.457	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.794	
MS Target Conc.(pCi/L, g, F):	9.438	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.462	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.085	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.309	
Sample Matrix Spike Result:	8.030	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.651	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	-1.680	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	84.18%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	30425242001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30425242001DUP	
Sample Result (pCi/L, g, F):	0.651	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.381	
Sample Duplicate Result (pCi/L, g, F):	0.167	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.327	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.891	30425242001
Duplicate RPD:	118.34%	30425242001DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:
*If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.

6/29/21

CMB 6/29/21

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	6/29/2021
Worklist:	61206
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2185412
MB concentration:	0.440
M/B 2 Sigma CSU:	0.357
MB MDC:	0.714
MB Numerical Performance Indicator:	2.41
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS61206	LCSD61206
Count Date:	#N/A	#N/A
Spike I.D.:	#N/A	#N/A
Decay Corrected Spike Concentration (pCi/mL):	#N/A	#N/A
Volume Used (mL):		#N/A
Aliquot Volume (L, g, F):	#N/A	#N/A
Target Conc. (pCi/L, g, F):	#N/A	#N/A
Uncertainty (Calculated):	#N/A	#N/A
Result (pCi/L, g, F):	#N/A	#N/A
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	#N/A	
Numerical Performance Indicator:	#N/A	#N/A
Percent Recovery:	#N/A	#N/A
Status vs Numerical Indicator:	#N/A	#N/A
Status vs Recovery:	#N/A	#N/A
Upper % Recovery Limits:	#N/A	#N/A
Lower % Recovery Limits:	#N/A	#N/A

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.		
Sample Result (pCi/L, g, F):		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Duplicate Result (pCi/L, g, F):		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:		
Duplicate RPD:		
Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:		
% RPD Limit:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

#N/A

7/2/21

7/2/21

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

June 17, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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

CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60372309001	**MW-113_061621**	Water	06/16/21 08:00	06/16/21 11:35

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

SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60372309001	**MW-113_061621**	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	LDB	2	PASI-K
		SM 2540C	ALH	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	BLA	1	PASI-K
		EPA 9060	BLA	5	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

Sample: MW-113_061621 **Lab ID: 60372309001** Collected: 06/16/21 08:00 Received: 06/16/21 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.054**	mg/L	0.0050	1	06/16/21 15:44	06/17/21 11:00	7440-39-3	
Boron, Total Recoverable	**6.5**	mg/L	0.10	1	06/16/21 15:44	06/17/21 11:00	7440-42-8	
Calcium, Total Recoverable	**254**	mg/L	0.20	1	06/16/21 15:44	06/17/21 11:00	7440-70-2	M1
Iron, Total Recoverable	**6.0**	mg/L	0.050	1	06/16/21 15:44	06/17/21 11:00	7439-89-6	
Magnesium, Total Recoverable	**93.2**	mg/L	0.050	1	06/16/21 15:44	06/17/21 11:00	7439-95-4	
Manganese, Total Recoverable	**0.96**	mg/L	0.0050	1	06/16/21 15:44	06/17/21 11:00	7439-96-5	
Potassium, Total Recoverable	**17.1**	mg/L	0.50	1	06/16/21 15:44	06/17/21 11:00	7440-09-7	
Sodium, Total Recoverable	**194**	mg/L	0.50	1	06/16/21 15:44	06/17/21 11:00	7440-23-5	M1
Total Hardness by 2340B, Total Recoverable	**1020**	mg/L	0.50	1	06/16/21 15:44	06/17/21 11:00		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	06/16/21 15:44	06/17/21 09:57	7440-38-2	
Iron, Dissolved	**5.1**	mg/L	0.050	1	06/16/21 15:44	06/17/21 09:57	7439-89-6	
Manganese, Dissolved	**0.91**	mg/L	0.0050	1	06/16/21 15:44	06/17/21 09:57	7439-96-5	
Molybdenum, Dissolved	**0.17**	mg/L	0.020	1	06/16/21 15:44	06/17/21 09:57	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.071**	mg/L	0.010	1	06/16/21 15:44	06/17/21 08:57	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.072**	mg/L	0.010	1	06/16/21 15:44	06/17/21 08:37	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0030**	mg/L	0.0010	1	06/16/21 15:44	06/17/21 09:22	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/16/21 15:44	06/17/21 09:22	7440-48-4	
Molybdenum, Total Recoverable	**0.17**	mg/L	0.0010	1	06/16/21 15:44	06/17/21 09:22	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**300**	mg/L	20.0	1		06/16/21 16:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		06/16/21 16:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1900**	mg/L	20.0	1		06/16/21 13:23		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**0.26**	mg/L	0.20	1		06/17/21 06:35		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

Sample: MW-113_061621 **Lab ID: 60372309001** Collected: 06/16/21 08:00 Received: 06/16/21 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		06/16/21 16:16		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**149**	mg/L	20.0	20		06/17/21 09:05	16887-00-6	
Fluoride	**6.0**	mg/L	0.20	1		06/17/21 08:27	16984-48-8	
Sulfate	**963**	mg/L	100	100		06/17/21 09:43	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.2**	mg/L	1.0	1		06/16/21 16:24		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.2**	mg/L	1.0	1		06/16/21 21:24	7440-44-0	M1
Total Organic Carbon	**1.6**	mg/L	1.0	1		06/16/21 21:24	7440-44-0	M1
Total Organic Carbon	**1.8**	mg/L	1.0	1		06/16/21 21:24	7440-44-0	M1
Total Organic Carbon	**1.9**	mg/L	1.0	1		06/16/21 21:24	7440-44-0	M1
Mean Total Organic Carbon	**1.6**	mg/L	1.0	1		06/16/21 21:24	7440-44-0	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726711
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: 60372309001

METHOD BLANK: 2919725 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	06/17/21 10:55	
Boron	mg/L	<0.10	0.10	06/17/21 10:55	
Calcium	mg/L	<0.20	0.20	06/17/21 10:55	
Hardness, Total(SM 2340B)	mg/L	<0.50	0.50	06/17/21 10:55	
Iron	mg/L	<0.050	0.050	06/17/21 10:55	
Magnesium	mg/L	<0.050	0.050	06/17/21 10:55	
Manganese	mg/L	<0.0050	0.0050	06/17/21 10:55	
Potassium	mg/L	<0.50	0.50	06/17/21 10:55	
Sodium	mg/L	<0.50	0.50	06/17/21 10:55	

LABORATORY CONTROL SAMPLE: 2919726

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	100	85-115	
Boron	mg/L	1	0.93	93	85-115	
Calcium	mg/L	10	9.9	99	85-115	
Hardness, Total(SM 2340B)	mg/L	66.2	65.2	99	85-115	
Iron	mg/L	10	9.9	99	85-115	
Magnesium	mg/L	10	9.8	98	85-115	
Manganese	mg/L	1	1.0	100	85-115	
Potassium	mg/L	10	10	100	85-115	
Sodium	mg/L	10	10.2	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919727 2919728

Parameter	Units	60372309001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.054	1	1	1.1	1.1	101	101	70-130	1	20	
Boron	mg/L	6.5	1	1	7.3	7.3	88	85	70-130	0	20	
Calcium	mg/L	254	10	10	259	254	48	-1	70-130	2	20	M1
Hardness, Total(SM 2340B)	mg/L	1020	66.2	66.2	1070	1050	74	52	70-130	1	20	
Iron	mg/L	6.0	10	10	15.6	15.6	96	96	70-130	0	20	
Magnesium	mg/L	93.2	10	10	102	102	90	84	70-130	1	20	
Manganese	mg/L	0.96	1	1	1.9	1.9	97	97	70-130	0	20	
Potassium	mg/L	17.1	10	10	27.1	26.9	100	99	70-130	1	20	
Sodium	mg/L	194	10	10	200	199	54	48	70-130	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726712
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372309001

METHOD BLANK: 2919739 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.010	0.010	06/17/21 09:52	
Iron, Dissolved	mg/L	<0.050	0.050	06/17/21 09:52	
Manganese, Dissolved	mg/L	<0.0050	0.0050	06/17/21 09:52	
Molybdenum, Dissolved	mg/L	<0.020	0.020	06/17/21 09:52	

LABORATORY CONTROL SAMPLE: 2919740

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	1	1.0	101	85-115	
Iron, Dissolved	mg/L	10	10.2	102	85-115	
Manganese, Dissolved	mg/L	1	1.0	101	85-115	
Molybdenum, Dissolved	mg/L	1	1.0	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919741 2919742

Parameter	Units	60372309001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	<0.010	1	1	1.1	1.1	107	106	70-130	1	20	
Iron, Dissolved	mg/L	5.1	10	10	15.1	15.1	100	100	70-130	0	20	
Manganese, Dissolved	mg/L	0.91	1	1	1.9	1.9	99	101	70-130	1	20	
Molybdenum, Dissolved	mg/L	0.17	1	1	1.2	1.2	106	104	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726714
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: 60372309001

METHOD BLANK: 2919749 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	06/17/21 09:19	
Cobalt	mg/L	<0.0010	0.0010	06/17/21 09:19	
Molybdenum	mg/L	<0.0010	0.0010	06/17/21 09:19	

