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2022 – 2023 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. 0129778-045
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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 2022 through June 2023 and documents compliance with the U.S. Environmental Protection Agency Coal Combustion Residual Rule. I certify that the 2022 – 2023 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 2022 – 2023 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) addresses the inactive Bottom Ash Pond (BAP) at the Jeffrey Energy Center (JEC), operated 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 2022 through June 2023), and documents compliance with the Rule. The specific requirements for the Annual Report listed in § 257.90(e) of the Rule are provided in Sections 1 and 2 of this Annual Report and are in ***bold italic font***, followed by a narrative describing how each Rule requirement has been met.

Evergy prepared and placed in the facility's operating record a notification of intent to initiate closure of the 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, 2022), 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, 2023), 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 2022 through June 2023.

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 2022 through June 2023.

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 standard for those constituents listed in Appendix IV to this part from July 2022 through June 2023 for the BAP. The statistical evaluation reports for semi-annual assessment monitoring sampling events from March 2022 and September 2022 were completed in July 2022 and January 2023, 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 2022 through June 2023 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 2022 through June 2023; 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 2022 through June 2023 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 2022 through June 2023.

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 2022 through June 2023.

2.2.1 Status of the Groundwater Monitoring Program

The BAP remained in the assessment monitoring program through June 2023.

2.2.2 Key Actions Completed

The 2021 – 2022 Annual Groundwater Monitoring and Corrective Action Report was completed in July 2022 for the time period July 2021 through June 2022. Statistical evaluation was completed in July 2022 on analytical data from the March 2022 assessment monitoring sampling event.

A semi-annual assessment monitoring sampling event was completed in September 2022 for detected Appendix IV constituents identified from the December 2021 annual assessment monitoring sampling event. Statistical evaluation was completed in January 2023 on analytical data from the September 2022 semi-annual assessment monitoring sampling event.

An annual assessment monitoring sampling event was completed on December 9, 2022 to identify detected Appendix IV constituents for subsequent semi-annual sampling events planned for March 2023 and September 2023. Semi-annual assessment monitoring sampling was completed in March 2023 for detected Appendix IV constituents identified during the December 2022 annual monitoring event. Statistical evaluation of the results from the March 2023 semi-annual assessment monitoring sampling event are due to be completed in July 2023 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 2022 through June 2023.

2.2.4 Actions to Resolve Problems

No problems were encountered at the BAP from July 2022 through June 2023; therefore, no actions to resolve the problems were required.

2.2.5 Project Key Activities for Upcoming Year

Key activities planned for July 2023 through June 2024 include the 2022 – 2023 Annual Groundwater Monitoring and Corrective Action Report, statistical analysis of assessment monitoring analytical data collected in March 2023, semi-annual 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 2022 to June 2023.

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 2022 through June 2023. 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 2022 through June 2023 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 2022 through June 2023.

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 2022 through June 2023.

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 2022 through June 2023. 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 Table II. The background concentrations and groundwater protection standards provided in Table II were utilized for the statistical evaluations completed from July 2022 through June 2023 for the March 2022 and September 2022 semi-annual assessment monitoring sampling events.

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

Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in appendices III and IV to this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

No assessment monitoring alternative source demonstration or certification was required from July 2022 through June 2023. 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 2022 through June 2023; 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
BOTTOM ASH POND (INACTIVE)
ST. MARYS, KANSAS

Location	Upgradient			Downgradient											
	IBA-4			IBA-1			IBA-2					IBA-3			
Measure Point (TOC)	1201.86			1171.65			1171.66					1164.95			
Sample Name	IBA-4-090822	IBA-4-120922	MW IBA-4-031423	IBA-1-090822	IBA-1-120922	MW IBA-1-031423	IBA-2-090822	DUP-IBA-090822	IBA-2-120922	MW IBA-2-031423	DUP JEC IBA-031423	IBA-3-090822	IBA-3-120922	DUP-IBA-120922	MW IBA-3-031423
Sample Date	9/8/2022	12/09/2022	3/14/2023	9/8/2022	12/09/2022	3/14/2023	9/8/2022	9/8/2022	12/09/2022	3/14/2023	3/14/2023	9/8/2022	12/09/2022	12/09/2022	3/14/2023
Final Lab Report Date	9/23/2022	12/21/2022	3/29/2023	9/23/2022	12/21/2022	3/29/2023	9/23/2022	9/23/2022	12/21/2022	3/29/2023	3/29/2023	9/23/2022	12/21/2022	12/21/2022	3/29/2023
Final Lab Report Revision Date	10/19/2022	N/A	N/A	10/19/2022	N/A	N/A	10/19/2022	10/19/2022	N/A	N/A	N/A	10/19/2022	N/A	N/A	N/A
Final Radiation Lab Report Date	N/A	1/12/2023	N/A	N/A	1/12/2023	N/A	N/A	N/A	1/12/2023	N/A	N/A	N/A	1/12/2023	1/12/2023	N/A
Final Radiation Lab Report Revision Date	N/A	2/2/2023	N/A	N/A	2/2/2023	N/A	N/A	N/A	2/2/2023	N/A	N/A	N/A	2/2/2023	2/2/2023	N/A
Lab Data Reviewed and Accepted	11/4/2022	2/6/2023	6/8/2023	11/4/2022	2/6/2023	6/8/2023	11/4/2022	11/4/2022	2/6/2023	6/8/2023	6/8/2023	11/4/2022	2/6/2023	2/6/2023	6/8/2023
Depth to Water (ft btoc)	54.60	55.71	55.52	29.70	29.03	27.00	30.48	-	29.30	28.42	-	33.03	33.36	-	31.59
Temperature (Deg C)	19.06	12.98	12.96	17.91	9.71	12.04	17.94	-	11.40	12.23	-	18.13	11.95	-	13.76
Conductivity (µS/cm)	1010	966	948	2050	2050	2,060	1790	-	1770	1,780	-	2040	1970	-	1,960
Turbidity (NTU)	7.5	19.6	17.2	2.8	5.0	15.3	0.0	-	2.8	1.8	-	0.0	2.0	-	0.9
Boron, Total (mg/L)	**0.21**	-	**0.24**	**0.35**	-	**0.39**	**0.20**	**0.19**	-	**0.22**	**0.22**	**0.27**	-	-	**0.29**
Calcium, Total (mg/L)	**96.4**	-	**108**	**265**	-	**287**	**206**	**204**	-	**230**	**230**	**237**	-	-	**251**
Chloride (mg/L)	**17.8**	-	**18.7**	**112**	-	**159**	**110**	**110**	-	**115**	**112**	**120**	-	-	**123**
Fluoride (mg/L)	**0.24**	-	**0.42**	< 0.20	-	< 0.20	< 0.20	< 0.20	-	< 0.20	< 0.20	< 0.20	-	-	< 0.20
Sulfate (mg/L)	**174**	-	**163**	**803**	-	**757**	**605**	**593**	-	**696**	**608**	**750**	-	-	**712**
pH (su)	**7.8**	-	**7.1**	**7.5**	-	**6.9**	**7.4**	**7.4**	-	**7.0**	**7.2**	**7.2**	-	-	**7.0**
TDS (mg/L)	**659**	-	**639**	**1610**	-	**1,570**	**1400**	**1390**	-	**1,250**	**1,320**	**1700**	-	-	**1,530**
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**	**0.019**	**0.019**	**0.028**	**0.031**	**0.031**	**0.025**	**0.025**	**0.026**	**0.026**	**0.028**	**0.018**	**0.018**	**0.017**	**0.017**
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	**0.0016**	**0.0017**	**0.0017**	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	**0.0014**	**0.0013**	**0.0013**	**0.0013**
Lead, Total (mg/L)	-	< 0.010	-	-	< 0.010	-	-	-	< 0.010	-	-	-	< 0.010	< 0.010	-
Lithium, Total (mg/L)	**0.035**	**0.035**	**0.037**	**0.017**	**0.019**	**0.019**	**0.022**	**0.022**	**0.023**	**0.025**	**0.024**	**0.022**	**0.022**	**0.021**	**0.023**
Molybdenum, Total (mg/L)	**0.0019**	**0.0018**	**0.0019**	**0.0086**	**0.0085**	**0.0086**	**0.0022**	**0.0023**	**0.0024**	**0.0024**	**0.0024**	**0.0024**	**0.0023**	**0.0023**	**0.0023**
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)	**0.24**	**0.34**	**0.42**	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Radium-226 & 228 Combined (pCi/L)	-	0.638 ± 0.756 (1.39)	-	-	0.188 ± 0.585 (1.27)	-	-	-	0.112 ± 0.611 (1.32)	-	-	-	0.0734 ± 0.604 (1.39)	0.562 ± 0.628 (0.953)	-

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 AND SEPTEMBER 2022 SAMPLING EVENTS
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)	0.636[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] Interwell background value based on background data collected through March 2022.

[2] Interwell background value based on background data collected through December 2021.

