HALEY ALDRICH

www.haleyaldrich.com

2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
FLY ASH LANDFILL
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

by
Haley & Aldrich, Inc.
Cleveland, Ohio

for
Evergy Kansas Central, Inc.
Topeka, Kansas

File No. 129778-030
January 2022

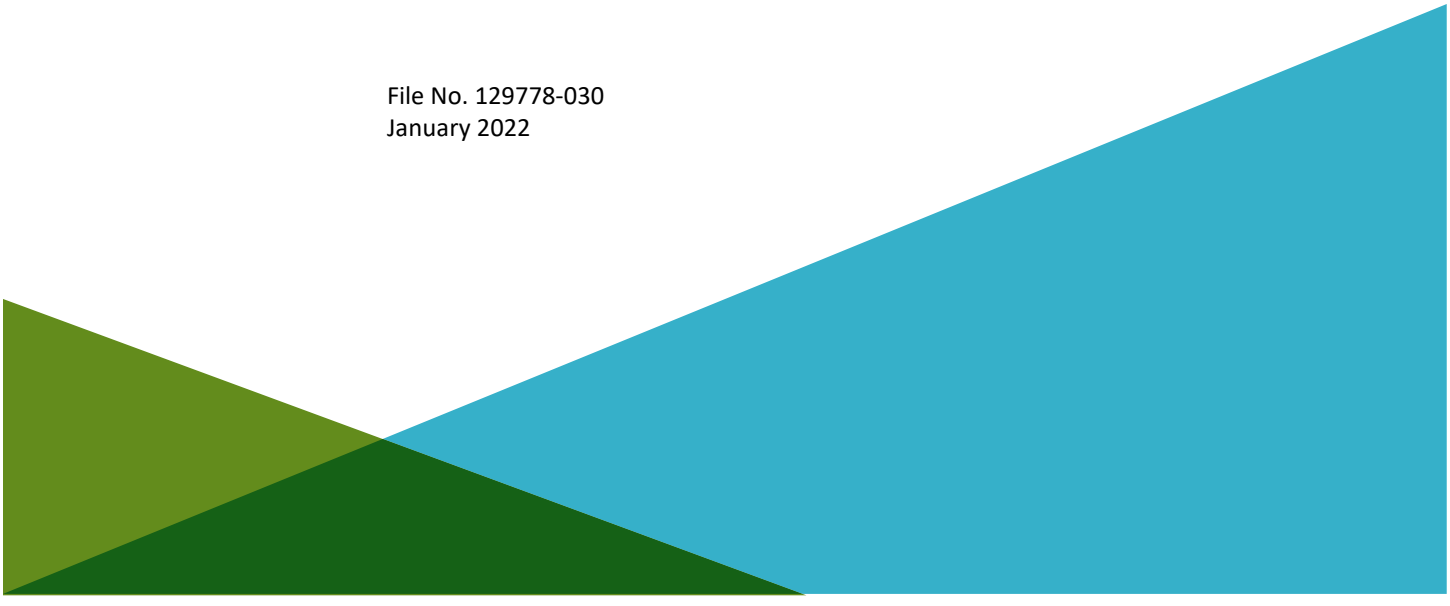


Table of Contents

Page

Revision No.	Date	Notes

List of Tables

List of Figures

This Annual Groundwater Monitoring and Corrective Action Report documents the groundwater monitoring program for the Jeffrey Energy Center Fly Ash Landfill (FAL) consistent with applicable sections of 257.90 through 257.98, and describes activities conducted in the prior calendar year (2021) and documents compliance with the U.S. Environmental Protection Agency Coal Combustion Residual Rule. I certify that the 2021 Annual Groundwater Monitoring and Corrective Action Report for the JEC FAL 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 2021 Annual Groundwater Monitoring and Corrective Action Report (Annual Report) addresses the Fly Ash Landfill (FAL) 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 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 FAL consistent with applicable sections of 257.90 through 257.98, and describes activities conducted in the prior calendar year (2021) and document compliance with the Rule. The specific requirements for the Annual Report listed in § 257.90(e)(1)-(5) of the Rule are provided in Sections 1 and 2 of this Annual Report and are in bold italic font, followed by a short narrative describing how each Rule requirement has been met.

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 (January 1, 2021), the FAL 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 (December 31, 2021), the FAL 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 FAL is operating under an assessment monitoring program; therefore, no statistical evaluations were completed on appendix III constituents in 2021.

1.1.3.2 40 CFR § 257.90(e)(6)(iii)(b)

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

An assessment monitoring program was initiated on July 17, 2018 for the FAL with a notification establishing assessment monitoring provided on August 15, 2018 to meet the requirements of 40 CFR § 257.95. The FAL remained in assessment monitoring in 2021.

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 in 2021 for the FAL.

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 in 2021 for this unit. The FAL remained in assessment monitoring during 2021.

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 FAL in 2021; 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 in 2021 for this unit. The FAL remained in assessment monitoring during 2021.

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 FAL remains in assessment monitoring, and 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 in 2021.

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) [Suspension of groundwater monitoring requirements] of this section.

Evergy has installed and certified a groundwater monitoring system at the JEC FAL. The FAL 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 FAL 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 2021.

2.2.1 Status of the Groundwater Monitoring Program

The FAL remained in the assessment monitoring program during 2021.

2.2.2 Key Actions Completed

The 2020 Annual Groundwater Monitoring and Corrective Action Report was completed in January 2021. Statistical evaluation was completed in January 2021 on analytical data from the September 2020 semi-annual assessment monitoring sampling event.

A semi-annual assessment monitoring sampling event was completed in March 2021 for detected appendix IV constituents identified from the June 2020 annual assessment monitoring sampling event. Statistical evaluation was completed in July 2021 on analytical data from the March 2021 semi-annual assessment monitoring sampling event.

An annual assessment monitoring sampling event was completed in June 2021 to identify detected appendix IV constituents for subsequent semi-annual sampling events in September 2021 and planned for March 2022. Semi-annual assessment monitoring sampling was completed in September 2021 for detected appendix IV constituents identified during the June 2021 annual monitoring event. Statistical evaluation of the results from the September 2021 semi-annual assessment monitoring sampling event are due to be completed in January 2022 and will be reported in the next annual report.

2.2.3 Problems Encountered

One problem encountered during groundwater monitoring activities in 2021 consisted of a potential erroneous analytical result that required the laboratory to reanalyze select analytical results. Arsenic was reanalyzed for monitoring well MW-FAA-6, and its corresponding duplicate sample, in the March 2021 semi-annual assessment monitoring sampling event.
Well MW-FAA-6 was resampled in April 2021 to confirm the March 2021 result. The analytical result was revised accordingly. This was the only issue that needed to be addressed at the FAL in 2021.

2.2.4 Actions to Resolve Problems

The resolution to problems encountered in 2021 included additional laboratory analyses and resampling event as described above. The analytical result was revised accordingly. No other problems were encountered at the FAL in 2021; therefore, no actions to resolve problems were required.

2.2.5 Project Key Activities for Upcoming Year

Key activities planned for 2022 include the completion of the 2021 Annual Groundwater Monitoring and Corrective Action Report, statistical evaluation of semi-annual assessment monitoring analytical data collected in September 2021, 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)

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 FAL 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 during 2021.

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

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

In accordance with § 257.95(b) and § 257.95(d)(1), three independent assessment monitoring samples from each background and downgradient monitoring well were collected in 2021. A summary including sample names, dates of sample collection, field parameters, and monitoring data obtained for the groundwater monitoring program for the FAL is presented in Table I of this report. Groundwater potentiometric elevation contour maps associated with each groundwater monitoring sampling event in 2021 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 July 17, 2018 with a notification establishing assessment monitoring provided on August 15, 2018 to meet the requirements of 40 CFR § 257.95. The FAL remained in assessment monitoring during 2021.

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 in calendar year 2021.

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

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

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

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

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

This unit is in assessment monitoring; therefore, no detection monitoring 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 July 17, 2018. Three rounds of assessment monitoring sampling were completed in 2021. 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 FAL are included in Tables II and III. The background concentrations and groundwater protection standards provided in Tables II and III were utilized for the statistical evaluations completed in 2021 for September 2020 and March 2021 semi-annual assessment monitoring sampling events, respectively.

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

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

No assessment monitoring alternative source demonstration or certification was required in 2021. The FAL remained in assessment monitoring during 2021.

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 in 2021; therefore, no demonstration or certification is applicable for this unit.

TABLES

TABLE I
SUMMARY OF ANALYTICAL RESULTS - 2021 ASSESSMENT MONITORING
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
FLY ASH LANDFILL
ST. MARYS, KANSAS

Location	Upgradient			Downgradient					
	MW-FAA-5			MW-FAA-3			MW-FAA-4		
Measure Point (TOC)	1250.80			1165.66			1213.81		
Sample Name	FAA-5-030421	FAA-5-06/09/21	FAA-5-091421	FAA-3-030421	FAA-3-06/09/21	FAA-3-091421	FAA-4-030421	FAA-4-06/09/21	FAA-4-091421
Sample Date	3/4/2021	06/09/2021	9/14/2021	3/4/2021	06/09/2021	9/14/2021	3/4/2021	06/09/2021	9/14/2021
Final Lab Report Date	3/17/2021	6/18/2021	12/1/2021	3/17/2021	6/18/2021	12/2/2021	3/17/2021	6/18/2021	12/2/2021
Final Lab Report Revision Date	3/23/2021	NA	N/A	3/23/2021	NA	N/A	3/23/2021	NA	N/A
Final Radiation Lab Report Date	3/30/2021	7/7/2021	12/1/2021	3/30/2021	7/7/2021	12/2/2021	3/30/2021	7/7/2021	12/2/2021
Final Radiation Lab Report Revision Date	N/A	NA	N/A	N/A	NA	N/A	N/A	NA	N/A
Lab Data Reviewed and Validated	4/16/2021	8/2/2021	12/10/2021	4/16/2021	8/2/2021	12/10/2021	4/16/2021	8/2/2021	12/10/2021
Depth to Water (ft btoc)	87.05	87.05	87.11	13.60	12.60	16.33	57.59	55.63	58.40
Temperature (Deg C)	14.62	16.91	16.80	15.04	16.79	17.14	13.74	17.38	16.37
Conductivity, Field (µS/cm)	3530	3480	3180	2420	1700	1610	2680	1610	1710
Turbidity, Field (NTU)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH, Field (su)	6.86	6.64	6.84	7.29	6.90	7.44	7.38	6.96	7.74
Boron, Total (mg/L)	**1.7**	-	**1.8**	**0.53**	-	**0.55**	**0.71**	-	**0.73**
Calcium, Total (mg/L)	**537**	-	**539**	**195**	-	**191**	**195**	-	**190**
Chloride (mg/L)	**89.9**	-	**80.8**	**84.2**	-	**78.2**	**77.9**	-	**83.8**
Fluoride (mg/L)	**1.1**	-	**0.71**	< 0.20	-	**0.35**	< 0.20	-	**0.38**
Sulfate, Total (mg/L)	**2200**	-	**1980**	**556**	-	**408**	**536**	-	**488**
pH (su)	**6.9**	-	**7.3**	**7.10**	-	**7.4**	**6.9**	-	**7.4**
TDS (mg/L)	**3640**	-	**3580**	**1130**	-	**1080**	**1140**	-	**1220**
Antimony, Total (mg/L)	-	< 0.0010	< 0.005	-	< 0.0010	-	-	< 0.0010	-
Arsenic, Total (mg/L)	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Barium, Total (mg/L)	< 0.0050	< 0.0050	< 0.0050	**0.029**	**0.031**	**0.032**	**0.051**	**0.046**	**0.046**
Beryllium, Total (mg/L)	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	-
Cadmium, Total (mg/L)	-	< 0.00050	< 0.0025	-	< 0.00050	-	-	< 0.00050	-
Chromium, Total (mg/L)	-	< 0.0050	< 0.0050	-	< 0.0050	-	-	< 0.0050	-
Cobalt, Total (mg/L)	**0.0031**	**0.0028**	< 0.0050	< 0.0010	< 0.0010	< 0.0010	**0.0021**	**0.0027**	**0.0022**
Lead, Total (mg/L)	-	< 0.010	< 0.010	-	< 0.010	-	-	< 0.010	-
Lithium, Total (mg/L)	**0.14**	**0.13**	**0.15**	**0.023**	< 0.010	**0.012**	**0.021**	**0.011**	**0.017**
Molybdenum, Total (mg/L)	**0.029**	**0.026**	**0.023**	**0.0082**	**0.0062**	**0.0090**	**0.0073**	**0.0094**	**0.0084**
Selenium, Total (mg/L)	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Thallium, Total (mg/L)	-	< 0.0010	< 0.0050	-	< 0.0010	-	-	< 0.0010	-
Mercury, Total (mg/L)	-	< 0.00020	< 0.00020	-	< 0.00020	-	-	< 0.00020	-
Fluoride (mg/L)	**1.1**	**0.55**	**0.71**	< 0.20	**0.28**	**0.35**	< 0.20	< 0.20	**0.38**
Radium-226 & 228 (pCi/L)	**1.43 ± 0.646 (0.735)**	**1.35 ± 0.822 (0.985)**	1.79 ± 1.14 (1.82)	0.482 ± 0.587 (0.905)	**1.07 ± 0.617 (0.931)**	0.000 ± 0.791 (1.96)	**1.14 ± 0.709 (0.922)**	0.220 ± 0.594 (0.981)	0.731 ± 0.979 (1.95)

TABLE I
SUMMARY OF ANALYTICAL RESULTS - 2021 ASSESSMENT MONITORING
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
FLY ASH LANDFILL
ST. MARYS, KANSAS

Location	Downgradient						
	MW-FAA-6						
Measure Point (TOC)	1162.76						
Sample Name	FAA-6-030421	FAL-DUP-030421	FAA-6-040121*	FAA-6-06/09/21	FAA-DUP-06/09/21	FAA-6-091421	JEC-FAA-DUP-091421
Sample Date	3/4/2021	3/4/2021	4/1/2021	06/09/2021	06/09/2021	9/14/2021	9/14/2021
Final Lab Report Date	3/17/2021	3/17/2021	4/5/2021	6/18/2021	6/18/2021	12/2/2021	12/2/2021
Final Lab Report Revision Date	3/23/2021	3/23/2021	N/A	NA	NA	N/A	N/A
Final Radiation Lab Report Date	3/30/2021	3/30/2021	N/A	7/7/2021	7/7/2021	12/2/2021	12/2/2021
Final Radiation Lab Report Revision Date	N/A	N/A	N/A	NA	NA	N/A	N/A
Lab Data Reviewed and Validated	4/16/2021	4/16/2021	4/16/2021	8/2/2021	8/2/2021	12/10/2021	12/10/2021
Depth to Water (ft btoc)	14.62	-	14.62	14.37	-	19.17	-
Temperature (Deg C)	16.27	-	13.81	18.48	-	17.28	-
Conductivity, Field (µS/cm)	4910	-	1920	1760	-	1860	-
Turbidity, Field (NTU)	0.0	-	0.0	0.0	-	0.0	-
pH, Field (su)	8.00	-	7.19	6.71	-	7.45	-
Boron, Total (mg/L)	**4.2**	**4.1**	-	-	-	**2.0**	**2.7**
Calcium, Total (mg/L)	**101**	**99.1**	-	-	-	**134**	**135**
Chloride (mg/L)	**74.4**	**75.0**	-	-	-	**74.3**	**75.0**
Fluoride (mg/L)	**1.1**	**1.1**	-	-	-	**0.67**	**0.77**
Sulfate, Total (mg/L)	**1470**	**1460**	-	-	-	**932**	**979**
pH (su)	**7.8**	**7.9**	-	-	-	**7.2**	**7.4**
TDS (mg/L)	**2280**	**2440**	-	-	-	**1770**	**1750**
Antimony, Total (mg/L)	-	-	-	< 0.0010	< 0.0010	-	-
Arsenic, Total (mg/L)	**0.011**	**0.011**	**0.0043**	**0.0055**	**0.0063**	**0.0052**	**0.0065**
Barium, Total (mg/L)	**0.024**	**0.023**	-	**0.035**	**0.034**	**0.033**	**0.032**
Beryllium, Total (mg/L)	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	-	-
Cadmium, Total (mg/L)	-	-	-	< 0.00050	< 0.00050	-	-
Chromium, Total (mg/L)	-	-	-	< 0.0050	< 0.0050	-	-
Cobalt, Total (mg/L)	**0.0013**	**0.0013**	-	**0.0017**	**0.0016**	**0.0017**	**0.0015**
Lead, Total (mg/L)	-	-	-	< 0.010	< 0.010	-	-
Lithium, Total (mg/L)	< 0.010	< 0.010	-	< 0.010	< 0.010	**0.012**	< 0.010
Molybdenum, Total (mg/L)	**0.49**	**0.48**	-	**0.34**	**0.38**	**0.26**	**0.30**
Selenium, Total (mg/L)	< 0.0010	< 0.0010	-	**0.0018**	**0.0018**	< 0.0010	< 0.0010
Thallium, Total (mg/L)	-	-	-	< 0.0010	< 0.0010	-	-
Mercury, Total (mg/L)	-	-	-	< 0.00020	< 0.00020	-	-
Fluoride (mg/L)	**1.1**	**1.1**	-	**0.66**	**0.68**	**0.67**	**0.77**
Radium-226 & 228 (pCi/L)	0.538 ± 0.514 (0.878)	0.709 ± 0.532 (0.794)	-	0.495 ± 0.590 (0.871)	0.661 ± 0.562 (0.843)	0.570 ± 0.965 (1.98)	0.866 ± 1.04 (2.03)

Notes and Abbreviations:

Bold value: *Detection above laboratory reporting limit or minimum detectable concentration (MDC).*
Radiological results are presented as activity plus or minus uncertainty with MDC.
Data presented in this table were verified against the laboratory and validation reports.
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
SEPTEMBER 2020 SAMPLING EVENT
JEFFREY ENERGY CENTER
FLY ASH LANDFILL

Well Number	Background Value[1]	GWPS
CCR Appendix-IV Arsenic, Total (mg/L)		
MW-FAA-5 (upgradient)	0.0035	NA
MW-FAA-3		0.010
MW-FAA-4		0.010
MW-FAA-6		0.010
CCR Appendix-IV Barium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.013	NA
MW-FAA-3		2
MW-FAA-4		2
MW-FAA-6		2
CCR Appendix-IV: Beryllium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.0018[3]	NA
MW-FAA-3		0.004
MW-FAA-4		0.004
MW-FAA-6		0.004
CCR Appendix-IV Cobalt, Total (mg/L)		
MW-FAA-5 (upgradient)	0.00521	NA
MW-FAA-3		0.006
MW-FAA-4		0.006
MW-FAA-6		0.006
CCR Appendix-IV Fluoride, Total (mg/L)		
MW-FAA-5 (upgradient)	1.430	NA
MW-FAA-3		4.0
MW-FAA-4		4.0
MW-FAA-6		4.0
CCR Appendix-IV Lithium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.171	NA
MW-FAA-3		0.171
MW-FAA-4		0.171
MW-FAA-6		0.171
CCR Appendix-IV Molybdenum, Total (mg/L)		
MW-FAA-5 (upgradient)	0.0652	NA
MW-FAA-3		0.100
MW-FAA-4		0.100
MW-FAA-6	0.929[2]	0.929
CCR Appendix-IV Radium-226 & 228 Combined (pCi/L)		
MW-FAA-5 (upgradient)	2.342	NA
MW-FAA-3		5
MW-FAA-4		5
MW-FAA-6		5
CCR Appendix-IV Selenium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.00370	NA
MW-FAA-3		0.05
MW-FAA-4		0.05
MW-FAA-6		0.05

Notes and Abbreviations:

[1] Interwell background data collected from 08/19/2016 through 03/04/2020, unless otherwise noted.

[2] Intrawell background data collected from 08/19/2016 through 06/23/2019.

[3] Interwell background data collected from 08/19/2016 through 09/14/2020.

CCR = Coal Combustion Residuals

GWPS = Groundwater Protection Standard

mg/L = milligrams per Liter

NA = Not Applicable

pCi/L = picoCuries per Liter

TABLE III
ASSESSMENT GROUNDWATER MONITORING - DETECTED APPENDIX IV GWPS
MARCH 2021 SAMPLING EVENT
JEFFREY ENERGY CENTER
FLY ASH LANDFILL

Well Number	Background Value[1,2]	GWPS
CCR Appendix-IV Arsenic, Total (mg/L)		
MW-FAA-5 (upgradient)	0.0035	NA
MW-FAA-3		0.010
MW-FAA-4		0.010
MW-FAA-6		0.010
CCR Appendix-IV Barium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.013	NA
MW-FAA-3		2
MW-FAA-4		2
MW-FAA-6		2
CCR Appendix-IV Beryllium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.0018[3]	NA
MW-FAA-3		0.004
MW-FAA-4		0.004
MW-FAA-6		0.004
CCR Appendix-IV Cobalt, Total (mg/L)		
MW-FAA-5 (upgradient)	0.00521	NA
MW-FAA-3		0.006
MW-FAA-4		0.006
MW-FAA-6		0.006
CCR Appendix-IV Fluoride, Total (mg/L)		
MW-FAA-5 (upgradient)	1.430	NA
MW-FAA-3		4.0
MW-FAA-4		4.0
MW-FAA-6		4.0
CCR Appendix-IV Lithium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.171	NA
MW-FAA-3		0.171
MW-FAA-4		0.171
MW-FAA-6		0.171
CCR Appendix-IV Molybdenum, Total (mg/L)		
MW-FAA-5 (upgradient)	0.0652	NA
MW-FAA-3		0.100
MW-FAA-4		0.100
MW-FAA-6	0.901[2]	0.901
CCR Appendix-IV Radium-226 & 228 Combined (pCi/L)		
MW-FAA-5 (upgradient)	2.342	NA
MW-FAA-3		5
MW-FAA-4		5
MW-FAA-6		5
CCR Appendix-IV Selenium, Total (mg/L)		
MW-FAA-5 (upgradient)	0.00370	NA
MW-FAA-3		0.05
MW-FAA-4		0.05
MW-FAA-6		0.05

Notes and Abbreviations:

[1] Interwell background data collected from 08/19/2016 through 03/04/2020, unless otherwise noted.

[2] Intrawell background data collected from 08/19/2016 through 09/14/2020.

[3] Interwell background data collected from 08/19/2016 through 09/14/2020.