LABORATORY CONTROL SAMPLE: 2919750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.042	105	85-115	
Cobalt	mg/L	0.04	0.041	104	85-115	
Molybdenum	mg/L	0.04	0.043	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919751 2919752

Parameter	Units	60372309001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0030	0.04	0.04	0.044	0.044	103	103	70-130	0	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.038	0.038	94	94	70-130	0	20	
Molybdenum	mg/L	0.17	0.04	0.04	0.22	0.22	125	126	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726715
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372309001

METHOD BLANK: 2919753 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	06/17/21 08:44	

LABORATORY CONTROL SAMPLE: 2919754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919755 2919756

Parameter	Units	60372309001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.071	1	1	1.1	1.1	100	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726716
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372309001

METHOD BLANK: 2919761 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	mg/L	<0.010	0.010	06/17/21 08:32	

LABORATORY CONTROL SAMPLE: 2919762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919763 2919764

Parameter	Units	60372309001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	mg/L	0.072	1	1	1.0	1.0	97	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726779
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372309001

METHOD BLANK: 2919957 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	06/16/21 16:46	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	06/16/21 16:46	

SAMPLE DUPLICATE: 2919959

Parameter	Units	60372309001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	300	297	1	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 2919960

Parameter	Units	60371747002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	695	704	1	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726676
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372309001

METHOD BLANK: 2919583 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	06/16/21 13:22	

LABORATORY CONTROL SAMPLE: 2919584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	995	100	80-120	

SAMPLE DUPLICATE: 2919585

Parameter	Units	60372309001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1900	1860	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726788
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: 60372309001

METHOD BLANK: 2919992 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.20	0.20	06/17/21 06:33	H6

LABORATORY CONTROL SAMPLE: 2919993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	104	90-110	H6

SAMPLE DUPLICATE: 2919994

Parameter	Units	60372309001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.26	0.26	1	20	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726674
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60372309001

SAMPLE DUPLICATE: 2919574

Parameter	Units	60372092001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726710
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: 60372309001

METHOD BLANK: 2919717 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	06/17/21 08:02	
Fluoride	mg/L	<0.20	0.20	06/17/21 08:02	
Sulfate	mg/L	<1.0	1.0	06/17/21 08:02	

LABORATORY CONTROL SAMPLE: 2919718

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919719 2919720

Parameter	Units	60372309001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	149	100	100	246	249	97	99	80-120	1	15	
Fluoride	mg/L	6.0	2.5	2.5	8.6	8.6	106	104	80-120	0	15	
Sulfate	mg/L	963	500	500	1450	1440	98	96	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726747
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372309001

METHOD BLANK: 2919843 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	<1.0	1.0	06/16/21 15:58	

LABORATORY CONTROL SAMPLE: 2919844

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919846 2919847

Parameter	Units	10564925005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	3.0	5	5	7.6	7.8	92	96	80-120	3	25	

SAMPLE DUPLICATE: 2919845

Parameter	Units	10564925005 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	3.0	3.1	1	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

QC Batch: 726745
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372309001

METHOD BLANK: 2919837 Matrix: Water
Associated Lab Samples: 60372309001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	<1.0	1.0	06/16/21 20:24	
Total Organic Carbon	mg/L	<1.0	1.0	06/16/21 20:24	
Total Organic Carbon	mg/L	<1.0	1.0	06/16/21 20:24	
Total Organic Carbon	mg/L	<1.0	1.0	06/16/21 20:24	
Total Organic Carbon	mg/L	<1.0	1.0	06/16/21 20:24	

LABORATORY CONTROL SAMPLE: 2919838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	5	4.7	94	80-120	
Total Organic Carbon	mg/L	5	4.6	93	80-120	
Total Organic Carbon	mg/L	5	4.8	95	80-120	
Total Organic Carbon	mg/L	5	4.8	95	80-120	
Total Organic Carbon	mg/L	5	4.7	95	80-120	

MATRIX SPIKE SAMPLE: 2919839

Parameter	Units	60372309001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	1.6	5	5.2	72	80-120	M1
Total Organic Carbon	mg/L	1.2	5	4.6	69	80-120	M1
Total Organic Carbon	mg/L	1.9	5	5.6	74	80-120	M1
Total Organic Carbon	mg/L	1.8	5	5.4	73	80-120	M1
Total Organic Carbon	mg/L	1.6	5	5.1	70	80-120	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

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.

ANALYTE QUALIFIERS

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372309

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60372309001	**MW-113_061621**	EPA 200.7	726711	EPA 200.7	726810
60372309001	**MW-113_061621**	EPA 200.7	726712	EPA 200.7	726811
60372309001	**MW-113_061621**	EPA 3010	726715	EPA 6010	726813
60372309001	**MW-113_061621**	EPA 3010	726716	EPA 6010	726812
60372309001	**MW-113_061621**	EPA 200.8	726714	EPA 200.8	726815
60372309001	**MW-113_061621**	SM 2320B	726779		
60372309001	**MW-113_061621**	SM 2540C	726676		
60372309001	**MW-113_061621**	SM 3500-Fe B#4	726788		
60372309001	**MW-113_061621**	SM 4500-H+B	726674		
60372309001	**MW-113_061621**	EPA 300.0	726710		
60372309001	**MW-113_061621**	SM 5310C	726747		
60372309001	**MW-113_061621**	EPA 9060	726745		

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Sample Condition Upon Receipt

WO# : 60372309

60372309

Client Name: Evergy KS Central

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 ☑ Ziploc

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

Cooler Temperature (°C): **As-read** 4.9 **Corr. Factor** 0.0 **Corrected** 4.9

Date and initials of person examining contents: 6/14 ML

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	1 day RUSH
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: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 5 (Waters)

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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 Total Metals*	200.7 Diss.Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS, 4500H+ pH	Ferrous Iron	9060 TOC	5310C DOC	200.8 Total Metals***	6010 Total Metals****	6010 Diss. Metals (FF)*****	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-113-061621	WT	G			6/16/21	0800		7	X	X	X						X	X	X	X	X	X	X	X	X	X	X		10537209 1 Day rush TAT
2		WT																													
3		WT																													
4		WT																													
5		WT																													
6		WT																													
7		WT																													
8																															
9																															
10																															
11																															
12																															

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na, Total Hardness (8 metals & Hardness)	D. Oberbroeckling / H&A	6/16/21	9:30		6-16	9:30				
200.7 Diss. Metals**: As, Fe, Mn, Mo (m Metals, FIELD FILTERED)				/ PACE	6-16-21	1135	4.9	Y	N	Y
200.8 Total Metals***: As, Co, Mo (3 metals)										
6010 Total Metals****: Li (1 metal) / 6010 Diss.Metals****: Li (1 metal, FIELD FILTERED)										

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: Danielle Oberbroeckling

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/16/21

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

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

June 22, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60372588001	**MW-112_061721**	Water	06/17/21 07:45	06/17/21 13:45

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

SAMPLE ANALYTE COUNT

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60372588001	**MW-112_061721**	EPA 200.7	JLH	9	PASI-K
		EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	3	PASI-K
		SM 2320B	MAW	2	PASI-K
		SM 2540C	VRP	1	PASI-K
		SM 3500-Fe B#4	MAW	1	PASI-K
		SM 4500-H+B	MAW	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
		SM 5310C	BLA	1	PASI-K
		EPA 9060	BLA	5	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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

Sample: MW-112_061721 **Lab ID: 60372588001** Collected: 06/17/21 07:45 Received: 06/17/21 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.24**	mg/L	0.0050	1	06/18/21 14:43	06/19/21 17:26	7440-39-3	
Boron, Total Recoverable	**<0.10**	mg/L	0.10	1	06/18/21 14:43	06/19/21 17:26	7440-42-8	
Calcium, Total Recoverable	**118**	mg/L	0.20	1	06/18/21 14:43	06/19/21 17:26	7440-70-2	
Iron, Total Recoverable	**6.5**	mg/L	0.050	1	06/18/21 14:43	06/19/21 17:26	7439-89-6	
Magnesium, Total Recoverable	**15.0**	mg/L	0.050	1	06/18/21 14:43	06/19/21 17:26	7439-95-4	
Manganese, Total Recoverable	**0.94**	mg/L	0.0050	1	06/18/21 14:43	06/19/21 17:26	7439-96-5	
Potassium, Total Recoverable	**5.6**	mg/L	0.50	1	06/18/21 14:43	06/19/21 17:26	7440-09-7	
Sodium, Total Recoverable	**13.5**	mg/L	0.50	1	06/18/21 14:43	06/19/21 17:26	7440-23-5	
Total Hardness by 2340B, Total Recoverable	**355**	mg/L	0.50	1	06/18/21 14:43	06/19/21 17:26		
200.7 Metals, Dissolved	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Arsenic, Dissolved	**<0.010**	mg/L	0.010	1	06/18/21 14:43	06/19/21 16:52	7440-38-2	
Iron, Dissolved	**6.6**	mg/L	0.050	1	06/18/21 14:43	06/19/21 16:52	7439-89-6	
Manganese, Dissolved	**0.96**	mg/L	0.0050	1	06/18/21 14:43	06/19/21 16:52	7439-96-5	
Molybdenum, Dissolved	**<0.020**	mg/L	0.020	1	06/18/21 14:43	06/19/21 16:52	7439-98-7	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.017**	mg/L	0.010	1	06/18/21 14:43	06/19/21 17:45	7439-93-2	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Dissolved	**0.015**	mg/L	0.010	1	06/18/21 14:43	06/19/21 17:07	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0020**	mg/L	0.0010	1	06/18/21 14:43	06/21/21 10:28	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/18/21 14:43	06/21/21 10:28	7440-48-4	
Molybdenum, Total Recoverable	**0.010**	mg/L	0.0010	1	06/18/21 14:43	06/21/21 10:28	7439-98-7	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City							
Alkalinity,Bicarbonate (CaCO3)	**333**	mg/L	20.0	1		06/18/21 15:01		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	20.0	1		06/18/21 15:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**464**	mg/L	10.0	1		06/21/21 09:30		
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City							
Iron, Ferrous	**<0.20**	mg/L	0.20	1		06/18/21 15:25		H6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

