

ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT
EAST ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

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1. Annual Groundwater Monitoring Report Summary

1.1 CODE OF FEDERAL REGULATIONS TITLE 40 (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 [coal combustion residual] CCR unit. At a minimum, the summary must specify all of the following.

1.1.1 40 CFR § 257.90(e)(6)(i) – Status of Monitoring Program at Start of Reporting Period

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, 2025), the East Ash Pond (EAP) at F.B. Culley Generating Station was operating under an assessment monitoring program in compliance with 40 CFR § 257.95.

1.1.2 40 CFR § 257.90(e)(6)(ii) – Status of Monitoring Program at End of Reporting Period

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, 2025), the EAP has transitioned to operating under a corrective action program in compliance with 40 CFR § 257.98 and will continue assessment monitoring in accordance 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.

The EAP was operating under an assessment monitoring program throughout 2025; therefore, no statistical evaluations were conducted on Appendix III constituents in 2025.

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 established on August 15, 2018, for the EAP to meet the requirements of 40 CFR § 257.95. The EAP has remained in assessment monitoring since that time.

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.

Statistical analyses of Appendix IV constituents were completed in 2025 following the November 2024 and May 2025 semiannual assessment monitoring events as described in 40 CFR § 257.93(h)(2) and statistically significant levels (SSLs) of molybdenum continue to be identified downgradient of the EAP at monitoring well CCR-AP-5. A summary of statistical analysis is provided in Appendix A.

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.

Assessment of corrective measures was initiated on May 15, 2019 for the EAP.

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.

The public was given the opportunity to comment on the assessment of corrective measures prepared for the EAP during a public meeting held on October 18, 2021.

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

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

The assessment of corrective measures was completed on September 13, 2019 and placed into the facility's Operating Record, posted to the publicly available website, and the notification was sent to the state agency.

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.

The selection of remedy required under 40 CFR § 257.97 was ongoing for molybdenum in March 2025 and a summary of actions associated with selection of remedy over a six-month period was provided in a Semi-Annual Remedy Selection Progress Report.

A Selection of Remedy Report was completed on September 12, 2025, selecting source control and targeted in-situ treatment through redox manipulation (ISRM) as a remedy to effectively address impacts related to the EAP and meet the requirements of 40 CFR § 257.97.

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.

Following the certification of the selected remedy on September 12, 2025, a Corrective Action Groundwater Monitoring Program was established on December 10, 2025, within 90-days of remedy selection as required under 40 CFR § 257.98(a)(1).

Closure of the EAP by source removal was initiated in March 2023 and is anticipated to be completed in 2026 at which point the initialization of targeted in-situ treatment through redox manipulation will be assessed to treat areas with SSLs of molybdenum above the Groundwater Protection Standards (GWPSs).

1.2 40 CFR § 257.90(a)

Except as provided for in § 257.100 for inactive CCR surface impoundments, all CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under § 257.90 through § 257.98.

The EAP is subject to corrective action groundwater monitoring requirements described under 40 CFR § 257.90 through 40 CFR § 257.98 (the Rule). The remainder of this document addresses the specific requirements for the Owner/Operator to prepare an Annual Groundwater Monitoring and Corrective Action Report per 40 CFR § 257.90(e) and the Corrective Action Program per 40 CFR § 257.98.

1.3 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 2025 Annual Groundwater Monitoring and Corrective Action Report documents the activities completed in 2025 for the EAP as required by the Rule. Semiannual groundwater sampling and analysis was conducted per the requirements described in 40 CFR § 257.93, and the status of the groundwater

monitoring program described in 40 CFR § 257.95 is provided in this report. Field forms for the groundwater sampling events are provided in Appendix B. Laboratory analytical reports are provided in Appendix C.

1.3.1 Status of the Groundwater Monitoring Program

Following the certification of the selected remedy on September 12, 2025, a Corrective Action Groundwater Monitoring Program was established and implemented to satisfy requirements of 40 CFR § 257.98. During the 2025 reporting period, groundwater samples were collected from the monitoring wells at the EAP from May 13 to 29, 2025, and again from November 12 to 19, 2025. Groundwater monitoring well location and construction details for the existing monitoring well network are summarized in Table 1.

Statistical analysis of Appendix IV constituents collected during the November 2024 sampling event was completed on March 25, 2025, within 90-days following the receipt of laboratory analytical results on December 28, 2024, per the requirements of 40 CFR § 257.93(h)(2). Statistical analysis of Appendix IV constituents collected during the May 2025 sampling event was completed on September 17, 2025, within 90-days following the receipt of laboratory analytical results on July 9, 2025, per the requirements of 40 CFR § 257.93(h)(2). Statistical analysis of Appendix IV constituents collected during the November 2025 sampling event will be completed within the 2026 reporting period and will be included in the 2026 annual report.

Statistical analysis of Appendix IV constituents during the 2025 reporting period determined that SSLs of molybdenum (CCR-AP-5) continue to be observed downgradient of the EAP, which is consistent with previous findings.

1.3.2 Key Actions Completed

The following key actions were completed in 2025:

- January 31, 2025 – Prepared *2024 Annual Groundwater Monitoring and Corrective Action Report* (2024 Annual Report) including:
 - Pursuant to 40 CFR § 257.105(h)(1), the 2024 Annual Report was placed in the facility's operating record on January 31, 2025;
 - Pursuant to 40 CFR § 257.107(h)(1), the 2024 Annual Report was posted to the CCR Website within 30 days of the 2024 Annual Report being placed in the facility's operating record [40 CFR § 257.107(d) and § 257.107(h)(1)];
 - Pursuant to 40 CFR § 257.106(h)(1), the notification was sent to the relevant State Director and/or Tribal authority within 30 days of the 2024 Annual Report being placed in the facility's operating record [40 CFR § 257.106(d)] and posted to the CCR website.
- March 15, 2025 – Prepared semiannual selection of remedy progress report in accordance with 40 CFR § 257.97(a) to document progress. The semiannual progress report was placed in the operating record as required by 40 CFR § 257.105(h)(12) and posted on the facility's publicly available website as required by 40 CFR § 257.107(h)(9).
- March 25, 2025 – Completed statistical analysis of November 2024 assessment monitoring laboratory analytical results received on December 28, 2024.

- April 30 to May 3, 2025 – Completed well abandonment of observation wells previously used for hydraulic aquifer testing within the EAP closure construction boundary. Abandonment logs are provided in Appendix D.
- May 12, 2025 – Static water level measurements were collected in a synoptic gaging at the beginning of the May 2025 sampling event and again immediately prior to collecting each sample to evaluate groundwater flow direction and rate per the requirements of 40 CFR § 257.93(c).
- May 13 to 29, 2025 – Collected groundwater samples from monitoring wells at the EAP for laboratory analysis in accordance with 40 CFR § 257.95.
- August 7 to 10, 2025 – Completed a remedial pre-design investigation to support remedy selection and validation of groundwater modeling. Four temporary well points were installed, sampled, and abandoned within the EAP boundary to support the investigation.
- August 9, 2025 – Installed monitoring well CCR-AP-12I downgradient of the EAP to support nature and extent and corrective action monitoring during remedy implementation. Well installation and borehole logs are provided in Appendix E.
- September 12, 2025 – Completed a Selection of Remedy Report and certified a remedy in accordance with 40 CFR § 257.97. The Selection of Remedy report was placed in the operating record as specified in 40 CFR § 257.105(h)(12) and subsequently posted on the facility's publicly available website as required by 40 CFR § 257.107(h)(10).
- September 17, 2025 – Completed statistical analysis of May 2025 assessment monitoring laboratory analytical results received on July 9, 2025.
- November 10, 2025 – Static water level measurements were collected in a synoptic gaging at the beginning of the November 2024 sampling event and again immediately prior to collecting each sample to evaluate groundwater flow direction and rate per the requirements of 40 CFR § 257.93(c).
- November 12 to 19, 2025 – Collected groundwater samples from monitoring wells at the EAP for laboratory analysis in accordance with 40 CFR § 257.95. This sampling event represents the final assessment monitoring sampling.
- December 10, 2025 – Established a Corrective Action Groundwater Monitoring Plan following the selection of remedy as specified under 40 CFR § 257.98(a)(1).

1.3.3 Problems Encountered

Problems encountered during the May 2025 sampling event include:

- Monitoring well CCR-AP-3 and CCR-AP-6 were determined to be dry during the May 2025 sampling event and samples could not be collected.

Problems encountered during the November 2025 sampling event include:

- Monitoring well CCR-AP-3, CCR-AP-6, and CCR-AP-9 were determined to be dry during the November 2025 sampling event and samples could not be collected.
- Monitoring well CCR-AP-8 was unable to be sampled due to insufficient groundwater volume in the well, likely due to dewatering activities.
- Field staff erroneously labeled sample bottles for U.S. Environmental Protection Agency Method 9056A analysis of anions chloride, fluoride, and sulfate at location CCR-AP-4 and field blank FB-1,

collected in proximity to CCR-AP-4. Detections of anions in the field blank FB-1 were flagged during the data validation process and coordination with the laboratory confirmed the sample bottles had been mislabeled in the field.

1.3.4 Actions to Resolve Problems

Confirmation samples were collected on December 19, 2024, at CCR-AP-1R, CCR-AP-2, and CCR-AP-4 for radium analysis following the November 2024 sampling event. During the November 2024 sampling event, radium sample bottles at these locations were collected with less volume than is required by the laboratory. This reduced sample volume resulted in poor quality of analysis and the minimum detectable concentration was greater than the reporting limit required by the Sampling Analysis Plan and Quality Assurance Program Plan. Results of the confirmation samples were received on January 22, 2025, and are therefore included in Table 2 of this report.

During the November 2024 sampling event, monitoring location CCR-AP-3, CCR-AP-8, and CCR-AP-8I were inaccessible due to obstructions related to EAP closure activities and related health and safety concerns. Monitoring well CCR-AP-8I was able to be accessed and sampled on December 19, 2025. The remaining two locations became accessible on January 24, 2025. Upon inspection, monitoring well CCR-AP-3 was found to be dry and CCR-AP-8 was successfully sampled. Laboratory results of those samples are provided in Table 2 of this report.

Prior to the November 2024 sampling event, monitoring well location CCR-AP-5I was damaged and repaired after an assessment of well integrity. The monitoring well was re-developed and sampled on December 19, 2024, and laboratory results received on January 26, 2025, are provided in Table 2 of this report.

Monitoring well CCR-AP-3 and CCR-AP-6 were observed to be dry during the May 2025 and November 2025 sampling events as a result of construction dewatering efforts associated with the ongoing EAP closure-by-removal process. Water levels are expected to recover following the termination of dewatering activities, and; therefore, no action is required at this time.

Following mislabeling of bottles for EPA9056A analysis for samples CCR-AP-4 and FB-1 during the November 2025 sampling event, coordination with the laboratory corrected the sample designations. The laboratory analytical report was revised and the case narrative in the report was updated to document the occurrence. Field staff were briefed on the incident and sampling procedure was reviewed to prevent future recurrence.

1.3.5 Project Key Activities for Upcoming Year

Key activities to be completed in 2026 include the following:

- Continue semiannual groundwater monitoring in accordance with 40 CFR § 257.95 and 40 CFR § 257.98.
- Complete statistical analyses of the semiannual groundwater sampling results within 90-days of sampling and analysis as required by 40 CFR § 257.93(h)(2).
- Initiate remedial activities and implement the corrective action groundwater monitoring program as outlined in 40 CFR § 257.98 and the Corrective Action Groundwater Monitoring Program.

1.4 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.

1.4.1 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 40 CFR § 257.90(e)(1), a map showing the location of the EAP and associated upgradient, downgradient and nature and extent monitoring wells is presented on Figure 1. Groundwater elevation contours for the May 2025 sampling event are presented on Figure 2. Groundwater elevation contours for the November 2025 sampling event are presented on Figure 3.

1.4.2 40 CFR § 257.90(e)(2)

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.

Observation wells previously used for hydraulic aquifer testing within the EAP closure construction boundary were abandoned. Abandonment logs are provided in Appendix D.

Monitoring well location CCR-AP-12I was installed downgradient of the EAP on August 9, 2025, to support nature and extent and corrective action monitoring during remedy implementation. Well installation and borehole logs are provided in Appendix E.

1.4.3 40 CFR § 257.90(e)(3)

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 40 CFR § 257.95(b) and § 257.95(d)(1), two independent samples from each background and downgradient monitoring well were collected and analyzed. A summary table including the sample names, dates of sample collection, reason for sample collection (detection or assessment), and monitoring data obtained for the groundwater monitoring program for the EAP is presented in Table 2.

1.4.4 40 CFR § 257.90(e)(4)

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).

Statistical analysis of Appendix IV constituents was completed for the November 2024 and May 2025 sampling events as described in 40 CFR § 257.93(h)(2) and demonstrate that molybdenum remains the only constituent at an SSL to be observed downgradient of the EAP, which is consistent with previous results. Statistical analysis for the November 2025 sampling event is ongoing and will be completed within 90-days after sampling and analysis to determine if a statistically significant increase over background has occurred.

Following the certification of the selected remedy on September 12, 2025, a Corrective Action Groundwater Monitoring Plan was implemented within 90-days on December 10, 2025, to satisfy requirements of 40 CFR § 257.98. The EAP transitioned to operate under a corrective action program which implements the remedy selected under 40 CFR § 257.97 and satisfies requirements of 40 CFR § 257.98.

1.4.5 40 CFR § 257.90(e)(5)

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

Information pertaining to the development of GWPSs, recording groundwater monitoring results in the operating record, and evaluation of alternate sources has been discussed in prior annual reports.

The selection of remedy was certified on September 12, 2025, which satisfies the requirements of 40 CFR § 257.97. Source control and targeted ISRM was selected as a remedy and a corrective action program was implemented for the EAP on December 10, 2025, in accordance with 40 CFR § 257.98.

Closure of the EAP by source removal was initiated in March 2023 and is ongoing at the end of the 2025 reporting period. Following the completion of source removal, the application of ISRM will be assessed and implemented. The effectiveness of the corrective action remedy will be documented in this section of future annual groundwater monitoring and corrective action reports in accordance with 40 CFR § 257.98(a)(1)(ii).

Significant volume of source material has been removed from the EAP at the close of the 2025 reporting period and groundwater monitoring results from the 2025 sampling events are available in Table 2.

