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2023 – 2024 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

BOTTOM ASH POND
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

by Haley & Aldrich, Inc.
Cleveland, Ohio

for Evergy Kansas Central, Inc.
Topeka, Kansas

File No. 0210308-000
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This Annual Groundwater Monitoring and Corrective Action Report documents the groundwater monitoring program for the Jeffrey Energy Center (JEC) inactive Bottom Ash Pond (BAP) consistent with applicable sections of Code of Federal Regulations Title 40 §§ 257.90 through 257.98, and describes activities conducted from July 2023 through June 2024 and documents compliance with the U.S. Environmental Protection Agency Coal Combustion Residual Rule. I certify that the 2023 – 2024 Annual Groundwater Monitoring and Corrective Action Report for the JEC BAP is, to the best of my knowledge, accurate and complete.

Signed: 

Professional Geologist

Print Name:	Mark Nicholls
Kansas License No.:	Professional Geologist No. 881
Title:	Technical Expert 2
Company:	Haley & Aldrich, Inc.

1. Introduction

This *2023 – 2024 Annual Groundwater Monitoring and Corrective Action Report* (Annual Report) addresses the inactive Bottom Ash Pond (BAP) at the Jeffrey Energy Center (JEC), monitored by Evergy Kansas Central, Inc. (Evergy). This Annual Report was developed in accordance with the U.S. Environmental Protection Agency (USEPA) Coal Combustion Residual (CCR) Rule (Rule) effective October 19, 2015, including subsequent revisions, specifically Code of Federal Regulations Title 40 (40 CFR), subsection 257.90(e). The Annual Report documents the groundwater monitoring system for the BAP consistent with applicable sections of § 257.90 through § 257.98, describes activities conducted in the prior calendar year (July 2023 through June 2024), 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 description of 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 BAP 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 BAP.

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, 2023), the BAP was 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, 2024), the BAP was operating under an assessment monitoring program in compliance with 40 CFR § 257.95.

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 BAP is operating under an assessment monitoring program; therefore, no statistical evaluations were completed on Appendix III constituents from July 2023 through June 2024.

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 BAP with a notification establishing assessment monitoring provided February 12, 2020 to meet the requirements of 40 CFR § 257.95. The BAP remained in assessment monitoring from July 2023 through June 2024.

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;

No statistically significant levels were identified above the groundwater protection standards for those constituents listed in Appendix IV to this part from July 2023 through June 2024 for the BAP. The statistical evaluation reports for semiannual assessment monitoring sampling events from March 2023 and September 2023 were completed in July 2023 and January 2024, respectively, and are included in Attachment 1.

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;

No assessment of corrective measures was required to be initiated from July 2023 through June 2024 for this unit. The BAP remained in assessment monitoring during this annual period.

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

An assessment of corrective measures was not required for the BAP from July 2023 through June 2024; therefore, a public meeting was not held.

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.

No assessment of corrective measures was required to be initiated from July 2023 through June 2024 for this unit. The BAP remained in assessment monitoring during this annual period.

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

The BAP remains in assessment monitoring; no remedy was required to be selected.

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 were required from July 2023 through June 2024.

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 257.99, except as provided in paragraph (g) of this section.

Evergy has installed and certified a groundwater monitoring system at the JEC BAP. The BAP is 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 JEC BAP as required by the Rule. Groundwater sampling and analysis was conducted in accordance with 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 in the calendar year from July 2023 through June 2024.

2.2.1 Status of the Groundwater Monitoring Program

The BAP remained in the assessment monitoring program through June 2024.

2.2.2 Key Actions Completed

The 2022 – 2023 Annual Groundwater Monitoring and Corrective Action Report was completed in July 2023 for the time period July 2022 through June 2023. Statistical evaluation was completed in July 2023 on analytical data from the March 2023 assessment monitoring sampling event.

A semiannual assessment monitoring sampling event was completed in September 2023 for detected Appendix IV constituents identified from the December 2022 annual assessment monitoring sampling event. Statistical evaluation was completed in January 2024 on analytical data from the September 2023 semiannual assessment monitoring sampling event.

An annual assessment monitoring sampling event was completed on December 12, 2023 to identify detected Appendix IV constituents for subsequent semiannual sampling events planned for March 2024 and September 2024. Semiannual assessment monitoring sampling was completed in March 2024 for detected Appendix IV constituents identified during the December 2023 annual monitoring event. Statistical evaluation of the results from the March 2024 semiannual assessment monitoring sampling event are due to be completed in July 2024 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 BAP from July 2023 through June 2024.

2.2.4 Actions to Resolve Problems

No problems were encountered at the BAP from July 2023 through June 2024; therefore, no actions to resolve the problems were required.

2.2.5 Project Key Activities for Upcoming Year

Key activities planned for July 2024 through June 2025 include the 2023 – 2024 Annual Groundwater Monitoring and Corrective Action Report, statistical analysis of assessment monitoring analytical data collected in March 2024, semiannual assessment monitoring and subsequent statistical evaluations, and annual assessment monitoring.

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 JEC BAP is included in this report as Figure 1.

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;

No monitoring wells were installed or decommissioned from July 2023 to June 2024.

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), three independent assessment monitoring samples from each background and downgradient monitoring well were collected from July 2023 through June 2024. A summary including sample names, dates of sample collection, field parameters, and monitoring data obtained for the groundwater monitoring program for the BAP is presented in Table I of this report, with corresponding laboratory analytical reports provided in Attachment 2. Groundwater potentiometric elevation contour maps, along with calculated groundwater flow rates and directions, associated with each groundwater monitoring sampling event in July 2023 through June 2024 are provided in Figures 2 through 4.

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. The BAP remained in assessment monitoring from July 2023 through June 2024.

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 §§ 257.90 through 257.95 of the Rule. It is understood that there are supplemental references in §§ 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 2023 through June 2024.

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 alternative source demonstration 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 from July 2023 through June 2024. Analytical results for both downgradient and upgradient wells are provided in Table I. The background concentrations (upper tolerance limits) and groundwater protection standards established for detected Appendix IV constituents for the BAP are included in Tables II and III. The background concentrations and groundwater protection standards provided in Tables II and III were utilized for the statistical evaluations completed from July 2023 through June 2024 for the March 2023 and September 2023 semiannual assessment monitoring sampling events, respectively.

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.

No assessment monitoring alternative source demonstration or certification was required from July 2023 through June 2024. The BAP remained in assessment monitoring during this annual period.

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.

No assessment of corrective measures was required to be initiated from July 2023 through June 2024; therefore, no demonstration or certification is applicable for this unit.

TABLES

TABLE I
SUMMARY OF ANALYTICAL RESULTS - ASSESSMENT MONITORING
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER, INACTIVE BOTTOM ASH POND
ST. MARYS, KANSAS

Location	Upgradient			Downgradient											
	MW-IBA-4			MW-IBA-1			MW-IBA-2				MW-IBA-3				
Measure Point (TOC)	1201.86			1171.65			1171.66				1164.95				
Sample Name	IBA-4-090623	IBA-4-121223	IBA-4-031324	IBA-1-090623	IBA-1-121223	IBA-1-031324	IBA-2-090623	IBA-DUP-090623	IBA-2-121223	IBA-2-031324	IBA-3-090623	IBA-3-121223	JEC-IBA-DUP-121223	IBA-3-031324	JEC-IBA-DUP-031324
Sample Date	09/06/2023	12/12/2023	3/13/2024	09/06/2023	12/12/2023	3/13/2024	09/06/2023	09/06/2023	12/12/2023	3/13/2024	09/06/2023	12/12/2023	12/12/2023	3/13/2024	3/13/2024
Final Lab Report Date	9/22/2023	12/23/2023	3/29/2024	9/22/2023	12/23/2023	3/29/2024	9/22/2023	9/22/2023	12/23/2023	3/29/2024	9/22/2023	12/23/2023	12/23/2023	3/29/2024	3/29/2024
Final Lab Report Revision Date	N/A	N/A	4/26/2024	N/A	N/A	4/26/2024	N/A	N/A	N/A	4/26/2024	N/A	N/A	N/A	4/26/2024	4/26/2024
Final Radiation Lab Report Date	N/A	1/9/2024	N/A	N/A	1/9/2024	N/A	N/A	N/A	1/9/2024	N/A	N/A	1/9/2024	1/9/2024	N/A	N/A
Final Radiation Lab Report Revision Date	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lab Data Reviewed and Validated	12/13/2023	3/5/2024	6/17/2024	12/13/2023	3/5/2024	6/17/2024	12/13/2023	12/13/2023	3/5/2024	6/17/2024	12/13/2023	3/5/2024	3/5/2024	6/17/2024	6/17/2024
Depth to Water (ft btoc)	55.25	56.09	54.35	28.34	26.11	25.48	29.53	-	27.69	26.96	32.37	31.27	-	30.47	30.47
Temperature (Deg C)	21.33	13.00	16.67	19.93	10.98	18.09	18.51	-	12.36	16.60	20.41	11.99	-	15.88	-
Conductivity (µS/cm)	1060	991	1060	1060	1940	1810	1190	-	1750	1690	936	1930	-	1870	-
Turbidity (NTU)	1.3	14.0	0.0	5.3	5.9	23.2	2.1	-	2.7	0.0	0.2	0.3	-	0.0	-
pH, Field (su)	7.07	7.22	6.56	7.17	7.13	7.43	7.12	-	7.14	7.43	7.18	7.17	-	7.43	-
Dissolved Oxygen, Field (mg/L)	0.04	0.00	0.14	0.24	0.00	0.00	0.11	-	0.37	0.00	0	0.00	-	0.00	-
ORP, Field (mV)	-123	-80	-47	-93	-123	-83	-94	-	-98	-83	71	-85	-	-40	-
Boron, Total (mg/L)	**0.23**	-	**0.22**	**0.39**	-	**0.36**	**0.22**	**0.22**	-	**0.21**	**0.30**	-	-	**0.29**	**0.28**
Calcium, Total (mg/L)	**104**	-	**105**	**291**	-	**277**	**224**	**224**	-	**224**	**254**	-	-	**261**	**252**
Chloride (mg/L)	**17.3**	-	**17.6**	**94.6**	-	**104**	**104**	**102**	-	**109**	**109**	-	-	**118**	**136**
Fluoride (mg/L)	**0.53**	-	**0.48**	< 0.20	-	< 0.20	< 0.20	< 0.20	-	< 0.20	< 0.20	-	-	< 0.20	< 0.20
Sulfate (mg/L)	**164**	-	**175**	**764**	-	**765**	**578**	**608**	-	**590**	**994**	-	-	**683**	**681**
pH (su)	**7.1**	-	**7.2**	**7.1**	-	**7.2**	**7.1**	**7.2**	-	**7.2**	**7.1**	-	-	**7.2**	**7.2**
TDS (mg/L)	**638**	-	**608**	**1560**	-	**1410**	**1340**	**1360**	-	**1340**	**1570**	-	-	**1400**	**1380**
Antimony, Total (mg/L)	**-**	< 0.0010	-	**-**	< 0.0010	-	**-**	**-**	< 0.0010	-	**-**	< 0.0010	< 0.0010	-	-
Arsenic (mg/L)	**-**	< 0.0010	-	**-**	< 0.0010	-	**-**	**-**	< 0.0010	-	**-**	< 0.0010	< 0.0010	-	-
Barium, Total (mg/L)	**0.018**	**0.021**	**0.018**	**0.029**	**0.031**	**0.028**	**0.024**	**0.024**	**0.026**	**0.024**	**0.018**	**0.019**	**0.018**	**0.018**	**0.016**
Beryllium, Total (mg/L)	**-**	< 0.0010	-	**-**	< 0.0010	-	**-**	**-**	< 0.0010	-	**-**	< 0.0010	< 0.0010	-	-
Cadmium, Total (mg/L)	**-**	< 0.00050	-	**-**	< 0.00050	-	**-**	**-**	< 0.00050	-	**-**	< 0.00050	< 0.00050	-	-
Chromium, Total (mg/L)	**-**	< 0.0050	-	**-**	< 0.0050	-	**-**	**-**	< 0.0050	-	**-**	< 0.0050	< 0.0050	-	-
Cobalt, Total (mg/L)	< 0.0010	< 0.0010	< 0.0010	**0.0015**	**0.0014**	**0.0015**	< 0.0010	< 0.0010	< 0.0010	< 0.0010	**0.0012**	**0.0013**	**0.0012**	**0.0012**	**0.0012**
Lead, Total (mg/L)	**-**	< 0.010	-	**-**	< 0.010	-	**-**	**-**	< 0.010	-	**-**	< 0.010	< 0.010	-	-
Lithium, Total (mg/L)	**0.036**	**0.037**	**0.032**	**0.021**	**0.020**	**0.016**	**0.026**	**0.026**	**0.023**	**0.020**	**0.025**	**0.024**	**0.023**	**0.022**	**0.019**
Molybdenum, Total (mg/L)	**0.0017**	**0.0019**	**0.0018**	**0.0078**	**0.0082**	**0.0081**	**0.0022**	**0.0023**	**0.0023**	**0.0025**	**0.0023**	**0.0023**	**0.0023**	**0.0023**	**0.0024**
Selenium, Total (mg/L)	**-**	< 0.0010	**-**	**-**	< 0.0010	**-**	**-**	**-**	< 0.0010	**-**	**-**	< 0.0010	< 0.0010	**-**	**-**
Thallium, Total (mg/L)	**-**	< 0.0010	**-**	**-**	< 0.0010	**-**	**-**	**-**	< 0.0010	**-**	**-**	< 0.0010	< 0.0010	**-**	**-**
Mercury, Total (mg/L)	**-**	< 0.00020	-	**-**	< 0.00020	-	**-**	**-**	< 0.00020	-	**-**	< 0.00020	< 0.00020	-	-
Fluoride (mg/L)	**0.53**	**0.55**	**0.48**	< 0.20	**0.27**	< 0.20	< 0.20	< 0.20	**0.37**	< 0.20	< 0.20	**0.25**	**0.24**	< 0.20	< 0.20
Bromide (mg/L)	< 1.0	-	-	**2.1**	-	-	**1.2**	**1.3**	-	-	**1.7**	-	-	-	-
Radium-226 & 228 Combined (pCi/L)	-	0.826 ± 0.966 (1.76)	-	-	0.626 ± 0.761 (1.54)	-	-	-	0.193 ± 0.659 (1.32)	-	-	0.585 ± 0.892 (1.80)	0.0623 ± 0.704 (1.50)	-	-

Notes:
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
ASSESSMENT GROUNDWATER MONITORING - DETECTED APPENDIX IV GWPS
MARCH 2023 SAMPLING EVENT
JEFFREY ENERGY CENTER
BOTTOM ASH POND (INACTIVE)

Well Number	Background Value[1]	GWPS
CCR Appendix-IV Barium, Total (mg/L)		
MW-IBA-4 (upgradient)	0.0224	NA
MW-IBA-1		2
MW-IBA-2		2
MW-IBA-3		2
CCR Appendix-IV Cobalt, Total (mg/L)		
MW-IBA-4 (upgradient)	0.001	NA
MW-IBA-1		0.006
MW-IBA-2		0.006
MW-IBA-3		0.006
CCR Appendix-IV Fluoride, Total (mg/L)		
MW-IBA-4 (upgradient)	0.683[2]	NA
MW-IBA-1		4.0
MW-IBA-2		4.0
MW-IBA-3		4.0
CCR Appendix-IV Lithium, Total (mg/L)		
MW-IBA-4 (upgradient)	0.0397	NA
MW-IBA-1		0.040
MW-IBA-2		0.040
MW-IBA-3		0.040
CCR Appendix-IV Molybdenum, Total (mg/L)		
MW-IBA-4 (upgradient)	0.0024	NA
MW-IBA-1		0.100
MW-IBA-2		0.100
MW-IBA-3		0.100

Notes:

[1] Based on background data collected from 03/13/2018 through 3/09/2022, unless otherwise noted.