Sample: MW-112_061721 **Lab ID: 60372588001** Collected: 06/17/21 07:45 Received: 06/17/21 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		06/18/21 13:55		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**35.0**	mg/L	5.0	5		06/21/21 09:05	16887-00-6	
Fluoride	**0.27**	mg/L	0.20	1		06/18/21 16:05	16984-48-8	
Sulfate	**28.5**	mg/L	5.0	5		06/21/21 09:05	14808-79-8	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City							
Dissolved Organic Carbon	**1.8**	mg/L	1.0	1		06/18/21 17:32		
Total Organic Carbon	Analytical Method: EPA 9060 Pace Analytical Services - Kansas City							
Total Organic Carbon	**1.6**	mg/L	1.0	1		06/18/21 19:39	7440-44-0	
Total Organic Carbon	**1.9**	mg/L	1.0	1		06/18/21 19:39	7440-44-0	
Total Organic Carbon	**1.9**	mg/L	1.0	1		06/18/21 19:39	7440-44-0	
Total Organic Carbon	**1.9**	mg/L	1.0	1		06/18/21 19:39	7440-44-0	
Mean Total Organic Carbon	**1.8**	mg/L	1.0	1		06/18/21 19:39	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727253
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: 60372588001

METHOD BLANK: 2921838 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	06/19/21 17:21	
Boron	mg/L	<0.10	0.10	06/19/21 17:21	
Calcium	mg/L	<0.20	0.20	06/19/21 17:21	
Hardness, Total(SM 2340B)	mg/L	<0.50	0.50	06/19/21 17:21	
Iron	mg/L	<0.050	0.050	06/19/21 17:21	
Magnesium	mg/L	<0.050	0.050	06/19/21 17:21	
Manganese	mg/L	<0.0050	0.0050	06/19/21 17:21	
Potassium	mg/L	<0.50	0.50	06/19/21 17:21	
Sodium	mg/L	<0.50	0.50	06/19/21 17:21	

LABORATORY CONTROL SAMPLE: 2921839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	102	85-115	
Boron	mg/L	1	0.97	97	85-115	
Calcium	mg/L	10	10.3	103	85-115	
Hardness, Total(SM 2340B)	mg/L	66.2	68.7	104	85-115	
Iron	mg/L	10	10.4	104	85-115	
Magnesium	mg/L	10	10.4	104	85-115	
Manganese	mg/L	1	1.0	104	85-115	
Potassium	mg/L	10	10.1	101	85-115	
Sodium	mg/L	10	10.2	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921840 2921841

Parameter	Units	60372588001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.24	1	1	1.2	1.2	96	100	70-130	3	20	
Boron	mg/L	<0.10	1	1	1.0	1.0	95	97	70-130	2	20	
Calcium	mg/L	118	10	10	125	129	74	111	70-130	3	20	
Hardness, Total(SM 2340B)	mg/L	355	66.2	66.2	412	424	85	103	70-130	3	20	
Iron	mg/L	6.5	10	10	16.2	16.6	96	101	70-130	3	20	
Magnesium	mg/L	15.0	10	10	24.2	24.8	92	98	70-130	3	20	
Manganese	mg/L	0.94	1	1	1.9	1.9	95	100	70-130	2	20	
Potassium	mg/L	5.6	10	10	15.2	15.8	96	102	70-130	4	20	
Sodium	mg/L	13.5	10	10	22.9	23.6	94	101	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727251
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372588001

METHOD BLANK: 2921834 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.010	0.010	06/19/21 16:47	
Iron, Dissolved	mg/L	<0.050	0.050	06/19/21 16:47	
Manganese, Dissolved	mg/L	<0.0050	0.0050	06/19/21 16:47	
Molybdenum, Dissolved	mg/L	<0.020	0.020	06/19/21 16:47	

LABORATORY CONTROL SAMPLE: 2921835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	1	1.0	102	85-115	
Iron, Dissolved	mg/L	10	10.3	103	85-115	
Manganese, Dissolved	mg/L	1	1.0	102	85-115	
Molybdenum, Dissolved	mg/L	1	1.0	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921836 2921837

Parameter	Units	60372588001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	<0.010	1	1	1.0	1.0	104	102	70-130	2	20	
Iron, Dissolved	mg/L	6.6	10	10	16.8	16.6	103	101	70-130	1	20	
Manganese, Dissolved	mg/L	0.96	1	1	2.0	2.0	103	100	70-130	1	20	
Molybdenum, Dissolved	mg/L	<0.020	1	1	1.1	1.0	105	104	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727254
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: 60372588001

METHOD BLANK: 2921842 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	06/21/21 10:26	
Cobalt	mg/L	<0.0010	0.0010	06/21/21 10:26	
Molybdenum	mg/L	<0.0010	0.0010	06/21/21 10:26	

LABORATORY CONTROL SAMPLE: 2921843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.039	99	85-115	
Cobalt	mg/L	0.04	0.038	96	85-115	
Molybdenum	mg/L	0.04	0.040	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921844 2921845

Parameter	Units	60372588001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0020	0.04	0.04	0.042	0.044	100	105	70-130	4	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.038	0.039	94	98	70-130	4	20	
Molybdenum	mg/L	0.010	0.04	0.04	0.053	0.055	106	112	70-130	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727255
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372588001

METHOD BLANK: 2921847 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	06/19/21 17:36	

LABORATORY CONTROL SAMPLE: 2921848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921849 2921850

Parameter	Units	60372588001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.017	1	1	0.99	1.0	98	100	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727256
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372588001

METHOD BLANK: 2921851 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium, Dissolved	mg/L	<0.010	0.010	06/19/21 17:02	

LABORATORY CONTROL SAMPLE: 2921852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium, Dissolved	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921853 2921854

Parameter	Units	60372588001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium, Dissolved	mg/L	0.015	1	1	1.0	1.0	103	101	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727271
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372588001

METHOD BLANK: 2921914 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	20.0	06/18/21 14:50	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	20.0	06/18/21 14:50	

SAMPLE DUPLICATE: 2921916

Parameter	Units	60372588001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	333	335	1	10	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727574
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372588001

METHOD BLANK: 2923026 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	06/21/21 09:30	

LABORATORY CONTROL SAMPLE: 2923027

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

SAMPLE DUPLICATE: 2923028

Parameter	Units	60372588001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	464	472	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727138
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: 60372588001

METHOD BLANK: 2921444 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.20	0.20	06/18/21 15:16	H6

LABORATORY CONTROL SAMPLE: 2921445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	1.9	93	90-110	H6

SAMPLE DUPLICATE: 2921446

Parameter	Units	60371747004 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	ND	<0.20		20	H6

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727272
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60372588001

SAMPLE DUPLICATE: 2921923

Parameter	Units	60372486003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	8.0	4	5	H6

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727236
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: 60372588001

METHOD BLANK: 2921782 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	06/18/21 15:42	
Fluoride	mg/L	<0.20	0.20	06/18/21 15:42	
Sulfate	mg/L	<1.0	1.0	06/18/21 15:42	

METHOD BLANK: 2923401 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	06/21/21 08:40	
Fluoride	mg/L	<0.20	0.20	06/21/21 08:40	
Sulfate	mg/L	<1.0	1.0	06/21/21 08:40	

LABORATORY CONTROL SAMPLE: 2921783

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	100	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 2923402

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	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921784 2921785

Parameter	Units	60371614001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.3	10	10	31.3	31.5	100	102	80-120	1	15	
Fluoride	mg/L	<0.086	2.5	2.5	2.7	2.8	104	108	80-120	4	15	
Sulfate	mg/L	352	50	100	431	457	157	105	80-120	6	15	E,M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921787 2921788

Parameter	Units	60371615002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	16.2	5	5	21.6	21.8	108	112	80-120	1	15	E
Fluoride	mg/L	<0.086	2.5	2.5	2.9	3.0	115	118	80-120	3	15	
Sulfate	mg/L	675	50	100	733	773	116	98	80-120	5	15	E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921790 2921791