CCR = Coal Combustion Residuals

GWPS = Groundwater Protection Standard

MCL = Maximum Contaminant Level

mg/L = milligrams per Liter

NA = Not Applicable

pCi/L = picoCuries per Liter

FIGURES

LEGEND

- MONITORING WELL
- PIEZOMETER OBSERVATION ONLY
- FLY ASH LANDFILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
4. AERIAL IMAGERY SOURCE: ESRI, SEPTEMBER 3, 2019

N

0 400 800

SCALE IN FEET

HALEY ALDRICH

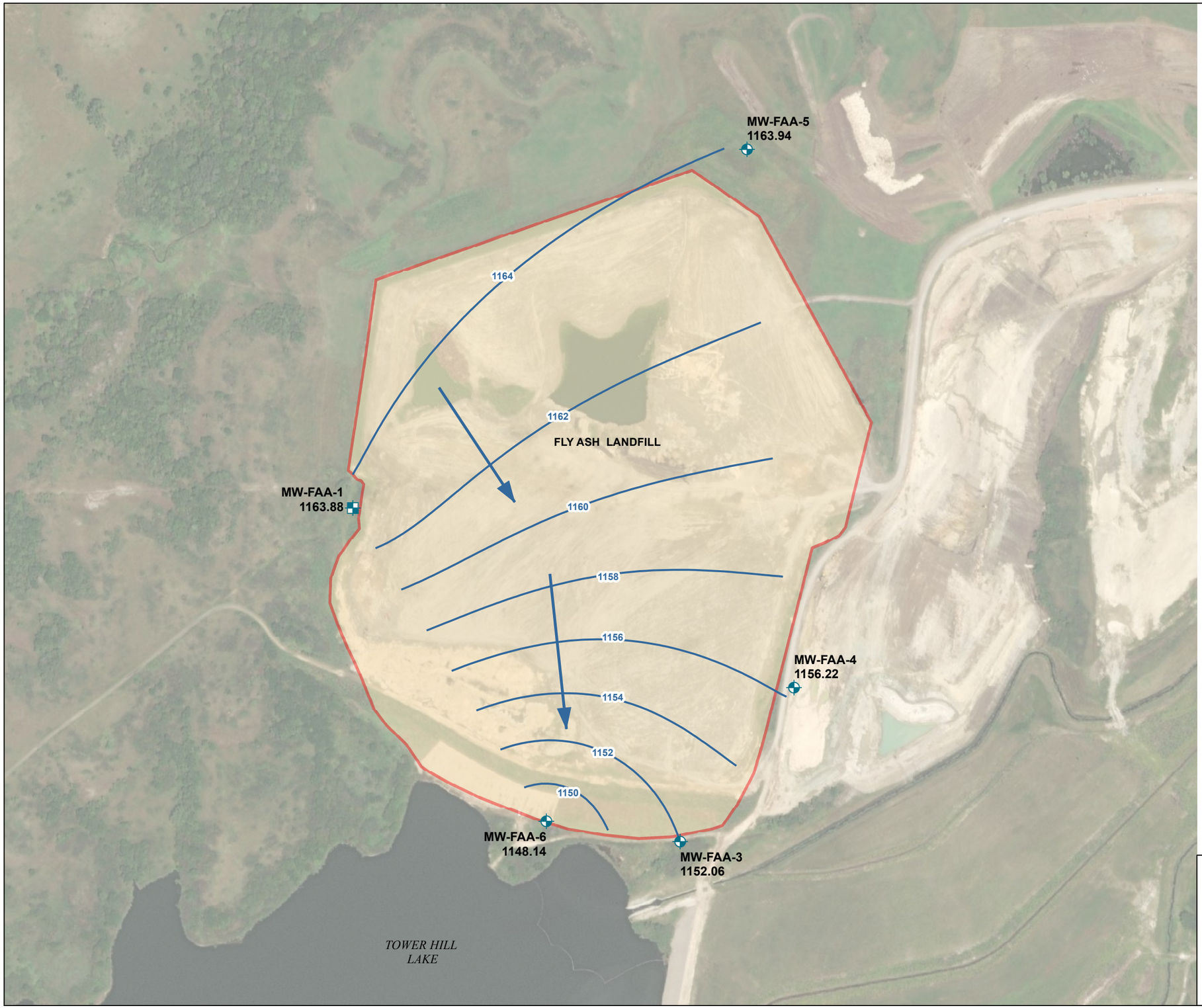
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARYS, KANSAS

FLY ASH LANDFILL
MONITORING WELL LOCATION MAP

evergy

JANUARY 2022

FIGURE 1



LEGEND

MW-FAA-4 1167.47	WELL NAME WITH GROUNDWATER ELEVATION, (FT AMSL) MARCH 2021
	PIEZOMETER OBSERVATION ONLY
	MONITORING WELL
	ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 2-FT INTERVAL (AMSL)
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	FLY ASH LANDFILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 04 MARCH 2021.
3. AMSL = ABOVE MEAN SEA LEVEL
4. AERIAL IMAGERY SOURCE: ESRI, 3 SEPTEMBER 2019

N

0 400 800
SCALE IN FEET

HALEY ALDRICH

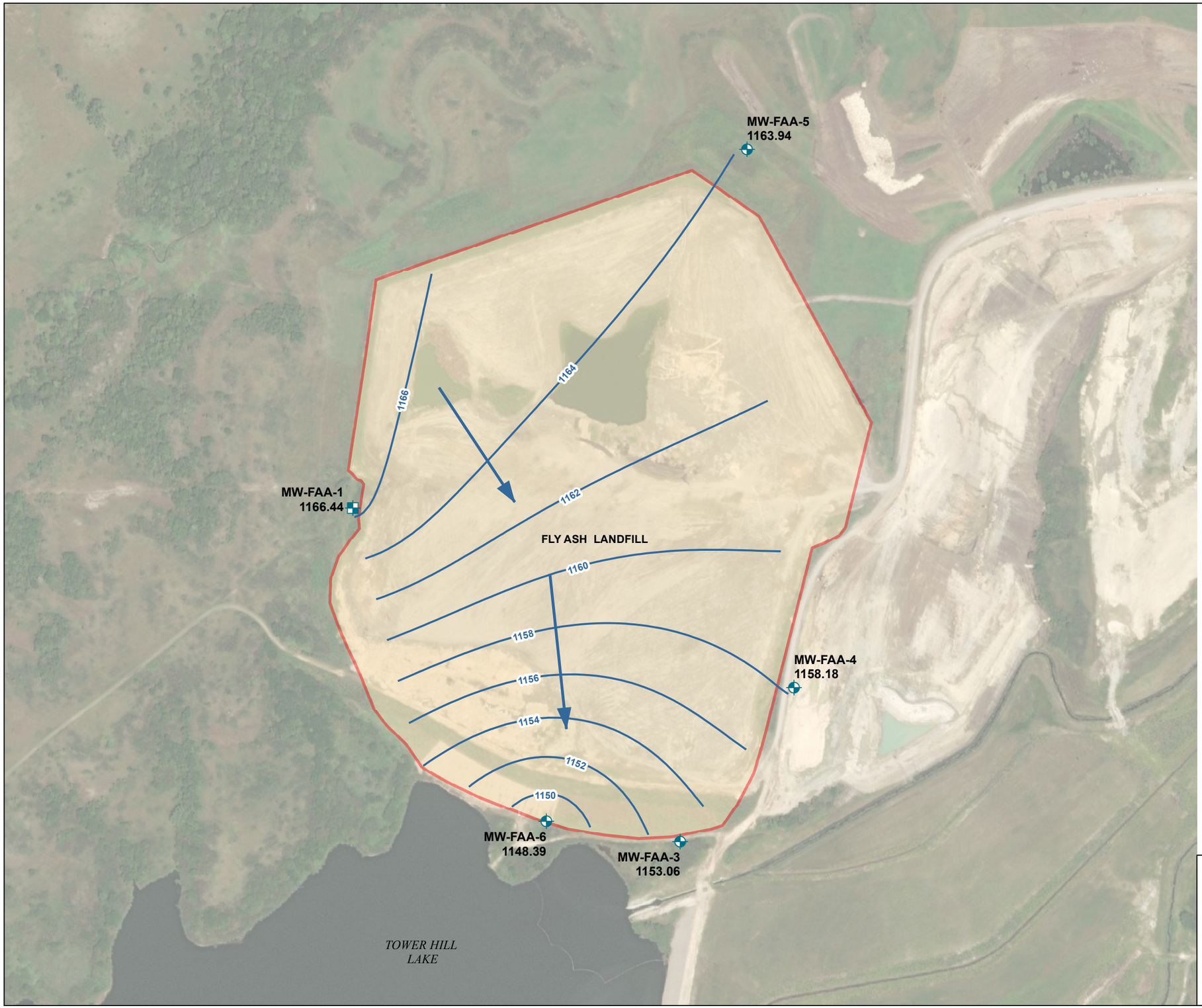
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARY'S, KANSAS

FLY ASH LANDFILL GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP MARCH 4, 2021

evergy

JANUARY 2022

FIGURE 2



LEGEND

MW-FAA-4 1167.47	WELL NAME WITH GROUNDWATER ELEVATION, (FT AMSL) JUNE 2021
	PIEZOMETER OBSERVATION ONLY
	MONITORING WELL
	ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 2-FT INTERVAL (AMSL)
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	FLY ASH LANDFILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 09 JUNE 2021.
3. AMSL = ABOVE MEAN SEA LEVEL
4. AERIAL IMAGERY SOURCE: ESRI, 3 SEPTEMBER 2019

N

0 400 800
SCALE IN FEET

HALEY ALDRICH

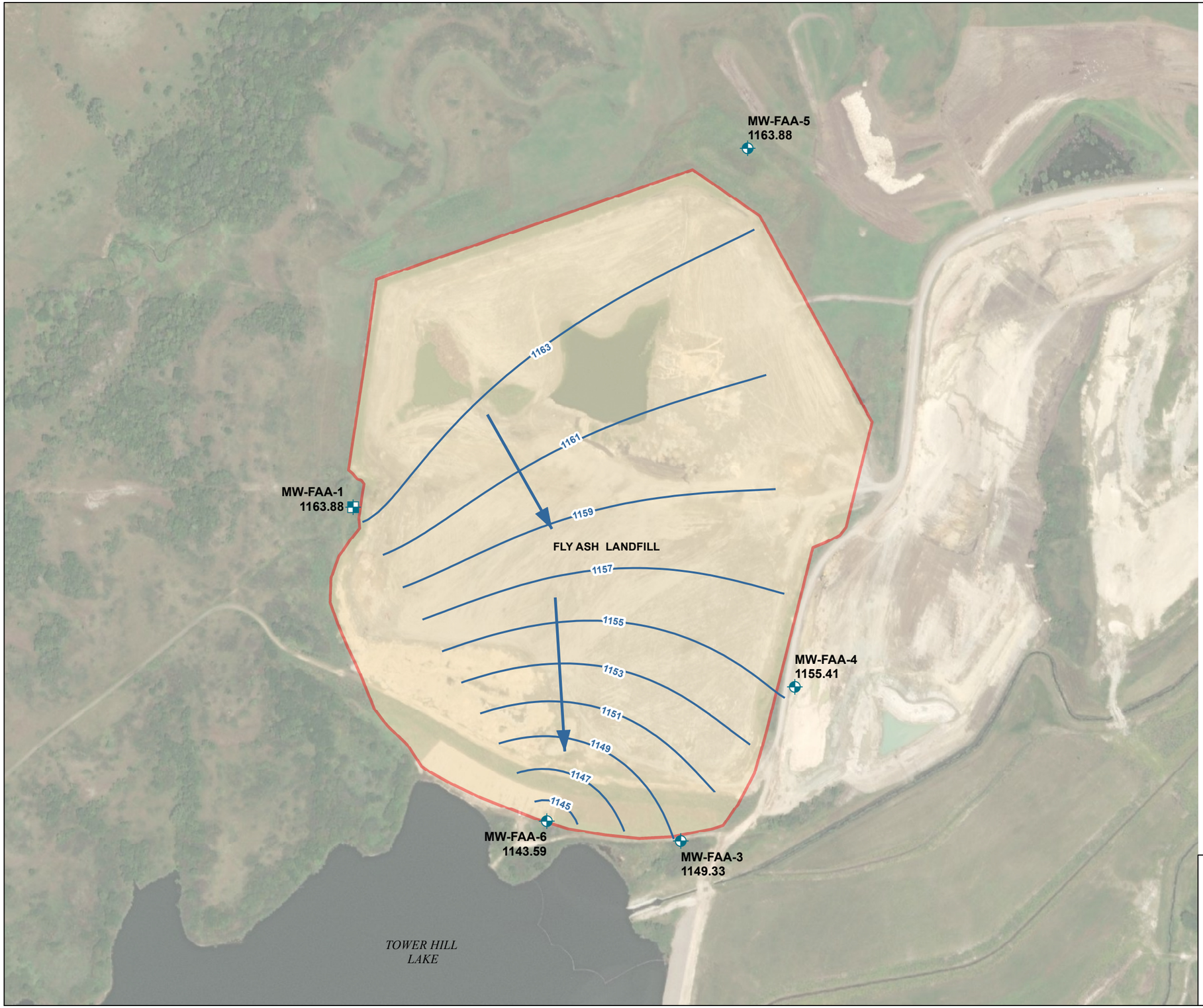
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARY'S, KANSAS

FLY ASH LANDFILL GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP JUNE 09, 2021

evergy

JANUARY 2022

FIGURE 3



LEGEND

MW-FAA-4
1167.47 WELL NAME WITH GROUNDWATER ELEVATION, (FT AMSL) SEPTEMBER 2021

PIEZOMETER OBSERVATION ONLY

MONITORING WELL

ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 2-FT INTERVAL (AMSL)

APPROXIMATE GROUNDWATER FLOW DIRECTION

FLY ASH LANDFILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 14 SEPTEMBER 2021.

3. AMSL = ABOVE MEAN SEA LEVEL

4. AERIAL IMAGERY SOURCE: ESRI, 3 SEPTEMBER 2019

N

0 400 800
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARY'S, KANSAS

FLY ASH LANDFILL GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP SEPTEMBER 14, 2021

evergy

JANUARY 2022

FIGURE 4

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

November 4, 2022
File No. 129778

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

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

Mark Nicholls Digitally signed by Mark Nicholls Date: 2022.11.04 10:50:54 -07'00'

SUBJECT: 2021 Annual Groundwater Monitoring and Corrective Action Report Addendum
Evergy Kansas Central, Inc.
Jeffrey Energy Center
Fly Ash Landfill

The Evergy Kansas Central, Inc. (Evergy) Fly Ash Landfill (FAL) at the Jeffrey Energy Center (JEC) is subject to the groundwater monitoring and corrective action requirements described under Code of Federal Regulations Title 40 (40 CFR) §257.90 through §257.98 (Rule). An Annual Groundwater Monitoring and Corrective Action (GWMCA) Report documenting the activities completed in 2021 for the FAL was completed and placed in the facility's operating record on January 28, 2022, as required by the Rule. The Annual GWMCA Report contained the specific information listed in 40 CFR §257.90(e).

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

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

While this information is not specifically referred to in 40 CFR §257.90(e) for inclusion in the GWMCA Report, it has been routinely collected and maintained in Evergy's files and is being provided in the attachments to this addendum. The applicable laboratory analysis reports for 2021 sampling events are included in Attachment 1, and a discussion of the applicable statistical analyses completed in 2021 are included in Attachment 2 of this addendum. The 2021 GWMCA Report does include a "Groundwater Potentiometric Elevation Contour Map" for each of the 2021 sampling events as Figures 2, 3, and 4. In

those figures, the measured groundwater elevations for each well are listed. Those maps have been duplicated in this addendum as Attachment 3 and were modified to include the calculated groundwater flow rate and direction.

The Attachments to this addendum are described below:

- Attachment 1 – Laboratory Analytical Reports: Includes laboratory data packages with supporting information such as case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation. The laboratory data packages for the sampling events completed in March, June, and September 2021 are provided.
  - An additional sample for arsenic was collected in April 2021 for monitoring well MW-FAA-6 due to a suspected erroneous calcium reading during the March 2021 semi-annual assessment monitoring sampling event. The result was revised accordingly.
- Attachment 2 – Statistical Analyses: Includes a discussion of the statistical analyses utilized along with a table summarizing the statistical outputs (e.g., frequency of detection, maximum detection, variance, standard deviation, coefficient of variance, outlier tests, trends, upper and lower confidence limits, and comparison against Groundwater Protection Standards), and supporting backup for statistical analyses completed in 2021. Statistical analyses completed in 2021 included:
  - Overview of the January 2021 statistical analyses for data obtained in the September 2020 sampling event; and
  - Overview of the July 2021 statistical analyses for data obtained in the March 2021 sampling event.
- Attachment 3 – Revised Groundwater Potentiometric Maps: Includes the measured groundwater elevations at each well and the generalized groundwater flow direction and calculated flow rate. Maps for the sampling events completed in March, June, and September 2021 are provided.

ATTACHMENT 1
Laboratory Analytical Reports

ATTACHMENT 1-1
March 2021 Sampling Event
Laboratory Analytical Report

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

March 23, 2021

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

RE: Project: JEC FAL CCR
Pace Project No.: 60362963

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on March 05, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

Revised Report REV_1

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

Sincerely,

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

Enclosures

cc: Sarah Hazelwood, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Dustin Kadous, Evergy Kansas Central, Inc. Jeffrey Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.
JD Schlegel, Evergy, Inc.

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

CERTIFICATIONS

Project: JEC FAL CCR
Pace Project No.: 60362963

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

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

SAMPLE SUMMARY

Project: JEC FAL CCR
Pace Project No.: 60362963

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60362963001	**FAA-3-030421**	Water	03/04/21 16:49	03/05/21 17:00
60362963002	**FAA-4-030421**	Water	03/04/21 17:55	03/05/21 17:00
60362963003	**FAA-5-030421**	Water	03/04/21 14:45	03/05/21 17:00
60362963004	**FAA-6-030421**	Water	03/04/21 15:05	03/05/21 17:00
60362963005	**FAL-DUP-030421**	Water	03/04/21 15:05	03/05/21 17:00

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

SAMPLE ANALYTE COUNT

Project: JEC FAL CCR
Pace Project No.: 60362963

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60362963001	**FAA-3-030421**	EPA 200.7	TDS	4	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		SM 2540C	AJS	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	AJS, MJK	3	PASI-K
60362963002	**FAA-4-030421**	EPA 200.7	TDS	4	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		SM 2540C	AJS	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	AJS, MJK	3	PASI-K
60362963003	**FAA-5-030421**	EPA 200.7	TDS	4	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		SM 2540C	AJS	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	AJS, MJK	3	PASI-K
60362963004	**FAA-6-030421**	EPA 200.7	TDS	4	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		SM 2540C	AJS	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	AJS, MJK	3	PASI-K
60362963005	**FAL-DUP-030421**	EPA 200.7	TDS	4	PASI-K
		EPA 6010	TDS	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		SM 2540C	AJS	1	PASI-K
		SM 4500-H+B	LDB	1	PASI-K
		EPA 300.0	AJS, MJK	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60362963

Date: March 23, 2021

Amended report revised to include arsenic rerun results for samples FAA-6-030421 (60362963004) and FAL-DUP-030421 (60362963005).

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60362963

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: March 23, 2021

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: 707827

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60362960004,60362963003

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

- MS (Lab ID: 2850597)
  - Calcium
- MS (Lab ID: 2850599)
  - Calcium
- MSD (Lab ID: 2850598)
  - Calcium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60362963

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: March 23, 2021

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 FAL CCR
Pace Project No.: 60362963

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: March 23, 2021

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 FAL CCR
Pace Project No.: 60362963

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Evergy Kansas Central, Inc.
Date: March 23, 2021

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:

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60362963

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Evergy Kansas Central, Inc.
Date: March 23, 2021

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.
- FAA-3-030421 (Lab ID: 60362963001)
- FAA-4-030421 (Lab ID: 60362963002)
- FAA-5-030421 (Lab ID: 60362963003)
- FAA-6-030421 (Lab ID: 60362963004)
- FAL-DUP-030421 (Lab ID: 60362963005)

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: 708292

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.
- DUP (Lab ID: 2852391)
  - pH at 25 Degrees C

Additional Comments:

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60362963

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: March 23, 2021

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:

Analyte Comments:

QC Batch: 707523

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

- MS (Lab ID: 2849682)
  - Sulfate
- MSD (Lab ID: 2849683)
  - Sulfate

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 FAL CCR
Pace Project No.: 60362963

Sample: FAA-3-030421 **Lab ID: 60362963001** Collected: 03/04/21 16:49 Received: 03/05/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.029**	mg/L	0.0050	1	03/10/21 12:01	03/15/21 23:34	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/10/21 12:01	03/15/21 23:34	7440-41-7	
Boron, Total Recoverable	**0.53**	mg/L	0.10	1	03/10/21 12:01	03/15/21 23:34	7440-42-8	
Calcium, Total Recoverable	**195**	mg/L	0.20	1	03/10/21 12:01	03/15/21 23:34	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	03/11/21 10:57	03/15/21 20:41	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:12	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:12	7440-48-4	
Molybdenum, Total Recoverable	**0.0082**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:12	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:12	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1130**	mg/L	13.3	1		03/11/21 13:28		
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		03/12/21 11:10		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**84.2**	mg/L	20.0	20		03/10/21 00:30	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/09/21 23:47	16984-48-8	
Sulfate	**556**	mg/L	50.0	50		03/10/21 21:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60362963

Sample: FAA-4-030421 **Lab ID: 60362963002** Collected: 03/04/21 17:55 Received: 03/05/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.051**	mg/L	0.0050	1	03/10/21 12:01	03/15/21 23:36	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/10/21 12:01	03/15/21 23:36	7440-41-7	
Boron, Total Recoverable	**0.71**	mg/L	0.10	1	03/10/21 12:01	03/15/21 23:36	7440-42-8	
Calcium, Total Recoverable	**195**	mg/L	0.20	1	03/10/21 12:01	03/15/21 23:36	7440-70-2	
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	03/11/21 10:57	03/15/21 20:44	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:14	7440-38-2	
Cobalt, Total Recoverable	**0.0021**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:14	7440-48-4	
Molybdenum, Total Recoverable	**0.0073**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:14	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:14	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1140**	mg/L	13.3	1		03/11/21 13:28		
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		03/12/21 12:14		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**77.9**	mg/L	20.0	20		03/10/21 00:58	16887-00-6	
Fluoride	**<0.20**	mg/L	0.20	1		03/10/21 00:44	16984-48-8	
Sulfate	**536**	mg/L	50.0	50		03/10/21 21:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60362963

Sample: FAA-5-030421 **Lab ID: 60362963003** Collected: 03/04/21 14:45 Received: 03/05/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	03/10/21 12:01	03/15/21 23:39	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/10/21 12:01	03/15/21 23:39	7440-41-7	
Boron, Total Recoverable	**1.7**	mg/L	0.10	1	03/10/21 12:01	03/15/21 23:39	7440-42-8	
Calcium, Total Recoverable	**537**	mg/L	0.20	1	03/10/21 12:01	03/15/21 23:39	7440-70-2	M1
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.14**	mg/L	0.010	1	03/11/21 10:57	03/15/21 20:53	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:16	7440-38-2	
Cobalt, Total Recoverable	**0.0031**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:16	7440-48-4	
Molybdenum, Total Recoverable	**0.029**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:16	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:16	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3640**	mg/L	66.7	1		03/11/21 13:28		
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		03/12/21 10:56		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**89.9**	mg/L	20.0	20		03/10/21 01:27	16887-00-6	
Fluoride	**1.1**	mg/L	0.20	1		03/10/21 01:13	16984-48-8	
Sulfate	**2200**	mg/L	200	200		03/10/21 21:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60362963