[2] Based on background data collected from 03/13/2018 through 3/14/2023.

CCR = Coal Combustion Residuals

GWPS = Groundwater Protection Standard

mg/L = milligrams per Liter

NA = Not Applicable

TABLE III
ASSESSMENT GROUNDWATER MONITORING - DETECTED APPENDIX IV GWPS
SEPTEMBER 2023 SAMPLING EVENT
JEFFREY ENERGY CENTER
BOTTOM ASH POND (INACTIVE)

Well Number	Background Value[1]	GWPS
CCR Appendix-IV Barium, Total (mg/L)		
MW-IBA-4 (upgradient)	0.0219	NA
MW-IBA-1		2
MW-IBA-2		2
MW-IBA-3		2
CCR Appendix-IV Cobalt, Total (mg/L)		
MW-IBA-4 (upgradient)	0.001	NA
MW-IBA-1		0.006
MW-IBA-2		0.006
MW-IBA-3		0.006
CCR Appendix-IV Fluoride, Total (mg/L)		
MW-IBA-4 (upgradient)	0.683[2]	NA
MW-IBA-1		4.0
MW-IBA-2		4.0
MW-IBA-3		4.0
CCR Appendix-IV Lithium, Total (mg/L)		
MW-IBA-4 (upgradient)	0.0393	NA
MW-IBA-1		0.040
MW-IBA-2		0.040
MW-IBA-3		0.040
CCR Appendix-IV Molybdenum, Total (mg/L)		
MW-IBA-4 (upgradient)	0.0024	NA
MW-IBA-1		0.100
MW-IBA-2		0.100
MW-IBA-3		0.100

Notes:

[1] Based on background data collected from 03/13/2018 through 09/06/2023, unless otherwise noted.

[2] Based on background data collected from 03/13/2018 through 3/14/2023.

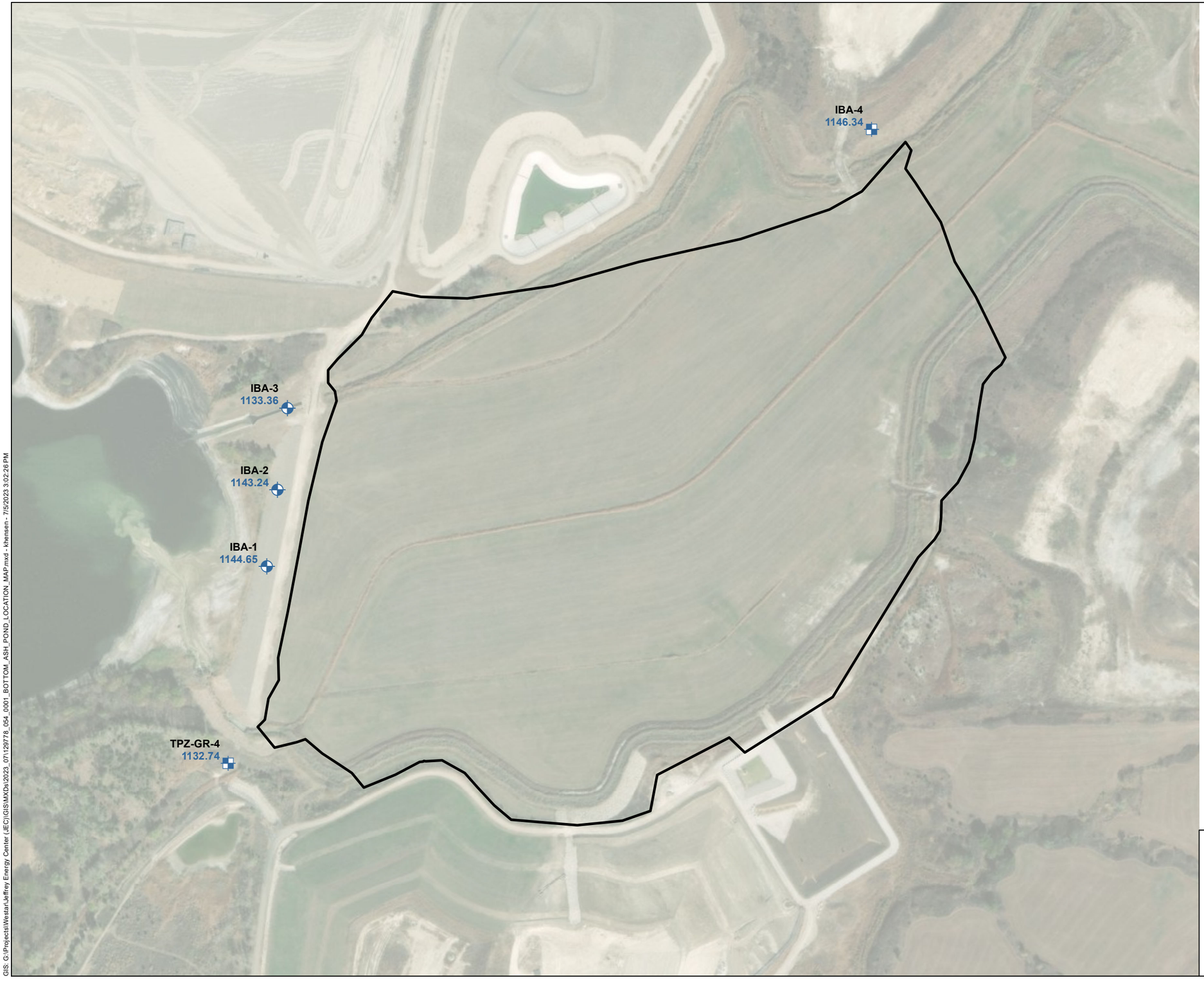
CCR = Coal Combustion Residuals

GWPS = Groundwater Protection Standard

mg/L = milligrams per Liter

NA = Not Applicable

FIGURES



LEGEND

- MONITORING WELL
- PIEZOMETER OBSERVATION ONLY
- BOTTOM ASH POND (INACTIVE) BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: ESRI, 20 OCTOBER 2022

N

0 300 600

SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

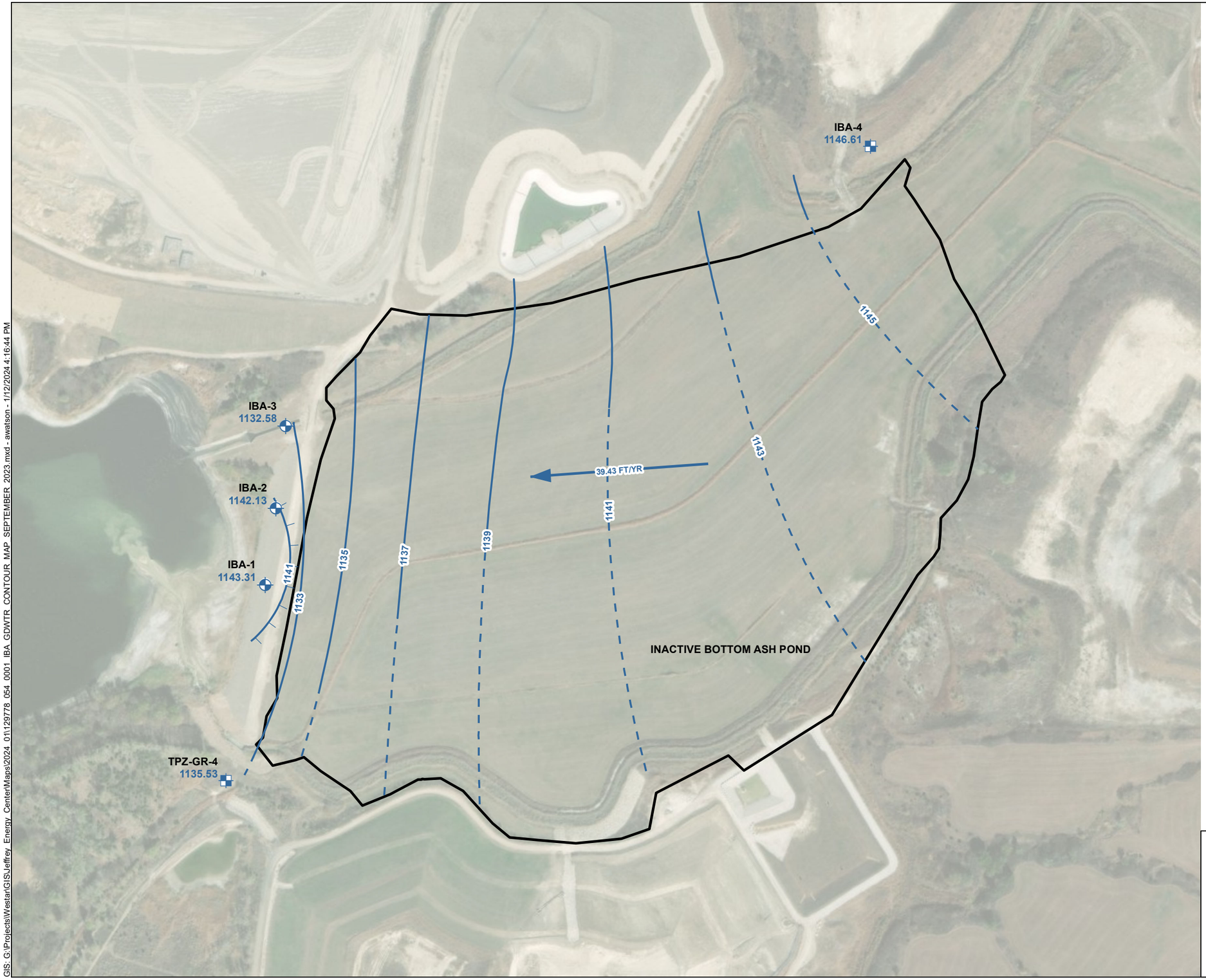
BOTTOM ASH POND (INACTIVE) LOCATION MAP

evergy

JULY 2024

FIGURE 1

GIS: G:\Projects\Westar\Jeffrey Energy Center (JEC)\GIS\MXDs\2023_07\129778_054_0001_BOTTOM_ASH_POND_LOCATION_MAP.mxd - khensen - 7/5/2023 3:02:26 PM



LEGEND

- MONITORING WELL
- PIEZOMETER OBSERVATION ONLY
- ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, IN FEET, DASHED WHERE INFERRED
- PERCEHD WATER
- GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)
- BOTTOM ASH POND (INACTIVE)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 6 SEPTEMBER 2023.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 6 SEPTEMBER 2023 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM SLUG TESTS COMPLETED APRIL 2016.

4. GROUNDWATER ELEVATION IN **BOLD BLUE TEXT** AND IN FEET ABOVE MEAN SEA LEVEL (AMSL).

5. AERIAL IMAGERY SOURCE: ESRI, 20 OCTOBER 2022

N

0 300 600
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

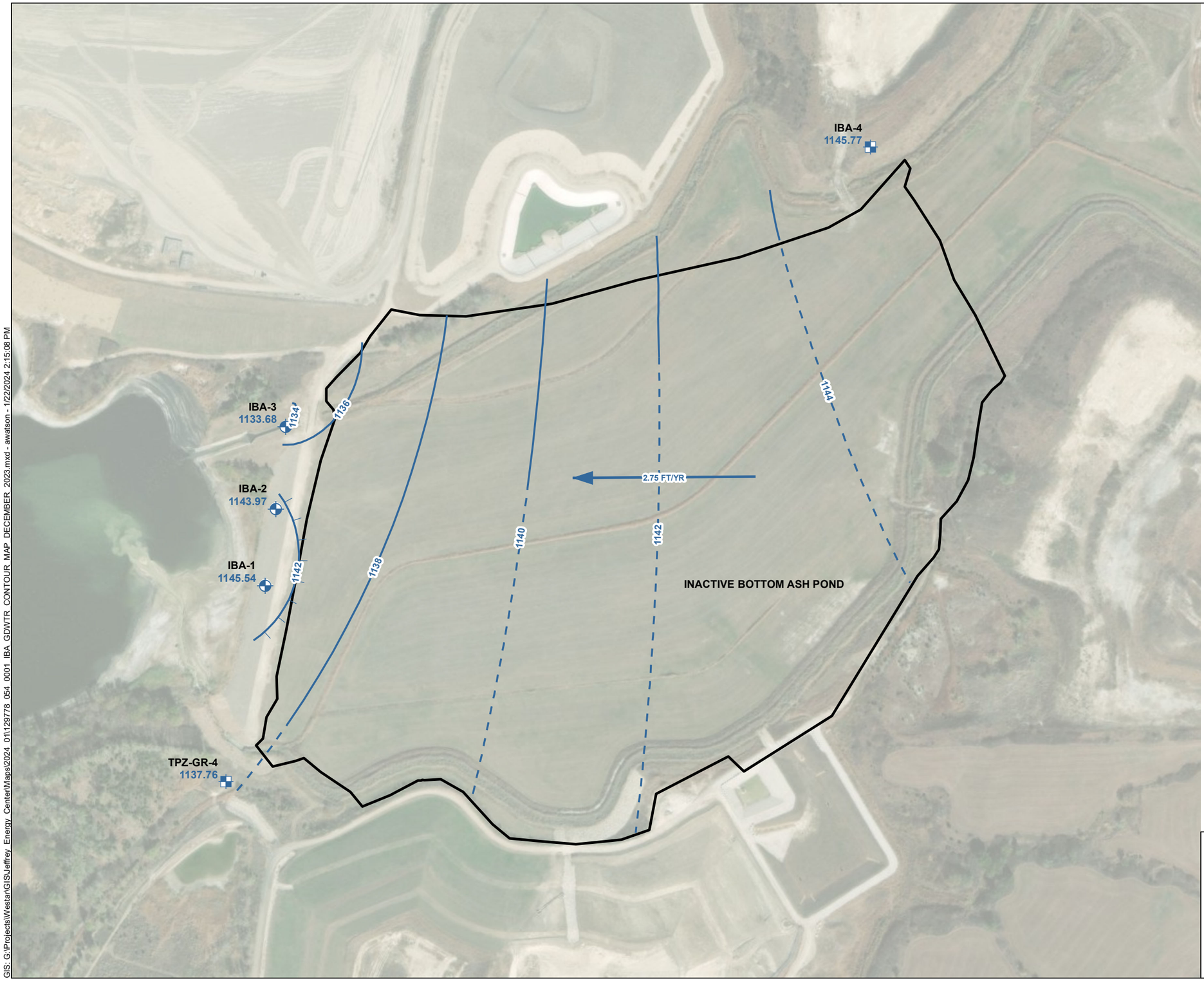
BOTTOM ASH POND (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP SEPTEMBER 6, 2023

evergy

JULY 2024

FIGURE 1

GIS: G:\Projects\Westar\GIS\Jeffrey Energy Center\Maps\2024 011129778 054 0001 IBA GDWTR CONTOUR MAP SEPTEMBER 2023.mxd - awatson - 1/12/2024 4:16:44 PM



LEGEND

- MONITORING WELL
- PIEZOMETER OBSERVATION ONLY
- ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, IN FEET, DASHED WHERE INFERRED
- PERCEHD WATER
- GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)
- BOTTOM ASH POND (INACTIVE)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 12 DECEMBER 2023.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 12 DECEMBER 2023 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM SLUG TESTS COMPLETED APRIL 2016.