Parameter	Units	60371616004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.3	5	5	11.3	11.3	99	100	80-120	0	15	
Fluoride	mg/L	0.15J	2.5	2.5	2.7	2.8	102	104	80-120	2	15	
Sulfate	mg/L	43.3	5	5	48.9	48.9	111	112	80-120	0	15	E

SAMPLE DUPLICATE: 2921786

Parameter	Units	60371614001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	21.3	21.3	0	15	
Fluoride	mg/L	<0.086	<0.20		15	
Sulfate	mg/L	352	383	8	15	

SAMPLE DUPLICATE: 2921789

Parameter	Units	60371615002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	16.2	16.2	0	15	
Fluoride	mg/L	<0.086	0.29		15	
Sulfate	mg/L	675	656	3	15	

SAMPLE DUPLICATE: 2921792

Parameter	Units	60371616004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	6.3	6.3	0	15	
Fluoride	mg/L	0.15J	<0.20		15	
Sulfate	mg/L	43.3	43.3	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727365
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372588001

METHOD BLANK: 2922167 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	<1.0	1.0	06/18/21 17:06	

LABORATORY CONTROL SAMPLE: 2922168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.1	102	80-120	

MATRIX SPIKE SAMPLE: 2922169

Parameter	Units	60372588001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	1.8	5	6.7	98	80-120	

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QUALITY CONTROL DATA

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

QC Batch: 727364
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60372588001

METHOD BLANK: 2922163 Matrix: Water
Associated Lab Samples: 60372588001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	<1.0	1.0	06/18/21 18:39	
Total Organic Carbon	mg/L	<1.0	1.0	06/18/21 18:39	
Total Organic Carbon	mg/L	<1.0	1.0	06/18/21 18:39	
Total Organic Carbon	mg/L	<1.0	1.0	06/18/21 18:39	
Total Organic Carbon	mg/L	<1.0	1.0	06/18/21 18:39	

LABORATORY CONTROL SAMPLE: 2922164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	5	4.6	92	80-120	
Total Organic Carbon	mg/L	5	4.5	90	80-120	
Total Organic Carbon	mg/L	5	4.6	92	80-120	
Total Organic Carbon	mg/L	5	4.7	94	80-120	
Total Organic Carbon	mg/L	5	4.6	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2922165 2922166

Parameter	Units	60372588001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	1.8	5	5	6.2	6.2	87	88	80-120	1	25	
Total Organic Carbon	mg/L	1.9	5	5	6.2	6.3	87	87	80-120	0	25	
Total Organic Carbon	mg/L	1.9	5	5	6.3	6.3	88	88	80-120	0	25	
Total Organic Carbon	mg/L	1.6	5	5	5.8	6.0	84	88	80-120	3	25	
Total Organic Carbon	mg/L	1.9	5	5	6.3	6.3	88	88	80-120	0	25	

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QUALIFIERS

Project: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

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.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
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: LEC PERIMETER ASH POND WELLS C
Pace Project No.: 60372588

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60372588001	**MW-112_061721**	EPA 200.7	727253	EPA 200.7	727420
60372588001	**MW-112_061721**	EPA 200.7	727251	EPA 200.7	727419
60372588001	**MW-112_061721**	EPA 3010	727255	EPA 6010	727421
60372588001	**MW-112_061721**	EPA 3010	727256	EPA 6010	727418
60372588001	**MW-112_061721**	EPA 200.8	727254	EPA 200.8	727415
60372588001	**MW-112_061721**	SM 2320B	727271		
60372588001	**MW-112_061721**	SM 2540C	727574		
60372588001	**MW-112_061721**	SM 3500-Fe B#4	727138		
60372588001	**MW-112_061721**	SM 4500-H+B	727272		
60372588001	**MW-112_061721**	EPA 300.0	727236		
60372588001	**MW-112_061721**	SM 5310C	727365		
60372588001	**MW-112_061721**	EPA 9060	727364		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60372588

60372588

Client Name: Evergy Kansas Central Inc

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** 1.3 **Corr. Factor** 0.0 **Corrected** 1.3

Date and initials of person examining contents: 10/17/21 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# L003173	☒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) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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 1

Section A Required Client Information:

Company:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone:	785-575-8113
Fax:	
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR
Project Number:	129778-043

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 5 (Waters)

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

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

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: ~~60375~~ ↓ 6-17-21 60372588

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	200.7 Total Metals*	200.7 Diss.Metals (FF)**	Alkalinity, Bicarbonate (Ca	Alkalinity, Carbonate (CaC	300: Cl, F, SO4	2540 TDS, 4500H+ pH	Ferrous Iron	9060 TOC	5310C DOC	200.8 Total Metals***	6010 Total Metals****	6010 Diss. Metals (FF)****	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-112-061721	WT	G			6/17/21	07:45		7	X	X	X							X	X	X	X	X	X	X	X	X	X	X	X		2-BP1U 1-BP2U ~~BP3N~~
2		WT																														1-BP1N 2-AG3S 1-BP3F
3		WT																														
4		WT																														
5		WT																														
6		WT																														
7		WT																														
8																																
9																																
10																																
11																																
12																																

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)
200.7 Total Metals*: Ba, B, Ca, Fe, Mg, Mn, K, Na, Total Hardness (8 metals & Hardness)	D.Oberbroeckling / H&A	6/17/21		S.Woods / Pace	6/17/21	1345	1.3	Y	N	Y
200.7 Diss. Metals**: As, Fe, Mn, Mo (m Metals, FIELD FILTERED)										
200.8 Total Metals***: As, Co, Mo (3 metals)										
6010 Total Metals****: Li (1 metal) / 6010 Diss.Metals****: Li (1 metal, FIELD FILTERED)										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Danielle Oberbroeckling

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 06/17/21

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

July 12, 2021

Melissa Michels
Evergy, Inc.
818 Kansas Avenue
Topeka, KS 66612

RE: Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

Jasmine Amerin
jasmine.amerin@pacelabs.com
(913)599-5665
Project Manager

Enclosures

cc: Andrew Hare, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Tabitha Hylton, Evergy Kansas Central, Inc. Lawrence Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.

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

CERTIFICATIONS

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

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, LLC
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SAMPLE SUMMARY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60372777001	**MW-113_061621**	Water	06/16/21 08:00	06/18/21 09:45
60372777002	**MW-112_061721**	Water	06/17/21 07:45	06/18/21 09:45

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60372777001	**MW-113_061621**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60372777002	**MW-112_061721**	EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

Sample: MW-113_061621 **Lab ID: 60372777001** Collected: 06/16/21 08:00 Received: 06/18/21 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.269 ± 0.280 (0.396) C:NA T:108%**	pCi/L	07/08/21 13:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.369 ± 0.361 (0.743) C:70% T:92%**	pCi/L	07/07/21 14:22	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.638 ± 0.641 (1.14)**	pCi/L	07/09/21 14:48	7440-14-4	

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

Sample: MW-112_061721 **Lab ID: 60372777002** Collected: 06/17/21 07:45 Received: 06/18/21 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.131 ± 0.314 (0.607) C:NA T:98%**	pCi/L	07/08/21 13:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.782 ± 0.443 (0.818) C:74% T:91%**	pCi/L	07/07/21 14:22	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.913 ± 0.757 (1.43)**	pCi/L	07/09/21 14:48	7440-14-4	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

QC Batch: 454444
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: 60372777001, 60372777002

METHOD BLANK: 2194377
Matrix: Water
Associated Lab Samples: 60372777001, 60372777002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.544 ± 0.373 (0.716) C:72% T:89%	pCi/L	07/07/21 14:25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

QC Batch: 454443
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: 60372777001, 60372777002

METHOD BLANK: 2194376 Matrix: Water
Associated Lab Samples: 60372777001, 60372777002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0469 ± 0.214 (0.345) C:NA T:99%	pCi/L	07/08/21 13:43	

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: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LEC Perimeter Ash Pond Wells C
Pace Project No.: 60372777

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60372777001	**MW-113_061621**	EPA 903.1	454443		
60372777002	**MW-112_061721**	EPA 903.1	454443		
60372777001	**MW-113_061621**	EPA 904.0	454444		
60372777002	**MW-112_061721**	EPA 904.0	454444		
60372777001	**MW-113_061621**	Total Radium Calculation	455786		
60372777002	**MW-112_061721**	Total Radium Calculation	455786		

Pace Analytical Services-Pittsburgh
Cooler Issue Tracking Form

Issue Number	GC1921-03
Date/Time Received	6-18-21
Received Via	fedex
Tracking Number (if known)	
Client (if known)	Evergy Kansas
Holdtime issues (if known)	
Temperature (if applicable)	
Number of Coolers	1
Location of Coolers	Bench

Issue preventing login 7

Initials of person writing up issue: JC

1 profile or line not set up (A-not set up B-set up, could not find)
2 limited volume
3 temperature issue
4 cannot determine client or contact (A-not in LIMS B-could not find)
5 broken bottles
6 incorrect bottles
7 waiting for IRWO (list lab ID)
8 missing COC
9 other - comment

Folder given to initials/date:	CAF 6-19-21
status check initials/date	
status check initials/date	
status check initials/date	
Folder returned to receiving on date:	

Workorder # added to Logbook: **Y or N**

Issue number GC1921-03

Date Received 6-18-21

Number of Coolers 1

Initials of person writing up issue: JC

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:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

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

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-113_061621	WT				6/16/21	08:00		2			X						X	X	X		
2	MW-112_061721	WT				6/17/21	0745		2			X						X	X	X		
3		WT																					
4		WT																					
5		WT																					
6		WT																					
7		WT																					
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship directly to Pace PA on plenty of ice ASAP after sampling.	Danielle Oberbroeckling / Haley & Aldrich	6/17/21	1600		6/18/21	0945	-	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Danielle Oberbroeckling

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/17/21

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.