Sample: FAA-6-030421 **Lab ID: 60362963004** Collected: 03/04/21 15:05 Received: 03/05/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.024**	mg/L	0.0050	1	03/10/21 12:01	03/15/21 23:51	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/10/21 12:01	03/15/21 23:51	7440-41-7	
Boron, Total Recoverable	**4.2**	mg/L	0.10	1	03/10/21 12:01	03/15/21 23:51	7440-42-8	
Calcium, Total Recoverable	**101**	mg/L	0.20	1	03/10/21 12:01	03/15/21 23:51	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	03/11/21 10:57	03/15/21 20:56	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.011**	mg/L	0.0010	1	03/18/21 13:35	03/23/21 12:33	7440-38-2	
Cobalt, Total Recoverable	**0.0013**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:19	7440-48-4	
Molybdenum, Total Recoverable	**0.49**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:19	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:19	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**2280**	mg/L	40.0	1		03/11/21 13:30		
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		03/12/21 10:58		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**74.4**	mg/L	20.0	20		03/10/21 01:56	16887-00-6	
Fluoride	**1.1**	mg/L	0.20	1		03/10/21 01:41	16984-48-8	
Sulfate	**1470**	mg/L	100	100		03/10/21 22:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60362963

Sample: FAL-DUP-030421 **Lab ID: 60362963005** Collected: 03/04/21 15:05 Received: 03/05/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.023**	mg/L	0.0050	1	03/10/21 12:01	03/15/21 23:54	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/10/21 12:01	03/15/21 23:54	7440-41-7	
Boron, Total Recoverable	**4.1**	mg/L	0.10	1	03/10/21 12:01	03/15/21 23:54	7440-42-8	
Calcium, Total Recoverable	**99.1**	mg/L	0.20	1	03/10/21 12:01	03/15/21 23:54	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	03/11/21 10:57	03/15/21 20:58	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.011**	mg/L	0.0010	1	03/18/21 13:35	03/23/21 12:42	7440-38-2	
Cobalt, Total Recoverable	**0.0013**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:21	7440-48-4	
Molybdenum, Total Recoverable	**0.48**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:21	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	03/11/21 10:57	03/15/21 17:21	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**2440**	mg/L	40.0	1		03/11/21 13:30		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		03/12/21 11:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**75.0**	mg/L	20.0	20		03/10/21 02:24	16887-00-6	
Fluoride	**1.1**	mg/L	0.20	1		03/10/21 02:10	16984-48-8	
Sulfate	**1460**	mg/L	100	100		03/10/21 22:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 707827
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: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

METHOD BLANK: 2850595 Matrix: Water
Associated Lab Samples: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	03/15/21 22:34	
Beryllium	mg/L	<0.0010	0.0010	03/15/21 22:34	
Boron	mg/L	<0.10	0.10	03/15/21 22:34	
Calcium	mg/L	<0.20	0.20	03/15/21 22:34	

LABORATORY CONTROL SAMPLE: 2850596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.98	98	85-115	
Beryllium	mg/L	1	0.98	98	85-115	
Boron	mg/L	1	0.96	96	85-115	
Calcium	mg/L	10	10.2	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2850597 2850598

Parameter	Units	60362960004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.057	1	1	1.0	1.0	97	97	70-130	0	20	
Beryllium	mg/L	<0.0010	1	1	0.95	0.95	95	95	70-130	0	20	
Boron	mg/L	0.40	1	1	1.4	1.4	96	96	70-130	0	20	
Calcium	mg/L	355	10	10	352	351	-28	-39	70-130	0	20	M1

MATRIX SPIKE SAMPLE: 2850599

Parameter	Units	60362963003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	<0.0050	1	1.0	99	70-130	
Beryllium	mg/L	<0.0010	1	0.95	95	70-130	
Boron	mg/L	1.7	1	2.7	96	70-130	
Calcium	mg/L	537	10	555	179	70-130	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 708056
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: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

METHOD BLANK: 2851450 Matrix: Water
Associated Lab Samples: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	03/16/21 13:00	
Cobalt	mg/L	<0.0010	0.0010	03/16/21 13:00	
Molybdenum	mg/L	<0.0010	0.0010	03/17/21 11:26	
Selenium	mg/L	<0.0010	0.0010	03/15/21 16:43	

LABORATORY CONTROL SAMPLE: 2851451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.041	102	85-115	
Cobalt	mg/L	0.04	0.040	100	85-115	
Molybdenum	mg/L	0.04	0.040	100	85-115	
Selenium	mg/L	0.04	0.042	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2851452 2851453

Parameter	Units	60362962002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	<0.0021	0.04	0.04	0.040	0.038	98	94	70-130	4	20	
Cobalt	mg/L	<0.0017	0.04	0.04	0.040	0.039	99	97	70-130	2	20	
Molybdenum	mg/L	<0.0017	0.04	0.04	0.041	0.040	101	100	70-130	1	20	
Selenium	mg/L	<0.0036	0.04	0.04	0.032	0.034	78	82	70-130	6	20	

MATRIX SPIKE SAMPLE: 2851454

Parameter	Units	60362965003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	<0.0010	0.04	0.045	110	70-130	
Cobalt	mg/L	<0.0010	0.04	0.044	108	70-130	
Molybdenum	mg/L	0.0027	0.04	0.050	117	70-130	
Selenium	mg/L	<0.0010	0.04	0.041	101	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 709462
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: 60362963004, 60362963005

METHOD BLANK: 2856575 Matrix: Water
Associated Lab Samples: 60362963004, 60362963005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	03/23/21 12:30	

LABORATORY CONTROL SAMPLE: 2856576

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.040	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2856577 2856578

Parameter	Units	60362963004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.011	0.04	0.04	0.049	0.049	95	96	70-130	1	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 708058
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

METHOD BLANK: 2851455 Matrix: Water
Associated Lab Samples: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	03/15/21 20:07	

LABORATORY CONTROL SAMPLE: 2851456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2851457 2851458

Parameter	Units	60362961001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.015	1	1	1.0	1.0	100	98	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 707980
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60362963001, 60362963002, 60362963003

METHOD BLANK: 2851179 Matrix: Water
Associated Lab Samples: 60362963001, 60362963002, 60362963003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	03/11/21 13:24	

LABORATORY CONTROL SAMPLE: 2851180

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

SAMPLE DUPLICATE: 2851181

Parameter	Units	60362782001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	12500	13400	7	10	

SAMPLE DUPLICATE: 2851182

Parameter	Units	60362961001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1710	1720	0	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 707981
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60362963004, 60362963005

METHOD BLANK: 2851183 Matrix: Water
Associated Lab Samples: 60362963004, 60362963005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	6.5	5.0	03/11/21 13:29	

LABORATORY CONTROL SAMPLE: 2851184

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

SAMPLE DUPLICATE: 2851185

Parameter	Units	60362963004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2280	2240	2	10	

SAMPLE DUPLICATE: 2851186

Parameter	Units	60362965004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1280	1290	1	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 708291
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: 60362963001, 60362963003, 60362963004, 60362963005

SAMPLE DUPLICATE: 2852390

Parameter	Units	60362961004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	5	H6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 708292
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: 60362963002

SAMPLE DUPLICATE: 2852391

Parameter	Units	60362623002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.4	6.8	6	5	D6,H6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60362963

QC Batch: 707523
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: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

METHOD BLANK: 2849680 Matrix: Water
Associated Lab Samples: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/09/21 12:26	
Fluoride	mg/L	<0.20	0.20	03/09/21 12:26	
Sulfate	mg/L	<1.0	1.0	03/09/21 12:26	

METHOD BLANK: 2850717 Matrix: Water
Associated Lab Samples: 60362963001, 60362963002, 60362963003, 60362963004, 60362963005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	03/10/21 16:30	
Fluoride	mg/L	<0.20	0.20	03/10/21 16:30	
Sulfate	mg/L	<1.0	1.0	03/10/21 16:30	

LABORATORY CONTROL SAMPLE: 2849681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Fluoride	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2850718

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2849682 2849683

Parameter	Units	60362867002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.0	5	5	17.6	17.5	113	111	80-120	1	15	
Fluoride	mg/L	0.71	2.5	2.5	3.3	3.3	105	103	80-120	1	15	
Sulfate	mg/L	19.9	5	5	25.5	25.4	113	111	80-120	0	15	E

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 FAL CCR
Pace Project No.: 60362963

MATRIX SPIKE SAMPLE: 2849684

Parameter	Units	60362961002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	111	100	222	111	80-120	
Fluoride	mg/L	<0.20	2.5	2.8	114	80-120	
Sulfate	mg/L	608	250	886	111	80-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: JEC FAL CCR
Pace Project No.: 60362963

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC FAL CCR
Pace Project No.: 60362963

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60362963001	**FAA-3-030421**	EPA 200.7	707827	EPA 200.7	707926
60362963002	**FAA-4-030421**	EPA 200.7	707827	EPA 200.7	707926
60362963003	**FAA-5-030421**	EPA 200.7	707827	EPA 200.7	707926
60362963004	**FAA-6-030421**	EPA 200.7	707827	EPA 200.7	707926
60362963005	**FAL-DUP-030421**	EPA 200.7	707827	EPA 200.7	707926
60362963001	**FAA-3-030421**	EPA 3010	708058	EPA 6010	708168
60362963002	**FAA-4-030421**	EPA 3010	708058	EPA 6010	708168
60362963003	**FAA-5-030421**	EPA 3010	708058	EPA 6010	708168
60362963004	**FAA-6-030421**	EPA 3010	708058	EPA 6010	708168
60362963005	**FAL-DUP-030421**	EPA 3010	708058	EPA 6010	708168
60362963001	**FAA-3-030421**	EPA 200.8	708056	EPA 200.8	708167
60362963002	**FAA-4-030421**	EPA 200.8	708056	EPA 200.8	708167
60362963003	**FAA-5-030421**	EPA 200.8	708056	EPA 200.8	708167
60362963004	**FAA-6-030421**	EPA 200.8	708056	EPA 200.8	708167
60362963004	**FAA-6-030421**	EPA 200.8	709462	EPA 200.8	709545
60362963005	**FAL-DUP-030421**	EPA 200.8	708056	EPA 200.8	708167
60362963005	**FAL-DUP-030421**	EPA 200.8	709462	EPA 200.8	709545
60362963001	**FAA-3-030421**	SM 2540C	707980		
60362963002	**FAA-4-030421**	SM 2540C	707980		
60362963003	**FAA-5-030421**	SM 2540C	707980		
60362963004	**FAA-6-030421**	SM 2540C	707981		
60362963005	**FAL-DUP-030421**	SM 2540C	707981		
60362963001	**FAA-3-030421**	SM 4500-H+B	708291		
60362963002	**FAA-4-030421**	SM 4500-H+B	708292		
60362963003	**FAA-5-030421**	SM 4500-H+B	708291		
60362963004	**FAA-6-030421**	SM 4500-H+B	708291		
60362963005	**FAL-DUP-030421**	SM 4500-H+B	708291		
60362963001	**FAA-3-030421**	EPA 300.0	707523		
60362963002	**FAA-4-030421**	EPA 300.0	707523		
60362963003	**FAA-5-030421**	EPA 300.0	707523		
60362963004	**FAA-6-030421**	EPA 300.0	707523		
60362963005	**FAL-DUP-030421**	EPA 300.0	707523		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60362963

60362963

Client Name: Evergy KS central

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

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

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

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

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

Cooler Temperature (°C): **As-read** 2.3 **Corr. Factor** 0.0 **Corrected** 2.3

Date and initials of person examining contents: DV 3/5/21

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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 Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schlegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	JEC FAL 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:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9657, 1

REGULATORY AGENCY

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

Site Location STATE: KS

Section D — **Required** Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Total Metals*	200.8 Total Metals**	4500 H+B pH	300: Cl, F, SO4	2540C TDS	6010 Total Li***							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60362963
	Requested Analysis Filtered (Y/N)																	N	N	N	N	N	N						
1	FAA-3-030421	WT	G	-	-	03/04/21	16:49		3	2		1						X	X	X	X	X	X	2	BP/U				BP/N 001
2	FAA-4-030421	WT	G	-	-	03/04/21	17:55		3	2		1						X	X	X	X	X	X						002
3	FAA-5-030421	WT	G	-	-	03/04/21	14:45		3	2		1						X	X	X	X	X	X						003
4	FAA-6-030421	WT	G	-	-	03/04/21	15:05		3	2		1						X	X	X	X	X	X						004
5	FAL-DUP-030421	WT	G	-	-	03/04/21	15:05		3	2		1						X	X	X	X	X	X						005
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
200.7 Total Metals*: B, Ca, Ba, Be	Jason R. Franks / SCS	3/5/21	17:00	PASE	3/5/21	1700	2-3	X	N	Y
200.8 Total Metals**: As, Co, Mo, Se										
6010 Total Metals***: Li										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 3/5/21

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

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

March 30, 2021

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

RE: Project: JEC FAL CCR
Pace Project No.: 60363223

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on March 09, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

cc: Sarah Hazelwood, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Dustin Kadous, Evergy Kansas Central, Inc. Jeffrey Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.
JD Schlegel, Evergy, Inc.

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

CERTIFICATIONS

Project: JEC FAL CCR
Pace Project No.: 60363223

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

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

SAMPLE SUMMARY

Project: JEC FAL CCR
Pace Project No.: 60363223

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60363223001	**FAA-3-03/04/21**	Water	03/04/21 16:49	03/09/21 11:15
60363223002	**FAA-4-03/04/21**	Water	03/04/21 17:55	03/09/21 11:15
60363223003	**FAA-5-03/04/21**	Water	03/04/21 14:45	03/09/21 11:15
60363223004	**FAA-6-03/04/21**	Water	03/04/21 15:05	03/09/21 11:15
60363223005	**FAL-DUP-03/04/21**	Water	03/04/21 15:05	03/09/21 11:15

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

SAMPLE ANALYTE COUNT

Project: JEC FAL CCR
Pace Project No.: 60363223

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60363223001	**FAA-3-03/04/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363223002	**FAA-4-03/04/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363223003	**FAA-5-03/04/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363223004	**FAA-6-03/04/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
60363223005	**FAL-DUP-03/04/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60363223

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Evergy Kansas Central, Inc.
Date: March 30, 2021

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 FAL CCR
Pace Project No.: 60363223

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Evergy Kansas Central, Inc.
Date: March 30, 2021

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 FAL CCR
Pace Project No.: 60363223

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Evergy Kansas Central, Inc.
Date: March 30, 2021

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

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

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

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

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

Additional Comments:

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

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60363223

Sample: FAA-3-03/04/21 **Lab ID: 60363223001** Collected: 03/04/21 16:49 Received: 03/09/21 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0571 ± 0.433 (0.905) C:NA T:88%**	pCi/L	03/24/21 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.482 ± 0.396 (0.796) C:83% T:82%**	pCi/L	03/24/21 16:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.482 ± 0.587 (0.905)**	pCi/L	03/27/21 10:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60363223

Sample: FAA-4-03/04/21 **Lab ID: 60363223002** Collected: 03/04/21 17:55 Received: 03/09/21 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.368 ± 0.540 (0.922) C:NA T:82%**	pCi/L	03/24/21 12:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.775 ± 0.459 (0.859) C:82% T:78%**	pCi/L	03/24/21 16:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.14 ± 0.709 (0.922)**	pCi/L	03/27/21 10:16	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60363223

Sample: FAA-5-03/04/21 **Lab ID: 60363223003** Collected: 03/04/21 14:45 Received: 03/09/21 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.728 ± 0.510 (0.672) C:NA T:96%**	pCi/L	03/24/21 12:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.698 ± 0.396 (0.735) C:84% T:91%**	pCi/L	03/24/21 16:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.43 ± 0.646 (0.735)**	pCi/L	03/27/21 10:16	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60363223

Sample: FAA-6-03/04/21 **Lab ID: 60363223004** Collected: 03/04/21 15:05 Received: 03/09/21 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.272 (0.609) C:NA T:91%**	pCi/L	03/24/21 12:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.538 ± 0.436 (0.878) C:80% T:82%**	pCi/L	03/24/21 16:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.538 ± 0.514 (0.878)**	pCi/L	03/27/21 10:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60363223

Sample: FAL-DUP-03/04/21 **Lab ID: 60363223005** Collected: 03/04/21 15:05 Received: 03/09/21 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0548 ± 0.322 (0.718) C:NA T:93%**	pCi/L	03/24/21 12:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.709 ± 0.424 (0.794) C:85% T:84%**	pCi/L	03/24/21 16:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.709 ± 0.532 (0.794)**	pCi/L	03/27/21 10:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60363223

QC Batch: 438162
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60363223001, 60363223002, 60363223003, 60363223004, 60363223005

METHOD BLANK: 2115331 Matrix: Water
Associated Lab Samples: 60363223001, 60363223002, 60363223003, 60363223004, 60363223005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.174 ± 0.270 (0.652) C:NA T:95%	pCi/L	03/24/21 12:02	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60363223

QC Batch: 438163
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60363223001, 60363223002, 60363223003, 60363223004, 60363223005

METHOD BLANK: 2115332 Matrix: Water
Associated Lab Samples: 60363223001, 60363223002, 60363223003, 60363223004, 60363223005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.925 ± 0.371 (0.584) C:85% T:89%	pCi/L	03/24/21 13:19	

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 FAL CCR
Pace Project No.: 60363223

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC FAL CCR
Pace Project No.: 60363223

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60363223001	**FAA-3-03/04/21**	EPA 903.1	438162		
60363223002	**FAA-4-03/04/21**	EPA 903.1	438162		
60363223003	**FAA-5-03/04/21**	EPA 903.1	438162		
60363223004	**FAA-6-03/04/21**	EPA 903.1	438162		
60363223005	**FAL-DUP-03/04/21**	EPA 903.1	438162		
60363223001	**FAA-3-03/04/21**	EPA 904.0	438163		
60363223002	**FAA-4-03/04/21**	EPA 904.0	438163		
60363223003	**FAA-5-03/04/21**	EPA 904.0	438163		
60363223004	**FAA-6-03/04/21**	EPA 904.0	438163		
60363223005	**FAL-DUP-03/04/21**	EPA 904.0	438163		
60363223001	**FAA-3-03/04/21**	Total Radium Calculation	440751		
60363223002	**FAA-4-03/04/21**	Total Radium Calculation	440751		
60363223003	**FAA-5-03/04/21**	Total Radium Calculation	440751		
60363223004	**FAA-6-03/04/21**	Total Radium Calculation	440751		
60363223005	**FAL-DUP-03/04/21**	Total Radium Calculation	440751		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schlegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	JEC FAL 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:	Jasmine Amerin, 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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME	DATE	TIME											Y/N	N	N	N		
1	FAA-3-03/04/21	WT	G	-	-	03/04/21	16:49		2			2							X	X	X		
2	FAA-4-03/04/21	WT	G	-	-	03/04/21	17:55		2			2							X	X	X		
3	FAA-5-03/04/21	WT	G	-	-	03/04/21	14:45		2			2							X	X	X		
4	FAA-6-03/04/21	WT	G	-	-	03/04/21	15:05		2			2							X	X	X		
5	FAL-DUP-03/04/21	WT	G	-	-	03/04/21	15:05		2			2							X	X	X		
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	3/8/21	17:00	ATIOCK	3/9 AF 3/9/21					
					3/9/21	11:15	-	N	N	Y

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks DATE Signed (MM/DD/YY): 3/5/21

Pept: 6003 Date : 04Mar21 Shipping : 0.00
Customer : 782979 Weight : 40 LBS Special : 0.00
Phone: (317)875-5894 COD : Handling : 0.00
Dept: Client services DV : 0.00 Total : 0.00

Svcs: PRIORITY OVERNIGHT
TRCK: 9308 4771 9472

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Evergy Kansas Project #

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

Label

Tracking #: 9308 4771 9472

LIMS Login

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

Thermometer Used N/A Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 100110 1 / Date and Initials of person examining contents: 03/09/21 AF
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH <2
All containers meet method preservation requirements.	✓			Initial when completed AF / Date/time of preservation / Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: AF Date: 3/9/21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

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

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	MK1
Date:	3/19/2020
Batch ID:	52968
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1882461
MB concentration:	-0.106
M/B Counting Uncertainty:	0.343
MB MDC:	0.763
MB Numerical Performance Indicator:	-0.61
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS52968	LCSD52968
Count Date:	3/23/2020	
Spike I.D.:	18-039	
Spike Concentration (pCi/mL):	31.432	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.658	
Target Conc. (pCi/L, g, F):	4.777	
Uncertainty (Calculated):	0.225	
Result (pCi/L, g, F):	3.610	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.026	
Numerical Performance Indicator:	-2.18	
Percent Recovery:	75.56%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	3/11/2020	
Sample I.D.	35537099001	
Sample MS I.D.	35537099001MS	
Sample MSD I.D.		
Spike I.D.:	18-039	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	31.432	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.649	
MS Target Conc.(pCi/L, g, F):	9.691	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.455	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.234	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.313	
Sample Matrix Spike Result:	11.932	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.652	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	2.259	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	120.72%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	35536552004	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	35536552004DUP	
Sample Result (pCi/L, g, F):	0.476	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.422	
Sample Duplicate Result (pCi/L, g, F):	0.128	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.294	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.328	35536552004
Duplicate RPD:	115.25%	35536552004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	~~Fail***~~	
% RPD Limit:	~~20%~~	

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

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

Comments:

~~***Batch must be re-prepped due to unacceptable precision.~~

5/23/20

3/23/2020

3/23/2020

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	3/19/2020
Worklist:	52969
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1882463
MB concentration:	0.365
M/B 2 Sigma CSU:	0.349
MB MDC:	0.714
MB Numerical Performance Indicator:	2.05
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS52969	LCSD52969
Count Date:	3/23/2020	
Spike I.D.:	19-057	
Decay Corrected Spike Concentration (pCi/mL):	34.745	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.802	
Target Conc. (pCi/L, g, F):	4.335	
Uncertainty (Calculated):	0.312	
Result (pCi/L, g, F):	3.540	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.858	
Numerical Performance Indicator:	-1.71	
Percent Recovery:	81.66%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	3/11/2020	
Sample I.D.	35536552004	
Sample MS I.D.	35536552004MS	
Sample MSD I.D.		
Spike I.D.:	19-057	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	34.883	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.806	
MS Target Conc.(pCi/L, g, F):	8.656	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.623	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.318	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.299	
Sample Matrix Spike Result:	7.203	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.496	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	-2.106	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	79.54%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Warning	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	30355077001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30355077001DUP	
Sample Result (pCi/L, g, F):	0.227	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.328	
Sample Duplicate Result (pCi/L, g, F):	0.202	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.318	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.106	30355077001
Duplicate RPD:	11.54%	30355077001DUP
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:

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

April 05, 2021

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

RE: Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on April 01, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

cc: Sarah Hazelwood, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Dustin Kadous, Evergy Kansas Central, Inc. Jeffrey Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.
JD Schlegel, Evergy, Inc.