TABLES

TABLE 1
GROUNDWATER MONITORING WELL LOCATION AND CONSTRUCTION DETAILS
EASH ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

Well ID	Date Installed	Easting	Northing	Top of Pad Elevation (ft NAVD88)	Top of Riser Elevation (ft NAVD88)	Surface Grout (ft bgs)	Bentonite (ft bgs)	Sand Pack (ft bgs)	Screen Zone (ft bgs)	Top of Screen (ft NAVD88)	Bottom of Screen (ft NAVD88)	Screen Length (ft)	Well Diameter (in.)	Status	Program
Upgradient Monitoring Wells															
CCR-AP-1R	March 2016	2883429.87	969939.89	438.20	441.64	1.0 - 51.0	51.0 - 53.0	53.0 - 65.0	55.0 - 65.0	383.5	373.5	10	2	Active	Compliance
CCR-AP-7	March 2016	2883090.62	970774.82	429.50	432.41	1.0 - 16.0	16.0 - 18.0	18.0 - 30.0	20.0 - 30.0	409.5	399.5	10	2	Active	Compliance
CCR-AP-9	February 2017	2883998.88	969768.96	445.58	448.53	1.0 - 56.0	56.0 - 58.0	58.0 - 70.0	60.0 - 70.0	385.6	375.6	10	2	Active	Compliance
Downgradient Monitoring Wells															
CCR-AP-2	December 2015	2884168.88	969117.46	394.40	394.02	1.0 - 30.5	30.5 - 32.5	32.5 - 45.0	36.0 - 46.0	358.4	348.4	10	2	Active	Compliance
CCR-AP-3	December 2015	2883542.17	969007.88	395.00	394.55	1.0 - 31.0	31.0 - 32.8	32.8 - 45.0	35.0 - 45.0	360.0	350.0	10	2	Active	Compliance
CCR-AP-4	December 2015	2883281.67	969641.72	395.40	394.98	1.0 - 19.7	19.7 - 22.5	23.0 - 35.5	25.5 - 35.5	369.9	359.9	10	2	Active	Compliance
CCR-AP-5	December 2015	2884016.86	969379.74	394.90	394.38	1.0 - 28.6	28.6 - 30.6	30.6 - 44.0	34.0 - 44.0	360.9	350.9	10	2	Active	Compliance
CCR-AP-5I	January 2019	2884022.36	969377.04	394.80	394.48	1.0 - 71.2	71.2 - 73.0	73.0 - 86.0	75.3 - 85.3	319.6	309.3	10	2	Active	Nature & Extent
CCR-AP-6	March 2016	2883285.02	969122.07	397.10	396.75	1.0 - 31.5	31.5 - 33.0	33.5 - 45.5	35.5 - 45.5	361.6	351.6	10	2	Active	Compliance
CCR-AP-6I	November 2018	2883289.37	969119.68	397.20	396.88	1.0 - 60.7	60.7 - 62.7	62.7 - 64.7	64.7 - 74.7	332.5	322.2	10	2	Active	Nature & Extent
CCR-AP-8	February 2017	2883846.86	969045.93	394.00	393.68	1.0 - 31.5	31.5 - 33.0	33.5 - 45.5	35.5 - 45.5	358.5	348.5	10	2	Active	Compliance
CCR-AP-8I	November 2018	2883853.30	969046.82	393.80	393.46	1.0 - 53.7	53.7 - 56.7	56.7 - 69.0	58.7 - 68.7	334.8	324.8	10	2	Active	Nature & Extent
CCR-AP-11	January 2019	2884485.44	969352.64	385.00	384.74	1.0 - 40.0	40.0 - 41.8	41.8 - 54.7	44.4 - 54.4	340.7	330.7	10	2	Active	Nature & Extent
CCR-AP-12I	August 2025	2883992.62	969074.70	394.20	394.10	1.0 - 51.0	51.0 - 53.0	53.0 - 66.0	55.5 - 65.5	338.7	328.7	10	2	Active	Nature & Extent
2022 Aquifer Performance Test Wells															
CCR-PW-1	July 2022	2883797.21	969046.55	394.80	394.40	0.0 - 37.0	37.0 - 43.0	43.0 - 70.0	50.0 - 70.0	344.8	324.8	20	16	Abandoned	Aquifer Test
CCR-OW-1	June 2022	2883701.02	969027.17	395.00	394.62	0.0 - 1.5	1.5 - 4.4	34.0 - 48.0	36.0 - 46.0	359.0	349.0	10	2	Abandoned	Aquifer Test
CCR-OW-1I	June 2022	2883704.95	969027.17	394.90	394.44	0.0 - 1.5	1.5 - 58.0	58.0 - 70.4	60.0 - 70.0	334.9	324.9	10	2	Abandoned	Aquifer Test
CCR-OW-2	June 2022	2883773.63	969041.30	394.40	393.97	0.0 - 1.5	1.5 - 33.0	33.0 - 46.0	34.0 - 44.0	360.4	350.4	10	2	Abandoned	Aquifer Test
CCR-OW-2I	July 2022	2883777.40	969042.58	394.20	394.08	0.0 - 1.5	1.5 - 54.0	54.0 - 68.0	56.0 - 66.0	338.2	328.2	10	2	Abandoned	Aquifer Test
CCR-OW-3	June 2022	2883807.86	969047.93	393.90	393.69	0.0 - 1.5	1.5 - 34.0	34.0 - 47.0	35.0 - 45.0	358.9	348.9	10	2	Abandoned	Aquifer Test
CCR-OW-3I	June 2022	2883811.66	969048.75	394.00	393.61	0.0 - 1.5	1.5 - 57.0	57.0 - 70.0	58.0 - 68.0	336.0	326.0	10	2	Abandoned	Aquifer Test
CCR-OW-4	June 2022	2883872.53	969059.36	394.10	393.77	0.0 - 1.5	1.5 - 34.0	34.0 - 47.0	36.0 - 46.0	358.1	348.1	10	2	Active	Aquifer Test
CCR-OW-4I	June 2022	2883876.12	969059.67	394.10	393.86	0.0 - 1.5	1.5 - 55.0	55.0 - 69.0	58.0 - 68.0	336.1	326.1	10	2	Active	Aquifer Test
CCR-OW-5I	July 2022	2883799.69	969110.80	392.00	391.65	0.0 - 1.5	1.5 - 51.0	51.0 - 63.0	58.0 - 63.0	334.0	329.0	5	2	Abandoned	Aquifer Test

Notes:
bgs = below ground surface
ft = feet
in. = inches
Vertical Datum: North American Vertical Datum of 1988 (NAVD88)
¹ Monitoring well CCR-AP-10 abandoned January 2022.

TABLE 2
SUMMARY OF GROUNDWATER QUALITY DATA - DECEMBER 2024, JANUARY, MAY AND NOVEMBER 2025
EAST ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Criteria	Background					
	GWPS	CCR-AP-1R	CCR-AP-1R	CCR-AP-1R	CCR-AP-7	CCR-AP-7	CCR-AP-9
		CCR-AP-1R-121924	CCR-AP-1R-20250513	CCR-AP-1R-111225	CCR-AP-7-20250515	CCR-AP-7-111325	CCR-AP-9-20250513
		12/19/2024	05/13/2025	11/12/2025	05/15/2025	11/13/2025	05/13/2025
		180-184624-1	180-190599-4	180-198559-1	180-190644-22	180-198516-22	180-190599-3
		180-190643-4	180-190643-4	180-198559-1	180-190649-5	180-198516-22	180-190643-3
Detection Monitoring - EPA Appendix III Constituents (mg/L)							
Boron, Total	4	-	0.66	0.69	0.024 J	0.05 U	0.47
Calcium, Total	NA	-	57	68	130	130	180
Chloride	NA	-	23	21	42	43	9.4
Fluoride	4	-	0.3	0.29	0.34 J+	0.29	0.27
pH (lab) (pH units)	NA	-	7.3 J	7.3 J	7.1	7.2 J	7.1 J
Sulfate	NA	-	200	210	100	93	250
Total Dissolved Solids (TDS)	NA	-	630	890	880	620	880
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)							
Antimony, Total	0.02	-	0.002 U	0.002 U	0.002 U	0.002 U	0.00078 J
Arsenic, Total	0.038	-	0.0076	0.0046 J	0.0018 J	0.0048 J	0.011
Barium, Total	2	-	0.12	0.056	0.12	0.13	0.34
Beryllium, Total	0.01	-	0.0014	0.001	0.001 U	0.001 U	0.0014
Cadmium, Total	0.01	-	0.000097 J	0.000082 J	0.001 U	0.00016 J	0.00017 J
Chromium, Total	0.16	-	0.028	0.0085	0.005 U	0.005 U	0.03
Cobalt, Total	0.081	-	0.015	0.0075	0.00032 J	0.001 U	0.014
Fluoride	4	-	0.3	0.29	0.34 J+	0.29	0.27
Lead, Total	0.094	-	0.019	0.016	0.001 U	0.00054 J	0.016
Lithium, Total	0.23	-	0.06	0.034	0.011	0.0093	0.053
Mercury, Total	0.002	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum, Total	0.1	-	0.0034 J	0.005 U	0.005 U	0.0015 J	0.0021 J
Selenium, Total	0.05	-	0.005 U	0.005 U	0.005 U	0.0012 J	0.005 U
Thallium, Total	0.01	-	0.001 U	0.001 U	0.001 U	0.00052 J	0.001 U
Radiological (pCi/L)							
Radium-226	NA	0.815 ± 0.296	2.06 ± 0.704	2.11 ± 0.862	-0.0487 U ± 0.0974	0.132 U ± 0.178	1.36 ± 0.549
Radium-228	NA	0.853 U ± 0.801	1.57 ± 0.723	4.59 ± 1.45	0.326 U ± 0.397	0.796 ± 0.504	1.28 ± 0.766
Radium-226 & 228	12.6	1.67 J ± 0.854	3.63 ± 1.01	6.7 ± 1.69	0.326 U ± 0.409	0.928 J ± 0.535	2.65 ± 0.942
Field Parameters							
Temperature (Deg C)	NA	17.08	26.79	19.31	20.86	18.85	23.56
Dissolved Oxygen, Field (mg/L)	NA	1.75	1.13	8.5	0.11	0.94	2.71
Conductivity, Field (mS/cm)	NA	1.03	1.1635	0.329	1.0207	0.744	1.2489
Oxidation Reduction Potential (ORP), Field (mv)	NA	132	-19.6	94	-70.5	-118	-40.1
Turbidity, Field (NTU)	NA	800	2535	4.08	5.43	0	381.84
pH, Field (pH units)	NA	6.89	7.65	6.42	7.04	6.59	-

Notes and Abbreviations:

CCR: Coal Combustion Residuals

mg/L: milligram per liter

pCi/L: picoCurie per liter

Deg C: Degrees Celsius

mS/cm: milliSiemen per centimeter

mv: millivolts

NTU: Nephelometric Turbidity Units

NA: not available

U: not detected, value is the laboratory reporting limit

U: activity level below the Minimum Detectable Concentration (Radiological)

J: value is estimated

J+: value is estimated with a potential high bias

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Results in **bold** are detected

Shaded values indicate a GWPS exceedance

USEPA, 2020. Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities. December 14. 40 CFR Part 257. <https://www.epa.gov/coalash/coal-ash-rule>

TABLE 2
SUMMARY OF GROUNDWATER QUALITY DATA - DECEMBER 2024, JANUARY, MAY AND NOVEMBER 2025
EAST ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Criteria	Downgradient												
	GWPS	CCR-AP-2	CCR-AP-2	CCR-AP-2	CCR-AP-4	CCR-AP-4	CCR-AP-4	CCR-AP-4	CCR-AP-5	CCR-AP-5	CCR-AP-5I	CCR-AP-5I	CCR-AP-5I	CCR-AP-6I
		CCR-AP-2-121924	CCR-AP-2-20250514	CCR-AP-2-111225	CCR-AP-4-121924	CCR-AP-4-20250513	CCR-AP-4-111325	CCR-AP-5-20250515	CCR-AP-5-111225	CCR-AP-5I-121924	CCR-AP-5I-20250514	CCR-AP-5I-111225	CCR-AP-6I-20250513	
		12/19/2024	05/14/2025	11/12/2025	12/19/2024	05/13/2025	11/13/2025	05/15/2025	11/12/2025	12/19/2024	05/14/2025	11/12/2025	05/13/2025	
		180-190599-6	180-190643-10	180-190599-2	180-190643-2	180-198559-3	180-190648-3	180-198559-4	180-184625-2	180-190643-7	180-198559-5	180-190643-1		
Detection Monitoring - EPA Appendix III Constituents (mg/L)														
Boron, Total	4	-	7.5	6.3	-	0.31	0.28	13	9.2	13	21	12	0.42	
Calcium, Total	NA	-	220	220	-	170	140	200	220	240	280	250	45	
Chloride	NA	-	140	100	-	22	23	58	57	240	220	150	22	
Fluoride	4	-	0.2	0.24	-	0.63	0.35	1.2	1.3	0.42	0.22	0.31	0.11	
pH (lab) (pH units)	NA	-	6.7 J	6.7 J	-	7.1 J	9.4 J	7.1 J	7.1 J	7 J	6.7 J	6.9 J	7.3 J	
Sulfate	NA	-	330	360	-	12	4.8	440	420	710	780	630	65	
Total Dissolved Solids (TDS)	NA	-	1300	1400	-	900	800	1200	1200	1700	1800	1600	230	
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)														
Antimony, Total	0.02	-	0.002 U	0.002 U	-	0.0014 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	
Arsenic, Total	0.038	-	0.0021 J	0.0035 J	-	0.55	0.067	0.0011 J	0.0095	0.00086 J	0.0011 J	0.0017 J	0.0038 J	
Barium, Total	2	-	0.068	0.094	-	1.7	0.41	0.046	0.058	0.038	0.037	0.04	0.072	
Beryllium, Total	0.01	-	0.00028 J	0.00055 J	-	0.0011	0.001 U	0.001 U	0.00041 J	0.001 U	0.001 U	0.001 U	0.001 U	
Cadmium, Total	0.01	-	0.0002 J	0.00021 J	-	0.00046 J	0.001 U	0.00011 J	0.00014 J	0.00097 J	0.0022	0.0021	0.00011 J	
Chromium, Total	0.16	-	0.0076 J+	0.015	-	0.024	0.0054	0.005 U	0.003 J	0.0052	0.005 U	0.0041 J	0.005 U	
Cobalt, Total	0.081	-	0.01	0.0079	-	0.013	0.003	0.0029	0.0038	0.0025	0.0044	0.0022	0.00016 J	
Fluoride	4	-	0.2	0.24	-	0.63	0.35	1.2	1.3	0.42	0.22	0.31	0.11	
Lead, Total	0.094	-	0.0038	0.0065	-	0.019	0.0035	0.001 U	0.0043	0.0025	0.0015	0.0021	0.001 U	
Lithium, Total	0.23	-	0.006 J	0.01	-	0.015	0.008 U	0.073	0.078	0.039	0.037	0.037	0.0092	
Mercury, Total	0.002	-	0.0002 U	0.00014 J	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Molybdenum, Total	0.1	-	0.0011 J	0.0011 J	-	0.0084	0.002 J	0.22	0.23	0.0034 J	0.0066	0.0042 J	0.013	
Selenium, Total	0.05	-	0.005 U	0.005 U	-	0.0024 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Thallium, Total	0.01	-	0.001 U	0.001 U	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Radiological (pCi/L)														
Radium-226	NA	0.92 ± 0.369	0.0332 U ± 0.397	0.263 U ± 0.615	0.221 U ± 0.315	0.483 U ± 0.4	0.559 U ± 0.598	0.267 U ± 0.237	0.44 U ± 0.334	0.308 ± 0.198	0.0971 U ± 0.291	0.351 U ± 0.639	-0.0303 U ± 0.169	
Radium-228	NA	1.05 U ± 0.936	0.353 U ± 0.751	-0.0807 U ± 1.44	-0.777 U ± 1.14	1.25 U ± 0.862	3.21 ± 1.87	0.969 ± 0.433	0.696 U ± 0.682	0.603 U ± 0.939	0.709 U ± 0.634	4.29 ± 2.18	0.0311 U ± 0.415	
Radium-226 & 228	12.6	1.97 J ± 1.01	0.386 U ± 0.849	0.263 U ± 1.57	0.221 U ± 1.18	1.74 ± 0.95	3.77 UJ ± 1.96	1.24 J ± 0.494	1.14 U ± 0.759	0.911 UJ ± 0.96	0.806 U ± 0.698	4.64 UJ ± 2.27	0.0311 U ± 0.448	
Field Parameters														
Temperature (Deg C)	NA	15.88	25.93	18.94	18.43	27.03	19.93	18.06	18.3	16.76	19.79	18.74	13.73	
Dissolved Oxygen, Field (mg/L)	NA	1.8	1.99	8.2	2.15	3.75	11.15	0.09	1.08	0.32	5.43	0.33	0.01	
Conductivity, Field (mS/cm)	NA	2.01	1.9458	1.58	1.01	0.79279	1.25	1.6912	1.52	2.35	2.4149	2.02	0.4146	
Oxidation Reduction Potential (ORP), Field (mv)	NA	27	6	56	2.11	-90.2	-79	21.4	-38	-1	48.2	-67	-97.2	
Turbidity, Field (NTU)	NA	341	523.44	1000	83.1	407.39	706	6.63	6.2	137	112.42	97.6	0	
pH, Field (pH units)	NA	6.28	6.78	6.64	6.2	7.72	6.97	6.99	6.62	6.67	6.85	6.64	7.59	

Notes and Abbreviations:

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Deg C: Degrees Celsius

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NTU: Nephelometric Turbidity Units