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical Client Name: Evergy Kansas Project # ____________

Label	JL
LIMS Login	

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

Tracking #: 5002064922-1(

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used – Type of Ice: Wet Blue None

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 1003801	Date and Initials of person examining contents: JL 6-1921
Chain of Custody Present:	–			1.	
Chain of Custody Filled Out:	–			2.	
Chain of Custody Relinquished:	–			3.	
Sampler Name & Signature on COC:	–			4.	
Sample Labels match COC:	–			5.	
-Includes date/time/ID Matrix: WT					
Samples Arrived within Hold Time:	–			6.	
Short Hold Time Analysis (<72hr remaining):		–		7.	
Rush Turn Around Time Requested:		–		8.	
Sufficient Volume:	–			9.	
Correct Containers Used:	–			10.	
-Pace Containers Used:	–				
Containers Intact:	–			11.	
Orthophosphate field filtered			–	12.	
Hex Cr Aqueous sample field filtered			–	13.	
Organic Samples checked for dechlorination:			–	14.	
Filtered volume received for Dissolved tests			–	15.	
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	–			16. pH<2	
All containers meet method preservation requirements.	–			Initial when completed JL	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):			–	17.	
Trip Blank Present:			–	18.	
Trip Blank Custody Seals Present			–		
Rad Samples Screened < 0.5 mrem/hr	–			Initial when completed: JL	Date: 6-1921 / Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: ____________ Date/Time: ____________ Contacted By: ____________

Comments/ Resolution: ____________

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: KS
Cert. Needed: ☒ Yes ☐ No
Owner Received Date: 6/18/2021 **Results Requested By:** 7/12/2021

Workorder: 60372777 **Workorder Name:** LEC Perimeter Ash Pond Wells C

Report To	Subcontract To
Jasmine Amerin Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30427333
30427333

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Radium-226	Radium-228 & Total Radium	LAB USE ONLY
1	MW-113_061621	PS	6/16/2021 08:00	60372777001	Water	2	X	X	001
2	MW-112_061721	PS	6/17/2021 07:45	60372777002	Water	2	X	X	002
3									
4									
5									

Transfers	Released By	Date/Time	Received By	Date/Time
1			[signature]	6-18-21 CAS
2				
3				

Comments
Please provide QC sheets. Use Pittsburgh profile 11795.

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

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

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 ac

WO# : 30427333

PM: CAF Due Date: 07/13/21

CLIENT: PACE_60_LEKS

Section A Required Client Information:

Company:	EVERGY KANSAS CENTRAL, INC.
Address:	Lawrence Energy Center (LEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	melissa.michels@evergy.com
Phone: 785-575-8113	Fax:
Requested Due Date/TAT:	15 day

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	Andrew Hare, Tabitha Hylton, Danielle Oberbroeckling
Purchase Order No.:	WSTR-2000018662 (2021 PO)
Project Name:	LEC Perimeter Ash Pond Wells CCR - Radiu
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SAME AS A
Pace Quote Reference:	
Pace Project Manager:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9655, 1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: KS

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
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-113_061621	WT				6/16/21	08:00		2			X						X	X	X			001
2	MW-112_061721	WT				6/17/21	0745		2			X						X	X	X			002
3		WT																					
4		WT																					
5		WT																					
6		WT																					
7		WT																					
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Ship directly to Pace PA on plenty of ice ASAP after sampling.	Danielle Ober. / Haley & Aldrich	6/17/21	1600		6/18/21	0945	-	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Danielle Oberbroeckling

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/17/21

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.

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Evergy Kansas   Project # ________

WO#: 30427333
PM: CAF   Due Date: 07/13/21
CLIENT: PACE_60_LEKS

Label: JL
LIMS Login: KW

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

Tracking #: 50206492271

Custody Seal on Cooler/Box Present: ☐ yes ☑ no   Seals intact: ☐ yes ☑ no

Thermometer Used: –   Type of Ice: Wet Blue None

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

Temp should be above freezing to 6°C

pH paper Lot#: 1003801   Date and Initials of person examining contents: JL 6-19-21

Comments:	Yes	No	N/A	
Chain of Custody Present:	–			1.
Chain of Custody Filled Out:	–			2.
Chain of Custody Relinquished:	–			3.
Sampler Name & Signature on COC:	–			4.
Sample Labels match COC:	–			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	–			6.
Short Hold Time Analysis (<72hr remaining):		–		7.
Rush Turn Around Time Requested:		–		8.
Sufficient Volume:	–			9.
Correct Containers Used:	–			10.
-Pace Containers Used:	–			
Containers Intact:	–			11.
Orthophosphate field filtered			–	12.
Hex Cr Aqueous sample field filtered			–	13.
Organic Samples checked for dechlorination:			–	14.
Filtered volume received for Dissolved tests			–	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	–			16. pH<2
All containers meet method preservation requirements.	–			Initial when completed: JL; Date/time of preservation: ; Lot # of added preservative:
Headspace in VOA Vials (>6mm):			–	17.
Trip Blank Present:			–	18.
Trip Blank Custody Seals Present			–	
Rad Samples Screened < 0.5 mrem/hr	–			Initial when completed: JL; Date: 6-19-21; Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: ________ Date/Time: ________ Contacted By: ________

Comments/ Resolution: ________

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

J:\QAQC\17_Master\Document Management\Sample Mgt\Mastercontrol\ENV-FRM-GBUR-0088 00 Sample Condition Upon Receipt-Pittsburgh

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	SLC
Date:	7/1/2021
Batch ID:	61396
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2194376
MB concentration:	0.047
M/B Counting Uncertainty:	0.159
MB MDC:	0.345
MB Numerical Performance Indicator:	0.58
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS61396	**LCSD61396**
Count Date:	7/8/2021	7/8/2021
Spike I.D.:	20-032	20-032
Spike Concentration (pCi/mL):	32.173	32.173
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.663	0.660
Target Conc. (pCi/L, g, F):	4.850	4.871
Uncertainty (Calculated):	0.228	0.229
Result (pCi/L, g, F):	4.063	4.158
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.935	0.951
Numerical Performance Indicator:	-1.60	-1.43
Percent Recovery:	83.79%	85.36%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	73%	73%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	6/17/2021	
Sample I.D.	70177471001	
Sample MS I.D.	70177471001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.174	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.667	
MS Target Conc.(pCi/L, g, F):	9.652	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.454	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.103	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.285	
Sample Matrix Spike Result:	9.053	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.433	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	-0.900	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	92.73%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	LCS61396	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD61396	
Sample Result (pCi/L, g, F):	4.063	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.935	
Sample Duplicate Result (pCi/L, g, F):	4.158	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.951	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.140	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	1.86%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	32%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the RL.

Comments:

SLC 7/8/2021

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JC2
Date:	7/2/2021
Worklist:	61397
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2194377
MB concentration:	0.544
M/B 2 Sigma CSU:	0.373
MB MDC:	0.716
MB Numerical Performance Indicator:	2.86
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS61397	LCSD61397
Count Date:	7/7/2021	
Spike I.D.:	21-003	
Decay Corrected Spike Concentration (pCi/mL):	37.036	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.823	
Target Conc. (pCi/L, g, F):	4.499	
Uncertainty (Calculated):	0.220	
Result (pCi/L, g, F):	4.537	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.050	
Numerical Performance Indicator:	0.07	
Percent Recovery:	100.83%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	6/16/2021	
Sample I.D.	30426896001	
Sample MS I.D.	30426896001MS	
Sample MSD I.D.		
Spike I.D.:	21-003	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	37.297	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.809	
MS Target Conc.(pCi/L, g, F):	9.225	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.452	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.773	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.377	
Sample Matrix Spike Result:	8.417	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.722	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	-1.702	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	82.87%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	70177471003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	70177471003DUP	
Sample Result (pCi/L, g, F):	0.574	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.333	
Sample Duplicate Result (pCi/L, g, F):	0.301	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.362	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.088	70177471003
Duplicate RPD:	62.47%	70177471003DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

7/8/21

ATTACHMENT 3
Statistical Analysis

ATTACHMENT 3-1
March 2020 Statistical Analysis

HALEY & ALDRICH, INC.
6500 Rockside Road
Suite 200
Cleveland, OH 44131
216.739.0555

TECHNICAL MEMORANDUM

November 2, 2022
File No. 129778-049

TO: Evergy Kansas Central, Inc.
Jared Morrison – Director, Water and Waste Programs

FROM: Haley & Aldrich, Inc.
Steven F. Putrich, P.E., Principal Consultant – Engineering Principal
Mark Nicholls, P.G., Senior Associate – Senior Hydrogeologist

SUBJECT: March 2020 Semi-annual Groundwater Assessment Monitoring Data Statistical Evaluation
Completed July 14, 2020
Lawrence Energy Center
Area 2 Pond, Area 3 Pond, and Area 4 Pond (inactive)

Pursuant to Title 40 Code of Federal Regulations (40 CFR) §§ 257.93 and 257.95 (Rule), this memorandum summarizes the statistical evaluation of the analytical results for the **March 2020** semi-annual assessment monitoring groundwater sampling event for the Lawrence Energy Center (LEC) Area 2 Pond (inactive), Area 3 Pond (inactive), and Area 4 Pond (inactive; collectively, inactive Ash Ponds). This semi-annual assessment monitoring groundwater sampling event was completed on **March 10 and 11, 2020**, with laboratory results received and accepted on **April 18, 2020**.