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

CERTIFICATIONS

Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

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

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

SAMPLE SUMMARY

Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60365249001	**FAA-6-040121**	Water	04/01/21 12:26	04/01/21 15:33

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

SAMPLE ANALYTE COUNT

Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60365249001	**FAA-6-040121**	EPA 200.8	JGP	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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

PROJECT NARRATIVE

Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: April 05, 2021

General Information:
1 sample was 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:

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 FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

Sample: FAA-6-040121 **Lab ID: 60365249001** Collected: 04/01/21 12:26 Received: 04/01/21 15:33 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0043**	mg/L	0.0010	1	04/02/21 09:26	04/05/21 15:05	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

QC Batch: 712356
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: 60365249001

METHOD BLANK: 2866451 Matrix: Water
Associated Lab Samples: 60365249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	04/05/21 15:00	

LABORATORY CONTROL SAMPLE: 2866452

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2866453 2866454

Parameter	Units	60365204002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	1.0 ug/L	0.04	0.04	0.041	0.041	101	101	70-130	0	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC FAL CCR - AS RESAMPLE
Pace Project No.: 60365249

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60365249001	**FAA-6-040121**	EPA 200.8	712356	EPA 200.8	712435

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60365249

60365249

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 ☑ Zpic

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

Cooler Temperature (°C): **As-read** 0.3 **Corr. Factor** 0.0 **Corrected** 0.3

Date and initials of person examining contents: 4/12 CSR

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	2 Day
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT# L03173	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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:	2-DAY RUSH

Section B
Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schlegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	JEC FAL CCR - As Resample
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:	Jasmine Amerin, 913-563-1403
Pace Profile #:	9657, 1

REGULATORY AGENCY

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

Site Location STATE: KS

Section D
Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N): N (200.8 Total As)

Pace Project No./ Lab ID: L0305249

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	200.8 Total As										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	FAA-6-040121	WT	G	-	-	04/01/21	1226		1			1							X											2-DAY RUSH
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
2-DAY RUSH FOR ARSENIC RESAMPLE	April Thompson / SCS A Thompson	4/1/21	1533	S Woods/Pace	4/1/21	1533	0.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: April Thompson

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 4/1/21

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

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

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

ATTACHMENT 1-2
June 2021 Sampling Event
Laboratory Analytical Report

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

June 18, 2021

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

RE: Project: JEC FAL CCR
Pace Project No.: 60371784

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Kansas City

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

Sincerely,

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

Enclosures

cc: Sarah Hazelwood, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Dustin Kadous, Evergy Kansas Central, Inc. Jeffrey Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.
JD Schlegel, Evergy, Inc.

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

CERTIFICATIONS

Project: JEC FAL CCR
Pace Project No.: 60371784

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

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

SAMPLE SUMMARY

Project: JEC FAL CCR
Pace Project No.: 60371784

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60371784001	**FAA-3-06/09/21**	Water	06/09/21 12:45	06/09/21 16:30
60371784002	**FAA-4-06/09/21**	Water	06/09/21 11:35	06/09/21 16:30
60371784003	**FAA-5-06/09/21**	Water	06/09/21 10:35	06/09/21 16:30
60371784004	**FAA-6-06/09/21**	Water	06/09/21 12:50	06/09/21 16:30
60371784005	**FAA-DUP-06/09/21**	Water	06/09/21 12:50	06/09/21 16:30

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

SAMPLE ANALYTE COUNT

Project: JEC FAL CCR
Pace Project No.: 60371784

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60371784001	**FAA-3-06/09/21**	EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60371784002	**FAA-4-06/09/21**	EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60371784003	**FAA-5-06/09/21**	EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60371784004	**FAA-6-06/09/21**	EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	1	PASI-K
		EPA 300.0	CRN2	1	PASI-K
60371784005	**FAA-DUP-06/09/21**	EPA 200.7	JLH	4	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	MRV	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 FAL CCR
Pace Project No.: 60371784

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: June 18, 2021

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 FAL CCR
Pace Project No.: 60371784

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: June 18, 2021

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 FAL CCR
Pace Project No.: 60371784

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: June 18, 2021

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 FAL CCR
Pace Project No.: 60371784

Method: **EPA 245.1**
Description: 245.1 Mercury
Client: Evergy Kansas Central, Inc.
Date: June 18, 2021

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 FAL CCR
Pace Project No.: 60371784

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: June 18, 2021

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.

Duplicate Sample:
All duplicate sample results were within method 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 FAL CCR
Pace Project No.: 60371784

Sample: FAA-3-06/09/21 **Lab ID: 60371784001** Collected: 06/09/21 12:45 Received: 06/09/21 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.031**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:30	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/11/21 13:30	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:30	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 13:30	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 14:00	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:04	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:04	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	06/10/21 15:54	06/16/21 15:04	7440-43-9	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:04	7440-48-4	
Molybdenum, Total Recoverable	**0.0062**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:04	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:04	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:04	7440-28-0	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.20**	ug/L	0.20	1	06/14/21 16:27	06/16/21 10:41	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**0.28**	mg/L	0.20	1		06/16/21 13:04	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60371784

Sample: FAA-4-06/09/21 **Lab ID: 60371784002** Collected: 06/09/21 11:35 Received: 06/09/21 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.046**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:37	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/11/21 13:37	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:37	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 13:37	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.011**	mg/L	0.010	1	06/10/21 15:54	06/11/21 14:07	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:11	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:11	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	06/10/21 15:54	06/16/21 15:11	7440-43-9	
Cobalt, Total Recoverable	**0.0027**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:11	7440-48-4	
Molybdenum, Total Recoverable	**0.0094**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:11	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:11	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:11	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	06/14/21 16:27	06/16/21 10:46	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		06/16/21 13:17	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60371784

Sample: FAA-5-06/09/21 **Lab ID: 60371784003** Collected: 06/09/21 10:35 Received: 06/09/21 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:40	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/11/21 13:40	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:40	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 13:40	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.13**	mg/L	0.010	1	06/10/21 15:54	06/11/21 14:09	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Antimony, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:13	7440-36-0	
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:13	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	06/10/21 15:54	06/16/21 15:13	7440-43-9	
Cobalt, Total Recoverable	**0.0028**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:13	7440-48-4	
Molybdenum, Total Recoverable	**0.026**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:13	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:13	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:13	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	06/14/21 16:27	06/16/21 10:53	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**0.55**	mg/L	0.20	1		06/16/21 13:55	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60371784

Sample: FAA-6-06/09/21 **Lab ID: 60371784004** Collected: 06/09/21 12:50 Received: 06/09/21 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.035**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:42	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/11/21 13:42	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:42	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 13:42	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 14:12	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	06/10/21 15:54	06/16/21 15:15	7440-36-0	
Arsenic, Total Recoverable	**0.0055**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:15	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	06/10/21 15:54	06/16/21 15:15	7440-43-9	
Cobalt, Total Recoverable	**0.0017**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:15	7440-48-4	
Molybdenum, Total Recoverable	**0.34**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:15	7439-98-7	
Selenium, Total Recoverable	**0.0018**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:15	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:15	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	06/14/21 16:27	06/16/21 10:55	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**0.66**	mg/L	0.20	1		06/16/21 14:07	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60371784

Sample: FAA-DUP-06/09/21 **Lab ID: 60371784005** Collected: 06/09/21 12:50 Received: 06/09/21 16:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**0.034**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:45	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/11/21 13:45	7440-41-7	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	06/10/21 15:54	06/11/21 13:45	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 13:45	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	06/10/21 15:54	06/11/21 14:15	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	06/10/21 15:54	06/16/21 15:17	7440-36-0	
Arsenic, Total Recoverable	**0.0063**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:17	7440-38-2	
Cadmium, Total Recoverable	**<0.00050**	mg/L	0.00050	1	06/10/21 15:54	06/16/21 15:17	7440-43-9	
Cobalt, Total Recoverable	**0.0016**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:17	7440-48-4	
Molybdenum, Total Recoverable	**0.38**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:17	7439-98-7	
Selenium, Total Recoverable	**0.0018**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:17	7782-49-2	
Thallium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	06/10/21 15:54	06/16/21 15:17	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	06/14/21 16:27	06/16/21 10:57	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Fluoride	**0.68**	mg/L	0.20	1		06/16/21 14:20	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60371784

QC Batch: 726129 | 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: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

METHOD BLANK: 2917880 Matrix: Water
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.20	0.20	06/16/21 09:58	

LABORATORY CONTROL SAMPLE: 2917881

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2917882 2917883

Parameter	Units	60370986002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.1	5.2	103	104	70-130	2	20	

MATRIX SPIKE SAMPLE: 2917884

Parameter	Units	60371784001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	<0.20	5	5.0	98	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60371784

QC Batch: 725664
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: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

METHOD BLANK: 2916063 Matrix: Water
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	06/11/21 13:27	
Beryllium	mg/L	<0.0010	0.0010	06/11/21 13:27	
Chromium	mg/L	<0.0050	0.0050	06/11/21 13:27	
Lead	mg/L	<0.010	0.010	06/11/21 13:27	

LABORATORY CONTROL SAMPLE: 2916064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	1.0	102	85-115	
Beryllium	mg/L	1	1.0	103	85-115	
Chromium	mg/L	1	1.0	102	85-115	
Lead	mg/L	1	1.0	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916065 2916066

Parameter	Units	60371784001 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	102	101	70-130	1	20	
Beryllium	mg/L	<0.0010	1	1	1.0	1.0	103	102	70-130	1	20	
Chromium	mg/L	<0.0050	1	1	1.0	1.0	101	100	70-130	1	20	
Lead	mg/L	<0.010	1	1	1.0	0.99	100	99	70-130	1	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60371784

QC Batch: 725666
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: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

METHOD BLANK: 2916068 Matrix: Water
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/L	<0.0010	0.0010	06/16/21 15:00	
Arsenic	mg/L	<0.0010	0.0010	06/16/21 15:00	
Cadmium	mg/L	<0.00050	0.00050	06/16/21 15:00	
Cobalt	mg/L	<0.0010	0.0010	06/16/21 15:00	
Molybdenum	mg/L	<0.0010	0.0010	06/16/21 15:00	
Selenium	mg/L	<0.0010	0.0010	06/16/21 15:00	
Thallium	mg/L	<0.0010	0.0010	06/16/21 15:00	

LABORATORY CONTROL SAMPLE: 2916069

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.04	0.040	99	85-115	
Arsenic	mg/L	0.04	0.040	100	85-115	
Cadmium	mg/L	0.04	0.041	102	85-115	
Cobalt	mg/L	0.04	0.039	98	85-115	
Molybdenum	mg/L	0.04	0.043	106	85-115	
Selenium	mg/L	0.04	0.039	99	85-115	
Thallium	mg/L	0.04	0.040	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916070 2916071

Parameter	Units	60371784001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	<0.0010	0.04	0.04	0.039	0.039	97	97	70-130	0	20	
Arsenic	mg/L	<0.0010	0.04	0.04	0.041	0.040	100	99	70-130	1	20	
Cadmium	mg/L	<0.00050	0.04	0.04	0.038	0.038	95	95	70-130	1	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.038	0.038	94	94	70-130	0	20	
Molybdenum	mg/L	0.0062	0.04	0.04	0.050	0.051	111	111	70-130	0	20	
Selenium	mg/L	<0.0010	0.04	0.04	0.039	0.038	96	95	70-130	1	20	
Thallium	mg/L	<0.0010	0.04	0.04	0.036	0.036	90	90	70-130	0	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60371784

QC Batch: 725667
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

METHOD BLANK: 2916072 Matrix: Water
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	06/11/21 13:57	

LABORATORY CONTROL SAMPLE: 2916073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2916074 2916075

Parameter	Units	60371784001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	<0.010	1	1	1.1	1.1	108	106	75-125	2	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60371784

QC Batch: 726411 — 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: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

METHOD BLANK: 2918617 — Matrix: Water
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	06/16/21 10:51	

METHOD BLANK: 2921626 — Matrix: Water
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	06/17/21 08:37	

METHOD BLANK: 2922025 — Matrix: Water
Associated Lab Samples: 60371784001, 60371784002, 60371784003, 60371784004, 60371784005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	<0.20	0.20	06/18/21 09:15	

LABORATORY CONTROL SAMPLE: 2918618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	97	90-110	

LABORATORY CONTROL SAMPLE: 2921627

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

LABORATORY CONTROL SAMPLE: 2922026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	109	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 FAL CCR
Pace Project No.: 60371784

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918620 2918621

Parameter	Units	60371261001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.33	2.5	2.5	2.9	2.9	101	101	80-120	0	15	

MATRIX SPIKE SAMPLE: 2918622

Parameter	Units	60371916004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	<0.086	2.5	2.6	101	80-120	

SAMPLE DUPLICATE: 2918619

Parameter	Units	60371261001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.33	0.33	2	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 FAL CCR
Pace Project No.: 60371784

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC FAL CCR
Pace Project No.: 60371784

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60371784001	**FAA-3-06/09/21**	EPA 200.7	725664	EPA 200.7	725716
60371784002	**FAA-4-06/09/21**	EPA 200.7	725664	EPA 200.7	725716
60371784003	**FAA-5-06/09/21**	EPA 200.7	725664	EPA 200.7	725716
60371784004	**FAA-6-06/09/21**	EPA 200.7	725664	EPA 200.7	725716
60371784005	**FAA-DUP-06/09/21**	EPA 200.7	725664	EPA 200.7	725716
60371784001	**FAA-3-06/09/21**	EPA 3010	725667	EPA 6010	725715
60371784002	**FAA-4-06/09/21**	EPA 3010	725667	EPA 6010	725715
60371784003	**FAA-5-06/09/21**	EPA 3010	725667	EPA 6010	725715
60371784004	**FAA-6-06/09/21**	EPA 3010	725667	EPA 6010	725715
60371784005	**FAA-DUP-06/09/21**	EPA 3010	725667	EPA 6010	725715
60371784001	**FAA-3-06/09/21**	EPA 200.8	725666	EPA 200.8	725714
60371784002	**FAA-4-06/09/21**	EPA 200.8	725666	EPA 200.8	725714
60371784003	**FAA-5-06/09/21**	EPA 200.8	725666	EPA 200.8	725714
60371784004	**FAA-6-06/09/21**	EPA 200.8	725666	EPA 200.8	725714
60371784005	**FAA-DUP-06/09/21**	EPA 200.8	725666	EPA 200.8	725714
60371784001	**FAA-3-06/09/21**	EPA 245.1	726129	EPA 245.1	726391
60371784002	**FAA-4-06/09/21**	EPA 245.1	726129	EPA 245.1	726391
60371784003	**FAA-5-06/09/21**	EPA 245.1	726129	EPA 245.1	726391
60371784004	**FAA-6-06/09/21**	EPA 245.1	726129	EPA 245.1	726391
60371784005	**FAA-DUP-06/09/21**	EPA 245.1	726129	EPA 245.1	726391
60371784001	**FAA-3-06/09/21**	EPA 300.0	726411		
60371784002	**FAA-4-06/09/21**	EPA 300.0	726411		
60371784003	**FAA-5-06/09/21**	EPA 300.0	726411		
60371784004	**FAA-6-06/09/21**	EPA 300.0	726411		
60371784005	**FAA-DUP-06/09/21**	EPA 300.0	726411		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60371784

60371784

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 ☑ wplc

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

Cooler Temperature (°C): **As-read** 5.1 **Corr. Factor** 0.0 **Corrected** 5.1

Date and initials of person examining contents: 6.10.21

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# 603173		List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only) ☐Yes ☐No Potassium iodide test strip turns blue/purple? (Preserve) ☐Yes ☐No		
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schlegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	JEC FAL 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:	Jasmine Amerin, 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	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**	6010 Total Li***	300.0: F	245.1 Hg	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	FAA-3-06/09/21	WT	G	-	-	06/09/21	12:45		2	1		1						N	X	X	X	X	X		60371784
2	FAA-4-06/09/21	WT	G	-	-	06/09/21	11:35		2	1		1						N	X	X	X	X	X		
3	FAA-5-06/09/21	WT	G	-	-	06/09/21	10:35		2	1		1						N	X	X	X	X	X		
4	FAA-6-06/09/21	WT	G	-	-	06/09/21	12:50		2	1		1						N	X	X	X	X	X		
5	FAA-DUP-06/09/21	WT	G	-	-	06/09/21	12:50		2	1		1						N	X	X	X	X	X		
6																		N							
7																		N							
8																		N							
9																		N							
10																		N							
11																		N							
12																		N							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
200.7 Total Metals*: Ba, Be, Cr, Pb	Jason R. Franks / SCS	6/9/21	17:00	E Brockett / Pace	6.9.21	1630	5.1	Y	Y	Y
200.8 Total Metals**: Sb, As, Cd, Co, Mo, Se, Tl										
6010 Total Metals***: Li										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks

DATE Signed (MM/DD/YY): 6/9/21

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

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

July 07, 2021

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

RE: Project: JEC FAL CCR
Pace Project No.: 60372220

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

cc: Sarah Hazelwood, Evergy, Inc.
Laura Hines, Evergy, Inc.
Jake Humphrey, Evergy, Inc.
Dustin Kadous, Evergy Kansas Central, Inc. Jeffrey Energy Center
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.
JD Schlegel, Evergy, Inc.

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

CERTIFICATIONS

Project: JEC FAL CCR
Pace Project No.: 60372220

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

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

SAMPLE SUMMARY

Project: JEC FAL CCR
Pace Project No.: 60372220

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60372220001	**FAA-3-06/09/21**	Water	06/09/21 12:45	06/10/21 10:00
60372220002	**FAA-4-06/09/21**	Water	06/09/21 11:35	06/10/21 10:00
60372220003	**FAA-5-06/09/21**	Water	06/09/21 10:35	06/10/21 10:00
60372220004	**FAA-6-06/09/21**	Water	06/09/21 12:50	06/10/21 10:00
60372220005	**FAA-DUP-06/09/21**	Water	06/09/21 12:50	06/10/21 10:00

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

SAMPLE ANALYTE COUNT

Project: JEC FAL CCR
Pace Project No.: 60372220

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60372220001	**FAA-3-06/09/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60372220002	**FAA-4-06/09/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60372220003	**FAA-5-06/09/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60372220004	**FAA-6-06/09/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
60372220005	**FAA-DUP-06/09/21**	EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60372220

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Evergy Kansas Central, Inc.
Date: July 07, 2021

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 FAL CCR
Pace Project No.: 60372220

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Evergy Kansas Central, Inc.
Date: July 07, 2021

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 FAL CCR
Pace Project No.: 60372220

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Evergy Kansas Central, Inc.
Date: July 07, 2021

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

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

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

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

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

Additional Comments:

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

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60372220

Sample: FAA-3-06/09/21 **Lab ID: 60372220001** Collected: 06/09/21 12:45 Received: 06/10/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.213 ± 0.369 (0.931) C:NA T:88%**	pCi/L	06/30/21 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.07 ± 0.495 (0.851) C:74% T:89%**	pCi/L	07/01/21 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.07 ± 0.617 (0.931)**	pCi/L	07/02/21 14:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60372220

Sample: FAA-4-06/09/21 **Lab ID: 60372220002** Collected: 06/09/21 11:35 Received: 06/10/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.453 (0.981) C:NA T:71%**	pCi/L	06/30/21 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.220 ± 0.384 (0.838) C:72% T:93%**	pCi/L	07/01/21 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.220 ± 0.594 (0.981)**	pCi/L	07/02/21 14:56	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60372220

Sample: FAA-5-06/09/21 **Lab ID: 60372220003** Collected: 06/09/21 10:35 Received: 06/10/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**1.18 ± 0.733 (0.985) C:NA T:93%**	pCi/L	06/30/21 12:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.174 ± 0.371 (0.819) C:74% T:90%**	pCi/L	07/01/21 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.35 ± 0.822 (0.985)**	pCi/L	07/02/21 14:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60372220

Sample: FAA-6-06/09/21 **Lab ID: 60372220004** Collected: 06/09/21 12:50 Received: 06/10/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.412 (0.871) C:NA T:93%**	pCi/L	06/30/21 12:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.495 ± 0.423 (0.855) C:74% T:86%**	pCi/L	07/01/21 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.495 ± 0.590 (0.871)**	pCi/L	07/02/21 14:56	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60372220

Sample: FAA-DUP-06/09/21 **Lab ID: 60372220005** Collected: 06/09/21 12:50 Received: 06/10/21 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.129 ± 0.357 (0.843) C:NA T:89%**	pCi/L	06/30/21 12:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.661 ± 0.434 (0.832) C:72% T:92%**	pCi/L	07/01/21 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.661 ± 0.562 (0.843)**	pCi/L	07/02/21 14:56	7440-14-4	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60372220

QC Batch: 453683
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60372220001, 60372220002, 60372220003, 60372220004, 60372220005

METHOD BLANK: 2190432 Matrix: Water
Associated Lab Samples: 60372220001, 60372220002, 60372220003, 60372220004, 60372220005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.111 ± 0.316 (0.711) C:78% T:88%	pCi/L	07/01/21 14:17	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60372220

QC Batch: 453682
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60372220001, 60372220002, 60372220003, 60372220004, 60372220005

METHOD BLANK: 2190431 Matrix: Water
Associated Lab Samples: 60372220001, 60372220002, 60372220003, 60372220004, 60372220005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.255 ± 0.307 (0.835) C:NA T:73%	pCi/L	06/30/21 12:09	

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 FAL CCR
Pace Project No.: 60372220

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC FAL CCR
Pace Project No.: 60372220

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60372220001	**FAA-3-06/09/21**	EPA 903.1	453682		
60372220002	**FAA-4-06/09/21**	EPA 903.1	453682		
60372220003	**FAA-5-06/09/21**	EPA 903.1	453682		
60372220004	**FAA-6-06/09/21**	EPA 903.1	453682		
60372220005	**FAA-DUP-06/09/21**	EPA 903.1	453682		
60372220001	**FAA-3-06/09/21**	EPA 904.0	453683		
60372220002	**FAA-4-06/09/21**	EPA 904.0	453683		
60372220003	**FAA-5-06/09/21**	EPA 904.0	453683		
60372220004	**FAA-6-06/09/21**	EPA 904.0	453683		
60372220005	**FAA-DUP-06/09/21**	EPA 904.0	453683		
60372220001	**FAA-3-06/09/21**	Total Radium Calculation	455016		
60372220002	**FAA-4-06/09/21**	Total Radium Calculation	455016		
60372220003	**FAA-5-06/09/21**	Total Radium Calculation	455016		
60372220004	**FAA-6-06/09/21**	Total Radium Calculation	455016		
60372220005	**FAA-DUP-06/09/21**	Total Radium Calculation	455016		

Pace Analytical Services-Pittsburgh
Cooler Issue Tracking Form

061521-07
6-10-21
Fedex
wn) 5001 0648 3299
Every Kansas
n)
e)
O
Bench

1 profile or line not set up
(A-not set up B-set up, could not find)
2 limited volume
3 temperature issue
4 cannot determine client or contact
(A-not in LIMS B-could not find)
5 broken bottles
6 incorrect bottles
7 waiting for IRWO (list lab ID)
8 missing COC
9 other - comment

te:

ing on date:

gbook: **Y or N**

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schiegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	JEC FAL 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:	Jasmine Amerin, 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	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Preservatives: NaOH	Preservatives: $Na_2S_2O_3$	Preservatives: Methanol	Preservatives: Other	Analysis Test Y/N	Analysis Test: Radium-226	Analysis Test: Radium-228	Analysis Test: Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				DATE	TIME	DATE	TIME											Y/N	N	N	N		
1	FAA-3-06/09/21	WT	G	-	-	06/09/21	12:45		2			2							X	X	X		001
2	FAA-4-06/09/21	WT	G	-	-	06/09/21	11:35		2			2							X	X	X		002
3	FAA-5-06/09/21	WT	G	-	-	06/09/21	10:35		2			2							X	X	X		003
4	FAA-6-06/09/21	WT	G	-	-	06/09/21	12:50		2			2							X	X	X		004
5	FAA-DUP-06/09/21	WT	G	-	-	06/09/21	12:50		2			2							X	X	X		005
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Jason R. Franks / SCS	6/9/21	17:00		6-10-21	1000	N/A	N	Y	Y
									6-15-21	

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks DATE Signed (MM/DD/YY): 6/9/21

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

WO# : 30426098

30426098

Custody

[ ] Samples Pre-Logged into eCOC.