4. GROUNDWATER ELEVATION IN **BOLD BLUE TEXT** AND IN FEET ABOVE MEAN SEA LEVEL (AMSL).

5. AERIAL IMAGERY SOURCE: ESRI, 20 OCTOBER 2022

N

0 300 600
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

BOTTOM ASH POND (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP DECEMBER 12, 2023

evergy

JULY 2024

FIGURE 1

GIS: G:\Projects\WestarGIS\Jeffrey Energy Center\Maps\2024 011129778 054 0001 IBA GDWTR CONTOUR MAP DECEMBER 2023.mxd - awatson - 1/22/2024 2:15:08 PM

LEGEND

- MONITORING WELL
- PIEZOMETER OBSERVATION ONLY
- ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, IN FEET, DASHED WHERE INFERRED
- PERCEHD WATER
- GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)
- BOTTOM ASH POND (INACTIVE) BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 13-14 MARCH 2024.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 13-14 MARCH 2024 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM SLUG TESTS COMPLETED APRIL 2016.

4. GROUNDWATER ELEVATION IN **BOLD BLUE TEXT** AND IN FEET ABOVE MEAN SEA LEVEL (AMSL).

5. AERIAL IMAGERY SOURCE: ESRI, 20 OCTOBER 2022

N

0 300 600
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

BOTTOM ASH POND (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP MARCH 13-14, 2024

evergy

JULY 2024

FIGURE 1

GIS: G:\Projects\Westar\GIS\Jeffrey Energy Center\Maps\2024 041129778 054 0001 IBA GDWTR CONTOUR MAP MARCH 2024.mxd - awatson - 5/3/2024 2:13:28 PM

ATTACHMENT 1
Statistical Analyses

ATTACHMENT 1-1

March 2023 Semiannual Groundwater Assessment Monitoring Data Statistical Evaluation

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

TECHNICAL MEMORANDUM

July 21, 2023
File No. 0210308-000

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

SUBJECT: March 2023 Semiannual Groundwater Assessment Monitoring Data
Statistical Evaluation
Completed July 21, 2023
Jeffrey Energy Center
Bottom Ash Pond (inactive)

Pursuant to Code of Federal Regulations Title 40 (40 CFR) §§ 257.93 and 257.95 (Rule), this memorandum summarizes the statistical evaluation of the analytical results for the **March 2023** semiannual assessment monitoring groundwater sampling event for the Jeffrey Energy Center (JEC) Bottom Ash Pond (BAP; inactive). This semiannual assessment monitoring groundwater sampling event was completed on **March 14, 2023**, with laboratory results received and validated on **June 8, 2023**.

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 (SSLs) above the groundwater protection standards (GWPS) consistent with the requirements of the Rule. GWPS 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 (UTLs), 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) semiannual assessment monitoring data.

The parametric TL methods were 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 2023** 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 IBA-4 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 2022** for all constituents except fluoride, which was updated through **March 2023.**

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

The sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the **March 2023** semiannual assessment monitoring event were compared to their respective background UTLs and GWPS (Table I). A sample concentration greater than the background UTL is considered to represent an SSI. A sample concentration greater than the GWPS is considered to represent an 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 2023, no SSLs above GWPS occurred at the JEC BAP (inactive).**

Enclosure:

Table I – Summary of Semiannual Assessment Groundwater Monitoring Statistical Evaluation

TABLE

TABLE I
SUMMARY OF SEMIANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION
MARCH 2023 SAMPLING EVENT
JEFFREY ENERGY CENTER
BOTTOM ASH POND (INACTIVE)

										MCL Comparison							Interwell Analysis		Groundwater Protection Standard	
Location Id	Frequency of Detection	Percent Non-Detects	Range of Non-Detect	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL or CFR § 257.95(h)(2)*	Report Result Unit	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Group	March 2023 Concentration (mg/L)	Upper Tolerance Limit (mg/L)	SSI	GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL)	SSL
CCR Appendix-IV: Barium, Total (mg/L)																				
MW-IBA-4	19/19	0%	-	0.022	0.000002339	0.001529	0.07918	2	mg/L	0	0	No	No	Stable	Normal	0.019	0.0224		2	
MW-IBA-1	19/19	0%	-	0.039	0.00001018	0.00319	0.09903	2	mg/L	0	0	No	No	Decreasing	Normal	0.031		Yes		No
MW-IBA-2	19/19	0%	-	0.036	0.000009064	0.003011	0.1031	2	mg/L	0	0	No	No	Decreasing	Normal	0.026		Yes		No
MW-IBA-3	19/19	0%	-	0.021	0.000001246	0.001116	0.0599	2	mg/L	0	0	No	No	Decreasing	Normal	0.017		No		No
CCR Appendix-IV: Cobalt, Total (mg/L)																				
MW-IBA-4	0/19	100%	0.001-0.001		0	0	0	0.006	mg/L	0	0	NA	NA	NA	Non-parametric	< 0.0010	0.001		0.006	
MW-IBA-1	19/19	0%	-	0.0027	1.323E-07	0.0003637	0.1758	0.006	mg/L	0	0	No	No	Decreasing	Normal	0.0017		Yes		No
MW-IBA-2	13/19	32%	0.001-0.001	0.0013	7.31E-09	0.0000855	0.07924	0.006	mg/L	0	0	No	No	Decreasing	Normal	< 0.0010		No		No
MW-IBA-3	19/19	0%	-	0.0021	1.112E-07	0.0003334	0.1998	0.006	mg/L	0	0	No	No	Decreasing	Non-parametric	0.0013		Yes		No
CCR Appendix-IV: Fluoride (mg/L)																				
MW-IBA-4	20/20	0%	-	0.64	0.009662	0.0983	0.1931	4	mg/L	0	0	Yes	No	Stable	Normal	0.42	0.683[2]		4.0	
MW-IBA-1	12/20	40%	0.2-0.2	0.63	0.01219	0.1104	0.3914	4	mg/L	0	0	Yes	No	Stable	Normal	< 0.20		No		No
MW-IBA-2	12/20	40%	0.2-0.2	0.4	0.005416	0.07359	0.2731	4	mg/L	0	0	No	No	Stable	Normal	< 0.20		No		No
MW-IBA-3	12/20	40%	0.2-0.2	0.37	0.00392	0.06261	0.2465	4	mg/L	0	0	No	No	Stable	Normal	< 0.20		No		No
CCR Appendix-IV: Lithium, Total (mg/L)																				
MW-IBA-4	19/19	0%	-	0.04	0.000006111	0.002472	0.07063	0.04	mg/L	0	0	No	No	Stable	Normal	0.037	0.0397		0.040	
MW-IBA-1	18/19	5%	0.03-0.03	0.026	0.00001789	0.00423	0.235	0.04	mg/L	0	0	Yes	No	Stable	Non-parametric	0.019		No		No
MW-IBA-2	18/19	5%	0.03-0.03	0.028	0.00001251	0.003537	0.1623	0.04	mg/L	0	0	No	No	Increasing	Normal	0.025		No		No
MW-IBA-3	18/19	5%	0.03-0.03	0.028	0.00001054	0.003246	0.1493	0.04	mg/L	0	0	Yes	No	Increasing	Normal	0.023		No		No
CCR Appendix-IV: Molybdenum, Total (mg/L)																				
MW-IBA-4	19/19	0%	-	0.0024	1.988E-08	0.000141	0.07463	0.1	mg/L	0	0	Yes	No	Stable	Non-parametric	0.0019	0.0024		0.100	
MW-IBA-1	19/19	0%	-	0.0086	3.299E-07	0.0005744	0.07547	0.1	mg/L	0	0	No	No	Increasing	Normal	0.0086		Yes		No
MW-IBA-2	19/19	0%	-	0.0024	1.152E-08	0.0001073	0.04776	0.1	mg/L	0	0	Yes	No	Stable	Normal	0.0024		No		No
MW-IBA-3	19/19	0%	-	0.0025	1.895E-08	0.0001376	0.06348	0.1	mg/L	0	0	Yes	No	Increasing	Non-parametric	0.0023		No		No

Notes:

[1] Based on background data collected from 03/13/2018 through 3/09/2022, unless otherwise noted.

[2] Based on background data collected from 03/13/2018 through 3/14/2023.

** Values obtained from U.S. Environmental Protection Agency Federal CCR Rule Title 40 Code of Federal Regulations (CFR) § 257.95(h)(2)*

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

ATTACHMENT 1-2
September 2023 Semiannual Groundwater Assessment Monitoring Data Statistical Evaluation

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

TECHNICAL MEMORANDUM

February 6, 2024
File No. 129778-035

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 2023 Semiannual Groundwater Assessment Monitoring Data Statistical Evaluation
Completed January 5, 2024
Jeffrey Energy Center
Bottom Ash Pond (inactive)

Pursuant to Code of Federal Regulations Title 40 (40 CFR) §§ 257.93 and 257.95 (Rule), this memorandum summarizes the statistical evaluation of the analytical results for the **September 2023** semiannual assessment monitoring groundwater sampling event for the Jeffrey Energy Center (JEC) Bottom Ash Pond (BAP; inactive). This semiannual assessment monitoring groundwater sampling event was completed on **September 6, 2023**, with laboratory results received and validated on **December 13, 2023**.

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 (SSLs) above the groundwater protection standards (GWPS) consistent with the requirements of the Rule. GWPS 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 (UTLs), 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) semiannual 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 2023** 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 IBA-4 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 **September 2023** for all constituents except fluoride, which was updated through **March 2023.**

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 2023** semiannual 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 2023, no SSLs above GWPS occurred at the JEC BAP (inactive).**

Enclosure:

Table I – Summary of Semiannual Assessment Groundwater Monitoring Statistical Evaluation

TABLE

TABLE I
SUMMARY OF SEMIANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION
SEPTEMBER 2023 SAMPLING EVENT
JEFFREY ENERGY CENTER
BOTTOM ASH POND (INACTIVE)

										MCL Comparison							Interwell Analysis		Groundwater Protection Standard	
Location Id	Frequency of Detection	Percent Non-Detects	Range of Non-Detect	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL or CFR § 257.95(h)(2)*	Report Result Unit	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well	September 2023 Concentration (mg/L)	Background Limits[1] (UTL) mg/L	SSI	GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL) mg/L	SSL
CCR Appendix-IV: Barium, Total (mg/L)																				
MW-IBA-4 (upgradient)	20/20	0%	-	0.022	2.303E-06	0.001517	0.07883	2	mg/L	0	0	No	No	Stable	Normal	0.018	0.0219		2	
MW-IBA-1	20/20	0%	-	0.039	0.00001016	0.003187	0.09943	2	mg/L	0	0	No	No	Decreasing	Normal	0.029		Yes		No
MW-IBA-2	20/20	0%	-	0.036	9.945E-06	0.003154	0.1089	2	mg/L	0	0	No	No	Decreasing	Normal	0.024		Yes		No
MW-IBA-3	20/20	0%	-	0.021	0.0000012	0.001095	0.05889	2	mg/L	0	0	No	No	Decreasing	Normal	0.018		No		No
CCR Appendix-IV: Cobalt, Total (mg/L)																				
MW-IBA-4 (upgradient)	0/20	100%	0.001-0.001		0	0	0	0.006	mg/L	0	0	NA	NA	NA	NA	<0.0010	0.001		0.006	
MW-IBA-1	20/20	0%	-	0.0027	1.415E-07	0.0003761	0.1844	0.006	mg/L	0	0	No	No	Decreasing	Normal	0.0015		Yes		No
MW-IBA-2	13/20	35%	0.001-0.001	0.0013	7.237E-09	0.00008507	0.07913	0.006	mg/L	0	0	No	No	Decreasing	Normal	<0.0010		No		No
MW-IBA-3	20/20	0%	-	0.0021	1.163E-07	0.000341	0.2073	0.006	mg/L	0	0	No	No	Decreasing	Non-parametric	0.0012		Yes		No
CCR Appendix-IV: Fluoride (mg/L)																				
MW-IBA-4 (upgradient)	21/21	0%	-	0.64	0.0092	0.09592	0.1881	4.0	mg/L	0	0	Yes	No	Stable	Normal	0.53	0.683[2]		4.0	
MW-IBA-1	12/21	43%	0.2-0.2	0.63	0.0119	0.1091	0.3922	4.0	mg/L	0	0	Yes	No	Stable	Normal	<0.20		No		No
MW-IBA-2	12/21	43%	0.2-0.2	0.4	0.005375	0.07331	0.2754	4.0	mg/L	0	0	No	No	Stable	Normal	<0.20		No		No
MW-IBA-3	12/21	43%	0.2-0.2	0.37	0.003863	0.06215	0.2472	4.0	mg/L	0	0	No	No	Stable	Normal	<0.20		No		No
CCR Appendix-IV: Lithium, Total (mg/L)																				
MW-IBA-4 (upgradient)	20/20	0%	-	0.04	5.839E-06	0.002417	0.06894	0.040	mg/L	0	0	No	No	Stable	Normal	0.036	0.0393		0.040	
MW-IBA-1	19/20	5%	0.03-0.03	0.026	0.0000174	0.004171	0.2298	0.040	mg/L	0	0	Yes	No	Stable	Non-parametric	0.021		No		No
MW-IBA-2	19/20	5%	0.03-0.03	0.028	0.00001274	0.003569	0.1622	0.040	mg/L	0	0	No	No	Increasing	Normal	0.026		No		No
MW-IBA-3	19/20	5%	0.03-0.03	0.028	0.00001052	0.003243	0.1481	0.040	mg/L	0	0	Yes	No	Increasing	Normal	0.025		No		No
CCR Appendix-IV: Molybdenum, Total (mg/L)																				
MW-IBA-4 (upgradient)	20/20	0%	-	0.0024	2.063E-08	0.0001436	0.0764	0.100	mg/L	0	0	Yes	No	Stable	Non-parametric	0.0017	0.0024		0.100	
MW-IBA-1	20/20	0%	-	0.0086	3.143E-07	0.0005606	0.07357	0.100	mg/L	0	0	No	No	Increasing	Normal	0.0078		Yes		No
MW-IBA-2	20/20	0%	-	0.0024	1.103E-08	0.000105	0.04677	0.100	mg/L	0	0	Yes	No	Stable	Normal	0.0022		No		No
MW-IBA-3	20/20	0%	-	0.0025	1.882E-08	0.0001372	0.06307	0.100	mg/L	0	0	Yes	No	Increasing	Non-parametric	0.0023		No		No

Notes and Abbreviations:

[1] Based on background data collected from 03/13/2018 through 09/06/2023, unless otherwise noted.