The statistical evaluation discussed in this memorandum was conducted to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at concentrations that represent a statistically significant increase (SSI) above background values and if one or more of the constituents have been detected at statistically significant levels (SSL) above the groundwater protection standard (GWPS) consistent with the requirements of the Rule. GWPSs for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level, levels provided in 40 CFR § 257.95(h)(2) (from regional screening levels), or background concentrations.

Statistical Evaluation of Appendix IV Constituents

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR § 257.93(f) (1-4)). The statistical method used for these evaluations, tolerance limit (TL), was certified by Haley & Aldrich, Inc. on July 14, 2020. The TL method, as determined applicable for this sampling event, was used to evaluate potential SSLs above

background. Background levels for each constituent listed in Appendix IV were computed as upper tolerance limits (UTL), and a minimum 95 percent confidence coefficient and 95 percent coverage. The most recent groundwater sampling event from each compliance well was compared to the corresponding background UTL to determine if a SSL existed.

STATISTICAL EVALUATION

An interwell evaluation was used to determine the SSIs. Interwell evaluation compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data. Because the CCR unit has transitioned into assessment monitoring, no statistical evaluations were conducted on Appendix III (detection monitoring) semi-annual assessment monitoring data.

The TL method was used to complete statistical evaluations of the referenced dataset. The TL procedure is one in which a concentration limit for each constituent is established from the distribution of the background data, with a minimum 95 percent confidence level. The upper endpoint of a tolerance interval is called the UTL. Depending on the data distribution, parametric or non-parametric TL procedures are used to evaluate groundwater monitoring data using this method. Parametric TLs utilize normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the TL. If all the background data are non-detect, a maximum reporting limit may serve as an appropriate UTL.

These statistical evaluations were conducted using a background dataset for all Appendix IV constituents that were detected in the annual assessment monitoring sample event using parametric TLs. If an Appendix IV constituent concentration from the **March 2020** sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent will be used to evaluate if a SSI is present. The LCL is the lower end of the confidence interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample location MW-37 were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset were evaluated to determine the method for UTL calculation. Per the document, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance,*

March 2009, background concentrations were updated based on statistical evaluation of analytical results collected through **March 2019**.

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

Sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the **March 2020** semi-annual assessment monitoring event were compared to their respective background UTLs and GWPSs (Table I). A sample concentration greater than the background UTL is considered to represent a SSI. A sample concentration greater than the GWPS is considered to represent a SSL. The results of the groundwater assessment monitoring statistical evaluation are provided in Table I. **Based on this statistical evaluation on groundwater sampling data collected in March 2020, the SSLs above GWPS for LEC inactive Ash Ponds are listed in Table II.**

Tables:

Table I – Summary of Semi-annual Assessment Groundwater Monitoring Statistical Evaluation
Table II – Statistically Significant Levels of Appendix IV Constituents

TABLES

TABLE I

SUMMARY OF SEMI-ANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION

MARCH 2020 SAMPLING EVENT

LAWRENCE ENERGY CENTER

INACTIVE ASH PONDS

LAWRENCE, KANSAS

										MCL Comparison							Inter-well Analysis		Groundwater Protection Standard	
Location Id	Frequency of Detection	Percent Non-Detects	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL § 257.95(h)(2)*	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well	March 2020 Concentration (mg/L)	Background Limits[1] (UTL) mg/L	SSI	GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL)	SSL
CCR Appendix-IV: Arsenic, Total (mg/L)																				
MW-37	10/10	0%	0.0089	0.000002251	0.0015	0.2351	0.010	mg/L	N	0	0	No	No	Stable		0.0065	0.00940		0.010	
MW-38	10/10	0%	0.015	6.222E-07	0.0007888	0.05555	0.010	mg/L	Y	10	0	No	No	Stable	Normal	0.015		Y		Y
MW-39	10/10	0%	0.014	0.000001822	0.00135	0.1089	0.010	mg/L	Y	9	0	Yes	No	Stable	Normal	0.011		Y		Y
MW-40	10/10	0%	0.033	0.00004773	0.006909	0.4017	0.010	mg/L	Y	10	0	Yes	No	Stable	Non-parametric	0.014		Y		Y
MW-K	10/10	0%	0.076	0.000009378	0.003062	0.04277	0.010	mg/L	Y	10	0	No	No	Stable	Normal	0.067		Y		Y
MW-L	10/10	0%	0.029	0.000007567	0.002751	0.1161	0.010	mg/L	Y	10	0	No	No	Increasing	Normal	0.024		Y		Y
	CCR Appendix-IV: Barium, Total (mg/L)																			
MW-37	10/10	0%	0.065	0.00004312	0.006567	0.1232	2	mg/L	N	0	0	No	No	Increasing		0.065	0.0601		2	
MW-38	10/10	0%	0.038	0.000005822	0.002413	0.07224	2	mg/L	N	0	0	No	No	Stable	Normal	0.033		N		N
MW-39	10/10	0%	0.033	0.0000016	0.001265	0.04003	2	mg/L	N	0	0	No	No	Stable	Normal	0.033		N		N
MW-40	10/10	0%	0.1	0.0004278	0.02068	0.4984	2	mg/L	N	0	0	No	No	Stable	Normal	0.032		N		N
MW-K	10/10	0%	0.052	0.00001157	0.003401	0.07854	2	mg/L	N	0	0	No	No	Stable	Normal	0.043		N		N
MW-L	10/10	0%	0.094	0.0002977	0.01725	0.3444	2	mg/L	N	0	0	No	No	Stable	Normal	0.035		N		N
	CCR Appendix-IV: Fluoride (mg/L)																			
MW-37	11/11	0%	0.44	0.003165	0.05626	0.1624	4.0	mg/L	N	0	0	No	No	Stable		0.27	0.455		4.0	
MW-38	11/11	0%	5.5	0.8762	0.936	0.198	4.0	mg/L	Y	10	0	Yes	No	Stable	Non-parametric	4.9		Y		Y
MW-39	10/11	9%	3.5	0.8509	0.9224	0.3536	4.0	mg/L	N	0	0	Yes	No	Stable	Non-parametric	2.2		Y		N
MW-40	10/11	9%	2.1	0.2722	0.5217	0.3317	4.0	mg/L	N	0	0	Yes	No	Stable	Normal	1.6		Y		N
MW-K	11/11	0%	3.7	0.6859	0.8282	0.2851	4.0	mg/L	N	0	0	Yes	No	Stable	Non-parametric	2.7		Y		N
MW-L	10/11	9%	2.4	0.4029	0.6348	0.3544	4.0	mg/L	N	0	0	No	No	Stable	Non-parametric	2.4		Y		N
	CCR Appendix-IV: Lithium, Total (mg/L)																			
MW-37	10/10	0%	0.018	0.000008989	0.002998	0.1986	0.040	mg/L	N	0	0	No	No	Stable		0.018	0.0207		0.040	
MW-38	10/10	0%	0.083	0.00001166	0.003414	0.04498	0.040	mg/L	Y	10	0	No	No	Stable	Normal	0.074		Y		Y
MW-39	10/10	0%	0.062	0.00004939	0.007028	0.1511	0.040	mg/L	Y	8	0	Yes	No	Stable	Normal	0.037		Y		N
MW-40	10/10	0%	0.056	0.00001973	0.004442	0.09216	0.040	mg/L	Y	10	0	No	No	Stable	Normal	0.041		Y		Y
MW-K	10/10	0%	0.089	0.0001197	0.01094	0.1521	0.040	mg/L	Y	10	0	No	No	Increasing	Normal	0.077		Y		Y
MW-L	10/10	0%	0.057	0.00003556	0.005963	0.1217	0.040	mg/L	Y	9	0	No	No	Increasing	Normal	0.057		Y		Y
	CCR Appendix-IV: Molybdenum, Total (mg/L)																			
MW-37	10/10	0%	0.14	0.00004556	0.006749	0.05075	0.100	mg/L	Y	10	0	No	No	Stable		0.12	0.140		0.140	
MW-38	10/10	0%	0.1	0.00003166	0.005626	0.06176	0.100	mg/L	Y	1	0	No	No	Stable	Normal	0.082		N		N
MW-39	10/10	0%	0.19	0.001246	0.0353	0.2754	0.100	mg/L	Y	8	0	No	No	Stable	Normal	0.180		Y		Y
MW-40	10/10	0%	0.19	0.00138	0.03714	0.2715	0.100	mg/L	Y	8	0	Yes	No	Stable	Normal	0.096		N		N
MW-K	10/10	0%	0.04	0.00008975	0.009474	0.4314	0.100	mg/L	N	0	0	No	No	Decreasing	Normal	0.016		N		N
MW-L	10/10	0%	0.055	0.00003484	0.005903	0.1318	0.100	mg/L	N	0	0	No	No	Increasing	Normal	0.049		N		N
	CCR Appendix-IV: Radium-226 & 228 (pCi/L)																			
MW-37	9/10	10%	2.07	0.3927	0.6267	0.6452	5	pCi/L	N	0	0	No	No	Decreasing		0.291	1.608		5	
MW-38	9/10	10%	1.88	0.4714	0.6866	0.6253	5	pCi/L	N	0	0	No	No	Stable	Normal	0.245		N		N
MW-39	9/10	10%	1.67	0.1792	0.4234	0.3924	5	pCi/L	N	0	0	No	No	Stable	Normal	0.484		N		N
MW-40	9/10	10%	1.6	0.1767	0.4203	0.4915	5	pCi/L	N	0	0	No	No	Stable	Normal	0.553		N		N
MW-K	10/10	0%	2.73	0.4621	0.6798	0.5924	5	pCi/L	N	0	0	No	No	Stable	Normal	1.21		N		N
MW-L	10/10	0%	2.08	0.2706	0.5202	0.4755	5	pCi/L	N	0	0	No	No	Stable	Normal	0.939		N		N