Pace Analytical®
www.pacelabs.com

State Of Origin: KS
Cert. Needed: [X] Yes [ ] No
Owner Received Date: 6/10/2021 **Results Requested By:** 7/1/2021

Workorder: 60372220 **Workorder Name:** JEC FAL CCR

Report To	Subcontract To
Jasmine Amerin Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Radium-226	Radium-228 & Total Radium	LAB USE ONLY
1	FAA-3-06/09/21	PS	6/9/2021 12:45	60372220001	Water	2	X	X	
2	FAA-4-06/09/21	PS	6/9/2021 11:35	60372220002	Water	2	X	X	
3	FAA-5-06/09/21	PS	6/9/2021 10:35	60372220003	Water	2	X	X	
4	FAA-6-06/09/21	PS	6/9/2021 12:50	60372220004	Water	2	X	X	
5	FAA-DUP-06/09/21	PS	6/9/2021 12:50	60372220005	Water	2	X	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1			[signature]	6/10/21 1000
2				
3				

Comments

Please provide QC sheets. Use Pittsburgh profile 11795.

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

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

WO# : 30426098

PM: CAF Due Date: 07/01/21

CLIENT: PACE_60_LEKS

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — **Required** Client Information:

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

Required Project Information:

Report To:	Melissa Michels, Samantha Kaney, Danielle Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schlegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	JEC FAL 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:	Jasmine Amerin, 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	Radium-226	Radium-228	Total Radium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
	Requested Analysis Filtered (Y/N)																	Y/N	N	N	N		
1	FAA-3-06/09/21	WT	G	-	-	06/09/21	12:45		2			2							X	X	X		001
2	FAA-4-06/09/21	WT	G	-	-	06/09/21	11:35		2			2							X	X	X		002
3	FAA-5-06/09/21	WT	G	-	-	06/09/21	10:35		2			2							X	X	X		003
4	FAA-6-06/09/21	WT	G	-	-	06/09/21	12:50		2			2							X	X	X		004
5	FAA-DUP-06/09/21	WT	G	-	-	06/09/21	12:50		2			2							X	X	X		005
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Jason R. Franks / SCS	6/9/21	17:00		6-10-21	1000	NA	N	Y	Y
									FAL 6-15-21	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: Jason R. Franks DATE Signed (MM/DD/YY): 6/9/21

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Evergy Kansas Project #

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

Tracking #: 5002 0648 3299

Label

LIMS Login

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

WO#: 30426098

Due Date: 07/01/21

PM: CAF

CLIENT: PACE_60_LEKS

pH paper Lot# 1003801

Date and Initials of person examining contents: 6-15-21

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed: Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present: Trip Blank Custody Seals Present			✓	18.
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: Date: 6-15-21 Survey Meter SN: 1569

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

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

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	MK1
Date:	6/24/2021
Batch ID:	61329
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2190431
MB concentration:	-0.255
M/B Counting Uncertainty:	0.306
MB MDC:	0.835
MB Numerical Performance Indicator:	-1.63
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS61329	LCSD61329
Count Date:	6/30/2021	6/30/2021
Spike I.D.:	20-032	20-032
Spike Concentration (pCi/mL):	32.173	32.173
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.652	0.657
Target Conc. (pCi/L, g, F):	4.933	4.897
Uncertainty (Calculated):	0.232	0.230
Result (pCi/L, g, F):	4.262	4.456
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.930	1.004
Numerical Performance Indicator:	-1.37	-0.84
Percent Recovery:	86.40%	91.01%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	73%	73%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	6/15/2021	
Sample I.D.	30426662001	
Sample MS I.D.	30426662001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.174	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.651	
MS Target Conc.(pCi/L, g, F):	9.880	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.464	
MSD Spike Uncertainty (calculated):		
Sample Result:	4.475	
Sample Result Counting Uncertainty (pCi/L, g, F):	1.202	
Sample Matrix Spike Result:	15.567	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.821	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	1.065	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	112.27%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	LCS61329	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD61329	
Sample Result (pCi/L, g, F):	4.262	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.930	
Sample Duplicate Result (pCi/L, g, F):	4.456	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.004	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.279	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	5.20%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	32%	

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

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

Comments:

6-30-21

7/1/21

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	6/25/2021
Worklist:	61330
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2190432
MB concentration:	0.111
M/B 2 Sigma CSU:	0.316
MB MDC:	0.711
MB Numerical Performance Indicator:	0.69
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS61330	LCSD61330
Count Date:	7/1/2021	7/1/2021
Spike I.D.:	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL):	37.110	37.110
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.817	0.807
Target Conc. (pCi/L, g, F):	4.541	4.598
Uncertainty (Calculated):	0.222	0.225
Result (pCi/L, g, F):	4.089	3.923
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.975	0.931
Numerical Performance Indicator:	-0.89	-1.38
Percent Recovery:	90.05%	85.32%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	6/15/2021	
Sample I.D.	30426662001	
Sample MS I.D.	30426662001MS	
Sample MSD I.D.		
Spike I.D.:	21-003	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	37.309	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.811	
MS Target Conc.(pCi/L, g, F):	9.196	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.451	
MSD Spike Uncertainty (calculated):		
Sample Result:	5.235	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.143	
Sample Matrix Spike Result:	13.408	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.594	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	-0.699	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	88.87%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	LCS61330	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD61330	
Sample Result (pCi/L, g, F):	4.089	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.975	
Sample Duplicate Result (pCi/L, g, F):	3.923	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.931	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.241	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	5.40%	
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:

MH 7/2/21

AWZ 7/2/21

ATTACHMENT 1-3
September 2021 Sampling Event
Laboratory Analytical Report

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

December 02, 2021

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

RE: Project: JEC FAL CCR
Pace Project No.: 60380628

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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.
Jake Humphrey, Evergy, Inc.
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.
JD Schlegel, Evergy, Inc.
Jacob Will, Evergy Kansas Central, Jeffrey Energy Center

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

CERTIFICATIONS

Project: JEC FAL CCR
Pace Project No.: 60380628

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

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

SAMPLE SUMMARY

Project: JEC FAL CCR
Pace Project No.: 60380628

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60380628001	**FAA-3-091421**	Water	09/14/21 16:45	09/17/21 00:00
60380628002	**FAA-4-091421**	Water	09/14/21 18:00	09/17/21 00:00
60380628003	**FAA-6-091421**	Water	09/14/21 17:30	09/17/21 00:00
60380628004	**JEC-FAA-DUP-091421**	Water	09/14/21 17:30	09/17/21 00:00

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

SAMPLE ANALYTE COUNT

Project: JEC FAL CCR
Pace Project No.: 60380628

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60380628001	**FAA-3-091421**	EPA 200.7	JLH	3	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BLA	1	PASI-K
		SM 4500-H+B	KB	1	PASI-K
		EPA 300.0	ALH	3	PASI-K
60380628002	**FAA-4-091421**	EPA 200.7	JLH	3	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BLA	1	PASI-K
		SM 4500-H+B	KB	1	PASI-K
		EPA 300.0	ALH	3	PASI-K
60380628003	**FAA-6-091421**	EPA 200.7	JLH	3	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BLA	1	PASI-K
		SM 4500-H+B	KB	1	PASI-K
		EPA 300.0	ALH, LDB	3	PASI-K
60380628004	**JEC-FAA-DUP-091421**	EPA 200.7	JLH	3	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	4	PASI-K
		EPA 903.1	MK1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	BLA	1	PASI-K
		SM 4500-H+B	KB	1	PASI-K
		EPA 300.0	ALH, LDB	3	PASI-K

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: JEC FAL CCR
Pace Project No.: 60380628

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

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

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60380628

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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: 745486

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60380536001,60380625003

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

- MS (Lab ID: 2986093)
  - Calcium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60380628

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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 FAL CCR
Pace Project No.: 60380628

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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 FAL CCR
Pace Project No.: 60380628

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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 FAL CCR
Pace Project No.: 60380628

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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 FAL CCR
Pace Project No.: 60380628

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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:

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60380628

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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:

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60380628

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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.
- FAA-3-091421 (Lab ID: 60380628001)
- FAA-4-091421 (Lab ID: 60380628002)
- FAA-6-091421 (Lab ID: 60380628003)
- JEC-FAA-DUP-091421 (Lab ID: 60380628004)

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:

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

PROJECT NARRATIVE

Project: JEC FAL CCR
Pace Project No.: 60380628

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: December 02, 2021

General Information:
4 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: 744818

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60380084003,60380536003

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

- MS (Lab ID: 2983692)
  - Chloride
  - Fluoride
- MSD (Lab ID: 2983693)
  - Chloride
  - Fluoride

QC Batch: 744822

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60380628002,60380631002,60380635001

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

- MS (Lab ID: 2983704)
  - Chloride

R1: RPD value was outside control limits.

- MSD (Lab ID: 2983705)
  - Chloride

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 FAL CCR
Pace Project No.: 60380628

Sample: FAA-3-091421 **Lab ID: 60380628001** Collected: 09/14/21 16:45 Received: 09/17/21 00:00 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	**0.032**	mg/L	0.0050	1	09/24/21 16:00	09/28/21 13:05	7440-39-3	
Boron, Total Recoverable	**0.55**	mg/L	0.10	1	09/24/21 16:00	09/28/21 13:05	7440-42-8	
Calcium, Total Recoverable	**191**	mg/L	0.20	1	09/24/21 16:00	09/28/21 13:05	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.012**	mg/L	0.010	1	09/24/21 16:00	09/28/21 13:05	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:23	7440-38-2	
Cobalt, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:23	7440-48-4	
Molybdenum, Total Recoverable	**0.0090**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:23	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:23	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1080**	mg/L	13.3	1		09/21/21 13:52		
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		09/20/21 13:16		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**78.2**	mg/L	20.0	20		09/23/21 05:40	16887-00-6	
Fluoride	**0.35**	mg/L	0.20	1		09/23/21 05:22	16984-48-8	
Sulfate	**408**	mg/L	100	100		09/27/21 14:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60380628

Sample: FAA-4-091421 **Lab ID: 60380628002** Collected: 09/14/21 18:00 Received: 09/17/21 00:00 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	**0.046**	mg/L	0.0050	1	09/24/21 16:00	09/28/21 13:07	7440-39-3	
Boron, Total Recoverable	**0.73**	mg/L	0.10	1	09/24/21 16:00	09/28/21 13:07	7440-42-8	
Calcium, Total Recoverable	**190**	mg/L	0.20	1	09/24/21 16:00	09/28/21 13:07	7440-70-2	
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	09/24/21 16:00	09/28/21 13:07	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:27	7440-38-2	
Cobalt, Total Recoverable	**0.0022**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:27	7440-48-4	
Molybdenum, Total Recoverable	**0.0084**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:27	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:27	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1220**	mg/L	13.3	1		09/21/21 13:52		
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		09/20/21 13:33		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**83.8**	mg/L	20.0	20		09/22/21 13:21	16887-00-6	M1,R1
Fluoride	**0.38**	mg/L	0.20	1		09/22/21 12:26	16984-48-8	
Sulfate	**488**	mg/L	100	100		09/27/21 14:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60380628

Sample: FAA-6-091421 **Lab ID: 60380628003** Collected: 09/14/21 17:30 Received: 09/17/21 00:00 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	**0.033**	mg/L	0.0050	1	09/24/21 16:00	09/28/21 13:10	7440-39-3	
Boron, Total Recoverable	**2.0**	mg/L	0.10	1	09/24/21 16:00	09/28/21 13:10	7440-42-8	
Calcium, Total Recoverable	**134**	mg/L	0.20	1	09/24/21 16:00	09/28/21 13:10	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.012**	mg/L	0.010	1	09/24/21 16:00	09/28/21 00:51	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0052**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:30	7440-38-2	
Cobalt, Total Recoverable	**0.0017**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:30	7440-48-4	
Molybdenum, Total Recoverable	**0.26**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:30	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:30	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1770**	mg/L	20.0	1		09/21/21 13:52		
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		09/20/21 13:23		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**74.3**	mg/L	20.0	20		09/22/21 14:34	16887-00-6	
Fluoride	**0.67**	mg/L	0.20	1		09/22/21 14:16	16984-48-8	
Sulfate	**932**	mg/L	200	200		09/23/21 20:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: JEC FAL CCR
Pace Project No.: 60380628

Sample: JEC-FAA-DUP-091421 **Lab ID: 60380628004** Collected: 09/14/21 17:30 Received: 09/17/21 00:00 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	**0.032**	mg/L	0.0050	1	09/24/21 16:00	09/28/21 13:13	7440-39-3	
Boron, Total Recoverable	**2.7**	mg/L	0.10	1	09/24/21 16:00	09/28/21 13:13	7440-42-8	
Calcium, Total Recoverable	**135**	mg/L	0.20	1	09/24/21 16:00	09/28/21 13:13	7440-70-2	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**<0.010**	mg/L	0.010	1	09/24/21 16:00	09/28/21 00:54	7439-93-2	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City							
Arsenic, Total Recoverable	**0.0065**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:33	7440-38-2	
Cobalt, Total Recoverable	**0.0015**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:33	7440-48-4	
Molybdenum, Total Recoverable	**0.30**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:33	7439-98-7	
Selenium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/28/21 17:33	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**1750**	mg/L	20.0	1		09/21/21 13:52		
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		09/20/21 13:26		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**75.0**	mg/L	20.0	20		09/22/21 15:47	16887-00-6	
Fluoride	**0.77**	mg/L	0.20	1		09/22/21 15:29	16984-48-8	
Sulfate	**979**	mg/L	100	100		09/23/21 20:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 745486
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: 60380628001, 60380628002, 60380628003, 60380628004

METHOD BLANK: 2986089 Matrix: Water
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	09/27/21 23:47	
Boron	mg/L	<0.10	0.10	09/27/21 23:47	
Calcium	mg/L	<0.20	0.20	09/27/21 23:47	

LABORATORY CONTROL SAMPLE: 2986090

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.95	95	85-115	
Boron	mg/L	1	0.90	90	85-115	
Calcium	mg/L	10	9.6	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986091 2986092

Parameter	Units	60380536001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.15	1	1	1.1	1.1	98	99	70-130	1	20	
Boron	mg/L	0.27	1	1	1.2	1.2	93	88	70-130	4	20	
Calcium	mg/L	147	10	10	159	158	119	114	70-130	0	20	

MATRIX SPIKE SAMPLE: 2986093

Parameter	Units	60380625003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.019	1	0.96	95	70-130	
Boron	mg/L	0.30	1	1.3	96	70-130	
Calcium	mg/L	270	10	261	131	70-130	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 745483
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: 60380628001, 60380628002, 60380628003, 60380628004

METHOD BLANK: 2986071 Matrix: Water
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0010	0.0010	09/28/21 16:43	
Cobalt	mg/L	<0.0010	0.0010	09/28/21 16:43	
Molybdenum	mg/L	<0.0010	0.0010	09/28/21 16:43	
Selenium	mg/L	<0.0010	0.0010	09/28/21 16:43	

LABORATORY CONTROL SAMPLE: 2986072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.04	0.041	103	85-115	
Cobalt	mg/L	0.04	0.041	103	85-115	
Molybdenum	mg/L	0.04	0.042	104	85-115	
Selenium	mg/L	0.04	0.041	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986073 2986074

Parameter	Units	60380536002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0045	0.04	0.04	0.046	0.046	104	104	70-130	0	20	
Cobalt	mg/L	<0.0010	0.04	0.04	0.038	0.039	96	98	70-130	2	20	
Molybdenum	mg/L	<0.0010	0.04	0.04	0.043	0.044	107	109	70-130	2	20	
Selenium	mg/L		0.04	0.04	0.039	0.040	97	99	70-130	2	20	

MATRIX SPIKE SAMPLE: 2986075

Parameter	Units	60380625004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	<0.0010	0.04	0.040	101	70-130	
Cobalt	mg/L	<0.0010	0.04	0.038	95	70-130	
Molybdenum	mg/L	0.0018	0.04	0.045	109	70-130	
Selenium	mg/L	<0.0010	0.04	0.039	98	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 745480
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

METHOD BLANK: 2986054 Matrix: Water
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	09/27/21 23:47	

LABORATORY CONTROL SAMPLE: 2986055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986056 2986057

Parameter	Units	60380536001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.024	1	1	0.98	1.0	96	99	75-125	3	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 744455
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

METHOD BLANK: 2982535 Matrix: Water
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	09/21/21 13:50	

LABORATORY CONTROL SAMPLE: 2982536

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	968	97	80-120	

SAMPLE DUPLICATE: 2982537

Parameter	Units	60380469003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1040	1070	3	10	

SAMPLE DUPLICATE: 2982538

Parameter	Units	60380625002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1340	1340	0	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 744326
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: 60380628001, 60380628002, 60380628003, 60380628004

SAMPLE DUPLICATE: 2982165

Parameter	Units	60380628001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.3	1	5	H6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 744818
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: 60380628001

METHOD BLANK: 2983681 Matrix: Water
Associated Lab Samples: 60380628001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/22/21 08:22	
Fluoride	mg/L	<0.20	0.20	09/22/21 08:22	
Sulfate	mg/L	<1.0	1.0	09/22/21 08:22	

METHOD BLANK: 2985966 Matrix: Water
Associated Lab Samples: 60380628001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/23/21 08:02	
Fluoride	mg/L	<0.20	0.20	09/23/21 08:02	
Sulfate	mg/L	<1.0	1.0	09/23/21 08:02	

METHOD BLANK: 2988391 Matrix: Water
Associated Lab Samples: 60380628001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/27/21 09:57	
Fluoride	mg/L	<0.20	0.20	09/27/21 09:57	
Sulfate	mg/L	<1.0	1.0	09/27/21 09:57	

LABORATORY CONTROL SAMPLE: 2983682

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	104	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	5	5.3	107	90-110	

LABORATORY CONTROL SAMPLE: 2985967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	4.9	98	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 FAL CCR
Pace Project No.: 60380628

LABORATORY CONTROL SAMPLE: 2988392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

MATRIX SPIKE SAMPLE: 2983685

Parameter	Units	60380536003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	21.2	25	45.3	96	80-120	
Fluoride	mg/L	0.25	2.5	2.6	96	80-120	
Sulfate	mg/L	418	250	675	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2983692 2983693

Parameter	Units	60380084003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22200	25000	25000	61800	54600	158	130	80-120	12	15	M1
Fluoride	mg/L	ND	1250	1250	1920	1700	154	136	80-120	12	15	M1
Sulfate	mg/L	3150	2500	2500	6150	5590	120	98	80-120	10	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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 744822
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: 60380628002, 60380628003, 60380628004

METHOD BLANK: 2983702 Matrix: Water
Associated Lab Samples: 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/22/21 08:26	
Fluoride	mg/L	<0.20	0.20	09/22/21 08:26	
Sulfate	mg/L	<1.0	1.0	09/22/21 08:26	

METHOD BLANK: 2985972 Matrix: Water
Associated Lab Samples: 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/23/21 08:02	
Fluoride	mg/L	<0.20	0.20	09/23/21 08:02	
Sulfate	mg/L	<1.0	1.0	09/23/21 08:02	

METHOD BLANK: 2988412 Matrix: Water
Associated Lab Samples: 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/27/21 09:57	
Fluoride	mg/L	<0.20	0.20	09/27/21 09:57	
Sulfate	mg/L	<1.0	1.0	09/27/21 09:57	

METHOD BLANK: 2988943 Matrix: Water
Associated Lab Samples: 60380628002, 60380628003, 60380628004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/28/21 10:43	
Fluoride	mg/L	<0.20	0.20	09/28/21 10:43	
Sulfate	mg/L	<1.0	1.0	09/28/21 10:43	

LABORATORY CONTROL SAMPLE: 2983703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.4	108	90-110	
Fluoride	mg/L	2.5	2.7	107	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 FAL CCR
Pace Project No.: 60380628

LABORATORY CONTROL SAMPLE: 2983703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.5	110	90-110	

LABORATORY CONTROL SAMPLE: 2985973

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2988413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 2988944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2983704 2983705

Parameter	Units	60380628002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	83.8	100	100	237	193	153	109	80-120	21	15	M1,R1
Fluoride	mg/L	0.38	2.5	2.5	2.9	2.9	99	101	80-120	1	15	
Sulfate	mg/L	488	500	500	985	1000	99	103	80-120	2	15	

MATRIX SPIKE SAMPLE: 2983706

Parameter	Units	60380631002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	80.7	100	183	102	80-120	
Fluoride	mg/L	0.28	2.5	2.3	82	80-120	
Sulfate	mg/L	430	250	686	102	80-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: JEC FAL CCR
Pace Project No.: 60380628

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2988049 2988050

Parameter	Units	60380635001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4530	5000	5000	9270	9470	95	99	80-120	2	15	
Fluoride	mg/L	0.26	2500	2500	2460	2450	98	98	80-120	0	15	
Sulfate	mg/L	184	5000	5000	4940	4960	95	95	80-120	0	15	

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

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60380628

Sample: FAA-3-091421 **Lab ID: 60380628001** Collected: 09/14/21 16:45 Received: 09/17/21 00:00 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	**-0.219 ± 0.430 (1.03) C:NA T:89%**	pCi/L	11/08/21 12:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.331 ± 0.361 (0.932) C:65% T:83%**	pCi/L	11/05/21 14:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.791 (1.96)**	pCi/L	11/24/21 15:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60380628

Sample: FAA-4-091421 **Lab ID: 60380628002** Collected: 09/14/21 18:00 Received: 09/17/21 00:00 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	**0.0723 ± 0.470 (0.948) C:NA T:95%**	pCi/L	11/08/21 12:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.659 ± 0.509 (1.00) C:57% T:89%**	pCi/L	11/05/21 14:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.731 ± 0.979 (1.95)**	pCi/L	11/24/21 15:38	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60380628

Sample: FAA-6-091421 **Lab ID: 60380628003** Collected: 09/14/21 17:30 Received: 09/17/21 00:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.465 (0.967) C:NA T:97%**	pCi/L	11/08/21 12:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.570 ± 0.500 (1.01) C:63% T:86%**	pCi/L	11/05/21 14:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.570 ± 0.965 (1.98)**	pCi/L	11/24/21 15:38	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60380628

Sample: JEC-FAA-DUP-091421 **Lab ID: 60380628004** Collected: 09/14/21 17:30 Received: 09/17/21 00:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.542 (1.11) C:NA T:95%**	pCi/L	11/08/21 12:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.866 ± 0.500 (0.920) C:66% T:92%**	pCi/L	11/05/21 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.866 ± 1.04 (2.03)**	pCi/L	11/24/21 15:38	7440-14-4	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 470650
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