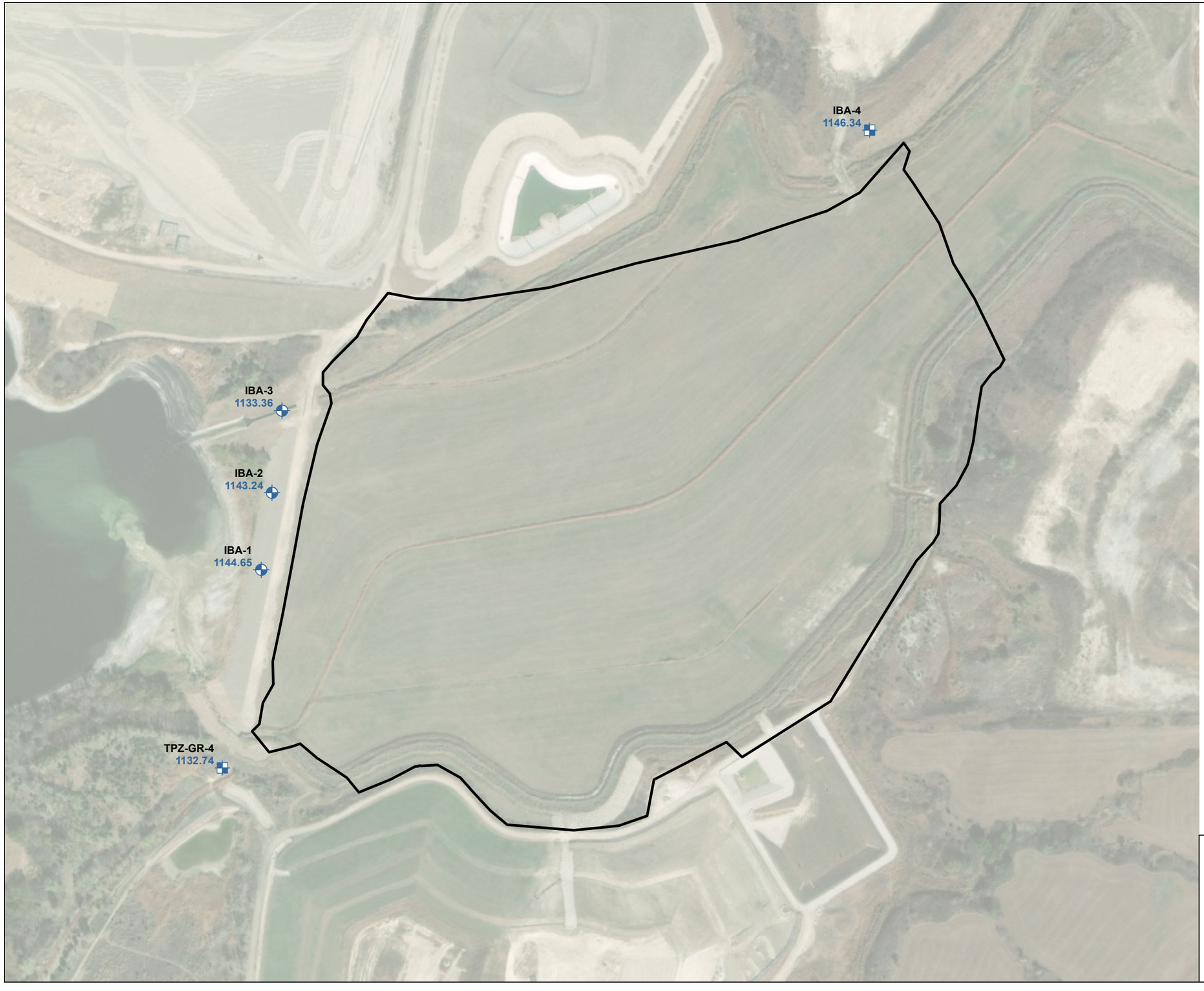
CCR = Coal Combustion Residuals

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

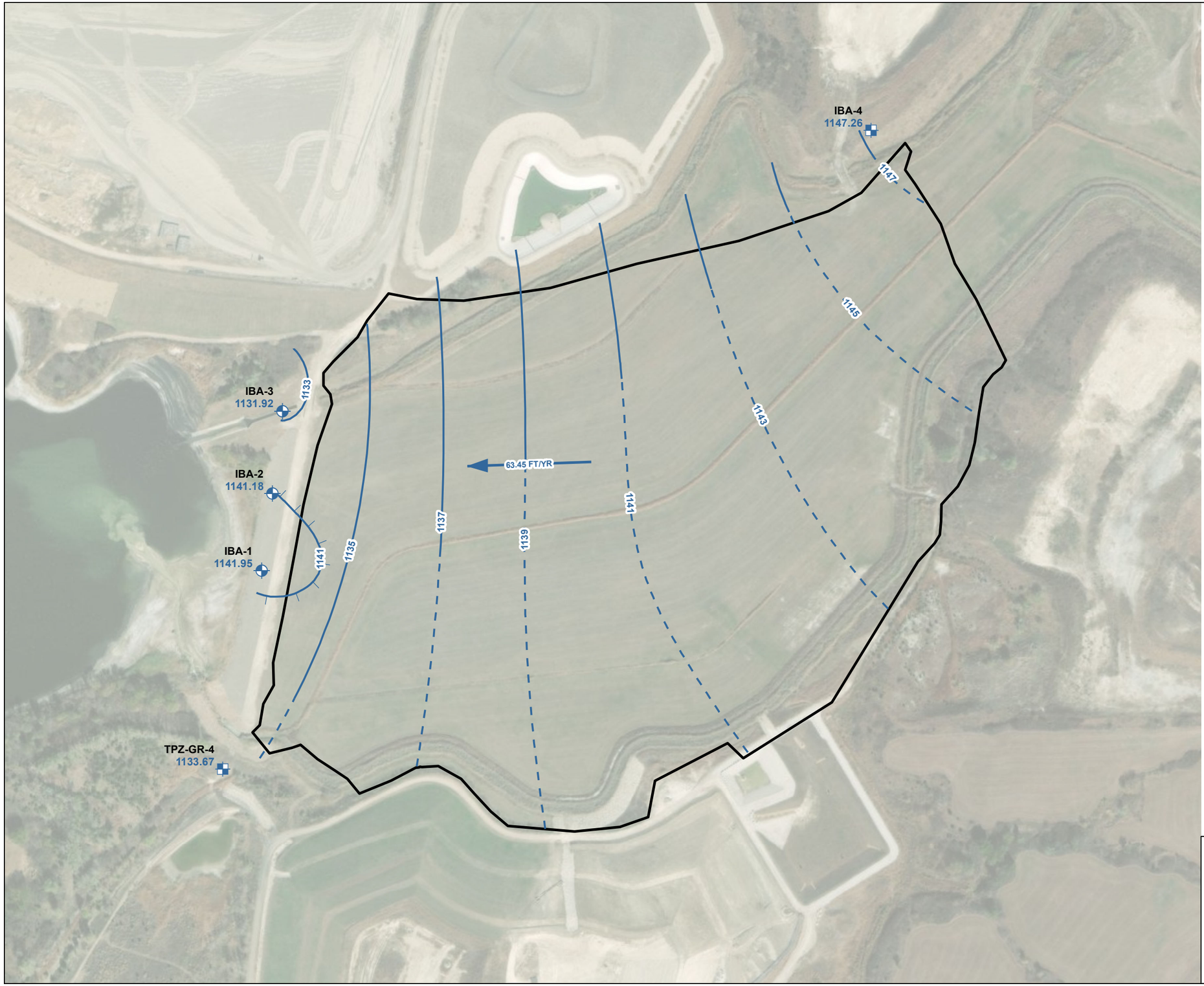
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

BOTTOM ASH POND (INACTIVE) LOCATION MAP

evergy

JULY 2023

FIGURE 1



LEGEND

- MONITORING WELL
- PIEZOMETER OBSERVATION ONLY
- ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, IN FEET, DASHED WHERE INFERRED
- PERCHED 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 8 SEPTEMBER 2022.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETIRIC ELEVATIONS MEASURED 8 SEPTEMBER 2022 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

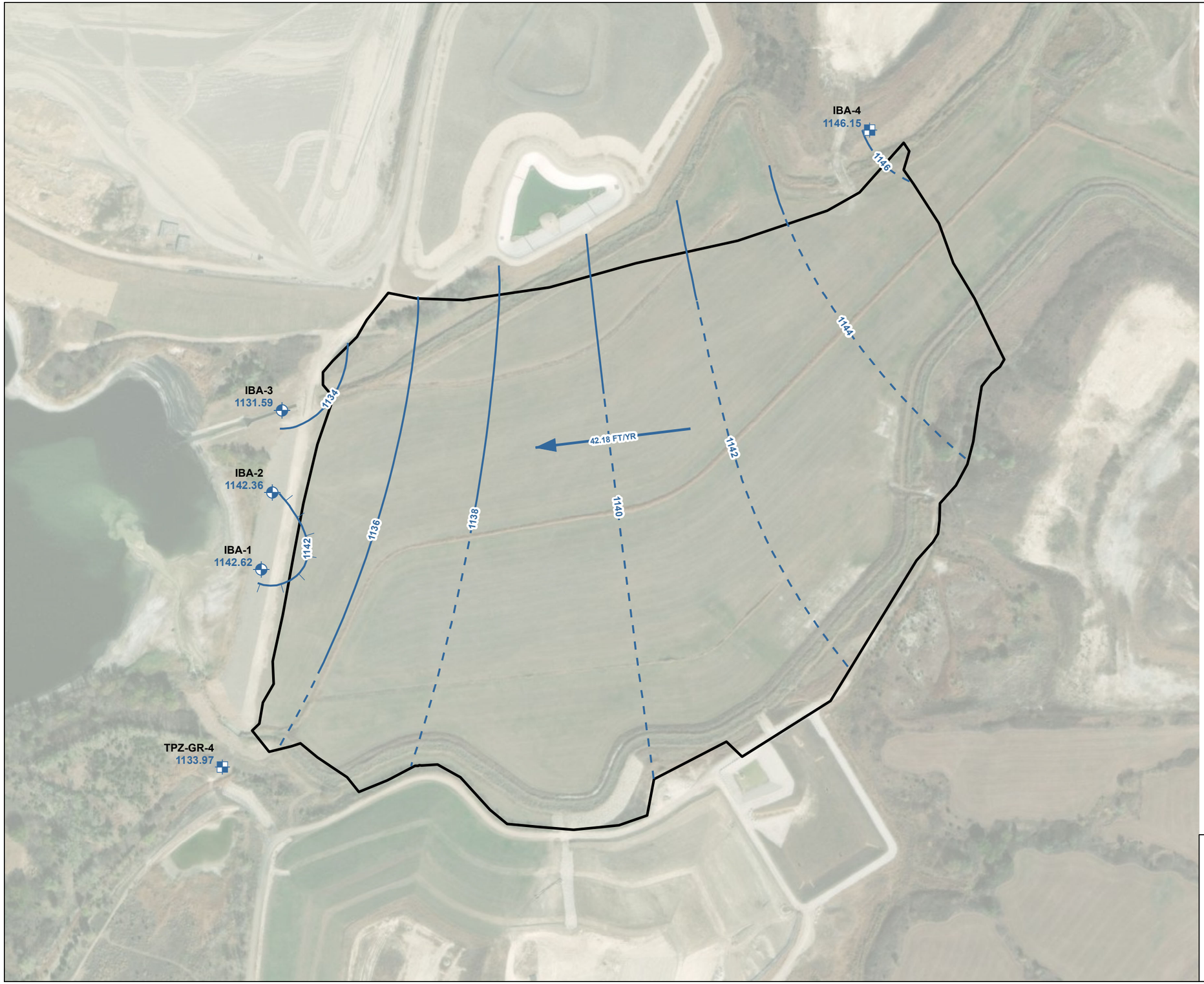
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

BOTTOM ASH POND (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP SEPTEMBER 8, 2022

evergy

JULY 2023

FIGURE 2



LEGEND

- MONITORING WELL
- PIEZOMETER OBSERVATION ONLY
- ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, IN FEET, DASHED WHERE INFERRED
- PERCHED 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 9 DECEMBER 2022.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETIRIC ELEVATIONS MEASURED 9 DECEMBER 2022 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

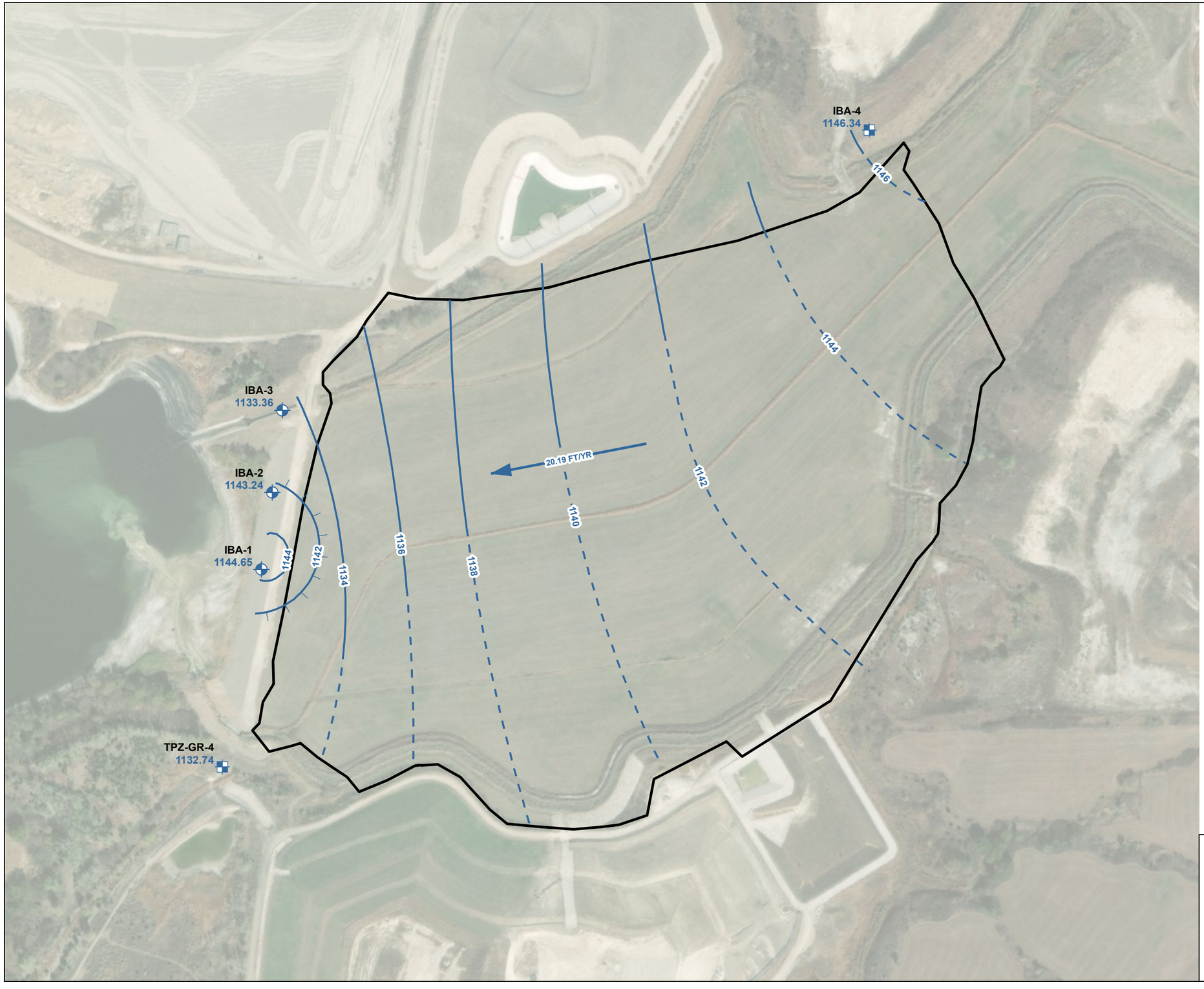
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

BOTTOM ASH POND (INACTIVE) GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP DECEMBER 9, 2022

evergy

JULY 2023

FIGURE 3



LEGEND

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

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 14 MARCH 2023.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETIRIC ELEVATIONS MEASURED 14 MARCH 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 MARCH 14, 2023

evergy

JULY 2023

FIGURE 4

ATTACHMENT 1
Statistical Analyses

Attachment 1-1

March 2022 Semi-Annual Groundwater Assessment Monitoring Data Statistical Evaluation

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

TECHNICAL MEMORANDUM

July 31, 2023
File No. 129778-045

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 2022 Semi-Annual Groundwater Assessment Monitoring Data Statistical Evaluation
Completed July 18, 2022
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 2022** semi-annual assessment monitoring groundwater sampling event for the Jeffrey Energy Center (JEC) Bottom Ash Pond (BAP; inactive). This semi-annual assessment monitoring groundwater sampling event was completed on **March 9, 2022**, with laboratory results received and validated on **April 27, 2022**.