NA: not available

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EAST ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Criteria	Downgradient											
	GWPS	CCR-AP-6I	CCR-AP-8	CCR-AP-8	CCR-AP-8I	CCR-AP-8I	CCR-AP-8I	CCR-AP-8I	CCR-AP-8I	CCR-AP-11	CCR-AP-11	CCR-AP-12I	CCR-AP-12I
		CCR-AP-6I-111925	CCR-AP-8-012425	CCR-AP-8-20250515	CCR-AP-8I-121924	CCR-AP-8I-052925	DUP-1-052925	CCR-AP-8I-111225	CCR-AP-11-20250514	CCR-AP-11-111225	CCR-AP-12I-111425	DUP-1-111425	
		11/19/2025	01/24/2025	05/15/2025	12/19/2024	05/29/2025	05/29/2025	11/12/2025	05/14/2025	11/12/2025	11/14/2025	11/14/2025	
		180-198826-1	180-185675-1	180-190648-2	180-184625-1	180-191167-1	180-191167-2	180-198559-6	180-190643-5	180-198559-7	180-198559-8	180-198559-10	
Detection Monitoring - EPA Appendix III Constituents (mg/L)													
Boron, Total	4	0.25	1	1	0.38	0.21	0.22 J+	0.16	0.5	0.76	7.6	8	
Calcium, Total	NA	52	210	190	90	79	81	88	150	210	230	220	
Chloride	NA	25	18	11	24	24	24	22	28	26	99	100	
Fluoride	4	0.13	0.52	0.43	0.21 J	0.18 J	0.2	0.18	0.3	0.22	0.2	0.2	
pH (lab) (pH units)	NA	7.3 J	6.8 J	7.2 J	6.8 J	6.6 J	6.6 J	6.6 J	6.1 J	6.1 J	6.6 J	6.6 J	
Sulfate	NA	81	300	68	82	63	62	55	750	1100	610	620	
Total Dissolved Solids (TDS)	NA	290	1100	980	470	420	420	410	1300	1900	1500	1500	
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)													
Antimony, Total	0.02	0.002 U	0.002 U	0.0017 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	
Arsenic, Total	0.038	0.0059	0.076	0.083	0.005 U	0.005 U	0.005 U	0.005 U	0.05	0.046	0.005 U	0.005 U	
Barium, Total	2	0.1	0.37	0.34	0.053	0.089	0.091	0.12	0.12	0.059	0.11	0.11	
Beryllium, Total	0.01	0.001 U	0.001 U	0.00061 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Cadmium, Total	0.01	0.000087 J	0.00012 J	0.00037 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Chromium, Total	0.16	0.005 U	0.0041 J	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Cobalt, Total	0.081	0.00015 J	0.0023	0.0045	0.001 U	0.001 U	0.001 U	0.00013 J	0.1	0.17	0.00014 J	0.00013 J	
Fluoride	4	0.13	0.52	0.43	0.21 J	0.18 J	0.2	0.18	0.3	0.22	0.2	0.2	
Lead, Total	0.094	0.001 U	0.0023	0.0058	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Lithium, Total	0.23	0.0064 J	0.008 U	0.0054 J	0.008 U	0.008 U	0.008 U	0.008 U	0.0046 J	0.0041 J	0.008 U	0.008 U	
Mercury, Total	0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Molybdenum, Total	0.1	0.023	0.0064	0.019	0.0074	0.0043 J	0.0044 J	0.0065	0.005 U	0.005 U	0.005 U	0.005 U	
Selenium, Total	0.05	0.005 U	0.0013 J	0.0029 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Thallium, Total	0.01	0.00097 J	0.001 U	0.00057 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Radiological (pCi/L)													
Radium-226	NA	0.306 U ± 0.272	0.419 ± 0.163	0.631 U ± 0.677	0.172 ± 0.0965	0.18 ± 0.104	0.231 ± 0.116	0.365 U ± 0.265	0.148 U ± 0.269	0.131 U ± 0.195	0.28 U ± 0.207	0.324 U ± 0.267	
Radium-228	NA	0.701 ± 0.431	-0.0226 U ± 0.389	-0.27 U ± 0.999	0.133 U ± 0.292	1.36 ± 0.565	0.454 U ± 0.392	0.522 U ± 0.44	1.27 ± 0.582	0.164 U ± 0.392	0.418 U ± 0.4	0.924 ± 0.522	
Radium-226 & 228	12.6	1.01 UJ ± 0.51	0.419 UJ ± 0.422	0.631 U ± 1.21	0.305 UJ ± 0.308	1.54 ± 0.574	0.686 J ± 0.409	0.887 U ± 0.514	1.42 J ± 0.641	0.295 U ± 0.438	0.698 U ± 0.45	1.25 UJ ± 0.586	
Field Parameters													
Temperature (Deg C)	NA	17.66	15.45	20.69	16.79	18.52	18.52	17.01	23.41	18.31	17.27	17.27	
Dissolved Oxygen, Field (mg/L)	NA	1.37	6.99	2.63	0	0.81	0.81	0.97	0.06	1.16	1	1	
Conductivity, Field (mS/cm)	NA	0.497	1.69	1.6849	0.751	0.707	0.707	0.526	1.8265	2.18	1.92	1.92	
Oxidation Reduction Potential (ORP), Field (mv)	NA	-68	-100	-113	-204	-37	-37	-59	-84.2	-54	-70	-70	
Turbidity, Field (NTU)	NA	0	175	143.13	0	0	0	0	81.76	9.2	0	0	
pH, Field (pH units)	NA	6.6	6.74	6.98	6.58	6.77	6.77	5.99	6.43	5.73	6.04	6.04	

Notes and Abbreviations:

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Deg C: Degrees Celsius

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USEPA, 2020. Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities. December 14. 40 CFR Part 257. <https://www.epa.gov/coalash/coal-ash-rule>

FIGURES

GIS FILE PATH: \\haleyaldrich\share\gpn_common\120420 Vectren\GIS\120420 Vectren\129420 000 VECTREN CONTOUR MAPS 2025.aprx - USER khensen - LAST SAVED: 10/31/2025 6:18 AM



LEGEND

- UPGRADIENT MONITORING WELL
- DOWNGRADIENT MONITORING WELL
- PIEZOMETER
- CREEK BOUNDARY
- UNIT BOUNDARY
- PROPERTY BOUNDARY

- NOTES**
- 1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
 - 2. CCR = COAL COMBUSTION RESIDUALS
 - 3. AERIAL IMAGERY SOURCE: GOOGLE EARTH

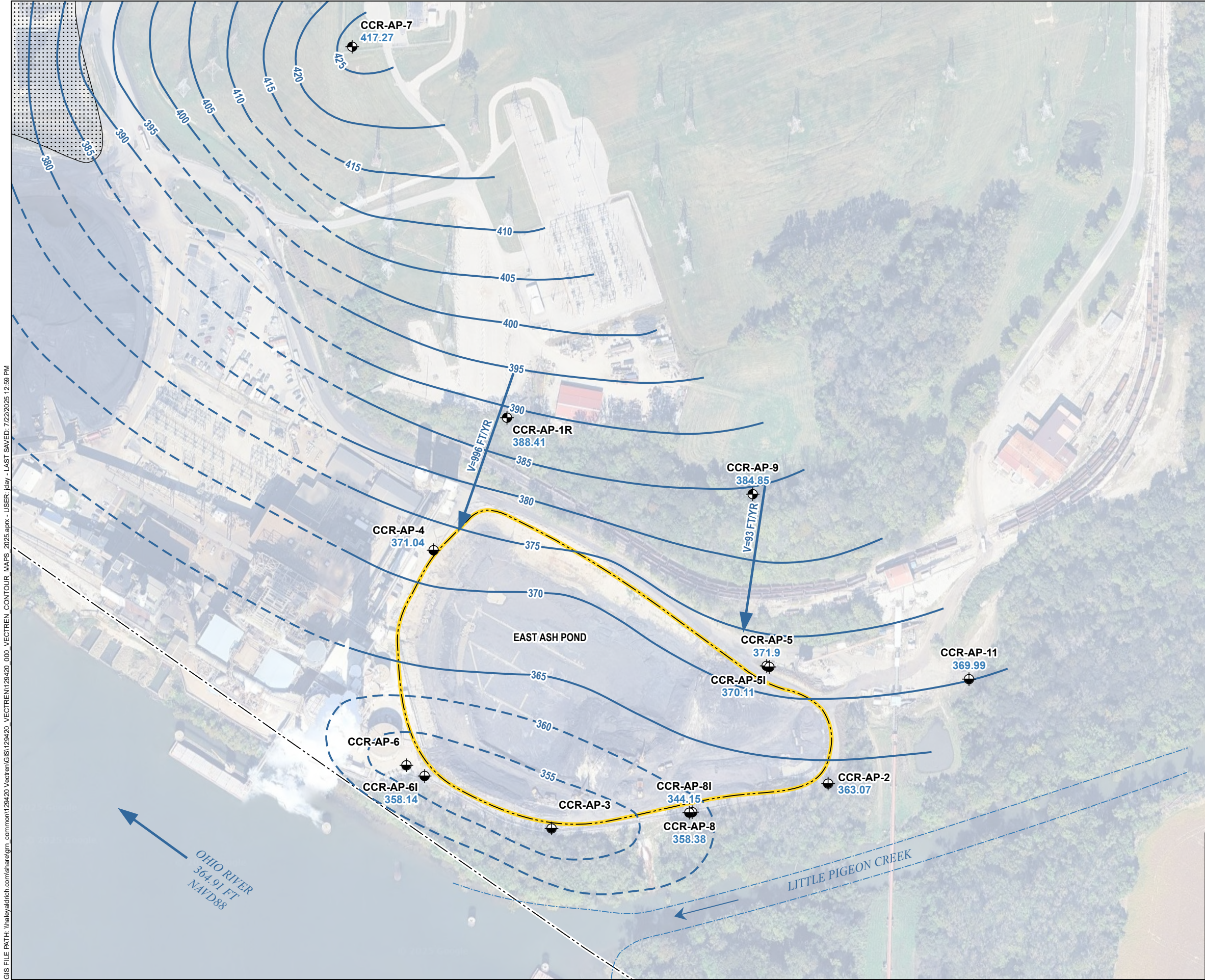
HALEY ALDRICH EAST ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

GROUNDWATER MONITORING WELL
LOCATIONS - EAST ASH POND

JANUARY 2026

FIGURE 1

GIS FILE PATH: \\haleyaldrich.com\share\gim_common\129420 Vectren\GIS\129420_VECTREN\129420_000_VECTREN CONTOUR MAPS 2025.aprx - USER: jday - LAST SAVED: 7/22/2025 12:59 PM

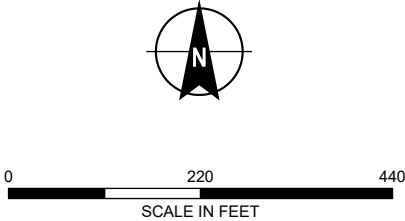


LEGEND

- UPGRADIENT GROUNDWATER MONITORING WELL
- DOWNGRADIENT GROUNDWATER MONITORING WELL
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR, 5-FT INTERVAL, DASHED WHERE INFERRED
- CREEK BOUNDARY
- APPROXIMATE LIMITS OF WEST ASH POND CCR REMOVAL
- APPROXIMATE UNIT BOUNDARY

- NOTES**
- ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
 - WATER LEVELS GAUGED MAY 12, 2025.
 - OHIO RIVER LEVEL COLLECTED BY USGS OWENSBORO GAGE #03303502 ON MAY 12, 2025 AT 12:00 PM.
 - GROUNDWATER VELOCITY (V) SHOWING FEET PER YEAR (FT/YR).
NET VELOCITY FORMULA:
$$V = \frac{k(i)}{n_e}$$

k = HYDRAULIC CONDUCTIVITY
i = GROUNDWATER GRADIENT
n_e = EFFECTIVE POROSITY
 - DEFINITIONS:
CCR = COAL COMBUSTION RESIDUALS
NAVD88 = NORTH AMERICAN VERTICAL DATUM OF 1988
 - AERIAL IMAGERY SOURCE: GOOGLE EARTH



**HALEY
ALDRICH**

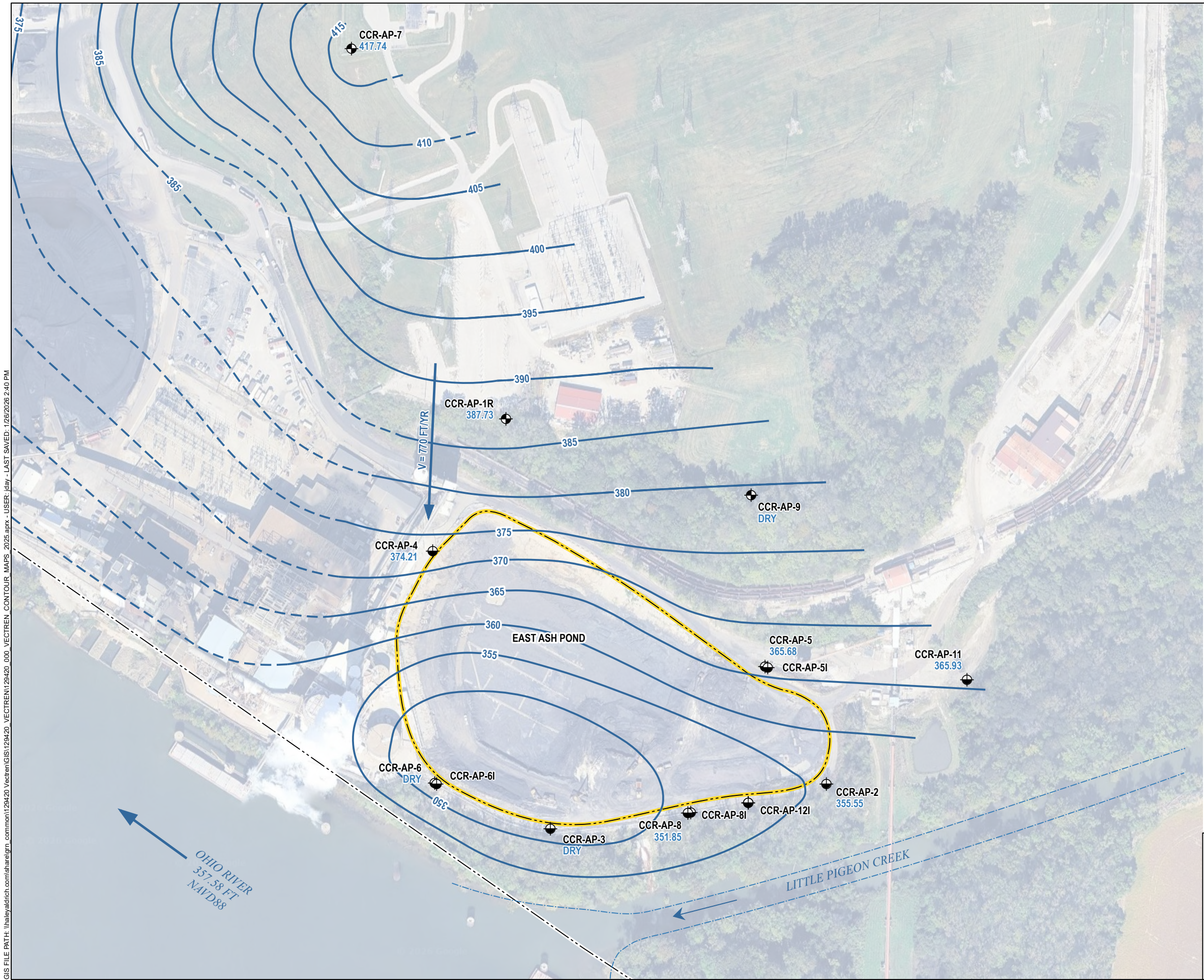
EAST ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

SHALLOW GROUNDWATER
CONFIGURATION - EAST ASH POND
MAY 2025

JANUARY 2026

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\gim\common\129420 Vectren\GIS\129420_000_VECTREN\129420_000_VECTREN CONTOUR MAPS 2025.aprx - USER: jday - LAST SAVED: 1/28/2026 2:40 PM



LEGEND

- UPGRADIENT GROUNDWATER MONITORING WELL
- DOWNGRADIENT GROUNDWATER MONITORING WELL
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- APPROXIMATE UNIT BOUNDARY
- APPROXIMATE PROPERTY BOUNDARY

NOTES

- ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
- WATER LEVELS GAUGED NOVEMBER 10, 2025.
- OHIO RIVER LEVEL COLLECTED BY USGS OWENSBORO GAGE #03303502 ON NOVEMBER 10, 2025 AT 12:45 PM.
- GROUNDWATER VELOCITY (V) SHOWING FEET PER YEAR (FT/YR).
NET VELOCITY FORMULA:
$$V = \frac{k(i)}{n_e}$$

k = HYDRAULIC CONDUCTIVITY
i = GROUNDWATER GRADIENT
n_e = EFFECTIVE POROSITY
- DEFINITIONS:
CCR = COAL COMBUSTION RESIDUALS
NAVD88 = NORTH AMERICAN VERTICAL DATUM OF 1988
- AERIAL IMAGERY SOURCE: GOOGLE EARTH



0 220 440
SCALE IN FEET

HALEY
ALDRICH

EAST ASH POND
F.B. CULLEY GENERATING STATION
WARRICK COUNTY, INDIANA

SHALLOW GROUNDWATER
CONFIGURATION - EAST ASH POND
NOVEMBER 2025

JANUARY 2026

FIGURE 3

APPENDIX A

Summary of Statistical Analysis



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TECHNICAL MEMORANDUM

25 March 2025
File No. 0129420-032

TO: Southern Indiana Gas and Electric Company

FROM: Haley & Aldrich, Inc.
Todd Plating, Senior Project Manager
Steven F. Putrich, P.E., Project Principal

SUBJECT: Statistical Evaluation of the November 2024 Semi-annual Groundwater Assessment
Monitoring Data
Southern Indiana Gas and Electric Company
East Ash Pond
F.B. Culley Generating Station; Warrick County, Indiana

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 November 2024 semi-annual assessment monitoring event for the F.B. Culley Generating Station (FBC) East Ash Pond (EAP). Haley & Aldrich, Inc. (Haley & Aldrich) completed this statistical evaluation to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at statistically significant levels (SSL) greater than Groundwater Protection Standards (GWPS), consistent with the requirements in 40 CFR § 257.95.