METHOD BLANK: 2272166 Matrix: Water
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.949 ± 0.482 (0.835) C:67% T:83%	pCi/L	11/05/21 14:16	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: JEC FAL CCR
Pace Project No.: 60380628

QC Batch: 470649
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

METHOD BLANK: 2272156 Matrix: Water
Associated Lab Samples: 60380628001, 60380628002, 60380628003, 60380628004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0626 ± 0.407 (0.821) C:NA T:88%	pCi/L	11/08/21 12:16	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: JEC FAL CCR
Pace Project No.: 60380628

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEC FAL CCR
Pace Project No.: 60380628

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60380628001	**FAA-3-091421**	EPA 200.7	745486	EPA 200.7	745595
60380628002	**FAA-4-091421**	EPA 200.7	745486	EPA 200.7	745595
60380628003	**FAA-6-091421**	EPA 200.7	745486	EPA 200.7	745595
60380628004	**JEC-FAA-DUP-091421**	EPA 200.7	745486	EPA 200.7	745595
60380628001	**FAA-3-091421**	EPA 3010	745480	EPA 6010	745596
60380628002	**FAA-4-091421**	EPA 3010	745480	EPA 6010	745596
60380628003	**FAA-6-091421**	EPA 3010	745480	EPA 6010	745596
60380628004	**JEC-FAA-DUP-091421**	EPA 3010	745480	EPA 6010	745596
60380628001	**FAA-3-091421**	EPA 200.8	745483	EPA 200.8	745597
60380628002	**FAA-4-091421**	EPA 200.8	745483	EPA 200.8	745597
60380628003	**FAA-6-091421**	EPA 200.8	745483	EPA 200.8	745597
60380628004	**JEC-FAA-DUP-091421**	EPA 200.8	745483	EPA 200.8	745597
60380628001	**FAA-3-091421**	EPA 903.1	470649		
60380628002	**FAA-4-091421**	EPA 903.1	470649		
60380628003	**FAA-6-091421**	EPA 903.1	470649		
60380628004	**JEC-FAA-DUP-091421**	EPA 903.1	470649		
60380628001	**FAA-3-091421**	EPA 904.0	470650		
60380628002	**FAA-4-091421**	EPA 904.0	470650		
60380628003	**FAA-6-091421**	EPA 904.0	470650		
60380628004	**JEC-FAA-DUP-091421**	EPA 904.0	470650		
60380628001	**FAA-3-091421**	Total Radium Calculation	474011		
60380628002	**FAA-4-091421**	Total Radium Calculation	474011		
60380628003	**FAA-6-091421**	Total Radium Calculation	474011		
60380628004	**JEC-FAA-DUP-091421**	Total Radium Calculation	474011		
60380628001	**FAA-3-091421**	SM 2540C	744455		
60380628002	**FAA-4-091421**	SM 2540C	744455		
60380628003	**FAA-6-091421**	SM 2540C	744455		
60380628004	**JEC-FAA-DUP-091421**	SM 2540C	744455		
60380628001	**FAA-3-091421**	SM 4500-H+B	744326		
60380628002	**FAA-4-091421**	SM 4500-H+B	744326		
60380628003	**FAA-6-091421**	SM 4500-H+B	744326		
60380628004	**JEC-FAA-DUP-091421**	SM 4500-H+B	744326		
60380628001	**FAA-3-091421**	EPA 300.0	744818		
60380628002	**FAA-4-091421**	EPA 300.0	744822		
60380628003	**FAA-6-091421**	EPA 300.0	744822		
60380628004	**JEC-FAA-DUP-091421**	EPA 300.0	744822		

Pace Analytical®
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60380628

60380628

Client Name: Eversource

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

Cooler Temperature (°C): **As-read** 2.9/1.3 **Corr. Factor** _____ **Corrected** _____

Date and initials of person examining contents: JD 9-18-21

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added. 9-18-21
Cyanide water sample checks: Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☑N/A ☐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 Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schlegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	JEC FAL 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:	Hank Kapka, 913-563-1404
Pace Profile #:	9657, 1

REGULATORY AGENCY

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

Site Location STATE: KS

Section D — **Required** Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	Sample ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	200.7 Total Metals*	200.8 Total Metals**	4500 H+B pH	300: Cl, F, SO4	2540C TDS	6010 Total Li***	Ra 226/ 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N		
1	FAA-3-091421	WT	G	-	-	09/14/21	16:45	-	7	3		4							X	X	X	X	X	X	X		
2	FAA-4-091421	WT	G	-	-	09/14/21	18:00	-	7	3		4							X	X	X	X	X	X	X		
3	FAA-6-091421	WT	G	-	-	09/14/21	17:30	-	7	3		4							X	X	X	X	X	X	X		
4	JEC-FAA-DUP-091421	WT	G	-	-	09/14/21	17:30	-	7	3		4							X	X	X	X	X	X	X		
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
200.7 Total Metals*: B, Ca, Ba	Jason R. Franks	9/16/21	15:00		9-17-21		2.9
200.8 Total Metals**: As, Co, Mo, Se							1.3
6010 Total Metals***: Li							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9/16/21

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

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

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

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

Workorder: 60380628 Workorder Name: JEC FAL CCR

Owner Received Date: 9/17/2021 Results Requested By: 9/28/2021

Report To	Subcontract To
Hank Kapka Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30446904

30446904

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Radium 226	Radium 228										LAB USE ONLY
1	FAA-3-091421	PS	9/14/2021 16:45	60380628001	Water	2						X	X										001
2	FAA-4-091421	PS	9/14/2021 18:00	60380628002	Water	2						X	X										002
3	FAA-6-091421	PS	9/14/2021 17:30	60380628003	Water	2						X	X										003
4	JEC-FAA-DUP-091421	PS	9/14/2021 17:30	60380628004	Water	2						X	X										004
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	10/20/21 1800	[illegible]	10-21-21 1000
2				
3				

Comments

Cooler Temperature on Receipt N/A °C | Custody Seal Y or (N) | Received on Ice Y or (N) | Samples Intact (Y) or N

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace Kansas Project #

Courier: ☒ E Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Label MM

LIMS Login MM

Tracking #: 5333 8754 6571

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

WO#: 30446904

PM: MS1 Due Date: 10/28/21

CLIENT: PACE_60_LEKS

Comments:	Yes	No	N/A	pH paper Lot# 10004111 / Date and initials of person examining contents: MM2 10/22/21
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9. Low volume for sample 004
Correct Containers Used: -Pace Containers Used:	X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	X			16.
All containers meet method preservation requirements.	X			Initial when completed MM2 Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:			X	18.
Trip Blank Custody Seals Present			X	
Rad Samples Screened < 0.5 mrem/hr	X			Initial when completed: MM2 Date: 10/22/21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

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

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

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

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-226
Analyst:	MK1
Date:	11/2/2021
Batch ID:	63412
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2272156
MB concentration:	0.063
M/B Counting Uncertainty:	0.407
MB MDC:	0.821
MB Numerical Performance Indicator:	0.30
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS63412	LCSD63412
Count Date:	11/8/2021	
Spike I.D.:	20-032	
Spike Concentration (pCi/mL):	32.168	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.653	
Target Conc. (pCi/L, g, F):	4.923	
Uncertainty (Calculated):	0.231	
Result (pCi/L, g, F):	3.451	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.028	
Numerical Performance Indicator:	-2.74	
Percent Recovery:	70.11%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Fail Low**	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	10/8/2021	
Sample I.D.	50299678006	
Sample MS I.D.	50299678007	
Sample MSD I.D.	50299678008	
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.169	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):	0.20	
MS Aliquot (L, g, F):	0.653	
MS Target Conc.(pCi/L, g, F):	9.848	
MSD Aliquot (L, g, F):	0.658	
MSD Target Conc. (pCi/L, g, F):	9.774	
MS Spike Uncertainty (calculated):	0.463	
MSD Spike Uncertainty (calculated):	0.459	
Sample Result:	0.157	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.272	
Sample Matrix Spike Result:	8.092	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.376	
Sample Matrix Spike Duplicate Result:	11.130	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.651	
MS Numerical Performance Indicator:	-2.540	
MSD Numerical Performance Indicator:	1.354	
MS Percent Recovery:	80.57%	
MSD Percent Recovery:	112.26%	
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:	N/A	
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:	Pass	
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.		
Sample Result (pCi/L, g, F):		
Sample Result Counting Uncertainty (pCi/L, g, F):		
Sample Duplicate Result (pCi/L, g, F):		
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:		
Duplicate RPD:		
Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:		
% RPD Limit:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	50299678006
Sample MS I.D.	50299678007
Sample MSD I.D.	50299678008
Sample Matrix Spike Result:	8.092
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.376
Sample Matrix Spike Duplicate Result:	11.130
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	1.651
Duplicate Numerical Performance Indicator:	-2.771
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	32.87%
MS/ MSD Duplicate Status vs Numerical Indicator:	N/A
MS/ MSD Duplicate Status vs RPD:	Fail***
% RPD Limit:	32%

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

Comments:

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

full wt batch - NI < 3 acceptable for LCS + RPD

11-8-21

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	11/3/2021
Worklist:	63413
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2272166
MB concentration:	0.949
M/B 2 Sigma CSU:	0.482
MB MDC:	0.835
MB Numerical Performance Indicator:	3.86
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS63413	LCSD63413
Count Date:	11/5/2021	
Spike I.D.:	21-029	
Decay Corrected Spike Concentration (pCi/mL):	37.573	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.806	
Target Conc. (pCi/L, g, F):	4.660	
Uncertainty (Calculated):	0.228	
Result (pCi/L, g, F):	3.993	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.010	
Numerical Performance Indicator:	-1.26	
Percent Recovery:	85.69%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	10/8/2021	10/8/2021
Sample I.D.	30446807001	50299678006
Sample MS I.D.	30446807001MS	50299678007
Sample MSD I.D.		50299678008
Spike I.D.:	21-029	21-029
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	37.923	37.923
Spike Volume Used in MS (mL):	0.20	0.20
Spike Volume Used in MSD (mL):		0.20
MS Aliquot (L, g, F):	0.819	0.808
MS Target Conc.(pCi/L, g, F):	9.257	9.386
MSD Aliquot (L, g, F):		0.806
MSD Target Conc. (pCi/L, g, F):		9.415
MS Spike Uncertainty (calculated):	0.454	0.460
MSD Spike Uncertainty (calculated):		0.461
Sample Result:	5.901	1.477
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.322	0.613
Sample Matrix Spike Result:	13.421	8.271
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	2.673	1.826
Sample Matrix Spike Duplicate Result:		10.558
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		2.215
MS Numerical Performance Indicator:	-1.129	-2.565
MSD Numerical Performance Indicator:		-0.279
MS Percent Recovery:	81.24%	72.39%
MSD Percent Recovery:		96.46%
MS Status vs Numerical Indicator:	Pass	Warning
MSD Status vs Numerical Indicator:		Pass
MS Status vs Recovery:	Pass	Pass
MSD Status vs Recovery:		Pass
MS/MSD Upper % Recovery Limits:	135%	135%
MS/MSD Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment		
Sample I.D.:		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.		
Sample Result (pCi/L, g, F):		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Duplicate Result (pCi/L, g, F):		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:		
Duplicate RPD:		
Duplicate Status vs Numerical Indicator:		
Duplicate Status vs RPD:		
% RPD Limit:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		50299678006
Sample MS I.D.		50299678007
Sample MSD I.D.		50299678008
Sample Matrix Spike Result:		8.271
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		1.826
Sample Matrix Spike Duplicate Result:		10.558
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		2.215
Duplicate Numerical Performance Indicator:		-1.561
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		28.50%
MS/ MSD Duplicate Status vs Numerical Indicator:		Pass
MS/ MSD Duplicate Status vs RPD:		Pass
% RPD Limit:		36%

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

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

11/7/21

11/10/21

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

December 01, 2021

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

RE: Project: MW-FAA-5
Pace Project No.: 60380633

Dear Melissa Michels:

Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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.
Jake Humphrey, Evergy, Inc.
Samantha Kaney, Haley & Aldrich
Jared Morrison, Evergy, Inc.
Danielle Oberbroeckling, Haley & Aldrich
Melanie Satanek, Haley & Aldrich, Inc.
JD Schlegel, Evergy, Inc.
Jacob Will, Evergy Kansas Central, Jeffrey Energy Center

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

CERTIFICATIONS

Project: MW-FAA-5
Pace Project No.: 60380633

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

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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

SAMPLE SUMMARY

Project: MW-FAA-5
Pace Project No.: 60380633

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60380633001	**FAA-5-091421**	Water	09/14/21 16:15	09/17/21 00:00

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

SAMPLE ANALYTE COUNT

Project: MW-FAA-5
Pace Project No.: 60380633

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60380633001	**FAA-5-091421**	EPA 200.7	JLH	6	PASI-K
		EPA 6010	JLH	1	PASI-K
		EPA 200.8	JGP	7	PASI-K
		EPA 245.1	VRB	1	PASI-K
		EPA 903.1	SLC	1	PASI-PA
		EPA 904.0	JC2	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		SM 2540C	BLA	1	PASI-K
		SM 4500-H+B	KB	1	PASI-K
		EPA 300.0	ALH, LDB	3	PASI-K

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

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

PROJECT NARRATIVE

Project: MW-FAA-5
Pace Project No.: 60380633

Method: **EPA 200.7**
Description: 200.7 Metals, Total
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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: 745494

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60380676002,60380682006

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

- MS (Lab ID: 2986121)
  - Calcium
- MSD (Lab ID: 2986120)
  - Boron
  - Calcium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: MW-FAA-5
Pace Project No.: 60380633

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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: MW-FAA-5
Pace Project No.: 60380633

Method: **EPA 200.8**
Description: 200.8 MET ICPMS
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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:

Analyte Comments:

QC Batch: 745484

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

- FAA-5-091421 (Lab ID: 60380633001)
  - Arsenic, Total Recoverable
  - Cadmium, Total Recoverable
  - Cobalt, Total Recoverable
  - Antimony, Total Recoverable
  - Selenium, Total Recoverable
  - Thallium, Total Recoverable

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

PROJECT NARRATIVE

Project: MW-FAA-5
Pace Project No.: 60380633

Method: **EPA 245.1**
Description: 245.1 Mercury
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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: MW-FAA-5
Pace Project No.: 60380633

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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: MW-FAA-5
Pace Project No.: 60380633

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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: MW-FAA-5
Pace Project No.: 60380633

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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:

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

PROJECT NARRATIVE

Project: MW-FAA-5
Pace Project No.: 60380633

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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:

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

PROJECT NARRATIVE

Project: MW-FAA-5
Pace Project No.: 60380633

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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.
- FAA-5-091421 (Lab ID: 60380633001)

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:

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

PROJECT NARRATIVE

Project: MW-FAA-5
Pace Project No.: 60380633

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Evergy Kansas Central, Inc.
Date: December 01, 2021

General Information:
1 sample was 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: 744822

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60380628002,60380631002,60380635001

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

- MS (Lab ID: 2983704)
  - Chloride

R1: RPD value was outside control limits.

- MSD (Lab ID: 2983705)
  - Chloride

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: MW-FAA-5
Pace Project No.: 60380633

Sample: FAA-5-091421 **Lab ID: 60380633001** Collected: 09/14/21 16:15 Received: 09/17/21 00:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City							
Barium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	09/24/21 16:00	09/27/21 22:52	7440-39-3	
Beryllium, Total Recoverable	**<0.0010**	mg/L	0.0010	1	09/24/21 16:00	09/27/21 22:52	7440-41-7	
Boron, Total Recoverable	**1.8**	mg/L	0.10	1	09/24/21 16:00	09/27/21 22:52	7440-42-8	
Calcium, Total Recoverable	**539**	mg/L	0.20	1	09/24/21 16:00	09/27/21 22:52	7440-70-2	
Chromium, Total Recoverable	**<0.0050**	mg/L	0.0050	1	09/24/21 16:00	09/27/21 22:52	7440-47-3	
Lead, Total Recoverable	**<0.010**	mg/L	0.010	1	09/24/21 16:00	09/27/21 22:52	7439-92-1	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City							
Lithium, Total Recoverable	**0.15**	mg/L	0.010	1	09/24/21 16:00	09/27/21 22:52	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	**<0.0050**	mg/L	0.0050	5	09/24/21 16:00	09/28/21 17:47	7440-36-0	D3
Arsenic, Total Recoverable	**<0.0050**	mg/L	0.0050	5	09/24/21 16:00	09/28/21 17:47	7440-38-2	D3
Cadmium, Total Recoverable	**<0.0025**	mg/L	0.0025	5	09/24/21 16:00	09/28/21 17:47	7440-43-9	D3
Cobalt, Total Recoverable	**<0.0050**	mg/L	0.0050	5	09/24/21 16:00	09/28/21 17:47	7440-48-4	D3
Molybdenum, Total Recoverable	**0.023**	mg/L	0.0050	5	09/24/21 16:00	09/28/21 17:47	7439-98-7	
Selenium, Total Recoverable	**<0.0050**	mg/L	0.0050	5	09/24/21 16:00	09/28/21 17:47	7782-49-2	D3
Thallium, Total Recoverable	**<0.0050**	mg/L	0.0050	5	09/24/21 16:00	09/28/21 17:47	7440-28-0	D3
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Kansas City							
Mercury	**<0.00020**	mg/L	0.00020	1	09/23/21 16:27	09/27/21 09:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City							
Total Dissolved Solids	**3580**	mg/L	66.7	1		09/21/21 13:55		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Kansas City							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		09/20/21 12:17		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City							
Chloride	**80.8**	mg/L	20.0	20		09/23/21 23:55	16887-00-6	
Fluoride	**0.71**	mg/L	0.20	1		09/23/21 02:31	16984-48-8	
Sulfate	**1980**	mg/L	200	200		09/24/21 00:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 745265
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60380633001

METHOD BLANK: 2985281 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/L	<0.00020	0.00020	09/27/21 09:14	

LABORATORY CONTROL SAMPLE: 2985282

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.005	0.0046	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2985283 2985284

Parameter	Units	60380567003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.005	0.005	0.0044	0.0046	88	91	70-130	4	20	

MATRIX SPIKE SAMPLE: 2985285

Parameter	Units	60380493005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	ND	0.005	0.0046	93	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 745494
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: 60380633001

METHOD BLANK: 2986117 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	<0.0050	0.0050	09/27/21 22:44	
Beryllium	mg/L	<0.0010	0.0010	09/27/21 22:44	
Boron	mg/L	<0.10	0.10	09/27/21 22:44	
Calcium	mg/L	<0.20	0.20	09/27/21 22:44	
Chromium	mg/L	<0.0050	0.0050	09/27/21 22:44	
Lead	mg/L	<0.010	0.010	09/27/21 22:44	

LABORATORY CONTROL SAMPLE: 2986118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	1	0.96	96	85-115	
Beryllium	mg/L	1	1.0	100	85-115	
Boron	mg/L	1	0.92	92	85-115	
Calcium	mg/L	10	9.7	97	85-115	
Chromium	mg/L	1	1.0	104	85-115	
Lead	mg/L	1	0.98	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986119 2986120

Parameter	Units	60380676002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.048	1	1	1.0	0.95	98	90	70-130	7	20	
Beryllium	mg/L		1	1	0.99	0.93	99	93	70-130	6	20	
Boron	mg/L	5.5	1	1	6.4	5.8	89	30	70-130	10	20	M1
Calcium	mg/L	468	10	10	477	440	90	-279	70-130	8	20	M1
Chromium	mg/L		1	1	1.0	0.93	100	93	70-130	6	20	
Lead	mg/L		1	1	0.90	0.85	90	85	70-130	6	20	

MATRIX SPIKE SAMPLE: 2986121

Parameter	Units	60380682006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.081	1	1.0	96	70-130	
Beryllium	mg/L		1	0.97	97	70-130	
Boron	mg/L	2.5	1	3.3	84	70-130	
Calcium	mg/L	552	10	551	-16	70-130	M1
Chromium	mg/L		1	0.97	97	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

MATRIX SPIKE SAMPLE: 2986121

Parameter	Units	60380682006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	mg/L		1	0.89	88	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 745484
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: 60380633001

METHOD BLANK: 2986078 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/L	<0.0010	0.0010	09/28/21 17:40	
Arsenic	mg/L	<0.0010	0.0010	09/28/21 17:40	
Cadmium	mg/L	<0.00050	0.00050	09/28/21 17:40	
Cobalt	mg/L	<0.0010	0.0010	09/28/21 17:40	
Molybdenum	mg/L	<0.0010	0.0010	09/28/21 17:40	
Selenium	mg/L	<0.0010	0.0010	09/28/21 17:40	
Thallium	mg/L	<0.0010	0.0010	09/28/21 17:40	

LABORATORY CONTROL SAMPLE: 2986079

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.04	0.040	99	85-115	
Arsenic	mg/L	0.04	0.041	104	85-115	
Cadmium	mg/L	0.04	0.041	102	85-115	
Cobalt	mg/L	0.04	0.041	101	85-115	
Molybdenum	mg/L	0.04	0.042	105	85-115	
Selenium	mg/L	0.04	0.041	102	85-115	
Thallium	mg/L	0.04	0.039	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986080 2986081

Parameter	Units	60380633001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	<0.0050	0.04	0.04	0.038	0.039	95	97	70-130	1	20	
Arsenic	mg/L	<0.0050	0.04	0.04	0.042	0.042	102	103	70-130	1	20	
Cadmium	mg/L	<0.0025	0.04	0.04	0.038	0.039	95	97	70-130	1	20	
Cobalt	mg/L	<0.0050	0.04	0.04	0.040	0.041	94	95	70-130	1	20	
Molybdenum	mg/L	0.023	0.04	0.04	0.065	0.066	105	106	70-130	1	20	
Selenium	mg/L	<0.0050	0.04	0.04	0.040	0.041	99	102	70-130	3	20	
Thallium	mg/L	<0.0050	0.04	0.04	0.037	0.038	92	94	70-130	2	20	

MATRIX SPIKE SAMPLE: 2986082

Parameter	Units	60380682007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	<0.0030	0.04	0.039	97	70-130	
Arsenic	mg/L	0.012	0.04	0.053	103	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

MATRIX SPIKE SAMPLE: 2986082

Parameter	Units	60380682007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/L	<0.0015	0.04	0.038	96	70-130	
Cobalt	mg/L	<0.0030	0.04	0.039	95	70-130	
Molybdenum	mg/L	0.20	0.04	0.25	115	70-130	
Selenium	mg/L	<0.0030	0.04	0.039	97	70-130	
Thallium	mg/L	<0.0030	0.04	0.038	96	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 745481
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60380633001

METHOD BLANK: 2986059 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	mg/L	<0.010	0.010	09/27/21 22:44	

LABORATORY CONTROL SAMPLE: 2986060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	mg/L	1	0.95	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986061 2986062

Parameter	Units	60380676002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	mg/L	0.050	1	1	1.1	0.98	100	93	75-125	7	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 744456
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60380633001

METHOD BLANK: 2982539 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	09/21/21 13:53	