[2] Based on background data collected from 03/13/2018 through 3/14/2023.

** Values obtained from U.S. Environmental Protection Agency Federal CCR Rule Title 40 Code of Federal Regulations (CFR) § 257.95(h)(2).*

CCR = coal combustion residuals
GWPS = Groundwater Protection Standard
MCL = maximum contaminant level
mg/L = milligrams per liter
NA = not analyzed
RSL = regional screening level
SSI = statistically significant increase
SSL = statistically significant level

ATTACHMENT 2
Laboratory Analytical Reports

ATTACHMENT 2-1
September 2023 Semiannual Sampling Event
Laboratory Analytical Report

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

September 22, 2023

Jake Humphrey
Evergy, Inc.
818 S Kansas Avenue
Topeka, KS 66612

RE: Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Dear Jake Humphrey:

Enclosed are the analytical results for sample(s) received by the laboratory on September 07, 2023. 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,

Alice Spiller

Alice Spiller
alice.spiller@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Shelly Gomez, Evergy
Laura Hines, Evergy, Inc.
Shannon Hughes, Evergy
Adam Irvin, Evergy
Samantha Kaney, Haley & Aldrich
Melanie Satanek, Haley Aldrich
Adriana Sosa, Haley & Aldrich, Inc.
Andrew Watson, Haley & Aldrich

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 88-00679
Illinois Certification #: 2000302023-5
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-22-16
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60437054001	**IBA-1-090623**	Water	09/06/23 10:00	09/07/23 16:30
60437054002	**IBA-2-090623**	Water	09/06/23 10:50	09/07/23 16:30
60437054003	**IBA-3-090623**	Water	09/06/23 12:30	09/07/23 16:30
60437054004	**BA-4-090623**	Water	09/06/23 15:35	09/07/23 16:30
60437054005	**IBA-DUP-090623**	Water	09/06/23 10:50	09/07/23 16:30

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SAMPLE ANALYTE COUNT

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60437054001	**IBA-1-090623**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	BDH1	1	PASI-K
		SM 4500-H+B	RKA	1	PASI-K
		EPA 300.0	MLD	4	PASI-K
60437054002	**IBA-2-090623**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	BDH1	1	PASI-K
		SM 4500-H+B	RKA	1	PASI-K
		EPA 300.0	MLD	4	PASI-K
60437054003	**IBA-3-090623**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	BDH1	1	PASI-K
		SM 4500-H+B	RKA	1	PASI-K
		EPA 300.0	MLD	4	PASI-K
60437054004	**BA-4-090623**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	BDH1	1	PASI-K
		SM 4500-H+B	RKA	1	PASI-K
		EPA 300.0	MLD	4	PASI-K
60437054005	**IBA-DUP-090623**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	BDH1	1	PASI-K
		SM 4500-H+B	RKA	1	PASI-K
		EPA 300.0	MLD	4	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: September 22, 2023

General Information:
5 samples were analyzed for EPA 200.7 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 864377

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60436996002,60437054001

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

- MS (Lab ID: 3422656)
  - Boron
  - Calcium
- MS (Lab ID: 3422658)
  - Calcium
- MSD (Lab ID: 3422657)
  - Boron
  - Calcium

Additional Comments:

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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: September 22, 2023

General Information:
5 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: September 22, 2023

General Information:
5 samples were analyzed for EPA 200.8 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Evergy Kansas Central, Inc.
Date: September 22, 2023

General Information:
5 samples were analyzed for SM 2540C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Evergy Kansas Central, Inc.
Date: September 22, 2023

General Information:
5 samples were analyzed for SM 4500-H+B by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.
- BA-4-090623 (Lab ID: 60437054004)
- IBA-1-090623 (Lab ID: 60437054001)
- IBA-2-090623 (Lab ID: 60437054002)
- IBA-3-090623 (Lab ID: 60437054003)
- IBA-DUP-090623 (Lab ID: 60437054005)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: September 22, 2023

General Information:
5 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 865020

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60436338001,60437550003

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

- MS (Lab ID: 3425425)
  - Chloride
  - Sulfate
- MS (Lab ID: 3425427)
  - Bromide
  - Chloride
  - Fluoride
  - Sulfate
- MSD (Lab ID: 3425426)
  - Fluoride
  - Sulfate

QC Batch: 865021

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60437054003,60437056002

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

- MS (Lab ID: 3425432)
  - Chloride
  - Fluoride
  - Sulfate
- MSD (Lab ID: 3425431)
  - Sulfate

R1: RPD value was outside control limits.

- MSD (Lab ID: 3425431)
  - Sulfate

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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: September 22, 2023

Additional Comments:

Analyte Comments:

QC Batch: 865021

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

- MS (Lab ID: 3425430)
  - Sulfate
- MS (Lab ID: 3425432)
  - Chloride
  - Sulfate
- MSD (Lab ID: 3425431)
  - Sulfate

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Sample: IBA-1-090623 **Lab ID: 60437054001** Collected: 09/06/23 10:00 Received: 09/07/23 16:30 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	**0.029**	mg/L	0.0050	1	09/13/23 16:19	09/15/23 11:07	7440-39-3	
Boron, Total Recoverable	**0.39**	mg/L	0.10	1	09/13/23 16:19	09/15/23 11:07	7440-42-8	
Calcium, Total Recoverable	**291**	mg/L	0.20	1	09/13/23 16:19	09/15/23 11:07	7440-70-2	M1
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.021**	mg/L	0.010	1	09/14/23 10:15	09/15/23 12:40	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**0.0015**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 10:57	7440-48-4	
Molybdenum, Total Recoverable	**0.0078**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 10:57	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1560**	mg/L	20.0	1		09/12/23 09:01		
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		09/09/23 13:19		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Bromide	**2.1**	mg/L	1.0	1		09/19/23 19:49	24959-67-9	
Chloride	**94.6**	mg/L	20.0	20		09/19/23 20:02	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		09/19/23 19:49	16984-48-8	
Sulfate	**764**	mg/L	50.0	50		09/20/23 18:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Sample: IBA-2-090623 **Lab ID: 60437054002** Collected: 09/06/23 10:50 Received: 09/07/23 16:30 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	**0.024**	mg/L	0.0050	1	09/13/23 16:19	09/15/23 11:11	7440-39-3	
Boron, Total Recoverable	**0.22**	mg/L	0.10	1	09/13/23 16:19	09/15/23 11:11	7440-42-8	
Calcium, Total Recoverable	**224**	mg/L	0.20	1	09/13/23 16:19	09/15/23 11:11	7440-70-2	
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	09/14/23 10:15	09/15/23 12:42	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:21	7440-48-4	
Molybdenum, Total Recoverable	**0.0022**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:21	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1340**	mg/L	13.3	1		09/12/23 09:01		
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		09/09/23 13:22		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Bromide	**1.2**	mg/L	1.0	1		09/19/23 20:16	24959-67-9	
Chloride	**104**	mg/L	20.0	20		09/19/23 20:29	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		09/19/23 20:16	16984-48-8	
Sulfate	**578**	mg/L	50.0	50		09/20/23 18:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Sample: IBA-3-090623 **Lab ID: 60437054003** Collected: 09/06/23 12:30 Received: 09/07/23 16:30 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	**0.018**	mg/L	0.0050	1	09/13/23 16:19	09/15/23 11:13	7440-39-3	
Boron, Total Recoverable	**0.30**	mg/L	0.10	1	09/13/23 16:19	09/15/23 11:13	7440-42-8	
Calcium, Total Recoverable	**254**	mg/L	0.20	1	09/13/23 16:19	09/15/23 11:13	7440-70-2	
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	09/14/23 10:15	09/15/23 12:55	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**0.0012**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:24	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:24	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1570**	mg/L	20.0	1		09/12/23 09:02		
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		09/09/23 13:36		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Bromide	**1.7**	mg/L	1.0	1		09/19/23 21:09	24959-67-9	
Chloride	**109**	mg/L	20.0	20		09/19/23 21:49	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		09/19/23 21:09	16984-48-8	
Sulfate	**994**	mg/L	50.0	50		09/20/23 19:40	14808-79-8	M1,R1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Sample: BA-4-090623 **Lab ID: 60437054004** Collected: 09/06/23 15:35 Received: 09/07/23 16:30 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	**0.018**	mg/L	0.0050	1	09/13/23 16:19	09/15/23 11:15	7440-39-3	
Boron, Total Recoverable	**0.23**	mg/L	0.10	1	09/13/23 16:19	09/15/23 11:15	7440-42-8	
Calcium, Total Recoverable	**104**	mg/L	0.20	1	09/13/23 16:19	09/15/23 11:15	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.036**	mg/L	0.010	1	09/14/23 10:15	09/15/23 12:57	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:27	7440-48-4	
Molybdenum, Total Recoverable	**0.0017**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:27	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**638**	mg/L	10.0	1		09/12/23 09:02		
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		09/12/23 15:10		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Bromide	**<1.0**	mg/L	1.0	1		09/20/23 20:18	24959-67-9	
Chloride	**17.3**	mg/L	1.0	1		09/20/23 20:18	16887-00-6	
Fluoride	**0.53**	mg/L	0.20	1		09/20/23 20:18	16984-48-8	
Sulfate	**164**	mg/L	20.0	20		09/20/23 20:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Sample: IBA-DUP-090623 **Lab ID: 60437054005** Collected: 09/06/23 10:50 Received: 09/07/23 16:30 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	**0.024**	mg/L	0.0050	1	09/13/23 16:19	09/15/23 11:24	7440-39-3	
Boron, Total Recoverable	**0.22**	mg/L	0.10	1	09/13/23 16:19	09/15/23 11:24	7440-42-8	
Calcium, Total Recoverable	**224**	mg/L	0.20	1	09/13/23 16:19	09/15/23 11:24	7440-70-2	
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	09/14/23 10:15	09/15/23 12:59	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:29	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	09/14/23 10:15	09/18/23 11:29	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1360**	mg/L	13.3	1		09/12/23 09:02		
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		09/09/23 13:24		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Bromide	**1.3**	mg/L	1.0	1		09/20/23 20:43	24959-67-9	
Chloride	**102**	mg/L	20.0	20		09/19/23 23:36	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		09/20/23 20:43	16984-48-8	
Sulfate	**608**	mg/L	50.0	50		09/20/23 20:56	14808-79-8	

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 864377
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: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

METHOD BLANK: 3422654 Matrix: Water
Associated Lab Samples: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	09/15/23 10:34	
Boron	mg/L	<0.10	0.10	09/15/23 10:34	
Calcium	mg/L	<0.20	0.20	09/15/23 10:34	

LABORATORY CONTROL SAMPLE: 3422655

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	103	85-115	
Boron	mg/L	1	1.0	100	85-115	
Calcium	mg/L	10	10.6	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3422656 3422657

Parameter	Units	60436996002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	50.2 ug/L	1	1	1.1	1.1	102	102	70-130	1	20	
Boron	mg/L	530 ug/L	1	1	1.5	1.5	102	101	70-130	1	20	M1
Calcium	mg/L	86800 ug/L	10	10	97.5	96.9	107	101	70-130	1	20	M1

MATRIX SPIKE SAMPLE: 3422658

Parameter	Units	60437054001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.029	1	1.1	103	70-130	
Boron	mg/L	0.39	1	1.4	103	70-130	
Calcium	mg/L	291	10	301	103	70-130	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 864501 | 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: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

METHOD BLANK: 3423057 Matrix: Water
Associated Lab Samples: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cobalt	mg/L	<0.0010	0.0010	09/18/23 10:49	
Molybdenum	mg/L	<0.0010	0.0010	09/18/23 10:49	

LABORATORY CONTROL SAMPLE: 3423058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	mg/L	0.04	0.042	105	85-115	
Molybdenum	mg/L	0.04	0.042	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3423059 3423060

Parameter	Units	60437054001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	mg/L	0.0015	0.04	0.04	0.041	0.040	98	96	70-130	1	20	
Molybdenum	mg/L	0.0078	0.04	0.04	0.047	0.047	99	99	70-130	0	20	

MATRIX SPIKE SAMPLE: 3423061

Parameter	Units	60437055004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cobalt	mg/L	<0.0010	0.04	0.039	97	70-130	
Molybdenum	mg/L	0.0027	0.04	0.044	103	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 864504
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

METHOD BLANK: 3423069 Matrix: Water
Associated Lab Samples: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	09/15/23 12:30	

LABORATORY CONTROL SAMPLE: 3423070

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: 3423071 3423072

Parameter	Units	60437054002 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	1.1	1.1	104	106	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 864073 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

METHOD BLANK: 3421464 Matrix: Water
Associated Lab Samples: 60437054001, 60437054002, 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	09/12/23 08:59	

LABORATORY CONTROL SAMPLE: 3421465

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

SAMPLE DUPLICATE: 3421466

Parameter	Units	60436977001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	5230	4810	8	10	