Methods used during this statistical analysis are described in Haley & Aldrich's 2017 *Statistical Data Analysis Plan for the F.B. Culley Generating Station*. A summary of how applicable performance standards described in 40 CFR § 257.93 (g) were achieved include:

- 40 CFR § 257.93 (g) (1) - Data set distributions were evaluated using basic summary statistics, graphical methods including probability plots, and the Shapiro-Wilk Test for Normality. Data sets were also evaluated for statistical outliers using box plots and either Dixon's Q Test for Outliers or Rosner's Outlier Test depending on sample size. Outlier identification and data set distribution groups are summarized in Attachment A. For background limit calculations, parametric methods were used for normally distributed data sets and non-parametric methods were used for non-normally distributed data sets.
- 40 CFR § 257.93 (g) (2) – Not applicable
- 40 CFR § 257.93 (g) (3) – Not applicable

- 40 CFR § 257.93 (g) (4) – Levels of confidence and additional supporting information for the use of tolerance intervals and prediction limits are included in Attachment A.
- 40 CFR § 257.93 (g) (5) – Non-detect values were accounted for by simple substitution, where the reporting limit replaced the non-detect result. Non-detect values are identified and summarized in Attachment A.
- 40 CFR § 257.93 (g) (6) – Time series plots for groundwater monitoring wells included in this evaluation were reviewed to identify potential seasonal variability. Temporal trends were evaluated using the non-parametric Mann-Kendall Trend Test and Theil-Sen Estimator.

Data from the groundwater sampling event for the downgradient monitoring wells (CCR-AP-2 through CCR-AP-6 and CCR-AP-8) were compared to the GWPS established from the background dataset for the upgradient monitoring wells (CCR-AP-1R, CCR-AP-7, and CCR-AP-9) for detected Appendix IV constituents. The GWPS for each of the Appendix IV constituents has been set equal to the highest value among the maximum contaminant level (MCL), regional screening level (RSL), and background threshold value (BTV). The results of the assessment monitoring statistical evaluation are discussed below and provided in Attachment A.

Development of Groundwater Protection Standard

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR §257.93(f) (1-4)). Haley & Aldrich certified the tolerance limit (TL) as the statistical method used for developing BTVs on 14 January 2019. An alternate source demonstration was performed for arsenic on 13 September 2019, certifying the prediction limit (PL) as the statistical method for developing arsenic BTVs. As noted above, the GWPS for each of the Appendix IV constituents has been set equal to the highest value of the MCL, RSL, or BTV (either the TL or PL). The most recent groundwater sampling result from each compliance well was compared to the GWPS to determine if additional statistical testing is warranted.

STATISTICAL EVALUATION

BTVs are periodically updated per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009* (Unified Guidance). Prior to calculating BTVs, data were evaluated for outlier results, data distribution, and spatial and temporal variability. Potential outlier sample results that would warrant removal from the data set based on likely error in sampling or measurement were identified through statistical outlier using the outliers (version 0.15) R programming package and either the Dixon's or Rosner's Test for Outliers. Potential outliers were further evaluated by visual inspection of box plots and probability plots, and field forms and analytical laboratory reports were reviewed as necessary. No sample data were identified as outliers that warranted removal from the dataset.

Background data distributions were assessed using the stats (version 4.3.3) R programming package and either the Shapiro-Wilk or Shapiro-Francia Test for Normality. Data distributions were further evaluated by visual inspection of probability and distribution plots. Data distributions inform appropriate BTV calculation methods.

Background and downgradient data sets were evaluated for spatial and temporal variability by visual inspection of box plots and time series plots and using the Mann-Kendall Trend Tests (Kendall R programming package, version 2.2.1) and Theil-Sen Estimator (trend R programming package, version 1.1.6). Spatial and temporal variability in background data sets inform appropriate BTV calculation methods.

Note that the CCR unit is in assessment monitoring, so Appendix III (detection monitoring) constituents were not evaluated.

Interwell Background Evaluation

An interwell statistical evaluation was used to determine the TL and identify potential SSLs for detected Appendix IV constituents, except arsenic (Table 1). The interwell evaluation compares the most recent value from downgradient compliance wells to a background dataset composed of pooled upgradient well data. TLs were calculated from the pooled background well dataset utilizing R programming language and the EnvStats (version 2.8.1) and tolerance (version 2.0.0) packages. 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. Parametric TLs utilize normally distributed data or data normalized via a transformation of the 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.

Intrawell Background Evaluation for Arsenic

For arsenic, an intrawell statistical evaluation was used to determine the PL and identify potential SSLs. The intrawell evaluation compares the most recent data point from each downgradient compliance well to its well-specific background dataset, composed of data collected from the same well prior to the most recent sampling event. PLs were calculated from the well-specific background dataset utilizing R programming language and the stats (version 4.3.3) package. The PL procedure is one in which a concentration limit for each constituent at each downgradient well is established from the distribution of the background data, with a minimum 95 percent confidence level. The upper endpoint of a prediction interval is called the UPL. Depending on the data distribution, parametric or non-parametric PL procedures are used. Parametric PLs utilize normally distributed data or data normalized via a transformation of the 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 PL. Note that the PL accounts for future variability based on existing data, so it is possible for the PL to be greater than the maximum measured background concentration.

GWPS Comparison and LCL Calculations

The lower confidence limits (LCL) were calculated for any Appendix IV constituent measured in a downgradient well during the November 2024 sampling event at a concentration greater than the GWPS. 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. An SSL is indicated when the downgradient well/constituent-specific LCL is greater than the GWPS.

TREND SUMMARY

Mann Kendall trend analyses were performed on data sets from downgradient wells of sufficient sample size as described above. Results of the trend analysis are summarized in Table 2. Trends indicated for constituents identified as SSLs are summarized below:

- Molybdenum was determined to be increasing at monitoring well locations CCR-AP-2 and CCR-AP-4R. Analytical results at those locations are below the GWPS.
- Molybdenum was determined to be stable at upgradient location CCR-AP-1R and downgradient location CCR-AP-8. No trend established at CCR-AP-6.
- Molybdenum was determined to be decreasing at upgradient locations CCR-AP-7 and CCR-AP-9, along with downgradient locations CCR-AP-3 and CCR-AP-5.

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

The sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the November 2024 assessment monitoring event were compared to their respective GWPS (Attachment A). LCLs were calculated where constituents were detected at concentrations greater than the GWPS. An SSL is indicated when the LCL is greater than the GWPS. SSLs are summarized in the table below. Based on previous compliance sampling events and statistical evaluations, interwell comparisons were used to evaluate constituents not subject to an Alternative Source Demonstration (ASD) in downgradient monitoring wells. Because a successful ASD was completed for arsenic, an intrawell statistical analysis was used to evaluate that constituent.

The results of the statistical analyses conducted for detected Appendix IV constituents confirm that molybdenum remains the only SSL downgradient of the EAP. As a result, the EAP will remain in Assessment Monitoring.

Table 1. Statistically Significant Level Summary – Appendix IV Constituents				
Location ID	Trend	Constituent	Newly Identified SSL	Concentration (mg/L)
CCR-AP-5	Decrease	Molybdenum	No	0.34
Notes: <i>mg/L= milligrams per liter</i>				

Enclosure:

Table 2 – Trend Summary

Attachment A - Assessment Monitoring Statistical Analysis Summary – November 2024

TABLES

Table 2. Trend Summary

Location	Chemical	Units	Identified Trends		Trend Analysis on All Available Data					Trend Analysis on Recent Data				
			Trend (All Data)	Trend (Recent Data)	Results, n	Detected Results, n	Max Concentration	Sen Slope (magnitude per year)	p-value	*Results, n	*Detected Results, n	*Max Concentration	*Sen Slope (magnitude per year)	*p-value
CCR-AP-1R	Antimony, Total	mg/L	No Trend	Stable	24	18	0.01	0	0.783	8	8	0.0041	-0.000145	0.135
CCR-AP-2	Antimony, Total	mg/L	No Trend	Stable	24	14	0.01	7.69e-06	0.339	8	7	0.0079	-0.000167	0.319
CCR-AP-3	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	22	5	0.005	NA	NA	8	3	0.005	NA	NA
CCR-AP-4R	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	23	8	0.028	NA	NA	8	5	0.028	-6.86e-06	0.61
CCR-AP-5	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	23	6	0.01	NA	NA	8	4	0.0047	0	0.69
CCR-AP-6	Antimony, Total	mg/L	No Trend	No Trend	22	13	0.018	0	0.861	8	6	0.018	0	1
CCR-AP-7	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	25	3	0.0025	NA	NA	8	0	0.0025	NA	NA
CCR-AP-8	Antimony, Total	mg/L	Stable	No Trend	23	16	0.0046	-1.25e-05	0.194	8	6	0.0046	9e-06	1
CCR-AP-9	Antimony, Total	mg/L	No Trend	Decreasing	22	15	0.01	-1.11e-05	0.59	8	5	0.01	-0.000137	0.0461
CCR-AP-1R	Arsenic, Total	mg/L	Probably Increasing	Decreasing	24	24	0.038	0.000486	0.0499	8	8	0.034	-0.00301	0.0187
CCR-AP-2	Arsenic, Total	mg/L	Increasing	No Trend	24	24	0.048	0.0011	0.000668	8	8	0.048	0.00207	0.711
CCR-AP-3	Arsenic, Total	mg/L	Probably Increasing	Stable	22	22	0.095	0.000625	0.0883	8	8	0.095	-0.00213	0.445
CCR-AP-4R	Arsenic, Total	mg/L	Increasing	Stable	23	23	0.33	0.00467	0.0119	8	8	0.33	-0.0116	0.711
CCR-AP-5	Arsenic, Total	mg/L	Increasing	No Trend	22	20	0.024	8e-05	0.00435	8	8	0.024	0.000225	1
CCR-AP-6	Arsenic, Total	mg/L	Probably Increasing	Stable	22	22	0.12	0.00171	0.0711	8	8	0.12	-0.00117	0.369
CCR-AP-7	Arsenic, Total	mg/L	Decreasing	No Trend	25	25	0.018	-0.000229	0.00944	8	8	0.0055	3.58e-05	0.803
CCR-AP-8	Arsenic, Total	mg/L	Increasing	Probably Decreasing	23	23	0.12	0.002	0.0224	8	8	0.12	-0.00778	0.0595
CCR-AP-9	Arsenic, Total	mg/L	No Trend	Decreasing	22	22	0.032	3.33e-05	0.888	8	8	0.02	-0.00218	0.00443
CCR-AP-1R	Barium, Total	mg/L	Increasing	Stable	24	24	0.59	0.00715	0.0349	8	8	0.35	-0.00679	0.803
CCR-AP-2	Barium, Total	mg/L	Increasing	No Trend	24	24	0.83	0.015	0.013	8	8	0.83	0.103	0.108
CCR-AP-3	Barium, Total	mg/L	No Trend	Stable	22	22	0.49	0.00125	0.364	8	8	0.49	-0.00633	0.386
CCR-AP-4R	Barium, Total	mg/L	Stable	Stable	23	23	1.4	-0.00167	0.73	8	8	1.4	-0.01	0.618
CCR-AP-5	Barium, Total	mg/L	Increasing	No Trend	23	23	0.2	0.00242	0.000292	8	8	0.2	0.00452	0.902
CCR-AP-6	Barium, Total	mg/L	Stable	Decreasing	22	22	0.69	-0.004	0.133	8	8	0.69	-0.0167	0.0248
CCR-AP-7	Barium, Total	mg/L	Decreasing	No Trend	25	25	0.19	-0.002	0.0124	8	8	0.12	0.00213	0.369
CCR-AP-8	Barium, Total	mg/L	Decreasing	Decreasing	23	23	0.68	-0.0115	0.000211	8	8	0.57	-0.0327	0.0327
CCR-AP-9	Barium, Total	mg/L	No Trend	Decreasing	22	22	0.72	0.0025	0.462	8	8	0.39	-0.0331	0.0248
CCR-AP-1R	Beryllium, Total	mg/L	Increasing	Decreasing	24	24	0.0066	9.55e-05	0.0273	8	8	0.0061	-0.00071	0.0187
CCR-AP-2	Beryllium, Total	mg/L	Increasing	No Trend	24	23	0.0077	0.000151	0.00115	8	7	0.0072	0.000532	0.386
CCR-AP-3	Beryllium, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.00056	NA	NA	8	1	0.00056	NA	NA
CCR-AP-4R	Beryllium, Total	mg/L	Increasing	Stable	23	16	0.0017	2.13e-05	0.00345	8	4	0.0017	0	0.69
CCR-AP-5	Beryllium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	23	6	0.005	NA	NA	8	1	0.0016	NA	NA
CCR-AP-6	Beryllium, Total	mg/L	No Trend	Not Evaluated - Majority of data (>50%) non-detect	22	13	0.0025	8e-06	0.151	8	2	0.00096	NA	NA
CCR-AP-7	Beryllium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	25	7	0.00075	NA	NA	8	0	0.0005	NA	NA
CCR-AP-8	Beryllium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	23	6	0.0005	NA	NA	8	0	0.0005	NA	NA
CCR-AP-9	Beryllium, Total	mg/L	No Trend	Decreasing	22	19	0.005	2e-05	0.224	8	5	0.005	-0.000182	0.0248
CCR-AP-1R	Cadmium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	24	11	0.005	NA	NA	8	7	0.0005	2.86e-06	1
CCR-AP-2	Cadmium, Total	mg/L	Increasing	No Trend	24	21	0.0066	5.2e-05	0.0393	8	8	0.003	0.000237	0.174
CCR-AP-3	Cadmium, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.0005	NA	NA	8	1	0.0005	NA	NA
CCR-AP-4R	Cadmium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	23	11	0.0025	NA	NA	8	4	0.00079	-1.33e-05	0.232
CCR-AP-5	Cadmium, Total	mg/L	No Trend	No Trend	23	17	0.005	0	1	8	5	0.0014	0	1
CCR-AP-6	Cadmium, Total	mg/L	No Trend	Not Evaluated - Majority of data (>50%) non-detect	22	13	0.0011	0	0.272	8	2	0.0011	NA	NA
CCR-AP-7	Cadmium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	25	3	0.0005	NA	NA	8	1	0.0005	NA	NA
CCR-AP-8	Cadmium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	23	7	0.00064	NA	NA	8	3	0.00064	NA	NA
CCR-AP-9	Cadmium, Total	mg/L	Increasing	Not Evaluated - Majority of data (>50%) non-detect	22	12	0.005	1.87e-05	0.0321	8	3	0.005	NA	NA
CCR-AP-1R	Chromium, Total	mg/L	Increasing	Probably Decreasing	24	24	0.16	0.00173	0.047	8	8	0.11	-0.0106	0.0635
CCR-AP-2	Chromium, Total	mg/L	Increasing	No Trend	24	24	0.14	0.00399	0.00193	8	8	0.14	0.0149	0.174
CCR-AP-3	Chromium, Total	mg/L	Probably Increasing	No Trend	22	18	0.014	5e-05	0.0868	8	7	0.014	0.000225	0.212
CCR-AP-4R	Chromium, Total	mg/L	Probably Increasing	Stable	22	19	0.0489	0.000366	0.0709	8	7	0.0489	-0.000313	0.711
CCR-AP-5	Chromium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	23	6	0.056	NA	NA	8	4	0.056	0.00025	0.203

Abbreviations: mg/L = milligrams per liter; n = sample count; pCi/L = picocuries per liter.