LABORATORY CONTROL SAMPLE: 2982540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	956	96	80-120	

SAMPLE DUPLICATE: 2982541

Parameter	Units	60380630003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3060	3380	10	10	

SAMPLE DUPLICATE: 2982542

Parameter	Units	60380632001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	74400	72800	2	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 744237
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: 60380633001

SAMPLE DUPLICATE: 2981913

Parameter	Units	60379873001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	8.0	2	5	H6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 744822
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: 60380633001

METHOD BLANK: 2983702 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/22/21 08:26	
Fluoride	mg/L	<0.20	0.20	09/22/21 08:26	
Sulfate	mg/L	<1.0	1.0	09/22/21 08:26	

METHOD BLANK: 2985972 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/23/21 08:02	
Fluoride	mg/L	<0.20	0.20	09/23/21 08:02	
Sulfate	mg/L	<1.0	1.0	09/23/21 08:02	

METHOD BLANK: 2988412 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/27/21 09:57	
Fluoride	mg/L	<0.20	0.20	09/27/21 09:57	
Sulfate	mg/L	<1.0	1.0	09/27/21 09:57	

METHOD BLANK: 2988943 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.0	1.0	09/28/21 10:43	
Fluoride	mg/L	<0.20	0.20	09/28/21 10:43	
Sulfate	mg/L	<1.0	1.0	09/28/21 10:43	

LABORATORY CONTROL SAMPLE: 2983703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.4	108	90-110	
Fluoride	mg/L	2.5	2.7	107	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: MW-FAA-5
Pace Project No.: 60380633

LABORATORY CONTROL SAMPLE: 2983703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.5	110	90-110	

LABORATORY CONTROL SAMPLE: 2985973

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	96	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	4.9	98	90-110	

LABORATORY CONTROL SAMPLE: 2988413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.8	97	90-110	

LABORATORY CONTROL SAMPLE: 2988944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	98	90-110	
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	5	5.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2983704 2983705

Parameter	Units	60380628002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	83.8	100	100	237	193	153	109	80-120	21	15	M1,R1
Fluoride	mg/L	0.38	2.5	2.5	2.9	2.9	99	101	80-120	1	15	
Sulfate	mg/L	488	500	500	985	1000	99	103	80-120	2	15	

MATRIX SPIKE SAMPLE: 2983706

Parameter	Units	60380631002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	80.7	100	183	102	80-120	
Fluoride	mg/L	0.28	2.5	2.3	82	80-120	
Sulfate	mg/L	430	250	686	102	80-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MW-FAA-5
Pace Project No.: 60380633

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2988049 2988050

Parameter	Units	60380635001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4530	5000	5000	9270	9470	95	99	80-120	2	15	
Fluoride	mg/L	0.26	2500	2500	2460	2450	98	98	80-120	0	15	
Sulfate	mg/L	184	5000	5000	4940	4960	95	95	80-120	0	15	

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

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MW-FAA-5
Pace Project No.: 60380633

Sample: FAA-5-091421 **Lab ID: 60380633001** Collected: 09/14/21 16:15 Received: 09/17/21 00:00 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	**0.656 ± 0.521 (0.677) C:NA T:96%**	pCi/L	11/12/21 17:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.13 ± 0.617 (1.14) C:76% T:92%**	pCi/L	11/10/21 14:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.79 ± 1.14 (1.82)**	pCi/L	11/18/21 14:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 470986
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60380633001

METHOD BLANK: 2273576 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.529 ± 0.325 (0.599) C:71% T:92%	pCi/L	11/10/21 11:26	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MW-FAA-5
Pace Project No.: 60380633

QC Batch: 470983
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60380633001

METHOD BLANK: 2273570 Matrix: Water
Associated Lab Samples: 60380633001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.117 ± 0.363 (0.703) C:NA T:95%	pCi/L	11/12/21 16:37	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: MW-FAA-5
Pace Project No.: 60380633

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MW-FAA-5
Pace Project No.: 60380633

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60380633001	**FAA-5-091421**	EPA 200.7	745494	EPA 200.7	745593
60380633001	**FAA-5-091421**	EPA 3010	745481	EPA 6010	745594
60380633001	**FAA-5-091421**	EPA 200.8	745484	EPA 200.8	745598
60380633001	**FAA-5-091421**	EPA 245.1	745265	EPA 245.1	745293
60380633001	**FAA-5-091421**	EPA 903.1	470983		
60380633001	**FAA-5-091421**	EPA 904.0	470986		
60380633001	**FAA-5-091421**	Total Radium Calculation	473180		
60380633001	**FAA-5-091421**	SM 2540C	744456		
60380633001	**FAA-5-091421**	SM 4500-H+B	744237		
60380633001	**FAA-5-091421**	EPA 300.0	744822		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60380633

60380633

Client Name: Eurofins

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

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

Date and initials of person examining contents: KJ 7-18-21

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: W1	☐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#	☑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 N/A	
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 Ober
Copy To:	Jared Morrison, Jake Humphrey, Laura Hines
	JD Schlegel, Brandon Will, Sarah Hazelwood
Purchase Order No.:	
Project Name:	MW-FAA-5
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:	Hank Kapka, 913-563-1404
Pace Profile #:	9657, 1

REGULATORY AGENCY

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

Site Location — ***STATE:*** KS

Section D — **Required** Client Information

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

Valid Matrix Codes

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

ITEM #	Section D Required Client Information (SAMPLE ID)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	200.7 Total Metals*	200.8 Total Metals**	245.1 Total Hg	300: Cl, F, SO4	2540C TDS	4500 H+B pH	6010 Total Metals***	Ra 226/ 228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N	N	N	N		
1	FAA-5-091421	WT	G	-	-	09/14/21	16:15	-	7	3		4							X	X	X	X	X	X	X	X		
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
200.7 Total Metals*: B, Ca, Ba, Be, Cr, Pb	Jason R. Franks	9/16/21	15:00	Jeff Dick	9/17/21	7:1	2.1
200.8 Total Metals**: Sb, As, Cd, Co, Mo, Se, Tl							
6010 Total Metals***: Li							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason R. Franks

SIGNATURE of SAMPLER: J. R. Franks

DATE Signed (MM/DD/YY): 9/16/21

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

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

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

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

Workorder: 60380633 Workorder Name: MW-FAA-5

Owner Received Date: 9/17/2021 Results Requested By: 9/28/2021

Report To	Subcontract To
Hank Kapka Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30448145

30448145

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis Ra 226	Ra 228 / Combined										LAB USE ONLY
1	FAA-5-091421	PS	9/14/2021 16:15	60380633001	Water	2						X	X										001
2																							
3																							
4																							
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1	Wright FA	10/27/21 1800		10/29/21 1000
2				
3				

Comments

Cooler Temperature on Receipt 4.6 °C | Custody Seal (Y) or N | Received on Ice Y or (N) | Samples Intact (Y) or N

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace KS Project #

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

Label RJM
LIMS Login RJM

Tracking #: TORN

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

WO#: 30448145
PM: MS1 Due Date: 11/11/21
CLIENT: PACE_60_LEKS

Comments:	Yes	No	N/A	pH paper Lot# 100380	Date and Initials of person examining contents: RJM 11-2-21
Chain of Custody Present:	✓			1.	
Chain of Custody Filled Out:	✓			2.	
Chain of Custody Relinquished:	✓			3.	
Sampler Name & Signature on COC:		✓		4.	
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.	
Samples Arrived within Hold Time:	✓			6.	
Short Hold Time Analysis (<72hr remaining):		✓		7.	
Rush Turn Around Time Requested:	✓			8.	
Sufficient Volume:	✓			9.	
Correct Containers Used:	✓			10.	
-Pace Containers Used:	✓				
Containers Intact:	✓			11.	
Orthophosphate field filtered			✓	12.	
Hex Cr Aqueous sample field filtered			✓	13.	
Organic Samples checked for dechlorination:			✓	14.	
Filtered volume received for Dissolved tests			✓	15.	
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2	
All containers meet method preservation requirements.	✓			Initial when completed RJM	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: RJM	Date: 11-2-21 Survey Meter SN: 1563

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

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

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

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

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	SLC
Date:	11/4/2021
Batch ID:	63463
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2273570
MB concentration:	0.117
M/B Counting Uncertainty:	0.363
MB MDC:	0.703
MB Numerical Performance Indicator:	0.63
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS63463	LCSD63463
Count Date:	11/12/2021	
Spike I.D.:	20-032	
Spike Concentration (pCi/mL):	32.168	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.652	
Target Conc. (pCi/L, g, F):	4.937	
Uncertainty (Calculated):	0.232	
Result (pCi/L, g, F):	4.779	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.086	
Numerical Performance Indicator:	-0.28	
Percent Recovery:	96.80%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	73%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	10/20/2021	
Sample I.D.	30447110001	
Sample MS I.D.	30447110001MS	
Sample MSD I.D.		
Spike I.D.:	20-032	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	32.169	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.651	
MS Target Conc.(pCi/L, g, F):	9.889	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.465	
MSD Spike Uncertainty (calculated):		
Sample Result:	1.453	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.660	
Sample Matrix Spike Result:	11.172	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.596	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	-0.186	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	98.28%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	136%	
MS/MSD Lower % Recovery Limits:	71%	

Duplicate Sample Assessment		
Sample I.D.:	30447109001	Enter Duplicate
Duplicate Sample I.D.	30447109001DUP	sample IDs if
Sample Result (pCi/L, g, F):	0.367	other than
Sample Result Counting Uncertainty (pCi/L, g, F):	0.381	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	0.427	the space below.
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.443	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.200	30447109001
Duplicate RPD:	15.01%	30447109001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	32%	

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

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

Comments:

SLC 11/12/2021

11/5/21

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JC2
Date:	11/5/2021
Worklist:	63464
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2273576
MB concentration:	0.529
M/B 2 Sigma CSU:	0.325
MB MDC:	0.599
MB Numerical Performance Indicator:	3.19
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS63464	LCSD63464
Count Date:	11/10/2021	
Spike I.D.:	21-029	
Decay Corrected Spike Concentration (pCi/mL):	37.513	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.812	
Target Conc. (pCi/L, g, F):	4.621	
Uncertainty (Calculated):	0.226	
Result (pCi/L, g, F):	4.891	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.067	
Numerical Performance Indicator:	0.48	
Percent Recovery:	105.84%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	10/20/2021	
Sample I.D.	30447195001	
Sample MS I.D.	30447195001MS	
Sample MSD I.D.		
Spike I.D.:	21-029	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	37.775	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.808	
MS Target Conc.(pCi/L, g, F):	9.346	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.458	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.149	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.302	
Sample Matrix Spike Result:	9.315	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	1.839	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:	-0.184	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	98.07%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	Pass	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	135%	
MS/MSD Lower % Recovery Limits:	60%	

Duplicate Sample Assessment		
Sample I.D.:	30447110002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30447110002DUP	
Sample Result (pCi/L, g, F):	1.607	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.527	
Sample Duplicate Result (pCi/L, g, F):	1.169	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.459	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.229	30447110002
Duplicate RPD:	31.57%	30447110002DUP
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:

*If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.

MB activity < LLOQ Pass
11/12/21

ATTACHMENT 2
Statistical Analyses

ATTACHMENT 2-1
September 2019 Statistical Analyses

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

TECHNICAL MEMORANDUM

November 4, 2022
File No. 129778

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

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

SUBJECT: September 2020 Semi-Annual Groundwater Assessment Monitoring Data Statistical Evaluation
Completed January 15, 2021
Jeffrey Energy Center
Fly Ash Landfill

Pursuant to Title 40 Code of Federal Regulations (40 CFR) §§ 257.93 and 257.95 (Rule), this memorandum summarizes the statistical evaluation of the analytical results for the **September 2020** semi-annual assessment monitoring groundwater sampling event for the Jeffrey Energy Center (JEC) Fly Ash Landfill (FAL). This semi-annual assessment monitoring groundwater sampling event was completed on **September 14, 2020**, with laboratory results received and validated on **October 21, 2020**.

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

Statistical Evaluation of Appendix IV Constituents

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residuals (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 January 14, 2019. The TL method, as determined applicable for this sampling event, was used to evaluate potential SSLs above background. Background levels for each constituent listed in Appendix IV were computed as upper tolerance limits (UTL), and a minimum 95 percent confidence coefficient and 95 percent coverage. The

most recent groundwater sampling event from each compliance well was compared to the corresponding background UTL to determine if a SSL existed.

STATISTICAL EVALUATION

Either an interwell or intrawell evaluation was used to determine SSIs. Interwell evaluation compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data, and the intrawell evaluation compares the most recent values from each compliance well against a background dataset composed of its own historical 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. If an Appendix IV constituent concentration from the **September 2020** sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent will be used to evaluate if a SSI is present. The LCL is the lower end of the confidence interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample location (MW-FAA-5 for interwell evaluation) 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 2020** for **interwell evaluation**, except for beryllium, which was updated through **September 2020.** Background concentrations were updated through **June 2019** for **intrawell evaluation**.

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

The sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the **September 2020** semi-annual assessment monitoring event were compared to their respective background UTLs and GWPSs (Table I). A sample concentration greater than the background UTL is considered to represent a SSI. A sample concentration greater than the GWPS is considered to represent a SSL. Based on previous compliance sampling events, statistical evaluations, and associated alternative source demonstrations, an intrawell comparison is utilized for FAA-6 for molybdenum statistical evaluations. Interwell comparisons are being utilized for all other well and constituent evaluations. The results of the groundwater assessment monitoring statistical evaluation are provided in Table I. **Based on this statistical evaluation on groundwater sampling data collected in September 2020, no SSLs above GWPS occurred at the JEC FAL.**

Tables:

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

TABLE

TABLE I

SUMMARY OF SEMI-ANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION

SEPTEMBER 2020 SAMPLING EVENT

JEFFREY ENERGY CENTER FLY ASH LANDFILL

ST. MARYS, KANSAS

										MCL Comparison							Interwell Analysis		Intrawell 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 2020 Concentration (mg/L)	Background Limits[1] (UTL) mg/L	SSI	Background Limits[2] (UTL) mg/L	SSI	GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL)	SSL
CCR Appendix-IV: Arsenic, Total (mg/L)																						
MW-FAA-5 (upgradient)	10/16	38%	0.001-0.001	0.0035	7.768E-07	0.0008814	0.6099	0.010	mg/L	0	0	No	No	Stable	Non-parametric	< 0.0010	0.0035				0.010	
MW-FAA-3	3/16	81%	0.001-0.001	0.0011	1.233E-09	0.00003511	0.03513	0.010	mg/L	0	0	Yes	No	NA	Non-parametric	< 0.0010		No				No
MW-FAA-4	0/16	100%	0.0005-0.001		1.562E-08	0.000125	0.129	0.010	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
MW-FAA-6	16/16	0%	-	0.0086	2.139E-06	0.001463	0.2519	0.010	mg/L	0	0	No	No	Stable	Non-parametric	0.0064		No				No
CCR Appendix-IV: Barium, Total (mg/L)																						
MW-FAA-5 (upgradient)	4/16	75%	0.005-0.01	0.013	7.298E-06	0.002702	0.398	2	mg/L	0	0	No	No	NA	Non-parametric	< 0.0050	0.013				2	
MW-FAA-3	16/16	0%	-	0.047	0.00003265	0.005714	0.1779	2	mg/L	0	0	Yes	No	Decreasing	Normal	0.026		Yes				No
MW-FAA-4	16/16	0%	-	0.053	5.583E-06	0.002363	0.04738	2	mg/L	0	0	No	No	Stable	Normal	0.045		Yes				No
MW-FAA-6	16/16	0%	-	0.067	0.0003204	0.0179	0.3739	2	mg/L	0	0	No	No	Decreasing	Non-parametric	0.033		Yes				No
CCR Appendix-IV: Beryllium, Total (mg/L)																						
MW-FAA-5 (upgradient)	4/13	69%	0.001-0.001	0.0018	7.617E-08	0.000276	0.2507	0.004	mg/L	0	0	Yes	No	NA	Non-parametric	0.0016	0.0018[3]				0.004	
MW-FAA-3	1/13	92%	0.001-0.002	0.00079	8.301E-08	0.0002881	0.2716	0.004	mg/L	0	0	Yes	No	NA	Non-parametric	< 0.0010		No				No
MW-FAA-4	0/13	100%	0.001-0.002		7.692E-08	0.0002774	0.2575	0.004	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
MW-FAA-6	0/13	100%	0.001-0.002		7.692E-08	0.0002774	0.2575	0.004	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
CCR Appendix-IV: Cobalt, Total (mg/L)																						
MW-FAA-5 (upgradient)	12/16	25%	0.001-0.001	0.0056	2.349E-06	0.001533	0.665	0.006	mg/L	0	0	No	No	Increase	Normal	0.0023	0.00521				0.006	
MW-FAA-3	2/16	88%	0.001-0.001	0.00058	2.375E-08	0.0001541	0.1633	0.006	mg/L	0	0	No	No	NA	Non-parametric	< 0.0010		No				No
MW-FAA-4	3/16	81%	0.0005-0.001	0.0016	5.996E-08	0.0002449	0.2318	0.006	mg/L	0	0	Yes	No	Increase	NA	0.0016		No				No
MW-FAA-6	15/16	6%	0.001-0.001	0.0021	1.116E-07	0.000334	0.2425	0.006	mg/L	0	0	No	No	Stable	Normal	0.0015		No				No
CCR Appendix-IV: Fluoride (mg/L)																						
MW-FAA-5 (upgradient)	16/17	6%	0.2-0.2	1.6	0.1031	0.321	0.4025	4.0	mg/L	0	0	Yes	No	Stable	Normal	0.73	1.430				4.0	
MW-FAA-3	16/17	6%	0.2-0.2	0.44	0.003569	0.05974	0.1769	4.0	mg/L	0	0	No	No	Increase	Normal	0.44		No				No
MW-FAA-4	16/17	6%	0.2-0.2	0.45	0.003993	0.06319	0.1809	4.0	mg/L	0	0	Yes	No	Increase	Normal	0.45		No				No
MW-FAA-6	17/17	0%	-	1.2	0.03281	0.1811	0.2198	4.0	mg/L	0	0	No	No	Stable	Normal	0.99		No				No
CCR Appendix-IV: Lithium, Total (mg/L)																						
MW-FAA-5 (upgradient)	16/16	0%	-	0.16	0.0008562	0.02926	0.2481	0.040	mg/L	16	0	No	No	Stable	Normal	0.13	0.171				0.171	
MW-FAA-3	14/16	12%	0.01-0.02	0.019	0.00000865	0.002941	0.1913	0.040	mg/L	0	0	No	No	Stable	Normal	0.018		No				No
MW-FAA-4	14/16	12%	0.01-0.02	0.02	8.662E-06	0.002943	0.1791	0.040	mg/L	0	0	No	No	Increase	Normal	0.020		No				No
MW-FAA-6	12/16	25%	0.01-0.02	0.016	0.00000705	0.002655	0.2146	0.040	mg/L	0	0	Yes	No	Stable	Non-parametric	0.014		No				No
CCR Appendix-IV: Molybdenum, Total (mg/L)																						
MW-FAA-5 (upgradient)	16/16	0%	-	0.067	0.0002514	0.01586	0.4733	0.100	mg/L	0	0	No	No	Stable	Normal	0.027	0.0652				0.100	
MW-FAA-3	16/16	0%	-	0.014	0.00000692	0.002631	0.2644	0.100	mg/L	0	0	No	No	Stable	Normal	0.0089		No				No
MW-FAA-4	16/16	0%	-	0.0072	2.815E-06	0.001678	0.4006	0.100	mg/L	0	0	No	No	Increase	Increasing	0.0064		No				No
MW-FAA-6	16/16	0%	-	0.59	0.01729	0.1315	0.302	0.100	mg/L	16	0	No	No	Stable	Normal	0.40		Yes	0.929	No	0.929	No
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																						
MW-FAA-5 (upgradient)	14/16	12%	0.587-1.26	2.43	0.2731	0.5226	0.4014	5	pCi/L	0	0	No	No	Stable	Normal	1.26	2.342				5	
MW-FAA-3	12/16	25%	0.344-0.857	1.792	0.194	0.4404	0.677	5	pCi/L	0	0	Yes	No	Stable	Normal	0.578		No				No
MW-FAA-4	12/16	25%	0.335-0.929	1.54	0.1595	0.3994	0.5571	5	pCi/L	0	0	No	No	Stable	Normal	0.929		No				No
MW-FAA-6	12/16	25%	0.0926-0.58	1.43	0.1755	0.4189	0.6848	5	pCi/L	0	0	No	No	Stable	Normal	0.286		No				No
CCR Appendix-IV: Selenium, Total (mg/L)																						
MW-FAA-5 (upgradient)	7/16	56%	0.0005-0.001	0.0039	1.057E-06	0.001028	0.6255	0.05	mg/L	0	0	No	No	NA	Normal	< 0.0010	0.00370				0.05	
MW-FAA-3	0/16	100%	8.6E-05-0.001		6.403E-08	0.000253	0.2776	0.05	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
MW-FAA-4	7/16	56%	0.001-0.001	0.0019	6.917E-08	0.000263	0.2312	0.05	mg/L	0	0	No	No	NA	Non-parametric	0.0010		No				No
MW-FAA-6	6/16	62%	0.0005-0.001	0.014	0.00001067	0.003266	1.67	0.05	mg/L	0	0	Yes	No	NA	Non-parametric	0.0033		No				No

Notes and Abbreviations:

[1] Based on background data collected from 08/19/2016 through 03/04/2020, unless otherwise noted.

[2] Based on background data collected from 08/19/2016 through 06/23/2019.

[3] Based on background data collected from 8/19/2016 through 09/14/2020.

** 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 2-2
March 2021 Statistical Analyses

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

TECHNICAL MEMORANDUM

November 4, 2022
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: March 2021 Semi-Annual Groundwater Assessment Monitoring Data Statistical Evaluation
Completed July 15, 2021
Jeffrey Energy Center
Fly Ash Landfill

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 2021** semi-annual assessment monitoring groundwater sampling event for the Jeffrey Energy Center (JEC) Fly Ash Landfill (FAL). This semi-annual assessment monitoring groundwater sampling event was completed on **March 4, 2021**. Well MW-FAA-6 was resampled on April 1, 2021, to confirm the arsenic concentration collected on March 4, 2021; the result was revised. All laboratory results were received and validated on **April 16, 2021**.

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 residuals (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 January 14, 2019. The TL method, as determined applicable for this sampling event, was used to evaluate potential SSLs above background. Background levels for each constituent listed in Appendix IV were computed as upper

tolerance limits (UTL), and a minimum 95 percent confidence coefficient and 95 percent coverage. The most recent groundwater sampling event from each compliance well was compared to the corresponding background UTL to determine if a SSL existed.

STATISTICAL EVALUATION

Either an interwell or intrawell evaluation was used to determine SSIs. Interwell evaluation compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data, and the intrawell evaluation compares the most recent values from each compliance well against a background dataset composed of its own historical 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. If an Appendix IV constituent concentration from the **March 2021** sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent will be used to evaluate if a SSI is present. The LCL is the lower end of the confidence interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample location (MW-FAA-5 for interwell evaluation) 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 2020** for **interwell evaluation**, except for beryllium, which was updated through **September 2020.** Background concentrations were updated through **September 2020** for **intrawell evaluation**.