SAMPLE DUPLICATE: 3421467

Parameter	Units	60437054004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	638	659	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 863862
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: 60437054001, 60437054002, 60437054003, 60437054005

SAMPLE DUPLICATE: 3420733

Parameter	Units	60437058001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.8	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 863911
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: 60437054004

SAMPLE DUPLICATE: 3421007

Parameter	Units	60437056001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.0	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 865020
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: 60437054001, 60437054002

METHOD BLANK: 3425423 Matrix: Water
Associated Lab Samples: 60437054001, 60437054002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<1.0	1.0	09/19/23 09:06	
Chloride	mg/L	<1.0	1.0	09/19/23 09:06	
Fluoride	mg/L	<0.20	0.20	09/19/23 09:06	
Sulfate	mg/L	<1.0	1.0	09/19/23 09:06	

METHOD BLANK: 3427904 Matrix: Water
Associated Lab Samples: 60437054001, 60437054002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<1.0	1.0	09/20/23 19:15	
Chloride	mg/L	<1.0	1.0	09/20/23 19:15	
Fluoride	mg/L	<0.20	0.20	09/20/23 19:15	
Sulfate	mg/L	<1.0	1.0	09/20/23 19:15	

METHOD BLANK: 3427932 Matrix: Water
Associated Lab Samples: 60437054001, 60437054002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<1.0	1.0	09/21/23 09:49	
Chloride	mg/L	<1.0	1.0	09/21/23 09:49	
Fluoride	mg/L	<0.20	0.20	09/21/23 09:49	
Sulfate	mg/L	<1.0	1.0	09/21/23 09:49	

LABORATORY CONTROL SAMPLE: 3425424

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	4.8	96	90-110	
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

LABORATORY CONTROL SAMPLE: 3427905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	5.2	103	90-110	
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

LABORATORY CONTROL SAMPLE: 3427933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	4.9	98	90-110	
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3425425 3425426

Parameter	Units	60436338001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	ND	5	5	4.9	4.5	99	90	80-120	9	15	
Chloride	mg/L	9.4	5	5	15.4	14.0	121	91	80-120	10	15	M1
Fluoride	mg/L	ND	2.5	2.5	2.1	1.9	85	74	80-120	14	15	M1
Sulfate	mg/L	233	100	100	312	306	79	73	80-120	2	15	M1

MATRIX SPIKE SAMPLE: 3425427

Parameter	Units	60437550003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	ND	100	<20.0	0	80-120	M1
Chloride	mg/L	74.6	100	74.8	0	80-120	M1
Fluoride	mg/L	ND	50	<4.0	0	80-120	M1
Sulfate	mg/L	27.0	100	26.1	-1	80-120	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

QC Batch: 865021
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: 60437054003, 60437054004, 60437054005

METHOD BLANK: 3425428 Matrix: Water
Associated Lab Samples: 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<1.0	1.0	09/19/23 20:42	
Chloride	mg/L	<1.0	1.0	09/19/23 20:42	
Fluoride	mg/L	<0.20	0.20	09/19/23 20:42	
Sulfate	mg/L	<1.0	1.0	09/19/23 20:42	

METHOD BLANK: 3427934 Matrix: Water
Associated Lab Samples: 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<1.0	1.0	09/21/23 09:49	
Chloride	mg/L	<1.0	1.0	09/21/23 09:49	
Fluoride	mg/L	<0.20	0.20	09/21/23 09:49	
Sulfate	mg/L	<1.0	1.0	09/21/23 09:49	

METHOD BLANK: 3428539 Matrix: Water
Associated Lab Samples: 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<1.0	1.0	09/20/23 16:38	
Chloride	mg/L	<1.0	1.0	09/20/23 16:38	
Fluoride	mg/L	<0.20	0.20	09/20/23 16:38	
Sulfate	mg/L	<1.0	1.0	09/20/23 16:38	

METHOD BLANK: 3428677 Matrix: Water
Associated Lab Samples: 60437054003, 60437054004, 60437054005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<1.0	1.0	09/19/23 20:42	
Chloride	mg/L	<1.0	1.0	09/19/23 20:42	
Fluoride	mg/L	<0.20	0.20	09/19/23 20:42	
Sulfate	mg/L	<1.0	1.0	09/19/23 20:42	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

LABORATORY CONTROL SAMPLE: 3425429

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	5.2	103	90-110	
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

LABORATORY CONTROL SAMPLE: 3427935

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	4.9	98	90-110	
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 3428540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	4.8	95	90-110	
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	5	5.1	103	90-110	

LABORATORY CONTROL SAMPLE: 3428678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	5	4.9	97	90-110	
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3425430 3425431

Parameter	Units	60437054003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	1.7	5	5	6.7	6.7	99	100	80-120	1	15	
Chloride	mg/L	109	100	100	203	206	94	97	80-120	2	15	
Fluoride	mg/L	<0.20	2.5	2.5	2.5	2.5	101	99	80-120	2	15	
Sulfate	mg/L	994	250	250	1290	1020	116	9	80-120	23	15	E,M1, R1

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: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

MATRIX SPIKE SAMPLE: 3425432

Parameter	Units	60437056002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	2.7	5	7.1	88	80-120	
Chloride	mg/L	147	5	150	60	80-120	E,M1
Fluoride	mg/L	<0.20	2.5	1.8	70	80-120	M1
Sulfate	mg/L	686	5	681	-101	80-120	E,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: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
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: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60437054

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60437054001	**IBA-1-090623**	EPA 200.7	864377	EPA 200.7	864421
60437054002	**IBA-2-090623**	EPA 200.7	864377	EPA 200.7	864421
60437054003	**IBA-3-090623**	EPA 200.7	864377	EPA 200.7	864421
60437054004	**BA-4-090623**	EPA 200.7	864377	EPA 200.7	864421
60437054005	**IBA-DUP-090623**	EPA 200.7	864377	EPA 200.7	864421
60437054001	**IBA-1-090623**	EPA 3010	864504	EPA 6010	864575
60437054002	**IBA-2-090623**	EPA 3010	864504	EPA 6010	864575
60437054003	**IBA-3-090623**	EPA 3010	864504	EPA 6010	864575
60437054004	**BA-4-090623**	EPA 3010	864504	EPA 6010	864575
60437054005	**IBA-DUP-090623**	EPA 3010	864504	EPA 6010	864575
60437054001	**IBA-1-090623**	EPA 200.8	864501	EPA 200.8	864576
60437054002	**IBA-2-090623**	EPA 200.8	864501	EPA 200.8	864576
60437054003	**IBA-3-090623**	EPA 200.8	864501	EPA 200.8	864576
60437054004	**BA-4-090623**	EPA 200.8	864501	EPA 200.8	864576
60437054005	**IBA-DUP-090623**	EPA 200.8	864501	EPA 200.8	864576
60437054001	**IBA-1-090623**	SM 2540C	864073		
60437054002	**IBA-2-090623**	SM 2540C	864073		
60437054003	**IBA-3-090623**	SM 2540C	864073		
60437054004	**BA-4-090623**	SM 2540C	864073		
60437054005	**IBA-DUP-090623**	SM 2540C	864073		
60437054001	**IBA-1-090623**	SM 4500-H+B	863862		
60437054002	**IBA-2-090623**	SM 4500-H+B	863862		
60437054003	**IBA-3-090623**	SM 4500-H+B	863862		
60437054004	**BA-4-090623**	SM 4500-H+B	863911		
60437054005	**IBA-DUP-090623**	SM 4500-H+B	863862		
60437054001	**IBA-1-090623**	EPA 300.0	865020		
60437054002	**IBA-2-090623**	EPA 300.0	865020		
60437054003	**IBA-3-090623**	EPA 300.0	865021		
60437054004	**BA-4-090623**	EPA 300.0	865021		
60437054005	**IBA-DUP-090623**	EPA 300.0	865021		

WO# : 60437054

60437054

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

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 ☐

Thermometer Used: T295 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 3.2 **Corr. Factor** -0.3 **Corrected** 2.9

Date and initials of person examining contents: AF 9/8

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#:** 620401	☑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:	Jeffrey Energy Center (JEC)
	818 Kansas Ave, Topeka, KS 66612
Email To:	skaney@haleyaldrich.com
Phone: 507-251-2232	Fax:
Requested Due Date/TAT:	

Section B — **Required** Project Information:

Report To:	Samantha Kaney
Copy To:	Jake Humphrey, Laura Hines
Purchase Order No.:	10JEC-0000047747
Project Name:	JEC Inactive Bottom Ash Pond CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SEE SECTION A
Pace Quote Reference:	
Pace Project Manager:	Alice Spiller, 913-563-1403
Pace Profile #:	9657, 9

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	200.7 Total Metals*	200.8 Total Metals**	300.0 Cl, F, S	TDS / pH	6010 Total Metals***	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N		60437094
1	IBA-1-090623	WT	G	-	-	09/06/23	10:00	-	4	3		1							X	X	X	X	X		
2	IBA-2-090623	WT	G	-	-	09/06/23	10:50	-	4	3		1							X	X	X	X	X		
3	IBA-3-090623	WT	G	-	-	09/06/23	12:30	-	4	3		1							X	X	X	X	X		
4	IBA-4-090623	WT	G	-	-	09/06/23	15:35	-	4	3		1							X	X	X	X	X		
5	IBA-DUP-090623	WT	G	-	-	09/06/23	10:50	-	4	3		1							X	X	X	X	X		
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*: B, Ba, Ca	Jason R. Franks / SCS	9/7/23	16:00	JA Pace	9/7/23	1630	2.9	Y	Y	
200.8 Total Metals**: Co, Mo										
6010 Total Metals***: Li										

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:	Jason R. Franks				
SIGNATURE of SAMPLER:					
DATE Signed (MM/DD/YY):	9/7/23				

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

Client: Evergy Kansas Central Profile # 9657-9

Site: JEC Inactive Bottom Ash Pond CCR Notes

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

Container Codes

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

Work Order Number: 60437054

ATTACHMENT 2-2
December 2023 Annual Assessment Sampling Event
Laboratory Analytical Report

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

January 09, 2024

Jake Humphrey
Evergy, Inc.
818 S Kansas Avenue
Topeka, KS 66612

RE: Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Dear Jake Humphrey:

Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2023. 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 to include QC sheets with report package. No data was changed.

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

Sincerely,

Alice Spiller

Alice Spiller
alice.spiller@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Shelly Gomez, Evergy
Laura Hines, Evergy, Inc.
Shannon Hughes, Evergy
Adam Irvin, Evergy
Samantha Kaney, Haley & Aldrich
Melanie Satanek, Haley Aldrich
Adriana Sosa, Haley & Aldrich, Inc.
Andrew Watson, Haley & Aldrich

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

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

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60443832001	**IBA-1-121223**	Water	12/12/23 09:50	12/12/23 16:15
60443832002	**IBA-2-121223**	Water	12/12/23 10:35	12/12/23 16:15
60443832003	**IBA-3-121223**	Water	12/12/23 11:15	12/12/23 16:15
60443832004	**IBA-4-121223**	Water	12/12/23 12:15	12/12/23 16:15
60443832005	**JEC-IBA-DUP-121223**	Water	12/12/23 11:15	12/12/23 16:15

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60443832001	**IBA-1-121223**	EPA 903.1	MAR1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60443832002	**IBA-2-121223**	EPA 903.1	MAR1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60443832003	**IBA-3-121223**	EPA 903.1	MAR1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60443832004	**IBA-4-121223**	EPA 903.1	MAR1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60443832005	**JEC-IBA-DUP-121223**	EPA 903.1	MAR1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Evergy Kansas Central, Inc.
Date: January 09, 2024

General Information:
5 samples were analyzed for EPA 903.1 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Evergy Kansas Central, Inc.
Date: January 09, 2024

General Information:
5 samples were analyzed for EPA 904.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Evergy Kansas Central, Inc.
Date: January 09, 2024

General Information:
5 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Sample: IBA-1-121223 **Lab ID: 60443832001** Collected: 12/12/23 09:50 Received: 12/12/23 16:15 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	**0.0640 ± 0.332 (0.689) C:NA T:90%**	pCi/L	01/03/24 12:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.562 ± 0.429 (0.852) C:85% T:83%**	pCi/L	01/02/24 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.626 ± 0.761 (1.54)**	pCi/L	01/04/24 10:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Sample: IBA-2-121223 **Lab ID: 60443832002** Collected: 12/12/23 10:35 Received: 12/12/23 16:15 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	**0.193 ± 0.294 (0.472) C:NA T:88%**	pCi/L	01/03/24 12:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.00370 ± 0.365 (0.844) C:84% T:84%**	pCi/L	01/02/24 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.193 ± 0.659 (1.32)**	pCi/L	01/04/24 10:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Sample: IBA-3-121223 **Lab ID: 60443832003** Collected: 12/12/23 11:15 Received: 12/12/23 16:15 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	**0.0646 ± 0.457 (0.912) C:NA T:89%**	pCi/L	01/03/24 12:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.520 ± 0.435 (0.883) C:82% T:86%**	pCi/L	01/02/24 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.585 ± 0.892 (1.80)**	pCi/L	01/04/24 10:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Sample: IBA-4-121223 **Lab ID: 60443832004** Collected: 12/12/23 12:15 Received: 12/12/23 16:15 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	**0.395 ± 0.607 (1.04) C:NA T:85%**	pCi/L	01/03/24 12:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.431 ± 0.359 (0.720) C:82% T:85%**	pCi/L	01/02/24 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.826 ± 0.966 (1.76)**	pCi/L	01/04/24 10:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Sample: JEC-IBA-DUP-121223 **Lab ID: 60443832005** Collected: 12/12/23 11:15 Received: 12/12/23 16:15 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	**0.0623 ± 0.440 (0.878) C:NA T:86%**	pCi/L	01/03/24 12:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.00983 ± 0.264 (0.622) C:82% T:88%**	pCi/L	01/02/24 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0623 ± 0.704 (1.50)**	pCi/L	01/04/24 10:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

QC Batch: 637321
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: 60443832001, 60443832002, 60443832003, 60443832004, 60443832005

METHOD BLANK: 3108421 Matrix: Water
Associated Lab Samples: 60443832001, 60443832002, 60443832003, 60443832004, 60443832005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0489 ± 0.223 (0.454) C:NA T:89%	pCi/L	01/03/24 12:33	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

QC Batch: 637323
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: 60443832001, 60443832002, 60443832003, 60443832004, 60443832005

METHOD BLANK: 3108426 Matrix: Water
Associated Lab Samples: 60443832001, 60443832002, 60443832003, 60443832004, 60443832005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.188 ± 0.326 (0.711) C:80% T:85%	pCi/L	01/02/24 12:16	