The statistical evaluation discussed in this memorandum was conducted to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at concentrations that represent a statistically significant increase (SSI) above background values and if one or more of the constituents have been detected at statistically significant levels (SSL) above the groundwater protection standard (GWPS) consistent with the requirements of the Rule. GWPSs for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level, levels provided in 40 CFR § 257.95(h)(2) (from regional screening levels), or background concentrations.

Statistical Evaluation of Appendix IV Constituents

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR § 257.93(f)(1-4)). The statistical method used for these evaluations (tolerance limit [TL]), was certified by Haley & Aldrich, Inc. on July 14, 2020. The TL method, as determined applicable for this sampling event, was used to evaluate potential SSLs above

background. Background levels for each constituent listed in Appendix IV were computed as upper tolerance limits (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 an SSL existed.

STATISTICAL EVALUATION

An interwell evaluation was used to determine the SSIs. Interwell evaluation compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data. Because the CCR unit has transitioned into assessment monitoring, no statistical evaluations were conducted on Appendix III (detection monitoring) semi-annual assessment monitoring data.

The 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 2022** sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent will be used to evaluate if an 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 **December 2021.**

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 2022** semi-annual assessment monitoring event were compared to their respective background UTLs and GWPSs (Table I). A sample concentration greater than the background UTL is considered to represent 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 2022, no SSLs above GWPS occurred at the JEC BAP (inactive).**

Enclosure:

Table I – Summary of Semi-Annual Assessment Groundwater Monitoring Statistical Evaluation

TABLE

TABLE I
SUMMARY OF SEMI-ANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION
MARCH 2022 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**	**March 2022 Concentration (mg/L)**	**Background Limits[1] (UTL) mg/L**	**SSI**	**GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL)**	**SSL**
	CCR Appendix-IV: Barium, Total (mg/L)																			
MW-IBA-4	16/16	0%	-	0.022	2.663E-06	0.001632	0.08395	2	mg/L	0	0	No	No	Stable	Normal	0.021	0.0224		2	
MW-IBA-1	16/16	0%	-	0.039	0.00001065	0.003263	0.1	2	mg/L	0	0	No	No	Decreasing	Normal	0.033		Yes		No
MW-IBA-2	16/16	0%	-	0.036	0.00000785	0.002802	0.09378	2	mg/L	0	0	No	No	Decreasing	Normal	0.027		Yes		No
MW-IBA-3	16/16	0%	-	0.021	1.229E-06	0.001109	0.05893	2	mg/L	0	0	No	No	Decreasing	Normal	0.019		No		No
	CCR Appendix-IV: Cobalt, Total (mg/L)																			
MW-IBA-4	0/16	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	16/16	0%	-	0.0027	0.00000012	0.0003464	0.1616	0.006	mg/L	0	0	No	No	Stable	Normal	0.0015		Yes		No
MW-IBA-2	13/16	19%	0.001-0.001	0.0013	7.292E-09	0.00008539	0.07807	0.006	mg/L	0	0	Yes	No	Stable	Normal	0.0010		No		No
MW-IBA-3	16/16	0%	-	0.0021	1.063E-07	0.000326	0.1883	0.006	mg/L	0	0	Yes	No	Stable	Non-parametric	0.0012		Yes		No
	CCR Appendix-IV: Fluoride (mg/L)																			
MW-IBA-4	17/17	0%	-	0.64	0.00365	0.06042	0.1119	4.0	mg/L	0	0	No	No	Stable	Non-parametric	0.64	0.636[2]		4.0	
MW-IBA-1	12/17	29%	0.2-0.2	0.63	0.01299	0.114	0.3844	4.0	mg/L	0	0	Yes	No	Stable	Normal	0.23		No		No
MW-IBA-2	12/17	29%	0.2-0.2	0.4	0.005365	0.07325	0.26	4.0	mg/L	0	0	No	No	Stable	Normal	0.30		No		No
MW-IBA-3	12/17	29%	0.2-0.2	0.37	0.004012	0.06334	0.2403	4.0	mg/L	0	0	No	No	Stable	Normal	0.22		No		No
	CCR Appendix-IV: Lithium, Total (mg/L)																			
MW-IBA-4	16/16	0%	-	0.04	0.00000705	0.002655	0.07613	0.040	mg/L	0	0	No	No	Stable	Non-parametric	0.033	0.0397		0.040	
MW-IBA-1	15/16	6%	0.03-0.03	0.026	0.00002126	0.004611	0.2571	0.040	mg/L	0	0	Yes	No	Stable	Non-parametric	< 0.030		No		No
MW-IBA-2	15/16	6%	0.03-0.03	0.028	0.00001413	0.003759	0.1749	0.040	mg/L	0	0	Yes	No	Stable	Normal	< 0.030		No		No
MW-IBA-3	15/16	6%	0.03-0.03	0.028	0.00001252	0.003538	0.1636	0.040	mg/L	0	0	Yes	No	Stable	Normal	< 0.030		No		No
	CCR Appendix-IV: Molybdenum, Total (mg/L)																			
MW-IBA-4	16/16	0%	-	0.0024	2.329E-08	0.0001526	0.08059	0.100	mg/L	0	0	Yes	No	Stable	Non-parametric	0.0018	0.0024		0.100	
MW-IBA-1	16/16	0%	-	0.0083	1.783E-07	0.0004222	0.05682	0.100	mg/L	0	0	No	No	Stable	Normal	0.0075		Yes		No
MW-IBA-2	16/16	0%	-	0.0024	1.029E-08	0.0001014	0.04547	0.100	mg/L	0	0	No	No	Stable	Normal	0.0020		No		No
MW-IBA-3	16/16	0%	-	0.0025	1.583E-08	0.0001258	0.05887	0.100	mg/L	0	0	Yes	No	Stable	Non-parametric	0.0020		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 12/06/2021.

** 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 2022 Semi-Annual Groundwater Assessment
Monitoring Data Statistical Evaluation

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

TECHNICAL MEMORANDUM

July 31, 2023
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 2022 Semi-Annual Groundwater Assessment Monitoring Data Statistical Evaluation
Completed February 1, 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 **September 2022** semi-annual assessment monitoring groundwater sampling event for the Jeffrey Energy Center (JEC) Bottom Ash Pond (BAP; inactive). This semi-annual assessment monitoring groundwater sampling event was completed on **September 8, 2022**, with laboratory results received and validated on **November 4, 2022**.

The statistical evaluation discussed in this memorandum was conducted to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at concentrations that represent a statistically significant increase (SSI) above background values and if one or more of the constituents have been detected at statistically significant levels (SSL) above the groundwater protection standard (GWPS) consistent with the requirements of the Rule. GWPSs for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level, levels provided in 40 CFR § 257.95(h)(2) (from regional screening levels), or background concentrations.

Statistical Evaluation of Appendix IV Constituents

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR § 257.93(f)(1-4)). The statistical method used for these evaluations (tolerance limit [TL]) was certified by Haley & Aldrich, Inc. on July 14, 2020. The TL method,

as determined applicable for this sampling event, was used to evaluate potential SSLs above background. Background levels for each constituent listed in Appendix IV were computed as upper tolerance limits (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) semi-annual assessment monitoring data.

The TL method was used to complete statistical evaluations of the referenced dataset. The TL procedure is one in which a concentration limit for each constituent is established from the distribution of the background data, with a minimum 95 percent confidence level. The upper endpoint of a tolerance interval is called the UTL. Depending on the data distribution, parametric or non-parametric TL procedures are used to evaluate groundwater monitoring data using this method. Parametric TLs utilize normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the TL. If all the background data are non-detect, a maximum reporting limit may serve as an appropriate UTL.

These statistical evaluations were conducted using a background dataset for all Appendix IV constituents that were detected in the annual assessment monitoring sample event using parametric TLs. If an Appendix IV constituent concentration from the **September 2022** sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent will be used to evaluate if an 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 **December 2021.**

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 2022** semi-annual assessment monitoring event were compared to their respective background UTLs and GWPSs (Table I). A sample concentration greater than the background UTL is considered to represent 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 September 2022, no SSLs above GWPS occurred at the JEC BAP (inactive).**

Enclosure:

Table I – Summary of Semi-Annual Assessment Groundwater Monitoring Statistical Evaluation

TABLE

TABLE I
SUMMARY OF SEMI-ANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION
SEPTEMBER 2022 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 2022 Concentration (mg/L)	Background Limits[1] (UTL) mg/L	SSI	GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL)	SSL
CCR Appendix-IV: Barium, Total (mg/L)																				
MW-IBA-4	17/17	0%	-	0.022	2.618E-06	0.001618	0.0836	2	mg/L	0	0	No	No	Stable	Normal	0.018	0.0224		2	
MW-IBA-1	17/17	0%	-	0.039	0.00001124	0.003353	0.1036	2	mg/L	0	0	No	No	Decreasing	Normal	0.028		Yes		No
MW-IBA-2	17/17	0%	-	0.036	8.757E-06	0.002959	0.1	2	mg/L	0	0	No	No	Decreasing	Normal	0.025		Yes		No
MW-IBA-3	17/17	0%	-	0.021	1.191E-06	0.001091	0.05816	2	mg/L	0	0	No	No	Stable	Normal	0.018		No		No
CCR Appendix-IV: Cobalt, Total (mg/L)																				
MW-IBA-4	0/17	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	17/17	0%	-	0.0027	1.299E-07	0.0003604	0.1706	0.006	mg/L	0	0	No	No	Decreasing	Normal	0.0016		Yes		No
MW-IBA-2	13/17	24%	0.001-0.001	0.0013	7.353E-09	0.00008575	0.0788	0.006	mg/L	0	0	No	No	Decreasing	Normal	< 0.0010		No		No
MW-IBA-3	17/17	0%	-	0.0021	1.061E-07	0.0003257	0.1903	0.006	mg/L	0	0	No	No	Decreasing	Non-parametric	0.0014		Yes		No
CCR Appendix-IV: Fluoride (mg/L)																				
MW-IBA-4	18/18	0%	-	0.64	0.008435	0.09184	0.1755	4.0	mg/L	0	0	No	No	Stable	Normal	0.24	0.636[2]		4.0	
MW-IBA-1	12/18	33%	0.2-0.2	0.63	0.01274	0.1129	0.3877	4.0	mg/L	0	0	Yes	No	Stable	Normal	< 0.20		No		No
MW-IBA-2	12/18	33%	0.2-0.2	0.4	0.005421	0.07363	0.2656	4.0	mg/L	0	0	No	No	Stable	Normal	< 0.20		No		No
MW-IBA-3	12/18	33%	0.2-0.2	0.37	0.004	0.06325	0.2433	4.0	mg/L	0	0	No	No	Stable	Normal	< 0.20		No		No
CCR Appendix-IV: Lithium, Total (mg/L)																				
MW-IBA-4	17/17	0%	-	0.04	0.00000661	0.002571	0.07371	0.040	mg/L	0	0	No	No	Stable	Normal	0.035	0.0397		0.040	
MW-IBA-1	16/17	6%	0.03-0.03	0.026	0.00001999	0.00447	0.25	0.040	mg/L	0	0	Yes	No	Stable	Non-parametric	0.017		No		No
MW-IBA-2	16/17	6%	0.03-0.03	0.028	0.00001326	0.003642	0.1692	0.040	mg/L	0	0	Yes	No	Stable	Normal	0.022		No		No
MW-IBA-3	16/17	6%	0.03-0.03	0.028	0.00001174	0.003427	0.1583	0.040	mg/L	0	0	Yes	No	Increasing	Normal	0.022		No		No
CCR Appendix-IV: Molybdenum, Total (mg/L)																				
MW-IBA-4	17/17	0%	-	0.0024	2.184E-08	0.0001478	0.07802	0.100	mg/L	0	0	No	No	Stable	Non-parametric	0.0019	0.0024		0.100	
MW-IBA-1	17/17	0%	-	0.0086	2.475E-07	0.0004975	0.06633	0.100	mg/L	0	0	No	No	Increasing	Normal	0.0086		Yes		No
MW-IBA-2	17/17	0%	-	0.0024	9.706E-09	0.00009852	0.04419	0.100	mg/L	0	0	No	No	Stable	Normal	0.0022		No		No
MW-IBA-3	17/17	0%	-	0.0025	1.89E-08	0.0001375	0.06385	0.100	mg/L	0	0	Yes	No	Stable	Non-parametric	0.0024		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 12/06/2021.