Notes: *Recent data defined as the 8 most recent data points. MK = Mann Kendall Trend Test. Secular Trend Classification based on Aziz (2003) guidance and MK Results. Thiel-Sen slope and p-value evaluated at 95% confidence level to confirm MK trends.

Additional information about trend analysis provided in Attachment A.

Location	Chemical	Units	Identified Trends		Trend Analysis on All Available Data					Trend Analysis on Recent Data				
			Trend (All Data)	Trend (Recent Data)	Results, n	Detected Results, n	Max Concentration	Sen Slope (magnitude per year)	p-value	*Results, n	*Detected Results, n	*Max Concentration	*Sen Slope (magnitude per year)	*p-value
CCR-AP-6	Chromium, Total	mg/L	Stable	No Trend	22	21	0.043	-0.000237	0.296	8	7	0.043	-0.00066	0.536
CCR-AP-7	Chromium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	25	12	0.019	NA	NA	8	0	0.005	NA	NA
CCR-AP-8	Chromium, Total	mg/L	No Trend	No Trend	22	20	0.014	5e-05	0.714	8	7	0.014	0.0002	0.902
CCR-AP-9	Chromium, Total	mg/L	No Trend	Probably Decreasing	22	22	0.15	0.000613	0.12	8	8	0.045	-0.00442	0.0809
CCR-AP-1R	Cobalt, Total	mg/L	Increasing	Decreasing	24	24	0.081	0.00114	0.0239	8	8	0.08	-0.00788	0.0187
CCR-AP-2	Cobalt, Total	mg/L	Increasing	No Trend	24	24	0.091	0.00156	0.000509	8	8	0.091	0.0045	0.386
CCR-AP-3	Cobalt, Total	mg/L	Decreasing	No Trend	22	22	0.0094	-0.000175	0.000877	8	8	0.0092	0.000236	0.386
CCR-AP-4R	Cobalt, Total	mg/L	No Trend	Stable	23	23	0.0172	6.45e-05	0.413	8	8	0.0172	-0.000125	1
CCR-AP-5	Cobalt, Total	mg/L	Decreasing	No Trend	23	23	0.01	-0.00028	0.00137	8	8	0.01	0.000351	0.386
CCR-AP-6	Cobalt, Total	mg/L	Stable	Stable	22	22	0.019	-0.00022	0.108	8	8	0.019	-0.000417	0.212
CCR-AP-7	Cobalt, Total	mg/L	Decreasing	Stable	25	23	0.015	-7.67e-05	0.00375	8	6	0.001	-3.75e-05	0.711
CCR-AP-8	Cobalt, Total	mg/L	Decreasing	Stable	23	23	0.017	-0.000467	3.57e-05	8	8	0.012	-0.000836	0.174
CCR-AP-9	Cobalt, Total	mg/L	No Trend	Decreasing	22	22	0.047	0.000125	0.461	8	8	0.023	-0.00261	0.0219
CCR-AP-1R	Fluoride	mg/L	Decreasing	Decreasing	24	24	0.81	-0.00799	0.000767	8	8	0.63	-0.0314	0.00609
CCR-AP-2	Fluoride	mg/L	Increasing	Decreasing	24	24	0.69	0.0119	0.00976	8	8	0.69	-0.0646	0.0126
CCR-AP-3	Fluoride	mg/L	Stable	Stable	22	21	0.93	-0.00933	0.185	8	8	0.57	-0.0104	0.711
CCR-AP-4R	Fluoride	mg/L	Probably Increasing	Probably Increasing	23	22	0.89	0.0075	0.0536	8	8	0.89	0.0583	0.0635
CCR-AP-5	Fluoride	mg/L	Increasing	Stable	23	23	2.3	0.04	0.00357	8	8	2.3	-0.0175	0.9
CCR-AP-6	Fluoride	mg/L	Stable	Stable	22	22	0.69	-0.00467	0.446	8	8	0.69	-0.005	1
CCR-AP-7	Fluoride	mg/L	Increasing	Stable	24	24	0.72	0.0069	0.0129	8	8	0.72	-0.0283	0.174
CCR-AP-8	Fluoride	mg/L	No Trend	No Trend	23	22	1.1	0.00778	0.169	8	8	1.1	0.0167	0.536
CCR-AP-9	Fluoride	mg/L	Stable	Stable	22	22	0.42	0	0.91	8	8	0.39	-0.0238	0.135
CCR-AP-1R	Lead, Total	mg/L	Increasing	Decreasing	24	24	0.094	0.00117	0.029	8	8	0.078	-0.00912	0.0354
CCR-AP-2	Lead, Total	mg/L	Increasing	No Trend	24	24	0.1	0.00228	0.00208	8	8	0.1	0.00788	0.386
CCR-AP-3	Lead, Total	mg/L	Increasing	No Trend	22	18	0.01	2.67e-05	0.0203	8	7	0.01	0.000151	0.266
CCR-AP-4R	Lead, Total	mg/L	No Trend	Stable	23	22	0.0389	0.000123	0.368	8	7	0.0389	-0.000888	0.108
CCR-AP-5	Lead, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	23	9	0.02	NA	NA	8	7	0.02	9.08e-05	0.266
CCR-AP-6	Lead, Total	mg/L	No Trend	No Trend	22	22	0.041	-0.000167	0.446	8	8	0.041	-0.000437	0.902
CCR-AP-7	Lead, Total	mg/L	Decreasing	Not Evaluated - Majority of data (>50%) non-detect	25	14	0.02	-3.19e-05	0.042	8	2	0.0015	NA	NA
CCR-AP-8	Lead, Total	mg/L	No Trend	No Trend	23	22	0.0076	4e-05	0.195	8	7	0.0061	8.75e-05	0.711
CCR-AP-9	Lead, Total	mg/L	No Trend	Decreasing	22	22	0.041	0.00032	0.323	8	8	0.025	-0.00268	0.0187
CCR-AP-1R	Lithium, Total	mg/L	Probably Increasing	Probably Decreasing	24	24	0.23	0.00224	0.0863	8	8	0.15	-0.013	0.0809
CCR-AP-2	Lithium, Total	mg/L	No Trend	No Trend	24	19	0.125	0.00138	0.111	8	8	0.11	0.012	0.174
CCR-AP-3	Lithium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	22	4	0.025	NA	NA	8	4	0.0043	0	0.894
CCR-AP-4R	Lithium, Total	mg/L	Stable	No Trend	23	17	0.047	-0.000232	0.364	8	7	0.025	0.0006	0.386
CCR-AP-5	Lithium, Total	mg/L	Decreasing	No Trend	23	23	0.15	-0.00492	2.04e-05	8	8	0.08	0.0066	0.108
CCR-AP-6	Lithium, Total	mg/L	Decreasing	No Trend	22	11	0.125	-0.00127	6.5e-05	8	5	0.018	3.57e-05	1
CCR-AP-7	Lithium, Total	mg/L	Decreasing	No Trend	25	25	0.039	-0.000167	0.00495	8	8	0.011	0.000298	0.212
CCR-AP-8	Lithium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	23	6	0.025	NA	NA	8	2	0.0067	NA	NA
CCR-AP-9	Lithium, Total	mg/L	No Trend	Probably Decreasing	22	22	0.12	0.000389	0.214	8	8	0.064	-0.00282	0.0635
CCR-AP-1R	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	23	0	0.001	NA	NA	8	0	0.00025	NA	NA
CCR-AP-2	Mercury, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	23	9	0.00071	NA	NA	8	6	0.00071	6e-06	0.803
CCR-AP-3	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	21	0	0.00025	NA	NA	8	0	0.00025	NA	NA
CCR-AP-4R	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	22	0	0.00025	NA	NA	8	0	0.00025	NA	NA
CCR-AP-5	Mercury, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	22	3	0.0016	NA	NA	8	3	0.0016	NA	NA
CCR-AP-6	Mercury, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	21	2	0.00041	NA	NA	8	2	0.00041	NA	NA
CCR-AP-7	Mercury, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.00032	NA	NA	8	1	0.00032	NA	NA
CCR-AP-8	Mercury, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.00026	NA	NA	8	1	0.00026	NA	NA
CCR-AP-9	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	21	0	0.0001	NA	NA	8	0	0.0001	NA	NA
CCR-AP-1R	Molybdenum, Total	mg/L	Stable	Probably Decreasing	24	24	0.023	-0.0001	0.252	8	8	0.023	-0.00082	0.0635
CCR-AP-2	Molybdenum, Total	mg/L	Increasing	No Trend	24	23	0.01	0.000281	0.000195	8	7	0.01	0.000453	0.711
CCR-AP-3	Molybdenum, Total	mg/L	Decreasing	No Trend	22	22	0.025	-0.000262	0.00494	8	8	0.025	0.000371	0.536
CCR-AP-4R	Molybdenum, Total	mg/L	Increasing	No Trend	23	20	0.017	0.000186	0.0042	8	6	0.017	0.0011	0.319
CCR-AP-5	Molybdenum, Total	mg/L	Decreasing	No Trend	23	23	0.53	-0.0106	0.00351	8	8	0.34	0.0187	0.258
CCR-AP-6	Molybdenum, Total	mg/L	No Trend	No Trend	22	22	0.043	0	0.821	8	8	0.043	0.00117	0.711
CCR-AP-7	Molybdenum, Total	mg/L	Decreasing	Stable	25	24	0.013	-0.000215	1.43e-06	8	7	0.0025	-5.5e-05	0.212
CCR-AP-8	Molybdenum, Total	mg/L	Stable	Stable	23	23	0.029	-0.000111	0.35	8	8	0.029	-0.00205	0.266
CCR-AP-9	Molybdenum, Total	mg/L	Decreasing	Decreasing	22	20	0.025	-0.0003	0.000304	8	6	0.025	-0.000375	0.0461
CCR-AP-1R	Radium-226 & 228	pCi/L	No Trend	Stable	22	22	14.4	0.0767	0.31	8	8	14.4	0.0153	1
CCR-AP-2	Radium-226 & 228	pCi/L	No Trend	Stable	22	22	5.53	0.015	0.693	8	8	5.53	-0.0287	0.902
CCR-AP-3	Radium-226 & 228	pCi/L	No Trend	No Trend	20	20	4.87	0.00597	0.922	8	8	4.87	0.0326	0.902
CCR-AP-4R	Radium-226 & 228	pCi/L	No Trend	No Trend	21	20	30	-0.028	0.526	8	7	30	-0.425	0.536

Abbreviations: mg/L = milligrams per liter; n = sample count; pCi/L = picocuries per liter.

Notes: *Recent data defined as the 8 most recent data points. MK = Mann Kendall Trend Test. Secular Trend Classification based on Aziz (2003) guidance and MK Results. Thiel-Sen slope and p-value evaluated at 95% confidence level to confirm MK trends.

Additional information about trend analysis provided in Attachment A.

Location	Chemical	Units	Identified Trends		Trend Analysis on All Available Data					Trend Analysis on Recent Data				
			Trend (All Data)	Trend (Recent Data)	Results, n	Detected Results, n	Max Concentration	Sen Slope (magnitude per year)	p-value	*Results, n	*Detected Results, n	*Max Concentration	*Sen Slope (magnitude per year)	*p-value
CCR-AP-5	Radium-226 & 228	pCi/L	No Trend	Stable	21	21	5.54	0.0136	0.74	8	8	5.54	0.0143	1
CCR-AP-6	Radium-226 & 228	pCi/L	Stable	Stable	20	19	10.2	-0.000548	1	8	7	3.21	-0.00971	1
CCR-AP-7	Radium-226 & 228	pCi/L	Stable	No Trend	22	22	1.72	-0.0115	0.535	8	8	1.44	0.0537	0.174
CCR-AP-8	Radium-226 & 228	pCi/L	Stable	Stable	20	19	2.88	-0.0362	0.183	8	7	2.88	-0.145	0.536
CCR-AP-9	Radium-226 & 228	pCi/L	Increasing	No Trend	20	20	12.6	0.2	0.0194	8	8	12.6	0.416	0.454
CCR-AP-1R	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	24	11	0.025	NA	NA	8	6	0.0046	-0.000166	0.379
CCR-AP-2	Selenium, Total	mg/L	Increasing	No Trend	24	16	0.026	8.77e-05	0.048	8	6	0.013	7.5e-05	0.454
CCR-AP-3	Selenium, Total	mg/L	No Trend	No Trend	22	21	0.0068	1.11e-05	0.23	8	8	0.003	0	0.898
CCR-AP-4R	Selenium, Total	mg/L	No Trend	No Trend	23	12	0.031	0	0.128	8	4	0.0036	0	1
CCR-AP-5	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	23	8	0.025	NA	NA	8	6	0.02	0.000275	0.618
CCR-AP-6	Selenium, Total	mg/L	No Trend	Stable	22	17	0.0125	2e-05	0.378	8	6	0.003	-1e-05	1
CCR-AP-7	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	23	3	0.0028	NA	NA	8	0	0.0025	NA	NA
CCR-AP-8	Selenium, Total	mg/L	Stable	Stable	23	20	0.007	0	0.958	8	8	0.0051	-3.25e-05	0.711
CCR-AP-9	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	22	6	0.025	NA	NA	8	1	0.025	NA	NA
CCR-AP-1R	Thallium, Total	mg/L	Increasing	No Trend	24	17	0.0027	2.62e-05	0.0281	8	5	0.001	5e-05	0.319
CCR-AP-2	Thallium, Total	mg/L	Increasing	No Trend	24	20	0.0076	4.61e-05	0.000209	8	7	0.0013	6.75e-05	0.53
CCR-AP-3	Thallium, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - No detected results	22	1	0.001	NA	NA	8	0	0.001	NA	NA
CCR-AP-4R	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	23	10	0.0025	NA	NA	8	2	0.001	NA	NA
CCR-AP-5	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Probably Increasing	23	7	0.005	NA	NA	8	4	0.00096	5.79e-05	0.0842
CCR-AP-6	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	22	8	0.0025	NA	NA	8	0	0.001	NA	NA
CCR-AP-7	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	25	4	0.001	NA	NA	8	0	0.001	NA	NA
CCR-AP-8	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	23	5	0.001	NA	NA	8	0	0.001	NA	NA
CCR-AP-9	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	22	9	0.005	NA	NA	8	0	0.005	NA	NA

Abbreviations: mg/L = milligrams per liter; n = sample count; pCi/L = picocuries per liter.

Notes: *Recent data defined as the 8 most recent data points. MK = Mann Kendall Trend Test. Secular Trend Classification based on Aziz (2003) guidance and MK Results. Thiel-Sen slope and p-value evaluated at 95% confidence level to confirm MK trends.

Additional information about trend analysis provided in Attachment A.