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

QUALIFIERS

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC INACTIVE BOTTOM ASH POND C-Revised Report
Pace Project No.: 60443832

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60443832001	**IBA-1-121223**	EPA 903.1	637321		
60443832002	**IBA-2-121223**	EPA 903.1	637321		
60443832003	**IBA-3-121223**	EPA 903.1	637321		
60443832004	**IBA-4-121223**	EPA 903.1	637321		
60443832005	**JEC-IBA-DUP-121223**	EPA 903.1	637321		
60443832001	**IBA-1-121223**	EPA 904.0	637323		
60443832002	**IBA-2-121223**	EPA 904.0	637323		
60443832003	**IBA-3-121223**	EPA 904.0	637323		
60443832004	**IBA-4-121223**	EPA 904.0	637323		
60443832005	**JEC-IBA-DUP-121223**	EPA 904.0	637323		
60443832001	**IBA-1-121223**	Total Radium Calculation	640112		
60443832002	**IBA-2-121223**	Total Radium Calculation	640112		
60443832003	**IBA-3-121223**	Total Radium Calculation	640112		
60443832004	**IBA-4-121223**	Total Radium Calculation	640112		
60443832005	**JEC-IBA-DUP-121223**	Total Radium Calculation	640112		

WO# : 60443832

60443832

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

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

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

Date and initials of person examining contents: PV 12/13/23

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#:** 67181	☑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:	400 E Van Buren St
	Suite 545 Phoenix,AZ 85004
Email To:	doberbroeckling@haleyaldrich.com
Phone: 507-251-2232	Fax:
Requested Due Date/TAT:	

Section B — **Required** Project Information:

Report To:	Jake Humphrey
Copy To:	Laura Hines, Samantha Kaney
Purchase Order No.:	10JEC-0000047747
Project Name:	JEC Inactive Bottom Ash Pond CCR
Project Number:	

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SEE SECTION A
Pace Quote Reference:	
Pace Project Manager:	Alice Spiller, 913-563-1403
Pace Profile #:	9657, 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

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	Analysis Test Y/N	Radium 226	Radium 228	Total Radium	Radium QC Sheets	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	IBA-1-121223	WT	G	-	-	12/12/23	9:50	-	2			2							N	N	N			60443832
2	IBA-2-121223	WT	G	-	-	12/12/23	10:35	-	2			2							X	X	X	X		
3	IBA-3-121223	WT	G	-	-	12/12/23	11:15	-	2			2							X	X	X	X		
4	IBA-4-121223	WT	G	-	-	12/12/23	12:15	-	2			2							X	X	X	X		
5	JEC-IBA-DUP-121223	WT	G	-	-	12/12/23	11:15	-	2			2							X	X	X	X		
6																			X	X	X	X		
7																								
8																								
9																								
10																								
11																								
12																								

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: 60443832

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
(2) 1L nitric preserved for all Radium analysis (Pace PM-see profile notes)	Matt VanderPutten / SCS	12/12/23	16:00	JA PACE	12/12/23	1615	0.3	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt VanderPutten

SIGNATURE of SAMPLER: [signature] **DATE Signed (MM/DD/YY):** 12/12/23

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

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

Client: Evergy KS Central

Profile #: 9657-2

Site:

Notes: 109 SI-RAD / SI-RAD02

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

Container Codes

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

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

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

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

Work Order Number: 604143832

Internal Transfer Chain of Custody

☐ Rush Multiplier_____X State Of Origin: KS

☒ Samples Pre-Logged into eCOC Cert. Needed: ☒ Yes ☐ No

Workorder: 60443832 **Workorder Name:** JEC INACTIVE BOTTOM ASH POND C **Owner Received Date:** 12/12/2023 **Results Requested By:** 12/22/2023

Report To	Subcontract To
Alice Spiller 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: HNO3	Requested Analysis: Radium 226/228 Combined + QC	Radium 226	Radium 228	LAB USE ONLY
1	IBA-1-121223	PS	12/12/2023 09:50	60443832001	Water	2	X	X	X	001
2	IBA-2-121223	PS	12/12/2023 10:35	60443832002	Water	2	X	X	X	002
3	IBA-3-121223	PS	12/12/2023 11:15	60443832003	Water	2	X	X	X	003
4	IBA-4-121223	PS	12/12/2023 12:15	60443832004	Water	2	X	X	X	004
5	JEC-IBA-DUP-121223	PS	12/12/2023 11:15	60443832005	Water	2	X	X	X	005

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	12/14/23 1700	[signature]	12-15-23 0930
2				
3				

Comments: KS sample location: 60-R28-MIDWE

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

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

WO# : 30647694

30647694

DC#_Title: ENV-FRM-GBUR-0088 v06_Sample Condition Upon Receipt-Pittsburgh

Effective Date: 09/20/2023

WO# : 30647694

PM: MAR **Due Date: 01/09/24**

CLIENT: PACE_60_LEKS

Client Name: Pace - KS

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

Tracking Number: 714623725819

Examined By: PS 12/17/23

Labeled By: PS 12/18/23

Temped By:

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

Thermometer Used: _____ **Type of Ice:** Wet Blue ~~None~~

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

Temp should be above freezing to 6°C

pH paper Lot# 1000134 | D.P.D. Residual Chlorine Lot # _____

Comments:	Yes	No	NA	
Chain of Custody Present	✓			1.
Chain of Custody Filled Out:	✓			2.
-Were client corrections present on COC		✓		
Chain of Custody Relinquished	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID				
Matrix:	WT			
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous samples field filtered:			✓	13.
Organic Samples checked for dechlorination			✓	14:
Filtered volume received for dissolved tests:			✓	15:
All containers checked for preservation:	✓			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				pH<2
All containers meet method preservation requirements:	✓			Initial when completed PS / Date/Time of Preservation / Lot# of added Preservative
8260C/D: Headspace in VOA Vials (> 6mm)			✓	17.
624.1: Headspace in VOA Vials (0mm)			✓	18.
Trip Blank Present:			✓	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	✓			Initial when completed MB / Date: 12-15-23 / Survey Meter SN: 2504350

Comments:

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

Qualtrax ID: 55680

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	MAR1
Date:	12/21/2023
Batch ID:	76937
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	3108421
MB concentration:	-0.049
M/B Counting Uncertainty:	0.166
MB MDC:	0.454
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
	LCS76937	LCSD76937
Count Date:	1/3/2024	1/3/2024
Spike I.D.:	23-013	23-013
Spike Concentration (pCi/mL):	32.278	32.278
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.654	0.653
Target Conc. (pCi/L, g, F):	4.937	4.943
Uncertainty (Calculated):	0.232	0.232
Result (pCi/L, g, F):	6.377	5.665
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.219	1.044
Numerical Performance Indicator:	2.27	1.32
Percent Recovery:	129.17%	114.59%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	133%	133%
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.:	LCS76937	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD76937	
Sample Result (pCi/L, g, F):	6.377	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.219	
Sample Duplicate Result (pCi/L, g, F):	5.665	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.044	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.870	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.96%	
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:

LL 01·03·24

MR 1/3/24

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JJS1
Date:	12/28/2023
Worklist:	76938
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	3108426
MB concentration:	0.188
M/B 2 Sigma CSU:	0.326
MB MDC:	0.711
MB Numerical Performance Indicator:	1.13
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS76938	LCSD76938
Count Date:	1/2/2024	1/2/2024
Spike I.D.:	23-043	23-043
Decay Corrected Spike Concentration (pCi/mL):	38.407	38.407
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.815	0.818
Target Conc. (pCi/L, g, F):	4.712	4.698
Uncertainty (Calculated):	0.231	0.230
Result (pCi/L, g, F):	4.376	4.103
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.041	0.954
Numerical Performance Indicator:	-0.62	-1.19
Percent Recovery:	92.87%	87.32%
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:		
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.:	LCS76938	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD76938	
Sample Result (pCi/L, g, F):	4.376	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.041	
Sample Duplicate Result (pCi/L, g, F):	4.103	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.954	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.379	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	6.16%	
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:

1/2/24

MRH 1-3-24

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

December 23, 2023

Jake Humphrey
Evergy, Inc.
818 S Kansas Avenue
Topeka, KS 66612

RE: Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Dear Jake Humphrey:

Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City
- Pace Analytical Services - Salina

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

Sincerely,

Alice Spiller

Alice Spiller
alice.spiller@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Shelly Gomez, Evergy
Laura Hines, Evergy, Inc.
Shannon Hughes, Evergy
Adam Irvin, Evergy
Samantha Kaney, Haley & Aldrich
Melanie Satanek, Haley Aldrich
Adriana Sosa, Haley & Aldrich, Inc.
Andrew Watson, Haley & Aldrich

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Pace Analytical Services Kansas

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

Pace Analytical Services Salina

528 N 9th Street, Salina, KS 67401
Texas NELAP: T104704246-22-14
Oklahoma: 2022-055
Kansas: Cert No. E-10146

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60443833001	**IBA-1-121223**	Water	12/12/23 09:50	12/12/23 16:15
60443833002	**IBA-2-121223**	Water	12/12/23 10:35	12/12/23 16:15
60443833003	**IBA-3-121223**	Water	12/12/23 11:15	12/12/23 16:15
60443833004	**IBA-4-121223**	Water	12/12/23 12:15	12/12/23 16:15
60443833005	**JEC-IBA-DUP-121223**	Water	12/12/23 11:15	12/12/23 16:15

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Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60443833001	**IBA-1-121223**	EPA 200.7	JXD	4	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	MLL	1	PASI-SA
60443833002	**IBA-2-121223**	EPA 200.7	JXD	4	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	MLL	1	PASI-SA
60443833003	**IBA-3-121223**	EPA 200.7	JXD	4	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	MLL	1	PASI-SA
60443833004	**IBA-4-121223**	EPA 200.7	JXD	4	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	MLL	1	PASI-SA
60443833005	**JEC-IBA-DUP-121223**	EPA 200.7	JXD	4	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	MLL	1	PASI-SA

PASI-K = Pace Analytical Services - Kansas City
PASI-SA = Pace Analytical Services - Salina

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Lenexa, KS 66219
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PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: December 23, 2023

General Information:
5 samples were analyzed for EPA 200.7 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: December 23, 2023

General Information:
5 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: December 23, 2023

General Information:
5 samples were analyzed for EPA 200.8 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Method: **EPA 245.1**
Description: 245.1 Mercury
Client: Evergy Kansas Central, Inc.
Date: December 23, 2023

General Information:
5 samples were analyzed for EPA 245.1 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: December 23, 2023

General Information:
5 samples were analyzed for EPA 300.0 by Pace Analytical Services Salina. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 877737

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60443319001,60443807002

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

- MS (Lab ID: 3476689)
  - Fluoride

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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

ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Sample: IBA-1-121223 **Lab ID: 60443833001** Collected: 12/12/23 09:50 Received: 12/12/23 16:15 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	12/15/23 07:41	12/20/23 14:13	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/20/23 14:13	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:13	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/15/23 07:41	12/20/23 14:13	7439-92-1	
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	12/15/23 07:41	12/20/23 14:37	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	12/15/23 07:41	12/18/23 14:05	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:05	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/15/23 07:41	12/18/23 14:05	7440-43-9	
Cobalt, Total Recoverable	**0.0014**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:05	7440-48-4	
Molybdenum, Total Recoverable	**0.0082**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:05	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:05	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:05	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	12/20/23 16:25	12/21/23 15:10	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Fluoride	**0.27**	mg/L	0.20	1		12/20/23 15:28	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Sample: IBA-2-121223 **Lab ID: 60443833002** Collected: 12/12/23 10:35 Received: 12/12/23 16:15 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	**0.026**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:19	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/20/23 14:19	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:19	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/15/23 07:41	12/20/23 14:19	7439-92-1	
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	12/15/23 07:41	12/20/23 14:43	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	12/15/23 07:41	12/18/23 14:08	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:08	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/15/23 07:41	12/18/23 14:08	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:08	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:08	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:08	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:08	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	12/20/23 16:25	12/21/23 15:12	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Fluoride	**0.37**	mg/L	0.20	1		12/20/23 15:42	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Sample: IBA-3-121223 **Lab ID: 60443833003** Collected: 12/12/23 11:15 Received: 12/12/23 16:15 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	**0.019**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:21	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/20/23 14:21	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:21	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/15/23 07:41	12/20/23 14:21	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.024**	mg/L	0.010	1	12/15/23 07:41	12/20/23 14:45	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	12/15/23 07:41	12/18/23 14:21	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:21	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/15/23 07:41	12/18/23 14:21	7440-43-9	
Cobalt, Total Recoverable	**0.0013**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:21	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:21	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:21	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:21	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	12/20/23 16:25	12/21/23 15:15	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Fluoride	**0.25**	mg/L	0.20	1		12/20/23 16:25	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Sample: IBA-4-121223 **Lab ID: 60443833004** Collected: 12/12/23 12:15 Received: 12/12/23 16:15 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	**0.021**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:23	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/20/23 14:23	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:23	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/15/23 07:41	12/20/23 14:23	7439-92-1	
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	12/15/23 07:41	12/20/23 14:47	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	12/15/23 07:41	12/18/23 14:25	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:25	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/15/23 07:41	12/18/23 14:25	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:25	7440-48-4	
Molybdenum, Total Recoverable	**0.0019**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:25	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:25	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:25	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	12/20/23 16:25	12/21/23 15:17	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Fluoride	**0.55**	mg/L	0.20	1		12/20/23 16:39	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Sample: JEC-IBA-DUP-121223 **Lab ID: 60443833005** Collected: 12/12/23 11:15 Received: 12/12/23 16:15 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	**0.018**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:25	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/20/23 14:25	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/15/23 07:41	12/20/23 14:25	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/15/23 07:41	12/20/23 14:25	7439-92-1	
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	12/15/23 07:41	12/20/23 14:49	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	12/15/23 07:41	12/18/23 14:28	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:28	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/15/23 07:41	12/18/23 14:28	7440-43-9	
Cobalt, Total Recoverable	**0.0012**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:28	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:28	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:28	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/15/23 07:41	12/18/23 14:28	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	12/20/23 16:25	12/21/23 15:28	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Salina							
Fluoride	**0.24**	mg/L	0.20	1		12/20/23 16:54	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

QC Batch: 877872 | 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: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

METHOD BLANK: 3477252 Matrix: Water
Associated Lab Samples: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.20	0.20	12/21/23 15:01	

LABORATORY CONTROL SAMPLE: 3477253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3477254 3477255

Parameter	Units	60443833004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.20	5	5	4.4	4.6	89	91	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