** 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 2
Laboratory Analytical Reports

Attachment 2-1
September 2022 Semi-Annual Sampling Event
Laboratory Analytical Report

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

October 19, 2022

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

RE: Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Dear Jake Humphrey:

Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

REVISED 10/14/22

REVISED 10/19/22 repackaged

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: Laura Hines, Evergy, Inc.
Samantha Kaney, Haley & Aldrich
Melissa Michels, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 22-031-0
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60410031001	**IBA-1-090822**	Water	09/08/22 09:45	09/09/22 17:00
60410031002	**IBA-2-090822**	Water	09/08/22 10:35	09/09/22 17:00
60410031003	**IBA-3-090822**	Water	09/08/22 11:35	09/09/22 17:00
60410031004	**IBA-4-090822**	Water	09/08/22 17:00	09/09/22 17:00
60410031005	**DUP-IBA-090822**	Water	09/08/22 10:40	09/09/22 17:00

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SAMPLE ANALYTE COUNT

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60410031001	**IBA-1-090822**	EPA 200.7	MRV	3	PASI-K
		EPA 6010	MRV	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	TML	1	PASI-K
		SM 4500-H+B	ET	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60410031002	**IBA-2-090822**	EPA 200.7	MRV	3	PASI-K
		EPA 6010	MRV	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	TML	1	PASI-K
		SM 4500-H+B	ET	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60410031003	**IBA-3-090822**	EPA 200.7	MRV	3	PASI-K
		EPA 6010	MRV	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	TML	1	PASI-K
		SM 4500-H+B	ET	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60410031004	**IBA-4-090822**	EPA 200.7	MRV	3	PASI-K
		EPA 6010	MRV	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	TML	1	PASI-K
		SM 4500-H+B	ET	1	PASI-K
		EPA 300.0	CRN2, RKA	3	PASI-K
60410031005	**DUP-IBA-090822**	EPA 200.7	MRV	3	PASI-K
		EPA 6010	MRV	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	TML	1	PASI-K
		SM 4500-H+B	ET	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Date: October 19, 2022

Amended report to report only requested metals and the data from review/reanalysis of fluoride due to intereferences on original run, new data reported.

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: October 19, 2022

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: 807550

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60410031001

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

- MSD (Lab ID: 3212548)
  - Calcium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: October 19, 2022

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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(913)599-5665

PROJECT NARRATIVE

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: October 19, 2022

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 ASH PONDS CCR
Pace Project No.: 60410031

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Evergy Kansas Central, Inc.
Date: October 19, 2022

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.

QC Batch: 807820

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 3213732)
  - Total Dissolved Solids

Additional Comments:

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PROJECT NARRATIVE

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Evergy Kansas Central, Inc.
Date: October 19, 2022

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.
- DUP-IBA-090822 (Lab ID: 60410031005)
- IBA-1-090822 (Lab ID: 60410031001)
- IBA-2-090822 (Lab ID: 60410031002)
- IBA-3-090822 (Lab ID: 60410031003)
- IBA-4-090822 (Lab ID: 60410031004)

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 ASH PONDS CCR
Pace Project No.: 60410031

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: October 19, 2022

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: 808515

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60410000004,60410030004

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

- MS (Lab ID: 3216066)
  - Chloride
- MSD (Lab ID: 3216067)
  - Chloride

Additional Comments:

Analyte Comments:

QC Batch: 808515

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

- MS (Lab ID: 3216066)
  - Chloride
- MS (Lab ID: 3216068)
  - Sulfate
- MSD (Lab ID: 3216067)
  - Chloride

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

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ANALYTICAL RESULTS

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Sample: IBA-1-090822 **Lab ID: 60410031001** Collected: 09/08/22 09:45 Received: 09/09/22 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.028**	mg/L	0.0050	1	09/14/22 09:42	09/19/22 12:36	7440-39-3	
Boron, Total Recoverable	**0.35**	mg/L	0.10	1	09/14/22 09:42	09/19/22 12:36	7440-42-8	
Calcium, Total Recoverable	**265**	mg/L	0.20	1	09/14/22 09:42	09/19/22 12:36	7440-70-2	M1
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.017**	mg/L	0.010	1	09/14/22 09:42	09/19/22 13:00	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	**0.0016**	mg/L	0.0010	1	09/14/22 09:42	09/22/22 21:40	7440-48-4	
Molybdenum, Total Recoverable	**0.0086**	mg/L	0.0010	1	09/14/22 09:42	09/22/22 21:40	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1610**	mg/L	66.7	1		09/15/22 11:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		09/16/22 11:53		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**112**	mg/L	10.0	10		09/20/22 23:14	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		10/05/22 20:42	16984-48-8	
Sulfate	**803**	mg/L	50.0	50		09/20/22 23:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Sample: IBA-2-090822 **Lab ID: 60410031002** Collected: 09/08/22 10:35 Received: 09/09/22 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.025**	mg/L	0.0050	1	09/14/22 09:42	09/19/22 12:42	7440-39-3	
Boron, Total Recoverable	**0.20**	mg/L	0.10	1	09/14/22 09:42	09/19/22 12:42	7440-42-8	
Calcium, Total Recoverable	**206**	mg/L	0.20	1	09/14/22 09:42	09/19/22 12:42	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	09/14/22 09:42	09/19/22 13:06	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	09/14/22 09:42	09/22/22 21:23	7440-48-4	
Molybdenum, Total Recoverable	**0.0022**	mg/L	0.0010	1	09/14/22 09:42	09/22/22 21:23	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1400**	mg/L	40.0	1		09/15/22 11:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		09/16/22 11:53		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**110**	mg/L	10.0	10		09/20/22 23:52	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		10/05/22 21:33	16984-48-8	
Sulfate	**605**	mg/L	50.0	50		09/21/22 00:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Sample: IBA-3-090822 **Lab ID: 60410031003** Collected: 09/08/22 11:35 Received: 09/09/22 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.018**	mg/L	0.0050	1	09/14/22 09:42	09/19/22 12:44	7440-39-3	
Boron, Total Recoverable	**0.27**	mg/L	0.10	1	09/14/22 09:42	09/19/22 12:44	7440-42-8	
Calcium, Total Recoverable	**237**	mg/L	0.20	1	09/14/22 09:42	09/19/22 12:44	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	09/14/22 09:42	09/19/22 13:08	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	**0.0014**	mg/L	0.0010	1	09/14/22 09:42	09/22/22 21:45	7440-48-4	
Molybdenum, Total Recoverable	**0.0024**	mg/L	0.0010	1	09/14/22 09:42	09/22/22 21:45	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1700**	mg/L	40.0	1		09/15/22 11:23		
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		09/16/22 11:53		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**120**	mg/L	10.0	10		09/21/22 00:30	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		10/05/22 21:46	16984-48-8	
Sulfate	**750**	mg/L	50.0	50		09/21/22 00:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Sample: IBA-4-090822 **Lab ID: 60410031004** Collected: 09/08/22 17:00 Received: 09/09/22 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.018**	mg/L	0.0050	1	09/14/22 09:42	09/19/22 12:52	7440-39-3	
Boron, Total Recoverable	**0.21**	mg/L	0.10	1	09/14/22 09:42	09/19/22 12:52	7440-42-8	
Calcium, Total Recoverable	**96.4**	mg/L	0.20	1	09/14/22 09:42	09/19/22 12:52	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.035**	mg/L	0.010	1	09/14/22 09:42	09/19/22 13:16	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	09/14/22 09:42	09/22/22 21:49	7440-48-4	
Molybdenum, Total Recoverable	**0.0019**	mg/L	0.0010	1	09/14/22 09:42	09/22/22 21:49	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**659**	mg/L	10.0	1		09/15/22 11:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		09/16/22 11:53		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**17.8**	mg/L	1.0	1		09/21/22 00:55	16887-00-6	
Fluoride	**0.24**	mg/L	0.20	1		10/05/22 21:58	16984-48-8	
Sulfate	**174**	mg/L	10.0	10		09/21/22 18:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Sample: DUP-IBA-090822 **Lab ID: 60410031005** Collected: 09/08/22 10:40 Received: 09/09/22 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.025**	mg/L	0.0050	1	09/14/22 09:42	09/19/22 12:54	7440-39-3	
Boron, Total Recoverable	**0.19**	mg/L	0.10	1	09/14/22 09:42	09/19/22 12:54	7440-42-8	
Calcium, Total Recoverable	**204**	mg/L	0.20	1	09/14/22 09:42	09/19/22 12:54	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	09/14/22 09:42	09/19/22 13:19	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	09/14/22 09:42	09/22/22 21:53	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	09/14/22 09:42	09/22/22 21:53	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1390**	mg/L	13.3	1		09/15/22 11:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		09/16/22 11:53		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**110**	mg/L	10.0	10		09/21/22 19:11	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		10/05/22 22:11	16984-48-8	
Sulfate	**593**	mg/L	50.0	50		09/21/22 19:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 807550
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: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

METHOD BLANK: 3212545 Matrix: Water
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	09/19/22 12:33	
Boron	mg/L	<0.10	0.10	09/19/22 12:33	
Calcium	mg/L	<0.20	0.20	09/19/22 12:33	

LABORATORY CONTROL SAMPLE: 3212546

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	100	85-115	
Boron	mg/L	1	0.93	93	85-115	
Calcium	mg/L	10	9.6	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3212547 3212548

Parameter	Units	60410031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.028	1	1	1.0	1.1	100	103	70-130	3	20	
Boron	mg/L	0.35	1	1	1.3	1.3	94	98	70-130	3	20	
Calcium	mg/L	265	10	10	274	283	86	183	70-130	4	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 807551 | 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: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

METHOD BLANK: 3212550 Matrix: Water
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cobalt	mg/L	<0.0010	0.0010	09/22/22 21:17	
Molybdenum	mg/L	<0.0010	0.0010	09/22/22 21:17	

LABORATORY CONTROL SAMPLE: 3212551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	mg/L	0.04	0.040	99	85-115	
Molybdenum	mg/L	0.04	0.042	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3212552 3212553

Parameter	Units	60410031002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	mg/L	<0.0010	0.04	0.04	0.039	0.039	96	96	70-130	0	20	
Molybdenum	mg/L	0.0022	0.04	0.04	0.047	0.047	111	111	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 807552
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

METHOD BLANK: 3212555 Matrix: Water
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	09/19/22 12:58	

LABORATORY CONTROL SAMPLE: 3212556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3212557 3212558

Parameter	Units	60410031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.017	1	1	1.1	1.1	107	108	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 807819
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60410031001

METHOD BLANK: 3213723 Matrix: Water
Associated Lab Samples: 60410031001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	09/15/22 11:19	

LABORATORY CONTROL SAMPLE: 3213724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1040	104	80-120	

SAMPLE DUPLICATE: 3213725

Parameter	Units	60409826001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	571	552	3	10	