Notes and Abbreviations:

[1] Based on background data collected from 03/07/2018 through 03/18/201

** Values obtained from U.S. Environmental Protection Agency Federal CCR Rule Title 40 Code of Federal Regulations (CFR) § 257.95(h)(2) on June 10, 20*

CCR = coal combustion residuals

GWPS = Groundwater Protection Standarc

MCL = maximum contaminant leve

mg/L = milligrams per Liter

NA = not analyzec

pCi/L = picoCuries per Liter

SSI = statistically significant increase

SSL = statistically significant leve

UTL = upper tolerance limits

TABLE II
STATISTICALLY SIGNIFICANT LEVELS OF APPENDIX IV CONSTITUENTS
MARCH 2020 SAMPLING EVENT
LAWRENCE ENERGY CENTER
INACTIVE ASH PONDS
LAWRENCE, KANSAS

Constituent	Well ID	Groundwater Protection Standard (mg/L)
Arsenic	MW-38	0.010
	MW-39	
	MW-40	
	MW-K	
	MW-L	
Fluoride	MW-38	4.0
Lithium	MW-38	0.040
	MW-40	
	MW-K	
	MW-L	
Molybdenum	MW-39	0.140

Notes:

mg/L = milligrams per liter

ATTACHMENT 3-2
September 2020 Statistical Analysis

HALEY & ALDRICH, INC.
6500 Rockside Road
Suite 200
Cleveland, OH 44131
216.739.0555

TECHNICAL MEMORANDUM

November 2, 2022
File No. 129778-049

TO: Evergy Kansas Central, Inc.
Jared Morrison – Director, Water and Waste Programs

FROM: Haley & Aldrich, Inc.
Steven F. Putrich, P.E., Principal Consultant – Engineering Principal
Mark Nicholls, P.G., Senior Associate – Senior Hydrogeologist

SUBJECT: September 2020 Semi-Annual Groundwater Assessment Monitoring Data Statistical Evaluation
Completed January 15, 2021
Lawrence Energy Center
Area 2 Pond, Area 3 Pond, and Area 4 Pond (inactive)

Pursuant to Title 40 Code of Federal Regulations (40 CFR) §§ 257.93 and 257.95 (Rule), this memorandum summarizes the statistical evaluation of the analytical results for the **September 2020** semi-annual assessment monitoring groundwater sampling event for the Lawrence Energy Center (LEC) Area 2 Pond (inactive), Area 3 Pond (inactive), and Area 4 Pond (inactive; collectively, inactive Ash Ponds). This semi-annual assessment monitoring groundwater sampling event was completed on **September 15, 2020**, with laboratory results received and validated on **October 29, 2020**. An additional sample was collected from MW-39 on **October 19, 2020** to verify the molybdenum result collected during the September 2020 semi-annual assessment monitoring sampling event, and the result was confirmed.

The statistical evaluation discussed in this memorandum was conducted to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at concentrations that represent a statistically significant increase (SSI) above background values and if one or more of the constituents have been detected at statistically significant levels (SSL) above the groundwater protection standard (GWPS) consistent with the requirements of the Rule. GWPSs for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level, levels provided in 40 CFR § 257.95(h)(2) (from regional screening levels), or background concentrations.

Statistical Evaluation of Appendix IV Constituents

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR § 257.93(f) (1-4)). The statistical method used for these evaluations, tolerance limit (TL), was certified by Haley & Aldrich, Inc. on July 14, 2020. The TL method, as determined applicable for this sampling event, was used to evaluate potential SSLs above background. Background levels for each constituent listed in Appendix IV were computed as upper tolerance limits (UTL), and a minimum 95 percent confidence coefficient and 95 percent coverage. The most recent groundwater sampling event from each compliance well was compared to the corresponding background UTL to determine if a SSL existed.

STATISTICAL EVALUATION

An interwell evaluation was used to determine the SSIs. Interwell evaluation compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data. Because the CCR unit has transitioned into assessment monitoring, no statistical evaluations were conducted on Appendix III (detection monitoring) semi-annual assessment monitoring data.

The TL method was used to complete statistical evaluations of the referenced dataset. The TL procedure is one in which a concentration limit for each constituent is established from the distribution of the background data, with a minimum 95 percent confidence level. The upper endpoint of a tolerance interval is called the UTL. Depending on the data distribution, parametric or non-parametric TL procedures are used to evaluate groundwater monitoring data using this method. Parametric TLs utilize normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the TL. If all the background data are non-detect, a maximum reporting limit may serve as an appropriate UTL.

These statistical evaluations were conducted using a background dataset for all Appendix IV constituents that were detected in the annual assessment monitoring sample event using parametric TLs. If an Appendix IV constituent concentration from the **September 2020** sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent will be used to evaluate if a SSI is present. The LCL is the lower end of the confidence interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample location (MW-37) were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset were evaluated to determine the method for UTL calculation. Per the document, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance,* March 2009*,* background concentrations were updated based on statistical evaluation of analytical results collected through **March 2019** for all constituents except fluoride, which was updated through **September 2019.**

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

The sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the **September 2020** semi-annual assessment monitoring event were compared to their respective background UTLs and GWPSs (Table I). A sample concentration greater than the background UTL is considered to represent a SSI. A sample concentration greater than the GWPS is considered to represent a SSL. The results of the groundwater assessment monitoring statistical evaluation are provided in Table I. **Based on this statistical evaluation on groundwater sampling data collected in September 2020, the SSLs above GWPS for LEC inactive Ash Ponds are listed in Table II.** All detected SSLs are consistent with previously identified SSLs at LEC inactive Ash Ponds, and no new SSLs were identified.

Tables:

Table I – Summary of Semi-Annual Assessment Groundwater Monitoring Statistical Evaluation
Table II – Statistically Significant Levels of Appendix IV Constituents

TABLES

TABLE I
SUMMARY OF SEMI-ANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION
SEPTEMBER 2020 SAMPLING EVENT
LAWRENCE ENERGY CENTER
INACTIVE ASH PONDS
LAWRENCE, KANSAS