QC Batch: 877232
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: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

METHOD BLANK: 3474527 Matrix: Water
Associated Lab Samples: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	12/20/23 14:09	
Beryllium	mg/L	<0.0010	0.0010	12/20/23 14:09	
Chromium	mg/L	<0.0050	0.0050	12/20/23 14:09	
Lead	mg/L	<0.010	0.010	12/20/23 14:09	

LABORATORY CONTROL SAMPLE: 3474528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	104	85-115	
Beryllium	mg/L	1	1.1	107	85-115	
Chromium	mg/L	1	1.1	107	85-115	
Lead	mg/L	1	1.1	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3474529 3474530

Parameter	Units	60443833001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.031	1	1	1.0	1.1	101	107	70-130	6	20	
Beryllium	mg/L	<0.0010	1	1	1.1	1.1	105	108	70-130	2	20	
Chromium	mg/L	<0.0050	1	1	1.0	1.1	105	107	70-130	2	20	
Lead	mg/L	<0.010	1	1	1.0	1.1	104	106	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

QC Batch: 877233
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: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

METHOD BLANK: 3474531 Matrix: Water
Associated Lab Samples: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/L	<0.0010	0.0010	12/18/23 13:59	
Arsenic	mg/L	<0.0010	0.0010	12/18/23 13:59	
Cadmium	mg/L	<0.00050	0.00050	12/18/23 13:59	
Cobalt	mg/L	<0.0010	0.0010	12/18/23 13:59	
Molybdenum	mg/L	<0.0010	0.0010	12/18/23 13:59	
Selenium	mg/L	<0.0010	0.0010	12/18/23 13:59	
Thallium	mg/L	<0.0010	0.0010	12/18/23 13:59	

LABORATORY CONTROL SAMPLE: 3474532

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.04	0.040	99	85-115	
Arsenic	mg/L	0.04	0.041	102	85-115	
Cadmium	mg/L	0.04	0.041	103	85-115	
Cobalt	mg/L	0.04	0.041	102	85-115	
Molybdenum	mg/L	0.04	0.039	98	85-115	
Selenium	mg/L	0.04	0.041	103	85-115	
Thallium	mg/L	0.04	0.040	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3474533 3474534

Parameter	Units	60443833002 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	0.039	0.039	97	98	70-130	1	20	
Arsenic	mg/L	<0.0010	0.04	0.04	0.040	0.041	99	101	70-130	2	20	
Cadmium	mg/L	<0.00050	0.04	0.04	0.037	0.038	93	94	70-130	1	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.040	0.041	98	100	70-130	1	20	
Molybdenum	mg/L	0.0023	0.04	0.04	0.043	0.043	101	102	70-130	1	20	
Selenium	mg/L	<0.0010	0.04	0.04	0.039	0.039	98	99	70-130	0	20	
Thallium	mg/L	<0.0010	0.04	0.04	0.038	0.038	95	96	70-130	1	20	

MATRIX SPIKE SAMPLE: 3474535

Parameter	Units	60443807003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	<0.0010	0.04	0.038	94	70-130	
Arsenic	mg/L	0.010	0.04	0.051	102	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

MATRIX SPIKE SAMPLE: 3474535

Parameter	Units	60443807003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/L	<0.00050	0.04	0.035	87	70-130	
Cobalt	mg/L	0.0011	0.04	0.041	101	70-130	
Molybdenum	mg/L	0.16	0.04	0.20	109	70-130	
Selenium	mg/L	<0.0010	0.04	0.041	103	70-130	
Thallium	mg/L	<0.0010	0.04	0.038	96	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

QC Batch: 877231
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

METHOD BLANK: 3474523 Matrix: Water
Associated Lab Samples: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	12/20/23 14:33	

LABORATORY CONTROL SAMPLE: 3474524

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: 3474525 3474526

Parameter	Units	60443833001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.020	1	1	1.1	1.1	107	110	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

QC Batch: 877737 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Salina
Associated Lab Samples: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

METHOD BLANK: 3476687 Matrix: Water
Associated Lab Samples: 60443833001, 60443833002, 60443833003, 60443833004, 60443833005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.20	12/20/23 13:35	

LABORATORY CONTROL SAMPLE: 3476688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3476689 3476690

Parameter	Units	60443319001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.72	2.5	2.5	2.7	2.7	78	80	80-120	2	15	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3476691 3476692

Parameter	Units	60443807002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	3.7	2.5	2.5	6.3	6.2	104	102	80-120	1	15	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60443833

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60443833001	**IBA-1-121223**	EPA 200.7	877232	EPA 200.7	877245
60443833002	**IBA-2-121223**	EPA 200.7	877232	EPA 200.7	877245
60443833003	**IBA-3-121223**	EPA 200.7	877232	EPA 200.7	877245
60443833004	**IBA-4-121223**	EPA 200.7	877232	EPA 200.7	877245
60443833005	**JEC-IBA-DUP-121223**	EPA 200.7	877232	EPA 200.7	877245
60443833001	**IBA-1-121223**	EPA 3010	877231	EPA 6010	877246
60443833002	**IBA-2-121223**	EPA 3010	877231	EPA 6010	877246
60443833003	**IBA-3-121223**	EPA 3010	877231	EPA 6010	877246
60443833004	**IBA-4-121223**	EPA 3010	877231	EPA 6010	877246
60443833005	**JEC-IBA-DUP-121223**	EPA 3010	877231	EPA 6010	877246
60443833001	**IBA-1-121223**	EPA 200.8	877233	EPA 200.8	877247
60443833002	**IBA-2-121223**	EPA 200.8	877233	EPA 200.8	877247
60443833003	**IBA-3-121223**	EPA 200.8	877233	EPA 200.8	877247
60443833004	**IBA-4-121223**	EPA 200.8	877233	EPA 200.8	877247
60443833005	**JEC-IBA-DUP-121223**	EPA 200.8	877233	EPA 200.8	877247
60443833001	**IBA-1-121223**	EPA 245.1	877872	EPA 245.1	877920
60443833002	**IBA-2-121223**	EPA 245.1	877872	EPA 245.1	877920
60443833003	**IBA-3-121223**	EPA 245.1	877872	EPA 245.1	877920
60443833004	**IBA-4-121223**	EPA 245.1	877872	EPA 245.1	877920
60443833005	**JEC-IBA-DUP-121223**	EPA 245.1	877872	EPA 245.1	877920
60443833001	**IBA-1-121223**	EPA 300.0	877737		
60443833002	**IBA-2-121223**	EPA 300.0	877737		
60443833003	**IBA-3-121223**	EPA 300.0	877737		
60443833004	**IBA-4-121223**	EPA 300.0	877737		
60443833005	**JEC-IBA-DUP-121223**	EPA 300.0	877737		

WO# : 60443833

60443833

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

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

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

Date and initials of person examining contents: PV 12/13/23

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	EVERGY KANSAS CENTRAL, INC.
Address:	400 E Van Buren St
	Suite 545 Phoenix,AZ 85004
Email To:	skaney@haleyaldrich.com
Phone: 507-251-2232	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Jake Humphrey
Copy To:	Laura Hines, Samantha Kaney
Purchase Order No.:	10JEC-0000047747
Project Name:	JEC Inactive Bottom Ash Pond CCR
Project Number:	

Section C Invoice Information:

Attention:	Accounts Payable
Company Name:	EVERGY KANSAS CENTRAL, INC
Address:	SEE SECTION A
Pace Quote Reference:	
Pace Project Manager:	Alice Spiller, 913-563-1403
Pace Profile #:	9657, 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 #	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 Ba, Be, Cr, Pb	200.8 Sb,As,Cd,Co	200.8 Mo, Se,Tl	245.1 Hg	6010 Lithium	300.0 Fluoride	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	IBA-1-121223	WT	G	-	-	12/12/23	9:50	-	2	1		1						N		X	X	X	X	X	X	60443833
2	IBA-2-121223	WT	G	-	-	12/12/23	10:35	-	2	1		1						N		X	X	X	X	X	X	
3	IBA-3-121223	WT	G	-	-	12/12/23	11:15	-	2	1		1						N		X	X	X	X	X	X	
4	IBA-4-121223	WT	G	-	-	12/12/23	12:15	-	2	1		1						N		X	X	X	X	X	X	
5	JEC-IBA-DUP-121223	WT	G	-	-	12/12/23	11:15	-	2	1		1						N		X	X	X	X	X	X	
6																										
7																										
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)
	Matt VanderPutten / SCS	12/12/23	16:00	JA Pace	12/12/23	1615	0.3	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt VanderPutten

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/12/23

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

Client: Evergy KS Central Profile #: 9657-2

Site: Notes

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

Container Codes

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

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

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

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

Work Order Number: 60443833

ATTACHMENT 2-3
March 2024 Semiannual Sampling Event
Laboratory Analytical Report

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

April 26, 2024

Jake Humphrey
Evergy, Inc.
818 S Kansas Avenue
Topeka, KS 66612

RE: Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Dear Jake Humphrey:

Enclosed are the analytical results for sample(s) received by the laboratory on March 14, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

REVISED to include reanalysis data per client request *see narrative

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

Sincerely,

Alice Spiller

Alice Spiller
alice.spiller@pacelabs.com
(913)599-5665
PM Lab Management

Enclosures

cc: Shelly Gomez, Evergy
Laura Hines, Evergy, Inc.
Shannon Hughes, Evergy
Adam Irvin, Evergy
Samantha Kaney, Haley & Aldrich
Andrew Watson, Haley & Aldrich

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

CERTIFICATIONS

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Arkansas Inorganic Drinking Water Certification
Arkansas Certification #: 88-00679
Illinois Certification #: 2000302023-6
Colorado Division of Oil and Public Safety
Iowa Certification #: 118
Kansas Field Laboratory Certification #: E-92587
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Missouri Inorganic Drinking Water Certification
Nevada Certification #: KS000212024-1
Oklahoma Certification #: 2023-073
Texas Certification #: T104704407-23-17
Utah Certification #: KS000212022-13

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

SAMPLE SUMMARY

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60449068001	**IBA-1-031324**	Water	03/13/24 14:40	03/14/24 17:30
60449068002	**IBA-2-031324**	Water	03/13/24 15:15	03/14/24 17:30
60449068003	**IBA-3-031324**	Water	03/13/24 15:50	03/14/24 17:30
60449068004	**IBA-4-031324**	Water	03/13/24 15:45	03/14/24 17:30
60449068005	**JEC-IBA-DUP-031324**	Water	03/13/24 15:50	03/14/24 17:30

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60449068001	**IBA-1-031324**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 4500-H+B	SR1	1	PASI-K
		EPA 300.0	PL, RKA	3	PASI-K
60449068002	**IBA-2-031324**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 4500-H+B	SR1	1	PASI-K
		EPA 300.0	PL, RKA	3	PASI-K
60449068003	**IBA-3-031324**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 4500-H+B	SR1	1	PASI-K
		EPA 300.0	PL, RKA	3	PASI-K
60449068004	**IBA-4-031324**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 4500-H+B	SR1	1	PASI-K
		EPA 300.0	PL, RKA	3	PASI-K
60449068005	**JEC-IBA-DUP-031324**	EPA 200.7	JXD	3	PASI-K
		EPA 6010	JXD	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	KVI	1	PASI-K
		SM 4500-H+B	SR1	1	PASI-K
		EPA 300.0	PL, RKA	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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

PROJECT NARRATIVE

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Date: April 26, 2024

Report amended to include reanalysis results for samples 60449068003 (all metals reprepped and reanalyzed) and 60449068004 (metals reprepped and reanlyzed)

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

PROJECT NARRATIVE

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: April 26, 2024

General Information:
5 samples were analyzed for EPA 200.7 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 887309

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60449068001,60449068002

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

- MS (Lab ID: 3512189)
  - Calcium
- MS (Lab ID: 3512191)
  - Calcium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: April 26, 2024

General Information:
5 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: April 26, 2024

General Information:
5 samples were analyzed for EPA 200.8 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Evergy Kansas Central, Inc.
Date: April 26, 2024

General Information:
5 samples were analyzed for SM 2540C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Evergy Kansas Central, Inc.
Date: April 26, 2024

General Information:
5 samples were analyzed for SM 4500-H+B by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.
- IBA-1-031324 (Lab ID: 60449068001)
- IBA-2-031324 (Lab ID: 60449068002)
- IBA-3-031324 (Lab ID: 60449068003)
- IBA-4-031324 (Lab ID: 60449068004)
- JEC-IBA-DUP-031324 (Lab ID: 60449068005)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: April 26, 2024

General Information:
5 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 887345

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60449054001,60449062002

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

- MS (Lab ID: 3512382)
  - Chloride
  - Sulfate
- MS (Lab ID: 3512384)
  - Sulfate
- MSD (Lab ID: 3512383)
  - Chloride

R1: RPD value was outside control limits.