SAMPLE DUPLICATE: 3213726

Parameter	Units	60410000001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1170	1200	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 807820 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60410031002, 60410031003, 60410031004, 60410031005

METHOD BLANK: 3213729 Matrix: Water
Associated Lab Samples: 60410031002, 60410031003, 60410031004, 60410031005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	09/15/22 11:22	

LABORATORY CONTROL SAMPLE: 3213730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1040	104	80-120	

SAMPLE DUPLICATE: 3213731

Parameter	Units	60410031002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1400	1420	2	10	

SAMPLE DUPLICATE: 3213732

Parameter	Units	60409977002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1380	1150	18	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 807931
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: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

SAMPLE DUPLICATE: 3214114

Parameter	Units	60410030003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.6	3	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 808515 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

METHOD BLANK: 3216064 Matrix: Water
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/20/22 09:08	
Sulfate	mg/L	<1.0	1.0	09/20/22 09:08	

METHOD BLANK: 3218088 Matrix: Water
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/21/22 08:57	
Sulfate	mg/L	<1.0	1.0	09/21/22 08:57	

LABORATORY CONTROL SAMPLE: 3216065

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3218089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3216066 3216067

Parameter	Units	60410000004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	137	50	50	227	207	179	140	80-120	9	15	E,M1
Sulfate	mg/L	986	500	500	1500	1510	104	104	80-120	0	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

MATRIX SPIKE SAMPLE: 3216068

Parameter	Units	60410030004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	248	250	484	94	80-120	
Sulfate	mg/L	1600	500	2070	93	80-120	E

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

QC Batch: 811018 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

METHOD BLANK: 3225338 Matrix: Water
Associated Lab Samples: 60410031001, 60410031002, 60410031003, 60410031004, 60410031005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	10/05/22 17:33	

LABORATORY CONTROL SAMPLE: 3225339

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3225340 3225341

Parameter	Units	60410001003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.35	2.5	2.5	2.9	2.9	101	103	80-120	2	15	

MATRIX SPIKE SAMPLE: 3225342

Parameter	Units	60410031001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	<0.20	2.5	2.5	94	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

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

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC INACTIVE ASH PONDS CCR
Pace Project No.: 60410031

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60410031001	**IBA-1-090822**	EPA 200.7	807550	EPA 200.7	807609
60410031002	**IBA-2-090822**	EPA 200.7	807550	EPA 200.7	807609
60410031003	**IBA-3-090822**	EPA 200.7	807550	EPA 200.7	807609
60410031004	**IBA-4-090822**	EPA 200.7	807550	EPA 200.7	807609
60410031005	**DUP-IBA-090822**	EPA 200.7	807550	EPA 200.7	807609
60410031001	**IBA-1-090822**	EPA 3010	807552	EPA 6010	807611
60410031002	**IBA-2-090822**	EPA 3010	807552	EPA 6010	807611
60410031003	**IBA-3-090822**	EPA 3010	807552	EPA 6010	807611
60410031004	**IBA-4-090822**	EPA 3010	807552	EPA 6010	807611
60410031005	**DUP-IBA-090822**	EPA 3010	807552	EPA 6010	807611
60410031001	**IBA-1-090822**	EPA 200.8	807551	EPA 200.8	807610
60410031002	**IBA-2-090822**	EPA 200.8	807551	EPA 200.8	807610
60410031003	**IBA-3-090822**	EPA 200.8	807551	EPA 200.8	807610
60410031004	**IBA-4-090822**	EPA 200.8	807551	EPA 200.8	807610
60410031005	**DUP-IBA-090822**	EPA 200.8	807551	EPA 200.8	807610
60410031001	**IBA-1-090822**	SM 2540C	807819		
60410031002	**IBA-2-090822**	SM 2540C	807820		
60410031003	**IBA-3-090822**	SM 2540C	807820		
60410031004	**IBA-4-090822**	SM 2540C	807820		
60410031005	**DUP-IBA-090822**	SM 2540C	807820		
60410031001	**IBA-1-090822**	SM 4500-H+B	807931		
60410031002	**IBA-2-090822**	SM 4500-H+B	807931		
60410031003	**IBA-3-090822**	SM 4500-H+B	807931		
60410031004	**IBA-4-090822**	SM 4500-H+B	807931		
60410031005	**DUP-IBA-090822**	SM 4500-H+B	807931		
60410031001	**IBA-1-090822**	EPA 300.0	808515		
60410031001	**IBA-1-090822**	EPA 300.0	811018		
60410031002	**IBA-2-090822**	EPA 300.0	808515		
60410031002	**IBA-2-090822**	EPA 300.0	811018		
60410031003	**IBA-3-090822**	EPA 300.0	808515		
60410031003	**IBA-3-090822**	EPA 300.0	811018		
60410031004	**IBA-4-090822**	EPA 300.0	808515		
60410031004	**IBA-4-090822**	EPA 300.0	811018		
60410031005	**DUP-IBA-090822**	EPA 300.0	808515		
60410031005	**DUP-IBA-090822**	EPA 300.0	811018		

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

WO# : 60410031

60410031

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 ☐

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

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

Cooler Temperature (°C): **As-read** 0.5 **Corr. Factor** 0.0 **Corrected** 0.5

Date and initials of person examining contents 09-12-2022 MM

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#:** 55192	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — **Required** Client Information:

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

Section B — **Required** Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Zinsr
Copy To:	Jared Morrison, 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, 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	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.
1	IBA-1-090822	WT	G	-	-	09/08/22	9:45	-	4	3		1						X	X	X	X	X		60410031
2	IBA-2-090822	WT	G	-	-	09/08/22	10:35	-	4	3		1						X	X	X	X	X		
3	IBA-3-090822	WT	G	-	-	09/08/22	11:35	-	4	3		1						X	X	X	X	X		
4	IBA-4-090822	WT	G	-	-	09/08/22	17:00	-	4	3		1						X	X	X	X	X		
5	DUP-IBA-090822	WT	G	-	-	09/08/22	10:40	-	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
200.7 Total Metals*: B, Ba, Ca	Jason R. Franks / SCS	9/9/22	17:00		9/9/22	1706
200.8 Total Metals**: Co, Mo						
6010 Total Metals***: Li (1 metal)						

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9/9/22

*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: _____ Profile # _____

Site: _____ Notes _____

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

Container Codes

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

Plastic	
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: 60410031

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A
Required Client Information:

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, Melissa Michels
	Danielle Oberbroeckling
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 #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE END/GRAB DATE	COLLECTED: COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Preservatives: NaOH	Preservatives: $Na_2S_2O_3$	Preservatives: Methanol	Preservatives: Other	Analysis Test Y/N	200.7 Total Metals*	200.8 Total Metals**	6010 Lithium***	Total dissolved solids	300.0 Cl, F, S	pH							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	WT																											
2	WT																											
3	WT																											
4	WT																											
5	WT																											
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										
200.8 Total Metals**: Co, Mo										
6010 Total Metals***: Li (1 metal)										

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

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

Attachment 2-2
December 2022 Annual Assessment Sampling Event
Laboratory Analytical Report

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

December 21, 2022

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

RE: Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Dear Jake Humphrey:

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

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

- Pace Analytical Services - Kansas City

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

Sincerely,

Alice Spiller

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

Enclosures

cc: Laura Hines, Evergy, Inc.
Samantha Kaney, Haley & Aldrich
Melissa Michels, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich

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

CERTIFICATIONS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 22-031-0
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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.: 60417700

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60417700001	**IBA-1-120922**	Water	12/09/22 12:00	12/12/22 08:00
60417700002	**IBA-2-120922**	Water	12/09/22 13:00	12/12/22 08:00
60417700003	**IBA-3-120922**	Water	12/09/22 10:55	12/12/22 08:00
60417700004	**IBA-4-120922**	Water	12/09/22 14:20	12/12/22 08:00
60417700005	**DUP-IBA-120922**	Water	12/09/22 10:55	12/12/22 08:00

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Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60417700001	**IBA-1-120922**	EPA 200.7	MA1	4	PASI-K
		EPA 6010	MA1	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JXD	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60417700002	**IBA-2-120922**	EPA 200.7	MA1	4	PASI-K
		EPA 6010	MA1	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JXD	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60417700003	**IBA-3-120922**	EPA 200.7	MA1	4	PASI-K
		EPA 6010	MA1	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JXD	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60417700004	**IBA-4-120922**	EPA 200.7	MA1	4	PASI-K
		EPA 6010	MA1	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JXD	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60417700005	**DUP-IBA-120922**	EPA 200.7	MA1	4	PASI-K
		EPA 6010	MA1	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	JXD	1	PASI-K
		EPA 300.0	CRN2	1	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 C
Pace Project No.: 60417700

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: December 21, 2022

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.: 60417700

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: December 21, 2022

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.: 60417700

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: December 21, 2022

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.: 60417700

Method: **EPA 245.1**
Description: 245.1 Mercury
Client: Evergy Kansas Central, Inc.
Date: December 21, 2022

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.: 60417700

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: December 21, 2022

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: 823412

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 20263624010

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

- MS (Lab ID: 3272892)
  - Fluoride
- MSD (Lab ID: 3272893)
  - Fluoride

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

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Sample: IBA-1-120922 **Lab ID: 60417700001** Collected: 12/09/22 12:00 Received: 12/12/22 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.031**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:32	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/15/22 10:32	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:32	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/14/22 04:14	12/15/22 10:32	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.019**	mg/L	0.010	1	12/14/22 04:14	12/15/22 10:07	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	12/14/22 04:14	12/20/22 09:10	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:10	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/14/22 04:14	12/20/22 09:10	7440-43-9	
Cobalt, Total Recoverable	**0.0017**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:10	7440-48-4	
Molybdenum, Total Recoverable	**0.0085**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:10	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:10	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:10	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	12/14/22 13:15	12/15/22 08:58	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**<0.20**	mg/L	0.20	1		12/16/22 17:37	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Sample: IBA-2-120922 **Lab ID: 60417700002** Collected: 12/09/22 13:00 Received: 12/12/22 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.026**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:44	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/15/22 10:44	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:44	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/14/22 04:14	12/15/22 10:44	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	12/14/22 04:14	12/15/22 10:20	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	12/14/22 04:14	12/20/22 08:58	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 08:58	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/14/22 04:14	12/20/22 08:58	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 08:58	7440-48-4	
Molybdenum, Total Recoverable	**0.0024**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 08:58	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 08:58	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 08:58	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	12/14/22 13:15	12/15/22 09:05	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**<0.20**	mg/L	0.20	1		12/16/22 17:51	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Sample: IBA-3-120922 **Lab ID: 60417700003** Collected: 12/09/22 10:55 Received: 12/12/22 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.018**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:46	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/15/22 10:46	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:46	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/14/22 04:14	12/15/22 10:46	7439-92-1	
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	12/14/22 04:14	12/15/22 10:22	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	12/14/22 04:14	12/20/22 09:12	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:12	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/14/22 04:14	12/20/22 09:12	7440-43-9	
Cobalt, Total Recoverable	**0.0013**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:12	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:12	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:12	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:12	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	12/14/22 13:15	12/15/22 09:07	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**<0.20**	mg/L	0.20	1		12/16/22 10:19	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Sample: IBA-4-120922 **Lab ID: 60417700004** Collected: 12/09/22 14:20 Received: 12/12/22 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.019**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:48	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/15/22 10:48	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:48	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/14/22 04:14	12/15/22 10:48	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.035**	mg/L	0.010	1	12/14/22 04:14	12/15/22 10:24	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	12/14/22 04:14	12/20/22 09:14	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:14	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/14/22 04:14	12/20/22 09:14	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:14	7440-48-4	
Molybdenum, Total Recoverable	**0.0018**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:14	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:14	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:14	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	12/14/22 13:15	12/15/22 09:09	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**0.34**	mg/L	0.20	1		12/16/22 10:59	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Sample: DUP-IBA-120922 **Lab ID: 60417700005** Collected: 12/09/22 10:55 Received: 12/12/22 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.017**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:50	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/15/22 10:50	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	12/14/22 04:14	12/15/22 10:50	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	12/14/22 04:14	12/15/22 10:50	7439-92-1	
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	12/14/22 04:14	12/15/22 10:26	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	12/14/22 04:14	12/20/22 09:17	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:17	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	12/14/22 04:14	12/20/22 09:17	7440-43-9	
Cobalt, Total Recoverable	**0.0013**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:17	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:17	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:17	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	12/14/22 04:14	12/20/22 09:17	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	12/14/22 13:15	12/15/22 09:12	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**<0.20**	mg/L	0.20	1		12/16/22 11:12	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