ATTACHMENT A
Assessment Monitoring Statistical Analysis Summary –
November 2024

Table A-1. Descriptive Statistics

Location	Constituent	Units	n	n, non-detects	percent of non-detects	max	min	mean	median	standard deviation	variance	reporting limit range	date range
CCR-AP-1R	Antimony, Total	mg/L	24	6	25	0.02000	0.00053	0.00337	0.00145	0.0055	3e-05	0.002 - 0.02	2016-06-10 to 2024-11-14
CCR-AP-2	Antimony, Total	mg/L	24	10	42	0.02000	0.00024	0.0034	0.002	0.0044	2e-05	0.002 - 0.02	2016-06-10 to 2024-11-14
CCR-AP-3	Antimony, Total	mg/L	22	17	77	0.00500	0.00031	0.00195	0.002	0.00085	7.2e-07	0.002 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-4R	Antimony, Total	mg/L	23	15	65	0.02800	0.0004	0.00326	0.002	0.0057	3.2e-05	0.002 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-5	Antimony, Total	mg/L	23	17	74	0.02000	5.8e-05	0.00267	0.002	0.0039	1.5e-05	0.002 - 0.02	2016-06-10 to 2024-11-14
CCR-AP-6	Antimony, Total	mg/L	22	9	41	0.01800	0.00042	0.00246	0.00155	0.004	1.6e-05	0.002 - 0.01	2016-06-10 to 2024-05-07
CCR-AP-7	Antimony, Total	mg/L	25	22	88	0.00500	0.00016	0.00194	0.002	0.00081	6.5e-07	0.002 - 0.005	2016-06-10 to 2024-11-15
CCR-AP-8	Antimony, Total	mg/L	23	7	30	0.00460	0.0004	0.00135	0.0011	0.00095	9e-07	0.002 - 0.002	2017-03-09 to 2025-01-24
CCR-AP-9	Antimony, Total	mg/L	22	7	32	0.02000	0.00061	0.00415	0.00155	0.0057	3.3e-05	0.002 - 0.02	2017-03-09 to 2024-11-14
CCR-AP-1R	Arsenic, Total	mg/L	24	0	0	0.03800	0.0024	0.0159	0.012	0.011	0.00013	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Arsenic, Total	mg/L	24	0	0	0.04800	0.0016	0.0153	0.013	0.013	0.00016	NA	2016-06-10 to 2024-11-14
CCR-AP-3	Arsenic, Total	mg/L	22	0	0	0.09500	0.051	0.0754	0.077	0.01	0.0001	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Arsenic, Total	mg/L	23	0	0	0.33000	0.027	0.11	0.086	0.079	0.0063	NA	2016-06-10 to 2024-11-14
CCR-AP-5	Arsenic, Total	mg/L	22	2	9	0.02400	0.00039	0.00426	0.00105	0.007	4.9e-05	0.001 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-6	Arsenic, Total	mg/L	22	0	0	0.12000	0.04	0.0926	0.1	0.022	0.0005	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Arsenic, Total	mg/L	25	0	0	0.01800	0.00066	0.00561	0.0048	0.0041	1.7e-05	NA	2016-06-10 to 2024-11-15
CCR-AP-8	Arsenic, Total	mg/L	23	0	0	0.12000	0.013	0.0858	0.09	0.026	0.00069	NA	2017-03-09 to 2025-01-24
CCR-AP-9	Arsenic, Total	mg/L	22	0	0	0.03200	0.0022	0.00975	0.0086	0.0064	4.1e-05	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Barium, Total	mg/L	24	0	0	0.59000	0.05	0.232	0.2	0.15	0.023	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Barium, Total	mg/L	24	0	0	0.83000	0.038	0.265	0.235	0.21	0.042	NA	2016-06-10 to 2024-11-14
CCR-AP-3	Barium, Total	mg/L	22	0	0	0.49000	0.38	0.429	0.425	0.033	0.0011	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Barium, Total	mg/L	23	0	0	1.40000	0.45	0.687	0.63	0.24	0.058	NA	2016-06-10 to 2024-11-14
CCR-AP-5	Barium, Total	mg/L	23	0	0	0.20000	0.029	0.0609	0.042	0.043	0.0018	NA	2016-06-10 to 2024-11-14
CCR-AP-6	Barium, Total	mg/L	22	0	0	0.69000	0.43	0.575	0.575	0.072	0.0052	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Barium, Total	mg/L	25	0	0	0.19000	0.076	0.127	0.12	0.028	0.00079	NA	2016-06-10 to 2024-11-15
CCR-AP-8	Barium, Total	mg/L	23	0	0	0.68000	0.27	0.524	0.56	0.11	0.013	NA	2017-03-09 to 2025-01-24
CCR-AP-9	Barium, Total	mg/L	22	0	0	0.72000	0.13	0.281	0.255	0.12	0.015	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Beryllium, Total	mg/L	24	0	0	0.00660	0.00011	0.00257	0.00175	0.0021	4.5e-06	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Beryllium, Total	mg/L	24	1	4	0.00770	0.00014	0.00212	0.0018	0.002	4e-06	0.001 - 0.001	2016-06-10 to 2024-11-14
CCR-AP-3	Beryllium, Total	mg/L	22	21	95	0.00100	0.00056	0.00098	0.001	9.4e-05	8.8e-09	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-4R	Beryllium, Total	mg/L	23	7	30	0.00170	0.00014	0.000719	0.00084	0.00043	1.8e-07	0.001 - 0.001	2016-06-10 to 2024-11-14
CCR-AP-5	Beryllium, Total	mg/L	23	17	74	0.01000	0.00017	0.0013	0.001	0.0019	3.7e-06	0.001 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-6	Beryllium, Total	mg/L	22	9	41	0.00500	0.00011	0.000805	0.000575	0.00099	9.9e-07	0.0005 - 0.005	2016-06-10 to 2024-05-07
CCR-AP-7	Beryllium, Total	mg/L	25	18	72	0.00100	6.7e-05	0.00077	0.001	0.00036	1.3e-07	0.0005 - 0.001	2016-06-10 to 2024-11-15
CCR-AP-8	Beryllium, Total	mg/L	23	17	74	0.00100	0.00016	0.000783	0.001	0.00034	1.2e-07	0.0005 - 0.001	2017-03-09 to 2025-01-24
CCR-AP-9	Beryllium, Total	mg/L	22	3	14	0.01000	0.00017	0.00142	0.000935	0.0021	4.3e-06	0.001 - 0.01	2017-03-09 to 2024-11-14
CCR-AP-1R	Cadmium, Total	mg/L	24	13	54	0.01000	8.1e-05	0.00195	0.001	0.0029	8.4e-06	0.001 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-2	Cadmium, Total	mg/L	24	3	12	0.01000	0.00011	0.00194	0.000875	0.0024	5.9e-06	0.0005 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-3	Cadmium, Total	mg/L	22	21	95	0.00100	0.00038	0.000972	0.001	0.00013	1.7e-08	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-4R	Cadmium, Total	mg/L	23	12	52	0.00500	0.00014	0.000869	0.001	0.00097	9.4e-07	0.001 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-5	Cadmium, Total	mg/L	23	6	26	0.01000	0.0001	0.00102	0.00057	0.002	4e-06	0.001 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-6	Cadmium, Total	mg/L	22	9	41	0.00110	9.4e-05	0.000638	0.00056	0.00037	1.4e-07	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-7	Cadmium, Total	mg/L	25	22	88	0.00100	9.7e-05	0.000882	0.001	0.00028	8e-08	0.0005 - 0.001	2016-06-10 to 2024-11-15
CCR-AP-8	Cadmium, Total	mg/L	23	16	70	0.00100	0.00012	0.000775	0.001	0.00036	1.3e-07	0.001 - 0.001	2017-03-09 to 2025-01-24
CCR-AP-9	Cadmium, Total	mg/L	22	10	45	0.01000	7.7e-05	0.00172	0.00031	0.003	9.1e-06	0.001 - 0.01	2017-03-09 to 2024-11-14
CCR-AP-1R	Chromium, Total	mg/L	24	0	0	0.16000	0.0019	0.0548	0.035	0.046	0.0021	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Chromium, Total	mg/L	24	0	0	0.14000	0.0024	0.0426	0.034	0.037	0.0014	NA	2016-06-10 to 2024-11-14
CCR-AP-3	Chromium, Total	mg/L	22	4	18	0.01400	0.0018	0.00297	0.0021	0.0026	6.5e-06	0.002 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-4R	Chromium, Total	mg/L	22	3	14	0.05800	0.0015	0.0133	0.00785	0.014	0.00021	0.002 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-5	Chromium, Total	mg/L	23	17	74	0.05600	0.0014	0.00664	0.002	0.012	0.00016	0.002 - 0.02	2016-06-10 to 2024-11-14
CCR-AP-6	Chromium, Total	mg/L	22	1	5	0.04300	0.0019	0.0128	0.0095	0.011	0.00012	0.002 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-7	Chromium, Total	mg/L	25	13	52	0.01900	0.00047	0.00394	0.002	0.0038	1.5e-05	0.002 - 0.01	2016-06-10 to 2024-11-15
CCR-AP-8	Chromium, Total	mg/L	22	2	9	0.01400	0.0012	0.0043	0.00315	0.0033	1.1e-05	0.002 - 0.0034	2017-03-09 to 2025-01-24
CCR-AP-9	Chromium, Total	mg/L	22	0	0	0.15000	0.0042	0.0245	0.0155	0.03	0.00093	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Cobalt, Total	mg/L	24	0	0	0.08100	0.0015	0.0304	0.0185	0.025	0.00064	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Cobalt, Total	mg/L	24	0	0	0.09100	0.0073	0.0277	0.022	0.02	0.00039	NA	2016-06-10 to 2024-11-14
CCR-AP-3	Cobalt, Total	mg/L	22	0	0	0.00940	0.004	0.00603	0.00565	0.0015	2.4e-06	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Cobalt, Total	mg/L	23	0	0	0.02100	0.00071	0.00714	0.0055	0.0056	3.2e-05	NA	2016-06-10 to 2024-11-14
CCR-AP-5	Cobalt, Total	mg/L	23	0	0	0.01000	0.00036	0.00393	0.0032	0.0025	6.4e-06	NA	2016-06-10 to 2024-11-14
CCR-AP-6	Cobalt, Total	mg/L	22	0	0	0.01900	0.0034	0.00855	0.0074	0.0045	2e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Cobalt, Total	mg/L	25	2	8	0.01500	0.00021	0.00211	0.00087	0.0031	9.9e-06	0.0005 - 0.002	2016-06-10 to 2024-11-15
CCR-AP-8	Cobalt, Total	mg/L	23	0	0	0.01700	0.0023	0.00829	0.008	0.004	1.6e-05	NA	2017-03-09 to 2025-01-24
CCR-AP-9	Cobalt, Total	mg/L	22	0	0	0.04700	0.0025	0.0143	0.0135	0.0087	7.6e-05	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Fluoride	mg/L	24	0	0	0.81000	0.25	0.491	0.48	0.11	0.011	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Fluoride	mg/L	24	0	0	0.69000	0.11	0.357	0.3	0.15	0.022	NA	2016-06-10 to 2024-11-14
CCR-AP-3	Fluoride	mg/L	22	1	5	0.93000	0.1	0.401	0.375	0.19	0.034	0.1 - 0.1	2016-06-10 to 2024-05-07
CCR-AP-4R	Fluoride	mg/L	23	1	4	0.89000	0.1	0.411	0.39	0.16	0.025	0.1 - 0.1	2016-06-10 to 2024-11-14
CCR-AP-5	Fluoride	mg/L	23	0	0	2.30000	0.58	1.29	1.2	0.45	0.2	NA	2016-06-10 to 2024-11-14
CCR-AP-6	Fluoride	mg/L	22	0	0	0.69000	0.24	0.49	0.47	0.13	0.017	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Fluoride	mg/L	24	0	0	0.72000	0.14	0.336	0.305	0.13	0.016	NA	2016-08-12 to 2024-11-15
CCR-AP-8	Fluoride	mg/L	23	1	4	1.10000	0.1	0.33	0.28	0.2	0.041	0.1 - 0.1	2017-03-09 to 2025-01-24
CCR-AP-9	Fluoride	mg/L	22	0	0	0.42000	0.14	0.32	0.335	0.073	0.0053	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Lead, Total	mg/L	24	0	0	0.09400	0.0011	0.0332	0.0195	0.028	0.00077	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Lead, Total	mg/L	24	0	0	0.10000	0.0013	0.0281	0.0225	0.025	0.00062	NA	2016-06-10 to 2024-11-14

Note:

Units: mg/L = milligrams per liter, pCi/L = picocuries per liter

Location	Constituent	Units	n	n, non-detects	percent of non-detects	max	min	mean	median	standard deviation	variance	reporting limit range	date range
CCR-AP-3	Lead, Total	mg/L	22	4	18	0.01000	0.00021	0.0012	0.00085	0.002	4e-06	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-4R	Lead, Total	mg/L	23	1	4	0.04700	0.00052	0.0105	0.0048	0.012	0.00015	0.001 - 0.001	2016-06-10 to 2024-11-14
CCR-AP-5	Lead, Total	mg/L	23	14	61	0.02000	9.9e-05	0.00247	0.001	0.0045	2.1e-05	0.001 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-6	Lead, Total	mg/L	22	0	0	0.04100	0.00039	0.00953	0.00685	0.0095	9.1e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Lead, Total	mg/L	25	11	44	0.02000	0.00013	0.00283	0.001	0.0043	1.8e-05	0.001 - 0.003	2016-06-10 to 2024-11-15
CCR-AP-8	Lead, Total	mg/L	23	1	4	0.00760	0.00027	0.00222	0.0021	0.0017	3e-06	0.003 - 0.003	2017-03-09 to 2025-01-24
CCR-AP-9	Lead, Total	mg/L	22	0	0	0.04100	0.0024	0.012	0.0099	0.0089	7.9e-05	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Lithium, Total	mg/L	24	0	0	0.23000	0.035	0.0904	0.0715	0.053	0.0028	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Lithium, Total	mg/L	24	5	21	0.25000	0.0038	0.0508	0.0395	0.05	0.0025	0.05 - 0.25	2016-06-10 to 2024-11-14
CCR-AP-3	Lithium, Total	mg/L	22	18	82	0.05000	0.0021	0.0231	0.005	0.023	0.00052	0.005 - 0.05	2016-06-10 to 2024-05-07
CCR-AP-4R	Lithium, Total	mg/L	23	6	26	0.05000	0.0028	0.0205	0.011	0.019	0.00035	0.005 - 0.05	2016-06-10 to 2024-11-14
CCR-AP-5	Lithium, Total	mg/L	23	0	0	0.15000	0.009	0.0909	0.094	0.041	0.0017	NA	2016-06-10 to 2024-11-14
CCR-AP-6	Lithium, Total	mg/L	22	11	50	0.25000	0.0014	0.0327	0.014	0.052	0.0028	0.005 - 0.25	2016-06-10 to 2024-05-07
CCR-AP-7	Lithium, Total	mg/L	25	0	0	0.03900	0.007	0.0132	0.011	0.0066	4.4e-05	NA	2016-06-10 to 2024-11-15
CCR-AP-8	Lithium, Total	mg/L	23	17	74	0.05000	0.0031	0.0215	0.008	0.021	0.00046	0.005 - 0.05	2017-03-09 to 2025-01-24
CCR-AP-9	Lithium, Total	mg/L	22	0	0	0.12000	0.029	0.0467	0.04	0.02	0.00039	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Mercury, Total	mg/L	23	23	100	0.00200	0.0002	0.000304	0.0002	0.00038	1.4e-07	0.0002 - 0.002	2016-06-10 to 2024-11-14
CCR-AP-2	Mercury, Total	mg/L	23	14	61	0.00071	0.00015	0.000237	0.0002	0.00012	1.5e-08	0.0002 - 0.0002	2016-06-10 to 2024-11-14
CCR-AP-3	Mercury, Total	mg/L	21	21	100	0.00050	0.0002	0.000214	0.0002	6.5e-05	4.3e-09	0.0002 - 0.0005	2016-06-10 to 2024-05-07
CCR-AP-4R	Mercury, Total	mg/L	22	22	100	0.00050	0.0002	0.000223	0.0002	7.5e-05	5.6e-09	0.0002 - 0.0005	2016-06-10 to 2024-11-14
CCR-AP-5	Mercury, Total	mg/L	22	19	86	0.00160	0.0002	0.000301	0.0002	0.00033	1.1e-07	0.0002 - 0.0002	2016-06-10 to 2024-11-14
CCR-AP-6	Mercury, Total	mg/L	21	19	90	0.00050	0.00017	0.000223	0.0002	7.9e-05	6.2e-09	0.0002 - 0.0005	2016-06-10 to 2024-05-07
CCR-AP-7	Mercury, Total	mg/L	22	21	95	0.00050	0.0002	0.000219	0.0002	6.8e-05	4.6e-09	0.0002 - 0.0005	2016-06-10 to 2024-11-15
CCR-AP-8	Mercury, Total	mg/L	22	21	95	0.00050	0.0002	0.000216	0.0002	6.5e-05	4.2e-09	0.0002 - 0.0005	2017-03-09 to 2025-01-24
CCR-AP-9	Mercury, Total	mg/L	21	21	100	0.00020	0.0002	0.0002	0.0002	0	0	0.0002 - 0.0002	2017-03-09 to 2024-11-14
CCR-AP-1R	Molybdenum, Total	mg/L	24	0	0	0.02300	0.0047	0.00912	0.00785	0.004	1.6e-05	NA	2016-06-10 to 2024-11-14
CCR-AP-2	Molybdenum, Total	mg/L	24	1	4	0.01000	0.00094	0.00479	0.00505	0.0027	7e-06	0.005 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-3	Molybdenum, Total	mg/L	22	0	0	0.02500	0.0065	0.0112	0.01	0.0039	1.5e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Molybdenum, Total	mg/L	23	3	13	0.01700	0.00071	0.00396	0.0025	0.0039	1.5e-05	0.005 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-5	Molybdenum, Total	mg/L	23	0	0	0.53000	0.046	0.289	0.33	0.12	0.014	NA	2016-06-10 to 2024-11-14
CCR-AP-6	Molybdenum, Total	mg/L	22	0	0	0.04300	0.015	0.0256	0.024	0.0067	4.5e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Molybdenum, Total	mg/L	25	1	4	0.01300	0.0011	0.00356	0.002	0.003	9e-06	0.005 - 0.005	2016-06-10 to 2024-11-15
CCR-AP-8	Molybdenum, Total	mg/L	23	0	0	0.02900	0.0029	0.014	0.013	0.0055	3e-05	NA	2017-03-09 to 2025-01-24
CCR-AP-9	Molybdenum, Total	mg/L	22	2	9	0.05000	0.0017	0.00723	0.00485	0.01	9.9e-05	0.005 - 0.05	2017-03-09 to 2024-11-14
CCR-AP-1R	Radium-226 & 228	pCi/L	22	0	0	14.40000	0.862	4.72	4.58	3.3	11	NA	2016-06-10 to 2024-12-19
CCR-AP-2	Radium-226 & 228	pCi/L	22	0	0	5.53000	0.444	2.11	1.94	1.4	2	NA	2016-06-10 to 2024-12-19
CCR-AP-3	Radium-226 & 228	pCi/L	20	0	0	4.87000	0.593	1.75	1.67	1.1	1.3	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Radium-226 & 228	pCi/L	21	1	5	30.00000	0.221	3.59	2.38	6.2	38	0.221 - 0.221	2016-06-10 to 2024-12-19
CCR-AP-5	Radium-226 & 228	pCi/L	21	0	0	5.54000	0.158	1.18	0.64	1.3	1.8	NA	2016-06-10 to 2024-11-14
CCR-AP-6	Radium-226 & 228	pCi/L	20	1	5	10.20000	0.351	2.38	1.64	2.2	4.8	0.71 - 0.71	2016-06-10 to 2024-05-07
CCR-AP-7	Radium-226 & 228	pCi/L	22	0	0	1.72000	0.126	0.848	0.809	0.44	0.19	NA	2016-06-10 to 2024-11-15
CCR-AP-8	Radium-226 & 228	pCi/L	20	1	5	2.88000	0.419	1.39	1.3	0.67	0.45	0.419 - 0.419	2017-03-09 to 2025-01-24
CCR-AP-9	Radium-226 & 228	pCi/L	20	0	0	12.60000	0.934	3.83	3.18	2.9	8.4	NA	2017-03-09 to 2024-11-14
CCR-AP-1R	Selenium, Total	mg/L	24	13	54	0.05000	0.00045	0.0107	0.005	0.015	0.00022	0.005 - 0.05	2016-06-10 to 2024-11-14
CCR-AP-2	Selenium, Total	mg/L	24	8	33	0.05000	0.00044	0.00841	0.005	0.011	0.00012	0.005 - 0.05	2016-06-10 to 2024-11-14
CCR-AP-3	Selenium, Total	mg/L	22	1	5	0.00680	0.00062	0.0022	0.00185	0.0013	1.7e-06	0.005 - 0.005	2016-06-10 to 2024-05-07
CCR-AP-4R	Selenium, Total	mg/L	23	11	48	0.03100	0.0009	0.00456	0.005	0.006	3.6e-05	0.005 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-5	Selenium, Total	mg/L	23	15	65	0.05000	0.00095	0.00719	0.005	0.01	0.0001	0.005 - 0.05	2016-06-10 to 2024-11-14
CCR-AP-6	Selenium, Total	mg/L	22	5	23	0.02500	0.001	0.00352	0.0019	0.005	2.5e-05	0.005 - 0.025	2016-06-10 to 2024-05-07
CCR-AP-7	Selenium, Total	mg/L	23	20	87	0.00500	0.00035	0.00452	0.005	0.0013	1.8e-06	0.005 - 0.005	2016-06-10 to 2024-11-15
CCR-AP-8	Selenium, Total	mg/L	23	3	13	0.00700	0.0013	0.00263	0.0019	0.0016	2.5e-06	0.005 - 0.005	2017-03-09 to 2025-01-24
CCR-AP-9	Selenium, Total	mg/L	22	16	73	0.05000	0.001	0.00854	0.005	0.011	0.00012	0.005 - 0.05	2017-03-09 to 2024-11-14
CCR-AP-1R	Thallium, Total	mg/L	24	7	29	0.00500	7.9e-05	0.00101	0.00093	0.0011	1.1e-06	0.001 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-2	Thallium, Total	mg/L	24	4	17	0.00760	4.8e-05	0.00116	0.00088	0.0017	2.8e-06	0.001 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-3	Thallium, Total	mg/L	22	21	95	0.00200	0.0001	0.001	0.001	0.00029	8.6e-08	0.001 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-4R	Thallium, Total	mg/L	23	13	57	0.00500	6.1e-05	0.00086	0.001	0.001	1.1e-06	0.001 - 0.005	2016-06-10 to 2024-11-14
CCR-AP-5	Thallium, Total	mg/L	23	16	70	0.01000	6.5e-05	0.00117	0.001	0.002	3.8e-06	0.001 - 0.01	2016-06-10 to 2024-11-14
CCR-AP-6	Thallium, Total	mg/L	22	14	64	0.00500	4.7e-05	0.00091	0.001	0.001	1.1e-06	0.001 - 0.005	2016-06-10 to 2024-05-07
CCR-AP-7	Thallium, Total	mg/L	25	21	84	0.00200	6.6e-05	0.000914	0.001	0.00038	1.5e-07	0.001 - 0.002	2016-06-10 to 2024-11-15
CCR-AP-8	Thallium, Total	mg/L	23	18	78	0.00200	5.8e-05	0.000854	0.001	0.00044	2e-07	0.001 - 0.002	2017-03-09 to 2025-01-24
CCR-AP-9	Thallium, Total	mg/L	22	13	59	0.01000	9.8e-05	0.0013	0.001	0.0022	4.8e-06	0.001 - 0.01	2017-03-09 to 2024-11-14

Note:

Units: mg/L = milligrams per liter, pCi/L = picocuries per liter

Table A-2. Results of Shapiro-Wilk Test for Normality

Shapiro-Wilk Test for Normality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)							
Location	Constituent	n	n, non-detects	W statistic	p-value	Data Normality (significance level = 0.05)	Data Normality (significance level = 0.01)
CCR-AP-1R	Antimony, Total	24	6	0.6147	9.051e-07	Not normal	Not normal
CCR-AP-2	Antimony, Total	24	10	0.6752	4.812e-06	Not normal	Not normal
CCR-AP-3	Antimony, Total	22	17	0.4157	2.326e-08	Not normal	Not normal
CCR-AP-4R	Antimony, Total	23	15	0.3082	1.952e-09	Not normal	Not normal
CCR-AP-5	Antimony, Total	23	17	0.4377	2.294e-08	Not normal	Not normal
CCR-AP-6	Antimony, Total	22	9	0.3591	7.95e-09	Not normal	Not normal
CCR-AP-7	Antimony, Total	25	22	0.4566	1.434e-08	Not normal	Not normal
CCR-AP-8	Antimony, Total	23	7	0.5578	3.212e-07	Not normal	Not normal
CCR-AP-9	Antimony, Total	22	7	0.6771	1.016e-05	Not normal	Not normal
CCR-AP-1R	Arsenic, Total	24	0	0.8951	0.01697	Not normal	Normal
CCR-AP-2	Arsenic, Total	24	0	0.9022	0.02398	Not normal	Normal
CCR-AP-3	Arsenic, Total	22	0	0.9744	0.8093	Normal	Normal
CCR-AP-4R	Arsenic, Total	23	0	0.7955	0.0003251	Not normal	Not normal
CCR-AP-5	Arsenic, Total	22	2	0.5608	5.164e-07	Not normal	Not normal
CCR-AP-6	Arsenic, Total	22	0	0.8796	0.01186	Not normal	Normal
CCR-AP-7	Arsenic, Total	25	0	0.8643	0.003336	Not normal	Not normal
CCR-AP-8	Arsenic, Total	23	0	0.9265	0.09171	Normal	Normal
CCR-AP-9	Arsenic, Total	22	0	0.7845	0.0002886	Not normal	Not normal
CCR-AP-1R	Barium, Total	24	0	0.9003	0.02186	Not normal	Normal
CCR-AP-2	Barium, Total	24	0	0.8836	0.009834	Not normal	Not normal
CCR-AP-3	Barium, Total	22	0	0.9503	0.3198	Normal	Normal
CCR-AP-4R	Barium, Total	23	0	0.7509	6.91e-05	Not normal	Not normal
CCR-AP-5	Barium, Total	23	0	0.7133	2.095e-05	Not normal	Not normal
CCR-AP-6	Barium, Total	22	0	0.9674	0.6512	Normal	Normal
CCR-AP-7	Barium, Total	25	0	0.948	0.2257	Normal	Normal
CCR-AP-8	Barium, Total	23	0	0.9256	0.08803	Normal	Normal
CCR-AP-9	Barium, Total	22	0	0.7938	0.0004006	Not normal	Not normal
CCR-AP-1R	Beryllium, Total	24	0	0.8819	0.009066	Not normal	Not normal
CCR-AP-2	Beryllium, Total	24	1	0.8079	0.0003979	Not normal	Not normal
CCR-AP-3	Beryllium, Total	22	21	0.2215	7.417e-10	Not normal	Not normal
CCR-AP-4R	Beryllium, Total	23	7	0.8278	0.001105	Not normal	Not normal
CCR-AP-5	Beryllium, Total	23	17	0.3747	6.63e-09	Not normal	Not normal
CCR-AP-6	Beryllium, Total	22	9	0.5777	7.704e-07	Not normal	Not normal
CCR-AP-7	Beryllium, Total	25	18	0.7416	2.789e-05	Not normal	Not normal
CCR-AP-8	Beryllium, Total	23	17	0.6418	2.686e-06	Not normal	Not normal
CCR-AP-9	Beryllium, Total	22	3	0.649	4.692e-06	Not normal	Not normal
CCR-AP-1R	Cadmium, Total	24	13	0.6141	8.917e-07	Not normal	Not normal
CCR-AP-2	Cadmium, Total	24	3	0.774	0.0001138	Not normal	Not normal
CCR-AP-3	Cadmium, Total	22	21	0.2215	7.417e-10	Not normal	Not normal
CCR-AP-4R	Cadmium, Total	23	12	0.5256	1.52e-07	Not normal	Not normal
CCR-AP-5	Cadmium, Total	23	6	0.4753	5.024e-08	Not normal	Not normal
CCR-AP-6	Cadmium, Total	22	9	0.8129	0.0008008	Not normal	Not normal
CCR-AP-7	Cadmium, Total	25	22	0.4664	1.77e-08	Not normal	Not normal
CCR-AP-8	Cadmium, Total	23	16	0.6903	1.05e-05	Not normal	Not normal
CCR-AP-9	Cadmium, Total	22	10	0.5767	7.515e-07	Not normal	Not normal
CCR-AP-1R	Chromium, Total	24	0	0.8896	0.01305	Not normal	Normal
CCR-AP-2	Chromium, Total	24	0	0.8971	0.01868	Not normal	Normal
CCR-AP-3	Chromium, Total	22	4	0.5175	1.927e-07	Not normal	Not normal
CCR-AP-4R	Chromium, Total	22	3	0.7771	0.0002242	Not normal	Not normal
CCR-AP-5	Chromium, Total	23	17	0.4184	1.553e-08	Not normal	Not normal
CCR-AP-6	Chromium, Total	22	1	0.8493	0.003296	Not normal	Not normal
CCR-AP-7	Chromium, Total	25	13	0.5897	3.265e-07	Not normal	Not normal
CCR-AP-8	Chromium, Total	22	2	0.7932	0.0003929	Not normal	Not normal
CCR-AP-9	Chromium, Total	22	0	0.5563	4.646e-07	Not normal	Not normal
CCR-AP-1R	Cobalt, Total	24	0	0.8694	0.005124	Not normal	Not normal
CCR-AP-2	Cobalt, Total	24	0	0.8134	0.0004909	Not normal	Not normal
CCR-AP-3	Cobalt, Total	22	0	0.9257	0.09982	Normal	Normal
CCR-AP-4R	Cobalt, Total	23	0	0.8772	0.008833	Not normal	Not normal
CCR-AP-5	Cobalt, Total	23	0	0.949	0.2785	Normal	Normal
CCR-AP-6	Cobalt, Total	22	0	0.9072	0.04147	Not normal	Normal
CCR-AP-7	Cobalt, Total	25	2	0.5921	3.47e-07	Not normal	Not normal
CCR-AP-8	Cobalt, Total	23	0	0.9601	0.465	Normal	Normal
CCR-AP-9	Cobalt, Total	22	0	0.7485	8.668e-05	Not normal	Not normal

**Shapiro-Wilk Test for Normality (R programming, package = stats, version 4.3.3, function = shapiro.test,
non-detects substituted by 0.5*reporting limit)**