										MCL Comparison							Inter-well Analysis		Groundwater Protection Standard	
Location Id	Frequency of Detection	Percent Non-Detects	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL § 257.95(h)(2)*	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well	September 2020 Concentration (mg/L)	Background Limits[1] (UTL) mg/L	SSI	GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL)	SSL
CCR Appendix-IV: Arsenic, Total (mg/L)																				
MW-37	11/11	0%	0.0089	2.474E-06	0.001573	0.239	0.010	mg/L	N	0	0	No	No	Stable		0.0086	0.00940		0.010	
MW-38	11/11	0%	0.029	0.00002047	0.004525	0.2911	0.010	mg/L	Y	11	0	No	No	Stable	Normal	0.029		Y		Y
MW-39	11/11	0%	0.014	1.818E-06	0.001348	0.1099	0.010	mg/L	Y	10	0	Yes	No	Stable	Normal	0.011		Y		Y
MW-40	11/11	0%	0.027	0.00001542	0.003927	0.2571	0.010	mg/L	Y	11	0	Yes	No	Stable	Non-parametric	0.014		Y		Y
MW-K	11/11	0%	0.076	0.0000102	0.003194	0.04436	0.010	mg/L	Y	11	0	No	No	Stable	Normal	0.076		Y		Y
MW-L	11/11	0%	0.029	7.291E-06	0.0027	0.1129	0.010	mg/L	Y	11	0	No	No	Increasing	Normal	0.026		Y		Y
CCR Appendix-IV: Barium, Total (mg/L)																				
MW-37	11/11	0%	0.074	0.00007776	0.008818	0.1598	2	mg/L	N	0	0	No	No	Increasing		0.079	0.0601		2	
MW-38	11/11	0%	0.039	8.091E-06	0.002844	0.08388	2	mg/L	N	0	0	No	No	Stable	Normal	0.040		N		N
MW-39	11/11	0%	0.033	1.455E-06	0.001206	0.03812	2	mg/L	N	0	0	No	No	Stable	Normal	0.034		N		N
MW-40	11/11	0%	0.039	5.218E-06	0.002284	0.06578	2	mg/L	N	0	0	No	No	Stable	Normal	0.034		N		N
MW-K	11/11	0%	0.052	0.00001525	0.003906	0.09161	2	mg/L	N	0	0	No	No	Stable	Normal	0.038		N		N
MW-L	11/11	0%	0.094	0.0002915	0.01707	0.351	2	mg/L	N	0	0	No	No	Stable	Normal	0.035		N		N
CCR Appendix-IV: Fluoride (mg/L)																				
MW-37	11/12	8%	0.44	0.004663	0.06829	0.2043	4.0	mg/L	N	0	0	No	No	Stable		< 0.20	0.455[2]		4.0	
MW-38	12/12	0%	5.5	1.106	1.052	0.2303	4.0	mg/L	Y	10	0	Yes	No	Stable	Non-parametric	2.8		Y		N
MW-39	11/12	8%	3.5	0.8281	0.91	0.358	4.0	mg/L	N	0	0	Yes	No	Stable	Non-parametric	1.8		Y		N
MW-40	10/12	17%	2.1	0.4045	0.636	0.4361	4.0	mg/L	N	0	0	Yes	No	Stable	Normal	< 0.20		N		N
MW-K	12/12	0%	3.7	0.644	0.8025	0.2723	4.0	mg/L	N	0	0	Yes	No	Stable	Non-parametric	3.4		Y		N
MW-L	11/12	8%	2.4	0.3802	0.6166	0.3379	4.0	mg/L	N	0	0	Yes	No	Stable	Non-parametric	2.2		Y		N
CCR Appendix-IV: Lithium, Total (mg/L)																				
MW-37	11/11	0%	0.019	9.659E-06	0.003108	0.1973	0.040	mg/L	N	0	0	No	No	Stable		0.019	0.0207		0.040	
MW-38	12/12	0%	0.083	0.000014	0.003742	0.04989	0.040	mg/L	Y	12	0	No	No	Stable	Normal	0.071		Y		Y
MW-39	12/12	0%	0.062	0.00006117	0.007821	0.1754	0.040	mg/L	Y	8	0	Yes	No	Stable	Normal	0.037		Y		N
MW-40	12/12	0%	0.056	0.00003533	0.005944	0.1283	0.040	mg/L	Y	10	0	No	No	Stable	Normal	0.038		Y		N
MW-K	12/12	0%	0.089	0.0001001	0.01	0.1383	0.040	mg/L	Y	12	0	No	No	Increasing	Normal	0.077		Y		Y
MW-L	12/12	0%	0.057	0.00003311	0.005754	0.1168	0.040	mg/L	Y	11	0	No	No	Increasing	Normal	0.055		Y		Y
CCR Appendix-IV: Molybdenum, Total (mg/L)																				
MW-37	11/11	0%	0.14	0.00008909	0.009439	0.0721	0.100	mg/L	Y	11	0	No	No	Stable		0.11	0.140		0.140	
MW-38	11/11	0%	0.1	0.00005507	0.007421	0.08288	0.100	mg/L	Y	1	0	No	No	Stable	Normal	0.074		N		N
MW-39	12/12	0%	0.23	0.00259	0.05089	0.3506	0.100	mg/L	Y	10	0	No	No	Stable	Normal	0.23		Y		Y
MW-40	11/11	0%	0.19	0.001545	0.03931	0.2989	0.100	mg/L	Y	8	0	Yes	No	Stable	Normal	0.079		N		N
MW-K	11/11	0%	0.04	0.00008086	0.008992	0.4111	0.100	mg/L	N	0	0	No	No	Decreasing	Normal	0.021		N		N
MW-L	11/11	0%	0.055	0.00003905	0.006249	0.1369	0.100	mg/L	N	0	0	No	No	Increasing	Normal	0.054		N		N
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																				
MW-37	10/11	9%	2.56	0.4708	0.6861	0.743	5	pCi/L	N	0	0	No	No	Decreasing		2.56	1.608		5	
MW-38	9/11	18%	1.88	0.4263	0.653	0.6442	5	pCi/L	N	0	0	No	No	Stable	Normal	0.656		N		N
MW-39	9/11	18%	1.62	0.1246	0.3529	0.3641	5	pCi/L	N	0	0	No	No	Stable	Normal	0.923		N		N
MW-40	10/11	9%	1.26	0.1304	0.3611	0.4803	5	pCi/L	N	0	0	No	No	Stable	Normal	1.26		N		N
MW-K	11/11	0%	2.73	0.4992	0.7066	0.5964	5	pCi/L	N	0	0	No	No	NA	Normal	2.05		Y		N
MW-L	11/11	0%	2.08	0.3513	0.5927	0.5943	5	pCi/L	N	0	0	No	No	NA	Normal	1.23		N		N

Notes and Abbreviations:

[1] Based on background data collected from 03/07/2018 through 03/18/2019, unless otherwise note
[2] Based on background data collected from 03/07/2018 through 09/04/201
** Values obtained from U.S. Environmental Protection Agency Federal CCR Rule Title 40 Code of Federal Regulations (CFR) §§ 257.95(h)(2) on December 23, 20*
CCR = coal combustion residuals
GWPS = Groundwater Protection Standard
MCL = maximum contaminant level
mg/L = milligrams per Liter
NA = not analyzed
pCi/L = picoCuries per Liter
SSI = statistically significant increase
SSL = statistically significant level
UTL = upper tolerance limits

TABLE II
STATISTICALLY SIGNIFICANT LEVELS OF APPENDIX IV CONSTITUENTS
SEPTEMBER 2020 SAMPLING EVENT
LAWRENCE ENERGY CENTER
INACTIVE ASH PONDS

Constituent	Well ID	Groundwater Protection Standard (mg/L)
Arsenic	MW-38	0.010
	MW-39	
	MW-40	
	MW-K	
	MW-L	
Lithium	MW-38	0.040
	MW-K	
	MW-L	
Molybdenum	MW-39	0.140

Notes:
mg/L = milligrams per liter

ATTACHMENT 4
Groundwater Potentiometric Maps

LEGEND

MW-37
822.24 WELL NAME AND GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL), SEPTEMBER 2020

MONITORING WELL

GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 2-FT INTERVAL (AMSL)

GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)

ASH PONDS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 15 SEPTEMBER 2020.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 14 SEPTEMBER 2020 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM PUBLISHED SOURCES AND GROUNDWATER ELEVATION DATA MEASURED BETWEEN MARCH 2018 AND JANUARY 2019.

4. AERIAL IMAGERY SOURCE: ESRI, 04 MARCH 2020

N

0 250 500
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION MAP SEPTEMBER 15, 2020

evergy

NOVEMBER 2022

FIGURE 3

LEGEND

MW-37
822.24 WELL NAME AND GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL), DECEMBER 2020

MONITORING WELL

ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 1-FT INTERVAL

GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)

ASH PONDS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 01 DECEMBER 2020.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 01 DECEMBER 2020 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM PUBLISHED SOURCES AND GROUNDWATER ELEVATION DATA MEASURED BETWEEN MARCH 2018 AND JANUARY 2019.

4. AERIAL IMAGERY SOURCE: ESRI, 04 MARCH 2020

N

0 250 500
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP DECEMBER 1, 2020

evergy

NOVEMBER 2022

FIGURE 4

LEGEND

MW-37
822.24 WELL NAME AND GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL), MARCH 2021

MONITORING WELL

ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 1-FT INTERVAL

GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)

ASH PONDS (INACTIVE)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 09 MARCH 2021.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 09 MARCH 2021 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM PUBLISHED SOURCES AND GROUNDWATER ELEVATION DATA MEASURED BETWEEN MARCH 2018 AND JANUARY 2019.

4. AERIAL IMAGERY SOURCE: ESRI, 04 MARCH 2020

N

0 250 500
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
LAWRENCE ENERGY CENTER
LAWRENCE, KANSAS

ASH PONDS (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION MAP MARCH 9, 2021

evergy

NOVEMBER 2022

FIGURE 5