QC Batch: 823135 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: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

METHOD BLANK: 3271959 Matrix: Water
Associated Lab Samples: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.20	0.20	12/15/22 08:53	

LABORATORY CONTROL SAMPLE: 3271960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3271961 3271962

Parameter	Units	60417700001 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	3.7	3.7	74	74	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 C
Pace Project No.: 60417700

QC Batch: 823146 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

METHOD BLANK: 3271985 Matrix: Water
Associated Lab Samples: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	12/15/22 10:30	
Beryllium	mg/L	<0.0010	0.0010	12/15/22 10:30	
Chromium	mg/L	<0.0050	0.0050	12/15/22 10:30	
Lead	mg/L	<0.010	0.010	12/15/22 10:30	

LABORATORY CONTROL SAMPLE: 3271986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	101	85-115	
Beryllium	mg/L	1	1.0	100	85-115	
Chromium	mg/L	1	0.98	98	85-115	
Lead	mg/L	1	0.98	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3271987 3271988

Parameter	Units	60417700001 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	1.0	100	97	70-130	3	20	
Beryllium	mg/L	<0.0010	1	1	0.95	0.92	95	92	70-130	3	20	
Chromium	mg/L	<0.0050	1	1	0.96	0.94	96	94	70-130	2	20	
Lead	mg/L	<0.010	1	1	0.97	0.96	97	96	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 C
Pace Project No.: 60417700

QC Batch: 823147
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: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

METHOD BLANK: 3271993 Matrix: Water
Associated Lab Samples: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/L	<0.0010	0.0010	12/20/22 08:51	
Arsenic	mg/L	<0.0010	0.0010	12/20/22 08:51	
Cadmium	mg/L	<0.00050	0.00050	12/20/22 08:51	
Cobalt	mg/L	<0.0010	0.0010	12/20/22 08:51	
Molybdenum	mg/L	<0.0010	0.0010	12/20/22 08:51	
Selenium	mg/L	<0.0010	0.0010	12/20/22 08:51	
Thallium	mg/L	<0.0010	0.0010	12/20/22 08:51	

LABORATORY CONTROL SAMPLE: 3271994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.04	0.038	96	85-115	
Arsenic	mg/L	0.04	0.038	95	85-115	
Cadmium	mg/L	0.04	0.040	100	85-115	
Cobalt	mg/L	0.04	0.038	95	85-115	
Molybdenum	mg/L	0.04	0.039	98	85-115	
Selenium	mg/L	0.04	0.041	102	85-115	
Thallium	mg/L	0.04	0.038	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3271995 3271996

Parameter	Units	60417700002 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	0.037	0.037	92	92	70-130	1	20	
Arsenic	mg/L	<0.0010	0.04	0.04	0.038	0.038	93	93	70-130	1	20	
Cadmium	mg/L	<0.00050	0.04	0.04	0.037	0.037	93	93	70-130	0	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.037	0.036	89	89	70-130	0	20	
Molybdenum	mg/L	0.0024	0.04	0.04	0.043	0.043	101	102	70-130	1	20	
Selenium	mg/L	<0.0010	0.04	0.04	0.037	0.037	93	92	70-130	1	20	
Thallium	mg/L	<0.0010	0.04	0.04	0.040	0.040	100	100	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 C
Pace Project No.: 60417700

QC Batch: 823149 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

METHOD BLANK: 3272012 Matrix: Water
Associated Lab Samples: 60417700001, 60417700002, 60417700003, 60417700004, 60417700005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	12/15/22 10:05	

LABORATORY CONTROL SAMPLE: 3272013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.96	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3272014 3272015

Parameter	Units	60417700001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.019	1	1	1.0	1.0	101	98	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.: 60417700

QC Batch: 823412
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: 60417700001, 60417700002

METHOD BLANK: 3272890 Matrix: Water
Associated Lab Samples: 60417700001, 60417700002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/16/22 10:21	

METHOD BLANK: 3275581 Matrix: Water
Associated Lab Samples: 60417700001, 60417700002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/19/22 16:59	

METHOD BLANK: 3275615 Matrix: Water
Associated Lab Samples: 60417700001, 60417700002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/20/22 09:23	

LABORATORY CONTROL SAMPLE: 3272891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	92	90-110	

LABORATORY CONTROL SAMPLE: 3275582

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

LABORATORY CONTROL SAMPLE: 3275616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	109	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.: 60417700

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3272892 3272893

Parameter	Units	20263624010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	5	5	3.7	3.8	74	77	80-120	4	15	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.: 60417700

QC Batch: 823413
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: 60417700003, 60417700004, 60417700005

METHOD BLANK: 3272895 Matrix: Water
Associated Lab Samples: 60417700003, 60417700004, 60417700005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/16/22 09:43	

METHOD BLANK: 3275857 Matrix: Water
Associated Lab Samples: 60417700003, 60417700004, 60417700005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	12/19/22 09:25	

METHOD BLANK: 3276613 Matrix: Water
Associated Lab Samples: 60417700003, 60417700004, 60417700005

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

LABORATORY CONTROL SAMPLE: 3272896

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

LABORATORY CONTROL SAMPLE: 3275858

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.8	110	90-110	

LABORATORY CONTROL SAMPLE: 3276614

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	93	90-110	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3272897 3272898

Parameter	Units	60417700003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	<0.20	5	5	4.9	5.0	98	100	80-120	3	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.: 60417700

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
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417700

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60417700001	**IBA-1-120922**	EPA 200.7	823146	EPA 200.7	823177
60417700002	**IBA-2-120922**	EPA 200.7	823146	EPA 200.7	823177
60417700003	**IBA-3-120922**	EPA 200.7	823146	EPA 200.7	823177
60417700004	**IBA-4-120922**	EPA 200.7	823146	EPA 200.7	823177
60417700005	**DUP-IBA-120922**	EPA 200.7	823146	EPA 200.7	823177
60417700001	**IBA-1-120922**	EPA 3010	823149	EPA 6010	823180
60417700002	**IBA-2-120922**	EPA 3010	823149	EPA 6010	823180
60417700003	**IBA-3-120922**	EPA 3010	823149	EPA 6010	823180
60417700004	**IBA-4-120922**	EPA 3010	823149	EPA 6010	823180
60417700005	**DUP-IBA-120922**	EPA 3010	823149	EPA 6010	823180
60417700001	**IBA-1-120922**	EPA 200.8	823147	EPA 200.8	823179
60417700002	**IBA-2-120922**	EPA 200.8	823147	EPA 200.8	823179
60417700003	**IBA-3-120922**	EPA 200.8	823147	EPA 200.8	823179
60417700004	**IBA-4-120922**	EPA 200.8	823147	EPA 200.8	823179
60417700005	**DUP-IBA-120922**	EPA 200.8	823147	EPA 200.8	823179
60417700001	**IBA-1-120922**	EPA 245.1	823135	EPA 245.1	823161
60417700002	**IBA-2-120922**	EPA 245.1	823135	EPA 245.1	823161
60417700003	**IBA-3-120922**	EPA 245.1	823135	EPA 245.1	823161
60417700004	**IBA-4-120922**	EPA 245.1	823135	EPA 245.1	823161
60417700005	**DUP-IBA-120922**	EPA 245.1	823135	EPA 245.1	823161
60417700001	**IBA-1-120922**	EPA 300.0	823412		
60417700002	**IBA-2-120922**	EPA 300.0	823412		
60417700003	**IBA-3-120922**	EPA 300.0	823413		
60417700004	**IBA-4-120922**	EPA 300.0	823413		
60417700005	**DUP-IBA-120922**	EPA 300.0	823413		

WO# : 60417700

60417700

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

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: T149 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 2.1 **Corr. Factor** 0.0 **Corrected** 2.1

Date and initials of person examining contents: PV 12/13/22

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:	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, Melissa Michels
	Danielle Oberbroeckling
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 #	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 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.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	N		60417700
1	IBA-1-120922	WT	G	-	-	12/09/22	1200	-	2	1		1							X	X	X	X	X	X		
2	IBA-2-120922	WT	G	-	-	12/09/22	1300	-	2	1		1							X	X	X	X	X	X		
3	IBA-3-120922	WT	G	-	-	12/09/22	1055	-	2	1		1							X	X	X	X	X	X		
4	IBA-4-120922	WT	G	-	-	12/09/22	1420	-	2	1		1							X	X	X	X	X	X		
5	DUP-IBA-120922	WT	G	-	-	12/09/22	1055	-	2	1		1							X	X	X	X	X	X		
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Pace Project No./ Lab I.D.: 60417700

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Vander Putten SCS	12/12/22	800	[signature] PASE	12/12/22	0800	2.1	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Vander Putten

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/09/22

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

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		1									
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: 60417700

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

February 02, 2023

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

RE: Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Dear Jake Humphrey:

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

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

REVISED 2/2/23 re-packaged to include radchem QC sheets. 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.
Samantha Kaney, Haley & Aldrich
Danielle Oberbroeckling, Haley & Aldrich

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

CERTIFICATIONS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60417701001	**IBA-1-120922**	Water	12/09/22 12:00	12/12/22 08:00
60417701002	**IBA-2-120922**	Water	12/09/22 13:00	12/12/22 08:00
60417701003	**IBA-3-120922**	Water	12/09/22 10:55	12/12/22 08:00
60417701004	**IBA-4-120922**	Water	12/09/22 14:20	12/12/22 08:00
60417701005	**DUP-IBA-120922**	Water	12/09/22 10:55	12/12/22 08:00

Pace Analytical Services, LLC
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(913)599-5665

SAMPLE ANALYTE COUNT

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60417701001	**IBA-1-120922**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60417701002	**IBA-2-120922**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60417701003	**IBA-3-120922**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60417701004	**IBA-4-120922**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
60417701005	**DUP-IBA-120922**	EPA 903.1	JDZ	1	PASI-PA
		EPA 904.0	ZPC	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
Pace Project No.: 60417701

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Evergy Kansas Central, Inc.
Date: February 02, 2023

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
Pace Project No.: 60417701

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Evergy Kansas Central, Inc.
Date: February 02, 2023

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
Pace Project No.: 60417701

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Evergy Kansas Central, Inc.
Date: February 02, 2023

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
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Lenexa, KS 66219
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Sample: IBA-1-120922 **Lab ID: 60417701001** Collected: 12/09/22 12:00 Received: 12/12/22 08:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0466 ± 0.242 (0.502) C:NA T:101%**	pCi/L	01/05/23 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.141 ± 0.343 (0.764) C:77% T:86%**	pCi/L	12/29/22 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.188 ± 0.585 (1.27)**	pCi/L	01/10/23 10:42	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Sample: IBA-2-120922 **Lab ID: 60417701002** Collected: 12/09/22 13:00 Received: 12/12/22 08:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0933 ± 0.224 (0.433) C:NA T:98%**	pCi/L	01/05/23 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0185 ± 0.387 (0.889) C:74% T:89%**	pCi/L	12/29/22 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.112 ± 0.611 (1.32)**	pCi/L	01/10/23 10:42	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Sample: IBA-3-120922 **Lab ID: 60417701003** Collected: 12/09/22 10:55 Received: 12/12/22 08:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.113 ± 0.259 (0.610) C:NA T:99%**	pCi/L	01/05/23 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0734 ± 0.345 (0.782) C:73% T:94%**	pCi/L	12/29/22 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0734 ± 0.604 (1.39)**	pCi/L	01/10/23 10:42	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Sample: IBA-4-120922 **Lab ID: 60417701004** Collected: 12/09/22 14:20 Received: 12/12/22 08:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.370 ± 0.404 (0.635) C:NA T:107%**	pCi/L	01/05/23 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.268 ± 0.352 (0.751) C:76% T:92%**	pCi/L	12/29/22 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.638 ± 0.756 (1.39)**	pCi/L	01/10/23 10:42	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Sample: DUP-IBA-120922 **Lab ID: 60417701005** Collected: 12/09/22 10:55 Received: 12/12/22 08:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0470 ± 0.214 (0.127) C:NA T:99%**	pCi/L	01/05/23 14:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.515 ± 0.414 (0.826) C:69% T:93%**	pCi/L	12/29/22 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.562 ± 0.628 (0.953)**	pCi/L	01/10/23 10:42	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