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 2021** semi-annual assessment monitoring event were compared to their respective background UTLs and GWPSs (Table I). A sample concentration greater than the background UTL is considered to represent a SSI. A sample concentration greater than the GWPS is considered to represent a SSL. Based on previous compliance sampling events, statistical evaluations, and associated alternative source demonstrations, an intrawell comparison is utilized for FAA-6 for molybdenum statistical evaluations. Interwell comparisons are being utilized for all other well and constituent evaluations. 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 2021, no SSLs above GWPS occurred at the JEC FAL.**

Tables:

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

TABLE

TABLE I

SUMMARY OF SEMI-ANNUAL ASSESSMENT GROUNDWATER MONITORING STATISTICAL EVALUATION

MARCH 2021 SAMPLING EVENT

JEFFREY ENERGY CENTER

FLY ASH LANDFILL

										MCL Comparison							Interwell Analysis		Intrawell 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 2021 Concentration (mg/L)	Background Limits[1] (UTL) mg/L	SSI	Background Limits[2] (UTL) mg/L	SSI	GWPS (Higher of MCL/ 40 CFR § 257.95(h)(2) or UTL)	SSL
CCR Appendix-IV: Arsenic, Total (mg/L)																						
MW-FAA-5	10/17	41%	0.001-0.001	0.0035	7.399E-07	0.0008602	0.6063	0.010	mg/L	0	0	No	No	Stable	Non-parametric	< 0.0010	0.0035				0.010	
MW-FAA-3	3/17	82%	0.001-0.001	0.0011	1.156E-09	0.000034	0.03402	0.010	mg/L	0	0	Yes	No	NA	Non-parametric	< 0.0010		No				No
MW-FAA-4	0/17	100%	0.0005-0.001		1.471E-08	0.0001213	0.1249	0.010	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
MW-FAA-6	17/17	0%	-	0.0086	0.000002139	0.001463	0.2558	0.010	mg/L	0	0	No	No	Stable	Non-parametric	0.0043		Yes				No
CCR Appendix-IV: Barium, Total (mg/L)																						
MW-FAA-5	4/17	76%	0.005-0.01	0.013	0.00000703	0.002651	0.3968	2	mg/L	0	0	No	No	NA	Non-parametric	< 0.0050	0.013				2	
MW-FAA-3	17/17	0%	-	0.047	0.00003118	0.005584	0.1748	2	mg/L	0	0	Yes	No	Decreasing	Normal	0.029		Yes				No
MW-FAA-4	17/17	0%	-	0.053	0.000005309	0.002304	0.04614	2	mg/L	0	0	No	No	Stable	Normal	0.051		Yes				No
MW-FAA-6	17/17	0%	-	0.067	0.0003339	0.01827	0.3932	2	mg/L	0	0	No	No	Decreasing	Non-parametric	0.024		Yes				No
CCR Appendix-IV: Beryllium, Total (mg/L)																						
MW-FAA-5	4/14	71%	0.001-0.001	0.0018	7.104E-08	0.0002665	0.2437	0.004	mg/L	0	0	Yes	No	NA	Non-parametric	< 0.0010	0.0018[3]				0.004	
MW-FAA-3	1/14	93%	0.001-0.002	0.00079	7.689E-08	0.0002773	0.2625	0.004	mg/L	0	0	Yes	No	NA	Non-parametric	< 0.0010		No				No
MW-FAA-4	0/14	100%	0.001-0.002		7.143E-08	0.0002673	0.2494	0.004	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
MW-FAA-6	0/14	100%	0.001-0.002		7.143E-08	0.0002673	0.2494	0.004	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
CCR Appendix-IV: Cobalt, Total (mg/L)																						
MW-FAA-5	13/17	24%	0.001-0.001	0.0056	0.00000224	0.001497	0.6364	0.006	mg/L	0	0	No	No	Increase	Normal	0.0031	0.00521				0.006	
MW-FAA-3	2/17	88%	0.001-0.001	0.00058	2.245E-08	0.0001498	0.1582	0.006	mg/L	0	0	No	No	NA	Non-parametric	< 0.0010		No				No
MW-FAA-4	4/17	76%	0.0005-0.001	0.0021	1.203E-07	0.0003468	0.3103	0.006	mg/L	0	0	Yes	No	Increase	NA	0.0021		No				No
MW-FAA-6	16/17	6%	0.001-0.001	0.0021	1.049E-07	0.000324	0.236	0.006	mg/L	0	0	No	No	Stable	Normal	0.0013		No				No
CCR Appendix-IV: Fluoride (mg/L)																						
MW-FAA-5	17/18	6%	0.2-0.2	1.6	0.1021	0.3195	0.3923	4	mg/L	0	0	Yes	No	Stable	Normal	1.1	1.430				4.0	
MW-FAA-3	16/18	11%	0.2-0.2	0.44	0.004412	0.06642	0.2013	4	mg/L	0	0	No	No	Increase	Normal	< 0.20		No				No
MW-FAA-4	16/18	11%	0.2-0.2	0.45	0.004999	0.0707	0.2073	4	mg/L	0	0	Yes	No	Increase	Normal	< 0.20		No				No
MW-FAA-6	18/18	0%	-	1.2	0.03511	0.1874	0.2232	4	mg/L	0	0	No	No	Stable	Normal	1.1		No				No
CCR Appendix-IV: Lithium, Total (mg/L)																						
MW-FAA-5	17/17	0%	-	0.16	0.0008313	0.02883	0.2418	0.040	mg/L	17	0	No	No	Stable	Normal	0.14	0.171				0.171	
MW-FAA-3	15/17	12%	0.01-0.02	0.023	0.00001153	0.003395	0.2146	0.040	mg/L	0	0	No	No	Stable	Normal	0.023		No				No
MW-FAA-4	15/17	12%	0.01-0.02	0.021	0.000009346	0.003057	0.183	0.040	mg/L	0	0	No	No	Increase	Normal	0.021		No				No
MW-FAA-6	12/17	29%	0.01-0.02	0.016	0.000006941	0.002635	0.2153	0.040	mg/L	0	0	Yes	No	Stable	Non-parametric	< 0.010		No				No
CCR Appendix-IV: Molybdenum, Total (mg/L)																						
MW-FAA-5	17/17	0%	-	0.067	0.0002369	0.01539	0.4631	0.100	mg/L	0	0	No	No	Stable	Normal	0.029	0.0652				0.100	
MW-FAA-3	17/17	0%	-	0.014	0.000006668	0.002582	0.2622	0.100	mg/L	0	0	No	No	Stable	Normal	0.0082		No				No
MW-FAA-4	17/17	0%	-	0.0073	0.000003208	0.001791	0.4098	0.100	mg/L	0	0	No	No	Increase	Increasing	0.0073		No				No
MW-FAA-6	17/17	0%	-	0.59	0.01638	0.128	0.2918	0.100	mg/L	17	0	No	No	Stable	Normal	0.49			0.901	No	0.901	No
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																						
MW-FAA-5	15/17	12%	0.587-1.26	2.43	0.257	0.507	0.3872	5	pCi/L	0	0	No	No	Stable	Normal	1.43	2.342				5	
MW-FAA-3	12/17	29%	0.344-0.857	1.792	0.1835	0.4284	0.6687	5	pCi/L	0	0	Yes	No	Stable	Normal	0.482		No				No
MW-FAA-4	13/17	24%	0.335-0.929	1.54	0.1601	0.4001	0.5394	5	pCi/L	0	0	No	No	Stable	Normal	1.14		No				No
MW-FAA-6	12/17	29%	0.0926-0.58	1.43	0.1648	0.406	0.6684	5	pCi/L	0	0	No	No	Stable	Normal	0.538		No				No
CCR Appendix-IV: Selenium, Total (mg/L)																						
MW-FAA-5	7/17	59%	0.0005-0.001	0.0039	0.000001016	0.001008	0.6275	0.05	mg/L	0	0	No	No	NA	Normal	< 0.0010	0.00370				0.05	
MW-FAA-3	0/17	100%	8.6E-05-0.001		6.049E-08	0.0002459	0.2683	0.05	mg/L	0	0	NA	NA	NA	NA	< 0.0010		No				No
MW-FAA-4	7/17	59%	0.001-0.001	0.0019	6.596E-08	0.0002568	0.2274	0.05	mg/L	0	0	Yes	No	NA	Non-parametric	< 0.0010		No				No
MW-FAA-6	6/17	65%	0.0005-0.001	0.014	0.00001005	0.003171	1.669	0.05	mg/L	0	0	Yes	No	NA	Non-parametric	< 0.0010		No				No

Notes and Abbreviations:

[1] Based on background data collected from 08/19/2016 through 03/04/2020, unless otherwise noted.

[2] Based on background data collected from 08/19/2016 through 09/14/2020.

[3] Based on background data collected from 08/19/2016 through 09/14/2020.

** 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

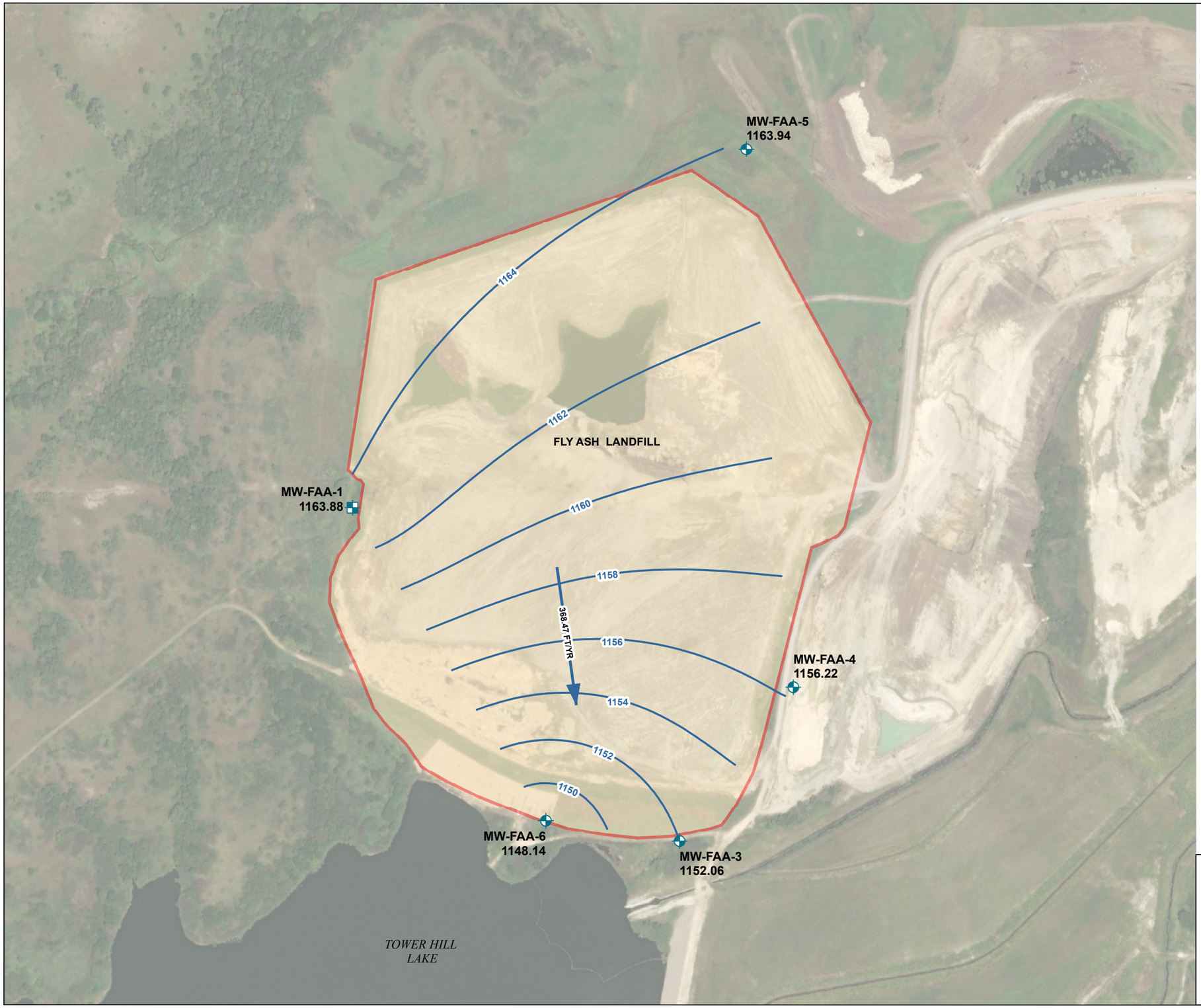
pCi/L = picoCuries per Liter

SSI = statistically significant increase

SSL = statistically significant level

UTL = upper tolerance limits

ATTACHMENT 3
Revised Groundwater Potentiometric Maps



LEGEND

MW-FAA-4
1167.47 WELL NAME AND GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL), MARCH 2021

PIEZOMETER OBSERVATION ONLY

MONITORING WELL

ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 2-FT INTERVAL (AMSL)

GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)

FLY ASH LANDFILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 04 MARCH 2021.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 04 MARCH 2021 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM SLUG TESTS COMPLETED APRIL 2016.

4. AERIAL IMAGERY SOURCE: ESRI, 3 SEPTEMBER 2019

N

0 400 800
SCALE IN FEET

HALEY ALDRICH

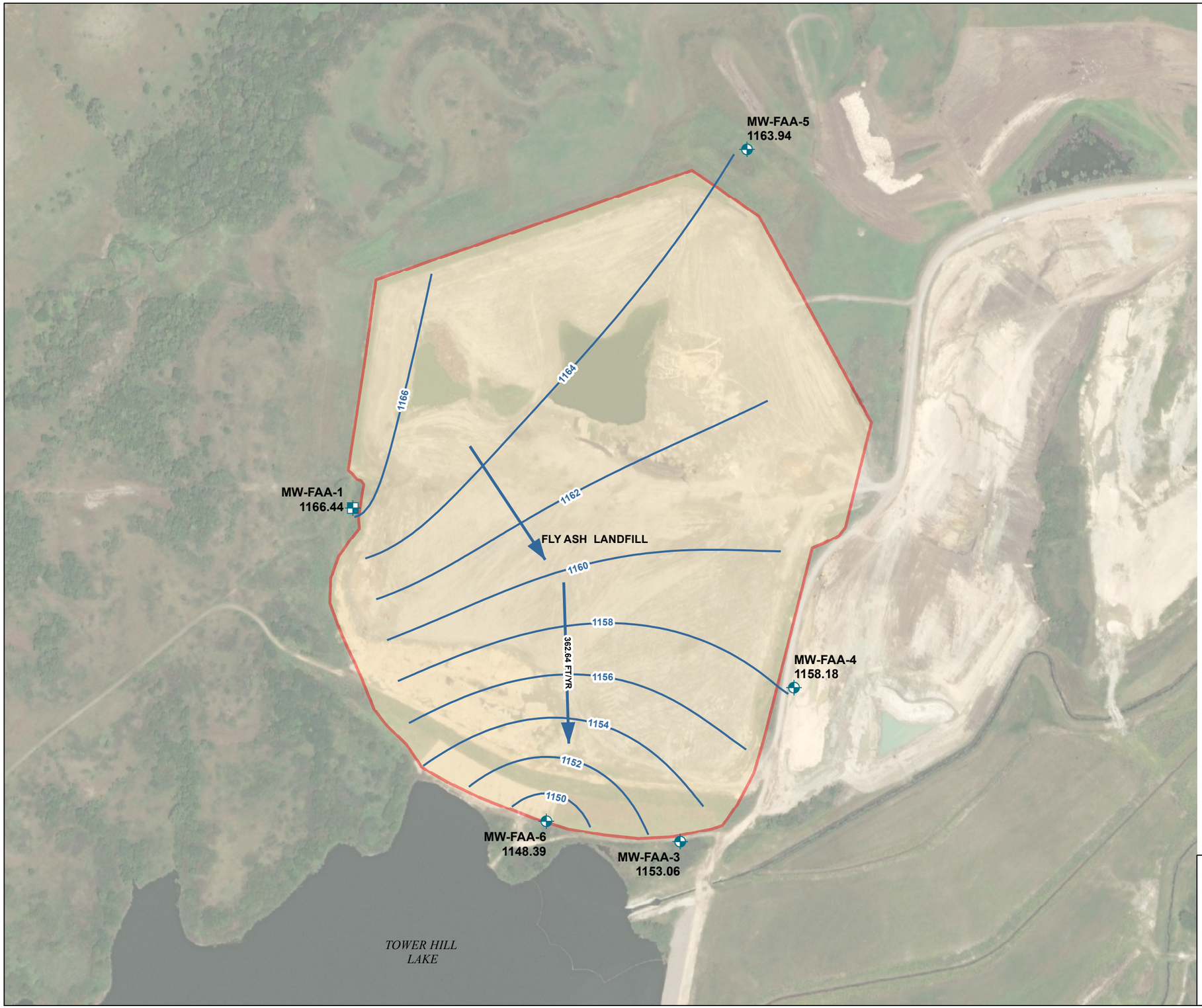
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARY'S, KANSAS

FLY ASH LANDFILL GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP MARCH 4, 2021

evergy

NOVEMBER 2022

FIGURE 2



LEGEND

MW-FAA-4
1167.47 WELL NAME AND GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL), JUNE 2021

PIEZOMETER OBSERVATION ONLY

MONITORING WELL

ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 2-FT INTERVAL (AMSL)

GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)

FLY ASH LANDFILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 09 JUNE 2021.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 09 JUNE 2021 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM SLUG TESTS COMPLETED APRIL 2016.

4. AERIAL IMAGERY SOURCE: ESRI, 03 SEPTEMBER 2019

N

0 400 800
SCALE IN FEET

HALEY ALDRICH

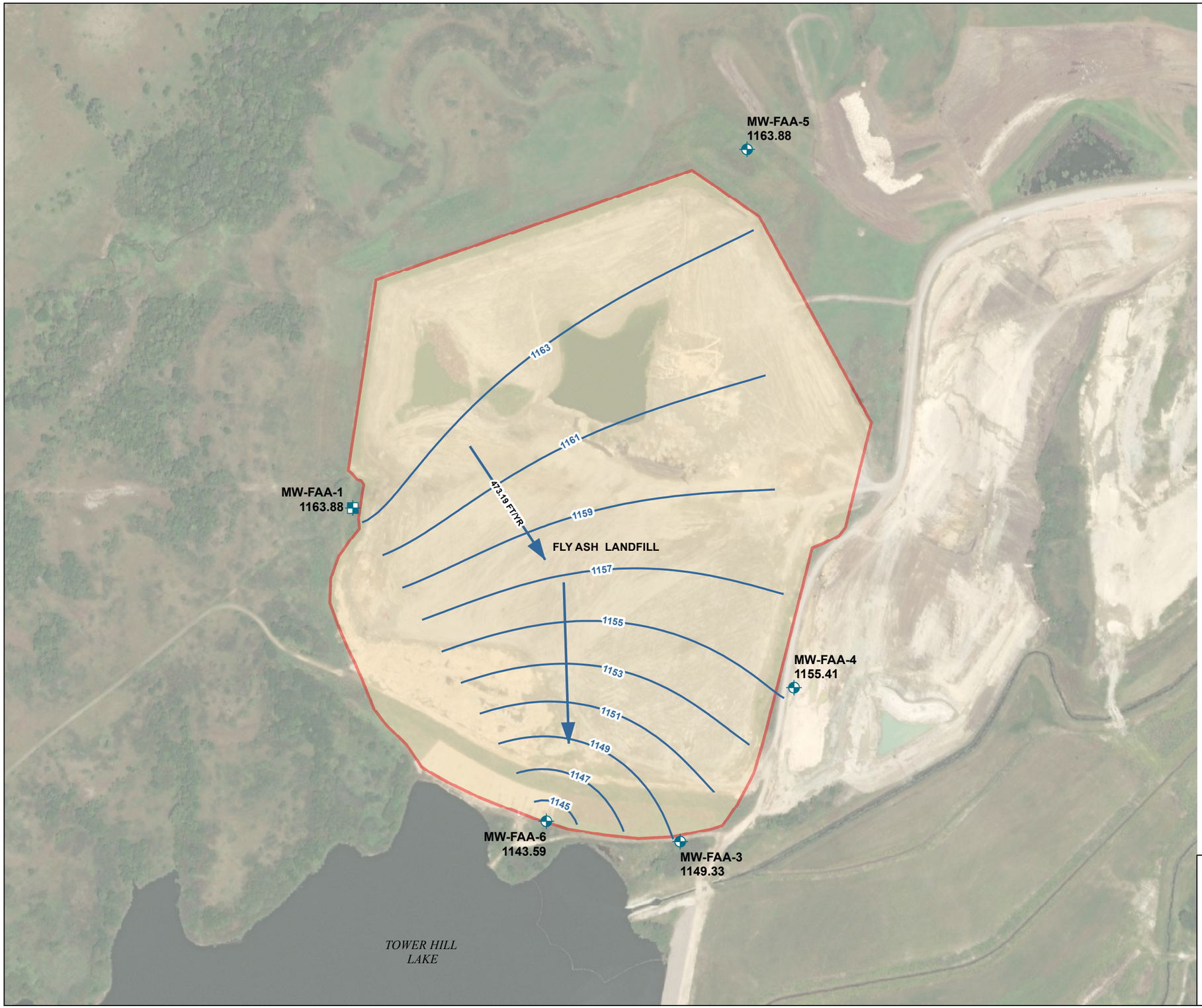
EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARY'S, KANSAS

FLY ASH LANDFILL GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP JUNE 09, 2021

evergy

NOVEMBER 2022

FIGURE 3



LEGEND

MW-FAA-4
1167.47 WELL NAME AND GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL), SEPTEMBER 2021

PIEZOMETER OBSERVATION ONLY

MONITORING WELL

ESTIMATED GROUNDWATER POTENTIOMETRIC OBSERVATION ELEVATION CONTOUR, 2-FT INTERVAL (AMSL)

GROUNDWATER FLOW DIRECTION AND APPROXIMATE GROUNDWATER FLOW RATE (FEET/YEAR)

FLY ASH LANDFILL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. GROUNDWATER POTENTIOMETRIC ELEVATIONS WERE MEASURED 14 SEPTEMBER 2021.

3. THE GROUNDWATER FLOW RATE WAS APPROXIMATED USING THE HYDRAULIC GRADIENT CALCULATED FROM GROUNDWATER POTENTIOMETRIC ELEVATIONS MEASURED 14 SEPTEMBER 2021 AND THE CONDUCTIVITY VALUES AND EFFECTIVE POROSITY VALUES OBTAINED FROM SLUG TESTS COMPLETED APRIL 2016.

4. AERIAL IMAGERY SOURCE: ESRI, 3 SEPTEMBER 2019

N

0 400 800
SCALE IN FEET

HALEY ALDRICH

EVERGY KANSAS CENTRAL, INC.
JEFFREY ENERGY CENTER
ST. MARY'S, KANSAS

FLY ASH LANDFILL GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP SEPTEMBER 14, 2021

evergy

NOVEMBER 2022

FIGURE 4