- MSD (Lab ID: 3512383)
  - Chloride

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Sample: IBA-1-031324 **Lab ID: 60449068001** Collected: 03/13/24 14:40 Received: 03/14/24 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							
Barium, Total Recoverable	**0.028**	mg/L	0.0050	1	03/20/24 10:10	03/26/24 17:22	7440-39-3	
Boron, Total Recoverable	**0.36**	mg/L	0.10	1	03/20/24 10:10	03/26/24 17:22	7440-42-8	
Calcium, Total Recoverable	**277**	mg/L	0.20	1	03/20/24 10:10	03/26/24 17:22	7440-70-2	M1
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	03/20/24 10:10	03/25/24 18:44	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**0.0015**	mg/L	0.0010	1	03/20/24 10:10	03/27/24 14:31	7440-48-4	
Molybdenum, Total Recoverable	**0.0081**	mg/L	0.0010	1	03/20/24 10:10	03/27/24 14:31	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1410**	mg/L	20.0	1		03/20/24 10:41		
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		03/19/24 10:06		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**104**	mg/L	10.0	10		03/21/24 10:36	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/22/24 21:04	16984-48-8	
Sulfate	**765**	mg/L	50.0	50		03/21/24 10:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Sample: IBA-2-031324 **Lab ID: 60449068002** Collected: 03/13/24 15:15 Received: 03/14/24 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							
Barium, Total Recoverable	**0.024**	mg/L	0.0050	1	03/20/24 10:10	03/26/24 17:24	7440-39-3	
Boron, Total Recoverable	**0.21**	mg/L	0.10	1	03/20/24 10:10	03/26/24 17:24	7440-42-8	
Calcium, Total Recoverable	**224**	mg/L	0.20	1	03/20/24 10:10	03/26/24 17:24	7440-70-2	M1
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	03/20/24 10:10	03/25/24 18:46	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/20/24 10:10	03/27/24 14:45	7440-48-4	
Molybdenum, Total Recoverable	**0.0025**	mg/L	0.0010	1	03/20/24 10:10	03/27/24 14:45	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1340**	mg/L	20.0	1		03/20/24 10:41		
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		03/19/24 10:10		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**109**	mg/L	10.0	10		03/21/24 11:29	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/22/24 21:17	16984-48-8	
Sulfate	**590**	mg/L	50.0	50		03/21/24 11:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Sample: IBA-3-031324 **Lab ID: 60449068003** Collected: 03/13/24 15:50 Received: 03/14/24 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							
Barium, Total Recoverable	**0.018**	mg/L	0.0050	1	04/18/24 08:04	04/18/24 13:44	7440-39-3	
Boron, Total Recoverable	**0.29**	mg/L	0.10	1	04/18/24 08:04	04/18/24 13:44	7440-42-8	
Calcium, Total Recoverable	**261**	mg/L	0.20	1	04/18/24 08:04	04/18/24 13:44	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	04/18/24 08:04	04/18/24 13:44	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**0.0012**	mg/L	0.0010	1	04/18/24 08:04	04/18/24 14:03	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	04/18/24 08:04	04/18/24 14:03	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1400**	mg/L	20.0	1		03/20/24 10:41		
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		03/19/24 10:20		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**118**	mg/L	10.0	10		03/21/24 11:56	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/22/24 21:30	16984-48-8	
Sulfate	**683**	mg/L	100	100		03/22/24 21:42	14808-79-8	

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ANALYTICAL RESULTS

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Sample: IBA-4-031324 **Lab ID: 60449068004** Collected: 03/13/24 15:45 Received: 03/14/24 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							
Barium, Total Recoverable	**0.018**	mg/L	0.0050	1	03/20/24 10:10	03/26/24 17:33	7440-39-3	
Boron, Total Recoverable	**0.22**	mg/L	0.10	1	03/20/24 10:10	03/26/24 17:33	7440-42-8	
Calcium, Total Recoverable	**105**	mg/L	0.20	1	03/20/24 10:10	03/26/24 17:33	7440-70-2	
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	03/20/24 10:10	03/25/24 18:55	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	04/18/24 08:04	04/18/24 14:12	7440-48-4	
Molybdenum, Total Recoverable	**0.0018**	mg/L	0.0010	1	04/18/24 08:04	04/18/24 14:12	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**608**	mg/L	10.0	1		03/20/24 10:41		
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		03/19/24 10:16		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**17.6**	mg/L	1.0	1		03/22/24 21:55	16887-00-6	
Fluoride	**0.48**	mg/L	0.20	1		03/22/24 21:55	16984-48-8	
Sulfate	**175**	mg/L	10.0	10		03/21/24 12:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Sample: JEC-IBA-DUP-031324 **Lab ID: 60449068005** Collected: 03/13/24 15:50 Received: 03/14/24 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							
Barium, Total Recoverable	**0.016**	mg/L	0.0050	1	03/20/24 10:10	03/26/24 17:36	7440-39-3	
Boron, Total Recoverable	**0.28**	mg/L	0.10	1	03/20/24 10:10	03/26/24 17:36	7440-42-8	
Calcium, Total Recoverable	**252**	mg/L	0.20	1	03/20/24 10:10	03/26/24 17:36	7440-70-2	
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	03/20/24 10:10	03/25/24 18:58	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Cobalt, Total Recoverable	**0.0012**	mg/L	0.0010	1	03/20/24 10:10	03/27/24 14:58	7440-48-4	
Molybdenum, Total Recoverable	**0.0024**	mg/L	0.0010	1	03/20/24 10:10	03/27/24 14:58	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1380**	mg/L	20.0	1		03/20/24 10:41		
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		03/19/24 10:22		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**136**	mg/L	10.0	10		03/21/24 12:50	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/22/24 22:08	16984-48-8	
Sulfate	**681**	mg/L	100	100		03/22/24 22:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 887309
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: 60449068001, 60449068002, 60449068004, 60449068005

METHOD BLANK: 3512187 Matrix: Water
Associated Lab Samples: 60449068001, 60449068002, 60449068004, 60449068005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	03/26/24 17:17	
Boron	mg/L	<0.10	0.10	03/26/24 17:17	
Calcium	mg/L	<0.20	0.20	03/26/24 17:17	

LABORATORY CONTROL SAMPLE: 3512188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	100	85-115	
Boron	mg/L	1	0.98	98	85-115	
Calcium	mg/L	10	10.7	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3512189 3512190

Parameter	Units	60449068002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.024	1	1	0.99	1.0	96	97	70-130	1	20	
Boron	mg/L	0.21	1	1	1.2	1.2	96	97	70-130	1	20	
Calcium	mg/L	224	10	10	227	231	36	76	70-130	2	20	M1

MATRIX SPIKE SAMPLE: 3512191

Parameter	Units	60449068001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.028	1	1.0	102	70-130	
Boron	mg/L	0.36	1	1.6	125	70-130	
Calcium	mg/L	277	10	132	-1450	70-130	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 891020
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: 60449068003

METHOD BLANK: 3526509 Matrix: Water
Associated Lab Samples: 60449068003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	04/18/24 13:40	
Boron	mg/L	<0.10	0.10	04/18/24 13:40	
Calcium	mg/L	<0.20	0.20	04/18/24 13:40	

LABORATORY CONTROL SAMPLE: 3526510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	103	85-115	
Boron	mg/L	1	1.0	100	85-115	
Calcium	mg/L	10	10.7	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3526511 3526512

Parameter	Units	60449052003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.019	1	1	1.0	1.0	100	99	70-130	1	20	
Boron	mg/L	3.6	1	1	4.6	4.6	102	96	70-130	1	20	
Calcium	mg/L	84.1	10	10	94.9	93.4	108	92	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 887308
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: 60449068001, 60449068002, 60449068005

METHOD BLANK: 3512183 Matrix: Water
Associated Lab Samples: 60449068001, 60449068002, 60449068005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cobalt	mg/L	<0.0010	0.0010	03/27/24 14:26	
Molybdenum	mg/L	<0.0010	0.0010	03/27/24 14:26	

LABORATORY CONTROL SAMPLE: 3512184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	mg/L	0.04	0.041	102	85-115	
Molybdenum	mg/L	0.04	0.040	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3512185 3512186

Parameter	Units	60449068001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	mg/L	0.0015	0.04	0.04	0.042	0.041	101	99	70-130	2	20	
Molybdenum	mg/L	0.0081	0.04	0.04	0.050	0.049	105	103	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 891017
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: 60449068003, 60449068004

METHOD BLANK: 3526505 Matrix: Water
Associated Lab Samples: 60449068003, 60449068004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cobalt	mg/L	<0.0010	0.0010	04/18/24 13:43	
Molybdenum	mg/L	<0.0010	0.0010	04/18/24 13:43	

LABORATORY CONTROL SAMPLE: 3526506

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	mg/L	0.04	0.039	98	85-115	
Molybdenum	mg/L	0.04	0.040	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3526507 3526508

Parameter	Units	60449068003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	mg/L	0.0012	0.04	0.04	0.041	0.041	100	99	70-130	1	20	
Molybdenum	mg/L	0.0023	0.04	0.04	0.043	0.043	101	101	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 887310
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60449068001, 60449068002, 60449068004, 60449068005

METHOD BLANK: 3512194 Matrix: Water
Associated Lab Samples: 60449068001, 60449068002, 60449068004, 60449068005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	03/25/24 18:39	

LABORATORY CONTROL SAMPLE: 3512195

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: 3512196 3512197

Parameter	Units	60449068002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.020	1	1	0.93	0.97	91	95	75-125	4	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: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 892052
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60449068003

METHOD BLANK: 3530478 Matrix: Water
Associated Lab Samples: 60449068003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	04/18/24 13:40	

LABORATORY CONTROL SAMPLE: 3530479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.0	103	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 887325 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60449068001, 60449068002, 60449068003, 60449068004, 60449068005

METHOD BLANK: 3512256 Matrix: Water
Associated Lab Samples: 60449068001, 60449068002, 60449068003, 60449068004, 60449068005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	03/20/24 10:40	

LABORATORY CONTROL SAMPLE: 3512257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	2000	1890	94	80-120	

SAMPLE DUPLICATE: 3512258

Parameter	Units	60449066004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1460	1510	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 887127
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: 60449068001, 60449068002, 60449068003, 60449068004, 60449068005

SAMPLE DUPLICATE: 3511675

Parameter	Units	60449064001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	7.1	2	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

QC Batch: 887345
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: 60449068001, 60449068002, 60449068003, 60449068004, 60449068005

METHOD BLANK: 3512380 Matrix: Water
Associated Lab Samples: 60449068001, 60449068002, 60449068003, 60449068004, 60449068005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/21/24 08:49	
Fluoride	mg/L	<0.20	0.20	03/21/24 08:49	
Sulfate	mg/L	<1.0	1.0	03/21/24 08:49	

LABORATORY CONTROL SAMPLE: 3512381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	5.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3512382 3512383

Parameter	Units	60449054001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	56600	25000	25000	85700	54600	116	-8	80-120	44	15	M1,R1
Fluoride	mg/L	<1.2	12500	12500	13900	13600	111	109	80-120	2	15	
Sulfate	mg/L	3590	2500	2500	6750	6040	126	98	80-120	11	15	M1

MATRIX SPIKE SAMPLE: 3512384

Parameter	Units	60449062002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	54.0	50	110	112	80-120	
Fluoride	mg/L	ND	25	28.1	107	80-120	
Sulfate	mg/L	2160	1000	3810	165	80-120	M1

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
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QUALIFIERS

Project: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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: JEC Inactive Bottom Ash Pond-Revised Report
Pace Project No.: 60449068

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60449068001	**IBA-1-031324**	EPA 200.7	887309	EPA 200.7	887359
60449068002	**IBA-2-031324**	EPA 200.7	887309	EPA 200.7	887359
60449068003	**IBA-3-031324**	EPA 200.7	891020	EPA 200.7	891034
60449068004	**IBA-4-031324**	EPA 200.7	887309	EPA 200.7	887359
60449068005	**JEC-IBA-DUP-031324**	EPA 200.7	887309	EPA 200.7	887359
60449068001	**IBA-1-031324**	EPA 3010	887310	EPA 6010	887360
60449068002	**IBA-2-031324**	EPA 3010	887310	EPA 6010	887360
60449068003	**IBA-3-031324**	EPA 3010	892052	EPA 6010	892054
60449068004	**IBA-4-031324**	EPA 3010	887310	EPA 6010	887360
60449068005	**JEC-IBA-DUP-031324**	EPA 3010	887310	EPA 6010	887360
60449068001	**IBA-1-031324**	EPA 200.8	887308	EPA 200.8	887358
60449068002	**IBA-2-031324**	EPA 200.8	887308	EPA 200.8	887358
60449068003	**IBA-3-031324**	EPA 200.8	891017	EPA 200.8	891033
60449068004	**IBA-4-031324**	EPA 200.8	891017	EPA 200.8	891033
60449068005	**JEC-IBA-DUP-031324**	EPA 200.8	887308	EPA 200.8	887358
60449068001	**IBA-1-031324**	SM 2540C	887325		
60449068002	**IBA-2-031324**	SM 2540C	887325		
60449068003	**IBA-3-031324**	SM 2540C	887325		
60449068004	**IBA-4-031324**	SM 2540C	887325		
60449068005	**JEC-IBA-DUP-031324**	SM 2540C	887325		
60449068001	**IBA-1-031324**	SM 4500-H+B	887127		
60449068002	**IBA-2-031324**	SM 4500-H+B	887127		
60449068003	**IBA-3-031324**	SM 4500-H+B	887127		
60449068004	**IBA-4-031324**	SM 4500-H+B	887127		
60449068005	**JEC-IBA-DUP-031324**	SM 4500-H+B	887127		
60449068001	**IBA-1-031324**	EPA 300.0	887345		
60449068002	**IBA-2-031324**	EPA 300.0	887345		
60449068003	**IBA-3-031324**	EPA 300.0	887345		
60449068004	**IBA-4-031324**	EPA 300.0	887345		
60449068005	**JEC-IBA-DUP-031324**	EPA 300.0	887345		

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample	WO# : 60449068
	Revision: 2	Effective Date: 01/12/2022

Client Name: Evergy

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 ☐ 3-18-24

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

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

Cooler Temperature (°C): **As-read** 2.8 **Corr. Factor** 0.3 **Corrected** 2.5

Date and initials of person examining contents: 03-15-2024

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 67187	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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

CHAIN-OF-CUSTODY Analytical Request Document

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

LAB USE ONLY- Affix Workorder/Login Label Here

60469068

Scan QR Code for instructions

Company Name:	Evergy Kansas Central, Inc.	Contact/Report To:	Jake Humphrey
Street Address:	818 S Kansas Avenue, Topeka, KS 66612	Phone #:	(913)634-0605
		E-Mail:	jake.humphrey@evergy.com
		Cc E-Mail:	skaney@haleyaldrich.com
Customer Project #:			
Project Name:	JEC Inactive Bottom Ash Pond	Invoice To:	Jeffrey Center
		Invoice E-Mail:	evergyap@onlinecapturecenter.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	WSTR-2000095397
		Quote #:	

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

County / State origin of sample(s): Kansas

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

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

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

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

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

Analysis:

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

Specify Container Size **: 3 2 3

Identify Container Preservative Type***: 2 1 1

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only:
Proj. Mgr: Alice Spiller
AcctNum / Client ID:
Table #:
Profile / Template: 9655
Prelog / Bottle Ord. ID: EZ 3080039

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	200.7 B,Ca,Ba; 200.8 Co,Mo 6010 li	2540C Total Dissolved Solids	pH, 300.0 Cl,F,SO4	Sample Comment	Preservation non-conformance identified for sample.
IBA-1-031324	WT	Grab	-	-	3/13/2024	1440	3	-	-	X	X	X		
IBA-2-031324	WT	Grab	-	-	3/13/2024	1515	3	-	-	X	X	X		
IBA-3-031324	WT	Grab	-	-	3/13/2024	1550	3	-	-	X	X	X		
IBA-4-031324	WT	Grab	-	-	3/13/2024	1545	3	-	-	X	X	X		
JEC-IBA-DUP-031324	WT	Grab	-	-	3/13/2024	1550	3	-	-	X	X	X		

Additional Instructions from Pace®:

Collected By: (Printed Name) Matt VanderPutten

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
	T298	-0.3	2.8	2.5	

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
SCS Engineers	03/14/2024 / 1730	JA Pace	3/14/24 1736	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1