QC Batch: 554737 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60417701001, 60417701002, 60417701003, 60417701004, 60417701005

METHOD BLANK: 2695240 Matrix: Water
Associated Lab Samples: 60417701001, 60417701002, 60417701003, 60417701004, 60417701005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.194 (0.312) C:NA T:98%	pCi/L	01/05/23 13:47	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

QC Batch:	554745	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 60417701001, 60417701002, 60417701003, 60417701004, 60417701005

METHOD BLANK: 2695245 Matrix: Water

Associated Lab Samples: 60417701001, 60417701002, 60417701003, 60417701004, 60417701005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0271 ± 0.236 (0.545) C:88% T:100%	pCi/L	12/29/22 11:57	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60417701

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60417701001	**IBA-1-120922**	EPA 903.1	554737		
60417701002	**IBA-2-120922**	EPA 903.1	554737		
60417701003	**IBA-3-120922**	EPA 903.1	554737		
60417701004	**IBA-4-120922**	EPA 903.1	554737		
60417701005	**DUP-IBA-120922**	EPA 903.1	554737		
60417701001	**IBA-1-120922**	EPA 904.0	554745		
60417701002	**IBA-2-120922**	EPA 904.0	554745		
60417701003	**IBA-3-120922**	EPA 904.0	554745		
60417701004	**IBA-4-120922**	EPA 904.0	554745		
60417701005	**DUP-IBA-120922**	EPA 904.0	554745		
60417701001	**IBA-1-120922**	Total Radium Calculation	559009		
60417701002	**IBA-2-120922**	Total Radium Calculation	559009		
60417701003	**IBA-3-120922**	Total Radium Calculation	559009		
60417701004	**IBA-4-120922**	Total Radium Calculation	559009		
60417701005	**DUP-IBA-120922**	Total Radium Calculation	559009		

WO# : 60417701

60417701

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Cor		
	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: T149 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 2.1 **Corr. Factor** 0.0 **Corrected** 2.1

Date and initials of person examining contents: PV 12/13/22

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? ☑Yes ☐No ☐N/A (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 67181 Cyanide water sample checks: Lead acetate strip turns dark? (Record only) ☐Yes ☐No Potassium iodide test strip turns blue/purple? (Preserve) ☐Yes ☐No		List sample IDs, volumes, lot #'s of preservative and the date/time added.
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Pace Analytical
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — **Required** Client Information:

Company:	EVERGY KANSAS CENTRAL, INC.
Address:	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, Melissa Michels
	Danielle Oberbroeckling
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

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Radium 226	Radium 228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	IBA-1-120922	WT	G	-	-	12/09/22	1200	-	2			2							X	X	X		
2	IBA-2-120922	WT	G	-	-	12/09/22	1300	-	2			2							X	X	X		
3	IBA-3-120922	WT	G	-	-	12/09/22	1055	-	2			2							X	X	X		
4	IBA-4-120922	WT	G	-	-	12/09/22	1420	-	2			2							X	X	X		
5	DUP-IBA-120922	WT	G	-	-	12/09/22	1055	-	2			2							X	X	X		
6																							
7																							
8																							
9																							
10																							
11																							
12																							

60417701
Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Matt VanderPutten SCS	12/12/22	800	[signature] PASI	12/12	0800	2.1 Y Y N Y
(2) 1L nitric preserved for all Radium analysis (Pace PM-see profile notes)							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt VanderPutten

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/09/22

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-38RAD / SI-38RAD02

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																					2										
2	↓																					2										
3																						2										
4																						2										
5																						2										
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: 60417701

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

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

Workorder: 60417701 **Workorder Name:** JEC INACTIVE BOTTOM ASH POND C Owner Received Date: 12/12/2022 Results Requested By: 1/11/2022

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	Radium 228 and combined										LAB USE ONLY
1	IBA-1-120922	PS	12/9/2022 12:00	60417701001	Water	2						X	X										001
2	IBA-2-120922	PS	12/9/2022 13:00	60417701002	Water	2						X	X										002
3	IBA-3-120922	PS	12/9/2022 10:55	60417701003	Water	2						X	X										003
4	IBA-4-120922	PS	12/9/2022 14:20	60417701004	Water	2						X	X										004
5	DUP-IBA-120922	PS	12/9/2022 10:55	60417701005	Water	2						X	X										005

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	12/14 1700	[signature]	12-13-22 15:05
2				
3				

Comments: **INCLUDE QC SHEETS**

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# : 30547408

30547408

DC#_Title: ENV-FRM-GBUR-0088 v02_Sample Condition Upon Receipt-Pittsburgh

Effective Date: 10/03/2022

WO# : 30547408

PM: MAR Due Date: 01/09/23

CLIENT: PACE_60_LEKS

Client Name: Pace-KS

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

Tracking Number: 6091 0793 8054

Examined By	PS
Labeled By	PS
Temped By	—

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

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

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

Temp should be above freezing to 6°C

Comments:	Yes	No	NA	pH paper Lot# 1002221 / D.P.D. Residual Chlorine Lot # —
Chain of Custody Present	✓			1.
Chain of Custody Filled Out:	✓			2.
-Were client corrections present on COC		✓		
Chain of Custody Relinquished	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID				
Matrix:	WT			
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous samples field filtered:			✓	13.
Organic Samples checked for dechlorination			✓	14:
Filtered volume received for dissolved tests:			✓	15:
All containers checked for preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements:	✓			Initial when completed PS / Date/Time of Preservation / Lot# of added Preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present		✓		
Rad Samples Screened <0.5 mrem/hr.	✓			Initial when completed PS / Date: 12/16/22 / Survey Meter SN: 1563

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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JDZ
Date:	12/20/2022
Batch ID:	70623
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2695240
MB concentration:	0.000
M/B Counting Uncertainty:	0.118
MB MDC:	0.312
MB Numerical Performance Indicator:	0.00
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS70623	**LCSD70623**
Count Date:	1/5/2023	1/5/2023
Spike I.D.:	21-040	21-040
Spike Concentration (pCi/mL):	32.422	32.422
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.655	0.657
Target Conc. (pCi/L, g, F):	4.952	4.937
Uncertainty (Calculated):	0.233	0.232
Result (pCi/L, g, F):	5.655	4.326
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.988	0.843
Numerical Performance Indicator:	1.36	-1.37
Percent Recovery:	114.19%	87.63%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	73%	73%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS70623	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD70623	
Sample Result (pCi/L, g, F):	5.655	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.988	
Sample Duplicate Result (pCi/L, g, F):	4.326	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.843	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	2.005	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	26.32%	
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:

GDH 1/5/23
JDZ 1/5/23

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test: Ra-228
Analyst: ZPC
Date: 1/6/2023
Worklist: 70624
Matrix:

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	
MB concentration:	
MB MDC:	
MB Numerical Performance Indicator:	
MB Status vs Numerical Indicator:	
MB Status vs. MDC:	

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS70624	LCSD70624
Count Date:	1/9/2023	1/9/2023
Spike I.D.:	22-040	22-040
Decay Corrected Spike Concentration (pCi/mL):	33.956	33.956
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.810	0.804
Target Conc. (pCi/L, g, F):	4.190	4.221
Uncertainty (Calculated):	0.205	0.207
Result (pCi/L, g, F):	3.926	3.425
	0.948	0.887
Numerical Performance Indicator:	-0.53	-1.71
Percent Recovery:	93.70%	81.13%
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 Matrix Spike Result:		
Sample Matrix Spike Duplicate Result:		
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.:	LCS70624	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD70624	
Sample Result (pCi/L, g, F):	3.926	
	0.948	
Sample Duplicate Result (pCi/L, g, F):	3.425	
	0.887	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.756	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	14.38%	
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:		
Sample Matrix Spike Duplicate Result:		
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:

1/10/23

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	ZPC
Date:	12/21/2022
Worklist:	70624
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2695245
MB concentration:	0.027
M/B 2 Sigma CSU:	0.236
MB MDC:	0.545
MB Numerical Performance Indicator:	0.22
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS70624	LCSD70624
Count Date:	12/29/2022	12/29/2022
Spike I.D.:	22-040	22-040
Decay Corrected Spike Concentration (pCi/mL):	34.078	34.078
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.810	0.804
Target Conc. (pCi/L, g, F):	4.205	4.237
Uncertainty (Calculated):	0.206	0.208
Result (pCi/L, g, F):	2.383	3.025
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.640	0.755
Numerical Performance Indicator:	-5.31	-3.03
Percent Recovery:	56.67%	71.40%
Status vs Numerical Indicator:	Fail**	N/A
Status vs Recovery:	Fail Low**	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.:	LCS70624	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD70624	
Sample Result (pCi/L, g, F):	2.383	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.640	
Sample Duplicate Result (pCi/L, g, F):	3.025	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.755	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.272	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	23.01%	
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:

**Batch must be re-prepped due to LCS failure.

RT LCS

VAL 1/5/23

1/9/23

Attachment 2-3
March 2023 Semi-Annual Sampling Event
Laboratory Analytical Report

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

March 29, 2023

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

RE: Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Dear Jake Humphrey:

Enclosed are the analytical results for sample(s) received by the laboratory on March 15, 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
Adriana Sosa, Haley & Aldrich, Inc.
Andrew Watson, Haley & Aldrich

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CERTIFICATIONS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 22-031-0
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

SAMPLE SUMMARY

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60423977001	**MW IBA-1-031423**	Water	03/14/23 11:16	03/15/23 12:40
60423977002	**MW IBA-2-031423**	Water	03/14/23 12:06	03/15/23 12:40
60423977003	**MW IBA-3-031423**	Water	03/14/23 13:48	03/15/23 12:40
60423977004	**MW IBA-4-031423**	Water	03/14/23 15:15	03/15/23 12:40
60423977005	**DUP JEC IBA-031423**	Water	03/14/23 12:06	03/15/23 12:40

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SAMPLE ANALYTE COUNT

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60423977001	**MW IBA-1-031423**	EPA 200.7	ALH	3	PASI-K
		EPA 6010	ALH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 4500-H+B	CRN2	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60423977002	**MW IBA-2-031423**	EPA 200.7	ALH	3	PASI-K
		EPA 6010	ALH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 4500-H+B	CRN2	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60423977003	**MW IBA-3-031423**	EPA 200.7	ALH	3	PASI-K
		EPA 6010	ALH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 4500-H+B	CRN2	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60423977004	**MW IBA-4-031423**	EPA 200.7	ALH	3	PASI-K
		EPA 6010	ALH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 4500-H+B	CRN2	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60423977005	**DUP JEC IBA-031423**	EPA 200.7	ALH	3	PASI-K
		EPA 6010	ALH	1	PASI-K
		EPA 200.8	JGP	2	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 4500-H+B	CRN2	1	PASI-K
		EPA 300.0	CRN2	3	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.: 60423977

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: March 29, 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: 836953

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60423973001

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

- MS (Lab ID: 3319287)
  - Boron
  - Calcium
- MSD (Lab ID: 3319288)
  - Barium
  - Boron
  - Calcium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: March 29, 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.

QC Batch: 836954

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60423973001

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

- MS (Lab ID: 3319291)
  - Lithium
- MSD (Lab ID: 3319292)
  - Lithium

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: March 29, 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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Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Evergy Kansas Central, Inc.
Date: March 29, 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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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Evergy Kansas Central, Inc.
Date: March 29, 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.
- DUP JEC IBA-031423 (Lab ID: 60423977005)
- MW IBA-1-031423 (Lab ID: 60423977001)
- MW IBA-2-031423 (Lab ID: 60423977002)
- MW IBA-3-031423 (Lab ID: 60423977003)
- MW IBA-4-031423 (Lab ID: 60423977004)

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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Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: March 29, 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.

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

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Sample: MW IBA-1-031423 **Lab ID: 60423977001** Collected: 03/14/23 11:16 Received: 03/15/23 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.031**	mg/L	0.0050	1	03/16/23 12:12	03/27/23 15:30	7440-39-3	
Boron, Total Recoverable	**0.39**	mg/L	0.10	1	03/16/23 12:12	03/27/23 15:30	7440-42-8	
Calcium, Total Recoverable	**287**	mg/L	0.20	1	03/16/23 12:12	03/27/23 15:30	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	03/16/23 12:12	03/27/23 16:04	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	**0.0017**	mg/L	0.0010	1	03/16/23 12:12	03/22/23 16:02	7440-48-4	
Molybdenum, Total Recoverable	**0.0086**	mg/L	0.0010	1	03/16/23 12:12	03/22/23 16:02	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1570**	mg/L	13.3	1		03/16/23 09:39		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		03/16/23 10:38		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**159**	mg/L	100	100		03/23/23 20:17	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/21/23 18:46	16984-48-8	
Sulfate	**757**	mg/L	100	100		03/23/23 20:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Sample: MW IBA-2-031423 **Lab ID: 60423977002** Collected: 03/14/23 12:06 Received: 03/15/23 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.026**	mg/L	0.0050	1	03/16/23 12:12	03/27/23 15:32	7440-39-3	
Boron, Total Recoverable	**0.22**	mg/L	0.10	1	03/16/23 12:12	03/27/23 15:32	7440-42-8	
Calcium, Total Recoverable	**230**	mg/L	0.20	1	03/16/23 12:12	03/27/23 15:32	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	03/16/23 12:12	03/27/23 16:06	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	03/16/23 12:12	03/22/23 16:21	7440-48-4	
Molybdenum, Total Recoverable	**0.0024**	mg/L	0.0010	1	03/16/23 12:12	03/22/23 16:21	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1250**	mg/L	13.3	1		03/16/23 09:39		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		03/16/23 10:38		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**115**	mg/L	10.0	10		03/23/23 20:57	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/21/23 19:13	16984-48-8	
Sulfate	**696**	mg/L	500	500		03/23/23 21:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Sample: MW IBA-3-031423 **Lab ID: 60423977003** Collected: 03/14/23 13:48 Received: 03/15/23 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.017**	mg/L	0.0050	1	03/16/23 12:12	03/27/23 15:34	7440-39-3	
Boron, Total Recoverable	**0.29**	mg/L	0.10	1	03/16/23 12:12	03/27/23 15:34	7440-42-8	
Calcium, Total Recoverable	**251**	mg/L	0.20	1	03/16/23 12:12	03/27/23 15:34	7440-70-2	
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	03/16/23 12:12	03/27/23 16:08	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	**0.0013**	mg/L	0.0010	1	03/16/23 12:12	03/22/23 16:25	7440-48-4	
Molybdenum, Total Recoverable	**0.0023**	mg/L	0.0010	1	03/16/23 12:12	03/22/23 16:25	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1530**	mg/L	13.3	1		03/16/23 09:39		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		03/16/23 10:38		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**123**	mg/L	10.0	10		03/23/23 21:24	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/21/23 19:39	16984-48-8	
Sulfate	**712**	mg/L	100	100		03/23/23 21:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Sample: MW IBA-4-031423 **Lab ID: 60423977004** Collected: 03/14/23 15:15 Received: 03/15/23 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.019**	mg/L	0.0050	1	03/16/23 12:12	03/27/23 15:36	7440-39-3	
Boron, Total Recoverable	**0.24**	mg/L	0.10	1	03/16/23 12:12	03/27/23 15:36	7440-42-8	
Calcium, Total Recoverable	**108**	mg/L	0.20	1	03/16/23 12:12	03/27/23 15:36	7440-70-2	
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	03/16/23 12:12	03/27/23 16:10	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	03/16/23 12:12	03/22/23 16:28	7440-48-4	
Molybdenum, Total Recoverable	**0.0019**	mg/L	0.0010	1	03/16/23 12:12	03/22/23 16:28	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**639**	mg/L	10.0	1		03/16/23 09:39		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		03/16/23 10:38		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**18.7**	mg/L	1.0	1		03/23/23 21:51	16887-00-6	
Fluoride	**0.42**	mg/L	0.20	1		03/23/23 21:51	16984-48-8	
Sulfate	**163**	mg/L	10.0	10		03/21/23 20:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Sample: DUP JEC IBA-031423 **Lab ID: 60423977005** Collected: 03/14/23 12:06 Received: 03/15/23 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.028**	mg/L	0.0050	1	03/16/23 12:12	03/27/23 15:45	7440-39-3	
Boron, Total Recoverable	**0.22**	mg/L	0.10	1	03/16/23 12:12	03/27/23 15:45	7440-42-8	
Calcium, Total Recoverable	**230**	mg/L	0.20	1	03/16/23 12:12	03/27/23 15:45	7440-70-2	
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	03/16/23 12:12	03/27/23 16:19	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	03/16/23 12:12	03/22/23 16:32	7440-48-4	
Molybdenum, Total Recoverable	**0.0024**	mg/L	0.0010	1	03/16/23 12:12	03/22/23 16:32	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1320**	mg/L	13.3	1		03/16/23 09:39		
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		03/16/23 10:38		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**112**	mg/L	10.0	10		03/21/23 21:13	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/21/23 20:33	16984-48-8	
Sulfate	**608**	mg/L	50.0	50		03/23/23 22:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

QC Batch: 836953
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: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

METHOD BLANK: 3319285 Matrix: Water
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	03/27/23 15:19	
Boron	mg/L	<0.10	0.10	03/27/23 15:19	
Calcium	mg/L	<0.20	0.20	03/27/23 15:19	

LABORATORY CONTROL SAMPLE: 3319286

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	104	85-115	
Boron	mg/L	1	1.0	100	85-115	
Calcium	mg/L	10	10.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3319287 3319288

Parameter	Units	60423973001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.060	1	1	1.2	1.4	115	135	70-130	15	20	M1
Boron	mg/L	9.6	1	1	11.3	13.1	175	350	70-130	14	20	M1
Calcium	mg/L	2580	10	10	2780	3170	2000	5920	70-130	13	20	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.: 60423977

QC Batch: 836955
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: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

METHOD BLANK: 3319294 Matrix: Water
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cobalt	mg/L	<0.0010	0.0010	03/22/23 15:56	
Molybdenum	mg/L	<0.0010	0.0010	03/22/23 15:56	

LABORATORY CONTROL SAMPLE: 3319295

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	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3319296 3319297

Parameter	Units	60423977001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	mg/L	0.0017	0.04	0.04	0.042	0.042	102	101	70-130	0	20	
Molybdenum	mg/L	0.0086	0.04	0.04	0.051	0.051	106	106	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 C
Pace Project No.: 60423977

QC Batch: 836954 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

METHOD BLANK: 3319289 Matrix: Water
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	03/27/23 15:53	

LABORATORY CONTROL SAMPLE: 3319290

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: 3319291 3319292

Parameter	Units	60423973001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	3.4	1	1	4.0	4.0	59	59	75-125	0	20	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.: 60423977

QC Batch: 836930 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

METHOD BLANK: 3319188 Matrix: Water
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	03/16/23 09:38	

LABORATORY CONTROL SAMPLE: 3319189

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

SAMPLE DUPLICATE: 3319190

Parameter	Units	60423873001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	533	558	5	10	

SAMPLE DUPLICATE: 3319191

Parameter	Units	60423977003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1530	1460	5	10	

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

QC Batch: 836964
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: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

SAMPLE DUPLICATE: 3319334

Parameter	Units	60423985001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.7	1	5	H6

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QUALITY CONTROL DATA

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

QC Batch: 837612
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: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

METHOD BLANK: 3321412 Matrix: Water
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/21/23 13:47	
Fluoride	mg/L	<0.20	0.20	03/21/23 13:47	
Sulfate	mg/L	<1.0	1.0	03/21/23 13:47	

METHOD BLANK: 3324417 Matrix: Water
Associated Lab Samples: 60423977001, 60423977002, 60423977003, 60423977004, 60423977005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/23/23 17:24	
Fluoride	mg/L	<0.20	0.20	03/23/23 17:24	
Sulfate	mg/L	<1.0	1.0	03/23/23 17:24	

LABORATORY CONTROL SAMPLE: 3321413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

LABORATORY CONTROL SAMPLE: 3324418

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	103	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3321414 3321415

Parameter	Units	60423918008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	1000	1000	999	990	91	90	80-120	1	15	
Fluoride	mg/L	ND	500	500	522	521	104	104	80-120	0	15	
Sulfate	mg/L	480	1000	1000	1470	1460	99	98	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC INACTIVE BOTTOM ASH POND C
Pace Project No.: 60423977

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60423977001	**MW IBA-1-031423**	EPA 200.7	836953	EPA 200.7	837016
60423977002	**MW IBA-2-031423**	EPA 200.7	836953	EPA 200.7	837016
60423977003	**MW IBA-3-031423**	EPA 200.7	836953	EPA 200.7	837016
60423977004	**MW IBA-4-031423**	EPA 200.7	836953	EPA 200.7	837016
60423977005	**DUP JEC IBA-031423**	EPA 200.7	836953	EPA 200.7	837016
60423977001	**MW IBA-1-031423**	EPA 3010	836954	EPA 6010	837017
60423977002	**MW IBA-2-031423**	EPA 3010	836954	EPA 6010	837017
60423977003	**MW IBA-3-031423**	EPA 3010	836954	EPA 6010	837017
60423977004	**MW IBA-4-031423**	EPA 3010	836954	EPA 6010	837017
60423977005	**DUP JEC IBA-031423**	EPA 3010	836954	EPA 6010	837017
60423977001	**MW IBA-1-031423**	EPA 200.8	836955	EPA 200.8	837018
60423977002	**MW IBA-2-031423**	EPA 200.8	836955	EPA 200.8	837018
60423977003	**MW IBA-3-031423**	EPA 200.8	836955	EPA 200.8	837018
60423977004	**MW IBA-4-031423**	EPA 200.8	836955	EPA 200.8	837018
60423977005	**DUP JEC IBA-031423**	EPA 200.8	836955	EPA 200.8	837018
60423977001	**MW IBA-1-031423**	SM 2540C	836930		
60423977002	**MW IBA-2-031423**	SM 2540C	836930		
60423977003	**MW IBA-3-031423**	SM 2540C	836930		
60423977004	**MW IBA-4-031423**	SM 2540C	836930		
60423977005	**DUP JEC IBA-031423**	SM 2540C	836930		
60423977001	**MW IBA-1-031423**	SM 4500-H+B	836964		
60423977002	**MW IBA-2-031423**	SM 4500-H+B	836964		
60423977003	**MW IBA-3-031423**	SM 4500-H+B	836964		
60423977004	**MW IBA-4-031423**	SM 4500-H+B	836964		
60423977005	**DUP JEC IBA-031423**	SM 4500-H+B	836964		
60423977001	**MW IBA-1-031423**	EPA 300.0	837612		
60423977002	**MW IBA-2-031423**	EPA 300.0	837612		
60423977003	**MW IBA-3-031423**	EPA 300.0	837612		
60423977004	**MW IBA-4-031423**	EPA 300.0	837612		
60423977005	**DUP JEC IBA-031423**	EPA 300.0	837612		

REPORT OF LABORATORY ANALYSIS

WO# : 60423977

60423977

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sampl		
	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: T216 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 3.5 **Corr. Factor** -0.1 **Corrected** 3.4

Date and initials of person examining contents: AF 3/1 S

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#: 6204001	☑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, Melissa Michels
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

Valid Matrix Codes

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

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Total B,Ba,Ca	200.8 Total Co, Mo	6010 Lithium	Total dissolved solids	300.0 Cl, F, S	pH	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	N		60423977
1	MW IBA-1-031423	WT		NA	NA	3/14/232	11:16		4	3		2							X	X	X	X	X	X		
2	MW IBA-2-031423	WT		NA	NA	3/14/232	12:06		4	3		2							X	X	X	X	X	X		
3	MW IBA-3-031423	WT		NA	NA	3/14/232	13:48		4	3		2							X	X	X	X	X	X		
4	MW IBA-4-031423	WT		NA	NA	3/14/232	15:15		4	3		2							X	X	X	X	X	X		
5	Dup JEC IBA-031423	WT		NA	NA	3/14/232	12:06		4	3		2							X	X	X	X	X	X		
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Pace Project No./ Lab I.D.: 60423977

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	3/15/23	0:00		3/15	1240	3-4	Y	N	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt VanderPutten

SIGNATURE of SAMPLER: Matthew VanderPutten DATE Signed (MM/DD/YY): 3/15/23

*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: 60423977