Location	Constituent	n	n, non-detects	W statistic	p-value	Data Normality (significance level = 0.05)	Data Normality (significance level = 0.01)
CCR-AP-1R	Fluoride	24	0	0.9279	0.08763	Normal	Normal
CCR-AP-2	Fluoride	24	0	0.9239	0.07119	Normal	Normal
CCR-AP-3	Fluoride	22	1	0.9465	0.2689	Normal	Normal
CCR-AP-4R	Fluoride	23	1	0.9133	0.048	Not normal	Normal
CCR-AP-5	Fluoride	23	0	0.9181	0.06052	Normal	Normal
CCR-AP-6	Fluoride	22	0	0.9547	0.3907	Normal	Normal
CCR-AP-7	Fluoride	24	0	0.8884	0.01229	Not normal	Normal
CCR-AP-8	Fluoride	23	1	0.7708	0.0001355	Not normal	Not normal
CCR-AP-9	Fluoride	22	0	0.8624	0.00566	Not normal	Not normal
CCR-AP-1R	Lead, Total	24	0	0.8844	0.01022	Not normal	Normal
CCR-AP-2	Lead, Total	24	0	0.8886	0.01244	Not normal	Normal
CCR-AP-3	Lead, Total	22	4	0.3698	9.685e-09	Not normal	Not normal
CCR-AP-4R	Lead, Total	23	1	0.7399	4.826e-05	Not normal	Not normal
CCR-AP-5	Lead, Total	23	14	0.4364	2.231e-08	Not normal	Not normal
CCR-AP-6	Lead, Total	22	0	0.7959	0.0004312	Not normal	Not normal
CCR-AP-7	Lead, Total	25	11	0.5628	1.655e-07	Not normal	Not normal
CCR-AP-8	Lead, Total	23	1	0.8017	0.0004074	Not normal	Not normal
CCR-AP-9	Lead, Total	22	0	0.8291	0.001482	Not normal	Not normal
CCR-AP-1R	Lithium, Total	24	0	0.8893	0.01289	Not normal	Normal
CCR-AP-2	Lithium, Total	24	5	0.8417	0.00154	Not normal	Not normal
CCR-AP-3	Lithium, Total	22	18	0.6503	4.862e-06	Not normal	Not normal
CCR-AP-4R	Lithium, Total	23	6	0.87	0.006399	Not normal	Not normal
CCR-AP-5	Lithium, Total	23	0	0.9646	0.5622	Normal	Normal
CCR-AP-6	Lithium, Total	22	11	0.5415	3.306e-07	Not normal	Not normal
CCR-AP-7	Lithium, Total	25	0	0.6783	3.768e-06	Not normal	Not normal
CCR-AP-8	Lithium, Total	23	17	0.7071	1.732e-05	Not normal	Not normal
CCR-AP-9	Lithium, Total	22	0	0.7087	2.529e-05	Not normal	Not normal
CCR-AP-1R	Mercury, Total	23	23	NA	NA	Not Evaluated - All Non-Detect Results	Not Evaluated - All Non-Detect Results
CCR-AP-2	Mercury, Total	23	14	0.5914	7.28e-07	Not normal	Not normal
CCR-AP-3	Mercury, Total	21	21	NA	NA	Not Evaluated - All Non-Detect Results	Not Evaluated - All Non-Detect Results
CCR-AP-4R	Mercury, Total	22	22	NA	NA	Not Evaluated - All Non-Detect Results	Not Evaluated - All Non-Detect Results
CCR-AP-5	Mercury, Total	22	19	0.3773	1.114e-08	Not normal	Not normal
CCR-AP-6	Mercury, Total	21	19	0.4021	2.861e-08	Not normal	Not normal
CCR-AP-7	Mercury, Total	22	21	0.3422	5.832e-09	Not normal	Not normal
CCR-AP-8	Mercury, Total	22	21	0.3358	5.196e-09	Not normal	Not normal
CCR-AP-9	Mercury, Total	21	21	NA	NA	Not Evaluated - All Non-Detect Results	Not Evaluated - All Non-Detect Results
CCR-AP-1R	Molybdenum, Total	24	0	0.8259	0.0008054	Not normal	Not normal
CCR-AP-2	Molybdenum, Total	24	1	0.9412	0.1736	Normal	Normal
CCR-AP-3	Molybdenum, Total	22	0	0.7873	0.0003192	Not normal	Not normal
CCR-AP-4R	Molybdenum, Total	23	3	0.6916	1.092e-05	Not normal	Not normal
CCR-AP-5	Molybdenum, Total	23	0	0.9452	0.2322	Normal	Normal
CCR-AP-6	Molybdenum, Total	22	0	0.9466	0.2706	Normal	Normal
CCR-AP-7	Molybdenum, Total	25	1	0.7566	4.657e-05	Not normal	Not normal
CCR-AP-8	Molybdenum, Total	23	0	0.925	0.08513	Normal	Normal
CCR-AP-9	Molybdenum, Total	22	2	0.7201	3.566e-05	Not normal	Not normal
CCR-AP-1R	Radium-226 & 228	22	0	0.8851	0.01511	Not normal	Normal
CCR-AP-2	Radium-226 & 228	22	0	0.8827	0.01363	Not normal	Normal
CCR-AP-3	Radium-226 & 228	20	0	0.846	0.004566	Not normal	Not normal
CCR-AP-4R	Radium-226 & 228	21	1	0.4007	2.787e-08	Not normal	Not normal
CCR-AP-5	Radium-226 & 228	21	0	0.687	1.904e-05	Not normal	Not normal
CCR-AP-6	Radium-226 & 228	20	1	0.6738	1.9e-05	Not normal	Not normal
CCR-AP-7	Radium-226 & 228	22	0	0.9589	0.468	Normal	Normal
CCR-AP-8	Radium-226 & 228	20	1	0.9816	0.9527	Normal	Normal
CCR-AP-9	Radium-226 & 228	20	0	0.8307	0.002572	Not normal	Not normal
CCR-AP-1R	Selenium, Total	24	13	0.646	2.103e-06	Not normal	Not normal
CCR-AP-2	Selenium, Total	24	8	0.6955	8.789e-06	Not normal	Not normal
CCR-AP-3	Selenium, Total	22	1	0.5438	3.48e-07	Not normal	Not normal
CCR-AP-4R	Selenium, Total	23	11	0.2982	1.636e-09	Not normal	Not normal
CCR-AP-5	Selenium, Total	23	15	0.4827	5.882e-08	Not normal	Not normal
CCR-AP-6	Selenium, Total	22	5	0.5132	1.751e-07	Not normal	Not normal
CCR-AP-7	Selenium, Total	23	20	0.3829	7.751e-09	Not normal	Not normal
CCR-AP-8	Selenium, Total	23	3	0.6323	2.081e-06	Not normal	Not normal

Shapiro-Wilk Test for Normality (R programming, package = stats, version 4.3.3, function = shapiro.test,
non-detects substituted by 0.5*reporting limit)

Location	Constituent	n	n, non-detects	W statistic	p-value	Data Normality (significance level = 0.05)	Data Normality (significance level = 0.01)
CCR-AP-9	Selenium, Total	22	16	0.5918	1.084e-06	Not normal	Not normal
CCR-AP-1R	Thallium, Total	24	7	0.8105	0.0004391	Not normal	Not normal
CCR-AP-2	Thallium, Total	24	4	0.5106	7.152e-08	Not normal	Not normal
CCR-AP-3	Thallium, Total	22	21	0.4181	2.437e-08	Not normal	Not normal
CCR-AP-4R	Thallium, Total	23	13	0.5935	7.667e-07	Not normal	Not normal
CCR-AP-5	Thallium, Total	23	16	0.3614	5.16e-09	Not normal	Not normal
CCR-AP-6	Thallium, Total	22	14	0.5929	1.115e-06	Not normal	Not normal
CCR-AP-7	Thallium, Total	25	21	0.5972	3.958e-07	Not normal	Not normal
CCR-AP-8	Thallium, Total	23	18	0.6847	8.918e-06	Not normal	Not normal
CCR-AP-9	Thallium, Total	22	13	0.4944	1.166e-07	Not normal	Not normal

Table A-3. Results of Rosner/Dixon Test for Outliers

Rosner or Dixon Test for Outliers (R programming, package = outliers, version 0.15, function = dixon.test or rosnerTest, non-detects substituted by 0.5*reporting limit)									
Location	Constituent	n	n, non-detects	Outlier Test	statistic	p-value	Alternative Hypothesis	Statistical Outlier (significance level = 0.05)	Outlier Removed
CCR-AP-1R	Antimony, Total	24	6	Dixon	0.5302	0.007695	highest value 0.01 is an outlier	Yes	No
CCR-AP-2	Antimony, Total	24	10	Dixon	0.5476	0.001243	highest value 0.01 is an outlier	Yes	No
CCR-AP-3	Antimony, Total	22	17	Dixon	0.9662	0	highest value 0.005 is an outlier	Yes	No
CCR-AP-4R	Antimony, Total	23	15	Dixon	0.9134	0	highest value 0.028 is an outlier	Yes	No
CCR-AP-5	Antimony, Total	23	17	Dixon	0.8111	0	highest value 0.01 is an outlier	Yes	No
CCR-AP-6	Antimony, Total	22	9	Dixon	0.9304	0	highest value 0.018 is an outlier	Yes	No
CCR-AP-7	Antimony, Total	25	22	Dixon	0.8982	0	highest value 0.0025 is an outlier	Yes	No
CCR-AP-8	Antimony, Total	23	7	Dixon	0.7729	0	highest value 0.0046 is an outlier	Yes	No
CCR-AP-9	Antimony, Total	22	7	Dixon	0.2278	0.9063	highest value 0.01 is an outlier	No	NA
CCR-AP-1R	Arsenic, Total	24	0	Dixon	0.1194	0.4523	highest value 0.038 is an outlier	No	NA
CCR-AP-2	Arsenic, Total	24	0	Dixon	0.3463	0.2629	highest value 0.048 is an outlier	No	NA
CCR-AP-3	Arsenic, Total	22	0	Dixon	0.4286	0.1023	lowest value 0.051 is an outlier	No	NA
CCR-AP-4R	Arsenic, Total	23	0	Dixon	0.4762	0.03662	highest value 0.33 is an outlier	Yes	No
CCR-AP-5	Arsenic, Total	22	2	Dixon	0.6319	0	highest value 0.024 is an outlier	Yes	No
CCR-AP-6	Arsenic, Total	22	0	Dixon	0.2714	0.6465	lowest value 0.04 is an outlier	No	NA
CCR-AP-7	Arsenic, Total	25	0	Dixon	0.5614	0	highest value 0.018 is an outlier	Yes	No
CCR-AP-8	Arsenic, Total	23	0	Dixon	0.4021	0.1344	lowest value 0.013 is an outlier	No	NA
CCR-AP-9	Arsenic, Total	22	0	Dixon	0.605	0	highest value 0.032 is an outlier	Yes	No
CCR-AP-1R	Barium, Total	24	0	Dixon	0.2358	0.7776	highest value 0.59 is an outlier	No	NA
CCR-AP-2	Barium, Total	24	0	Dixon	0.347	0.2605	highest value 0.83 is an outlier	No	NA
CCR-AP-3	Barium, Total	22	0	Dixon	0.1	0.31	highest value 0.49 is an outlier	No	NA
CCR-AP-4R	Barium, Total	23	0	Dixon	0.5455	0.005017	highest value 1.4 is an outlier	Yes	No
CCR-AP-5	Barium, Total	23	0	Dixon	0.4762	0.03662	highest value 0.2 is an outlier	Yes	No
CCR-AP-6	Barium, Total	22	0	Dixon	0.2308	0.8875	lowest value 0.43 is an outlier	No	NA
CCR-AP-7	Barium, Total	25	0	Dixon	0.3333	0.2851	highest value 0.19 is an outlier	No	NA
CCR-AP-8	Barium, Total	23	0	Dixon	0.2632	0.6593	lowest value 0.27 is an outlier	No	NA
CCR-AP-9	Barium, Total	22	0	Dixon	0.6	0	highest value 0.72 is an outlier	Yes	No
CCR-AP-1R	Beryllium, Total	24	0	Dixon	0.1637	0.7438	highest value 0.0066 is an outlier	No	NA
CCR-AP-2	Beryllium, Total	24	1	Dixon	0.3794	0.1681	highest value 0.0077 is an outlier	No	NA
CCR-AP-3	Beryllium, Total	22	21	Dixon	1	0	highest value 0.00056 is an outlier	Yes	No
CCR-AP-4R	Beryllium, Total	23	7	Dixon	0.3922	0.1555	highest value 0.0017 is an outlier	No	NA
CCR-AP-5	Beryllium, Total	23	17	Dixon	0.8918	0	highest value 0.005 is an outlier	Yes	No
CCR-AP-6	Beryllium, Total	22	9	Dixon	0.7974	0	highest value 0.0025 is an outlier	Yes	No
CCR-AP-7	Beryllium, Total	25	18	Dixon	0.1917	0.9696	lowest value 0.000067 is an outlier	No	NA
CCR-AP-8	Beryllium, Total	23	17	Dixon	0.1765	0.7965	lowest value 0.00016 is an outlier	No	NA
CCR-AP-9	Beryllium, Total	22	3	Dixon	0.7064	0	highest value 0.005 is an outlier	Yes	No
CCR-AP-1R	Cadmium, Total	24	13	Dixon	0.523	0.01029	highest value 0.005 is an outlier	Yes	No
CCR-AP-2	Cadmium, Total	24	3	Dixon	0.5651	0	highest value 0.0066 is an outlier	Yes	No
CCR-AP-3	Cadmium, Total	22	21	Dixon	1	0	lowest value 0.00038 is an outlier	Yes	No
CCR-AP-4R	Cadmium, Total	23	12	Dixon	0.7716	0	highest value 0.0025 is an outlier	Yes	No
CCR-AP-5	Cadmium, Total	23	6	Dixon	0.7851	0	highest value 0.005 is an outlier	Yes	No
CCR-AP-6	Cadmium, Total	22	9	Dixon	0.6304	0	highest value 0.0011 is an outlier	Yes	No
CCR-AP-7	Cadmium, Total	25	22	Dixon	0.3797	0.1511	lowest value 0.000097 is an outlier	No	NA
CCR-AP-8	Cadmium, Total	23	16	Dixon	0.1053	0.3556	lowest value 0.00012 is an outlier	No	NA
CCR-AP-9	Cadmium, Total	22	10	Dixon	0.5097	0.02197	highest value 0.005 is an outlier	Yes	No
CCR-AP-1R	Chromium, Total	24	0	Dixon	0.2667	0.6069	highest value 0.16 is an outlier	No	NA
CCR-AP-2	Chromium, Total	24	0	Dixon	0.293	0.476	highest value 0.14 is an outlier	No	NA
CCR-AP-3	Chromium, Total	22	4	Dixon	0.7615	0	highest value 0.014 is an outlier	Yes	No
CCR-AP-4R	Chromium, Total	22	3	Dixon	0.5329	0.01274	highest value 0.058 is an outlier	Yes	No
CCR-AP-5	Chromium, Total	23	17	Dixon	0.8364	0	highest value 0.056 is an outlier	Yes	No
CCR-AP-6	Chromium, Total	22	1	Dixon	0.3474	0.3069	highest value 0.043 is an outlier	No	NA
CCR-AP-7	Chromium, Total	25	13	Dixon	0.7167	0	highest value 0.019 is an outlier	Yes	No
CCR-AP-8	Chromium, Total	22	2	Dixon	0.5635	0.00167	highest value 0.014 is an outlier	Yes	No
CCR-AP-9	Chromium, Total	22	0	Dixon	0.7327	0	highest value 0.15 is an outlier	Yes	No
CCR-AP-1R	Cobalt, Total	24	0	Dixon	0.07989	0.2277	highest value 0.081 is an outlier	No	NA
CCR-AP-2	Cobalt, Total	24	0	Dixon	0.5283	0.008424	highest value 0.091 is an outlier	Yes	No
CCR-AP-3	Cobalt, Total	22	0	Dixon	0.28	0.6	highest value 0.0094 is an outlier	No	NA
CCR-AP-4R	Cobalt, Total	23	0	Dixon	0.3627	0.2322	highest value 0.021 is an outlier	No	NA
CCR-AP-5	Cobalt, Total	23	0	Dixon	0.327	0.3554	highest value 0.01 is an outlier	No	NA
CCR-AP-6	Cobalt, Total	22	0	Dixon	0.3311	0.3674	highest value 0.019 is an outlier	No	NA
CCR-AP-7	Cobalt, Total	25	2	Dixon	0.6594	0	highest value 0.015 is an outlier	Yes	No

Rosner or Dixon Test for Outliers (R programming, package = outliers, version 0.15, function = dixon.test or rosnerTest, non-detects substituted by 0.5*reporting limit)

Location	Constituent	n	n, non-detects	Outlier Test	statistic	p-value	Alternative Hypothesis	Statistical Outlier (significance level = 0.05)	Outlier Removed
CCR-AP-8	Cobalt, Total	23	0	Dixon	0.3597	0.2413	highest value 0.017 is an outlier	No	NA
CCR-AP-9	Cobalt, Total	22	0	Dixon	0.6863	0	highest value 0.047 is an outlier	Yes	No
CCR-AP-1R	Fluoride	24	0	Dixon	0.5349	0.005969	highest value 0.81 is an outlier	Yes	No
CCR-AP-2	Fluoride	24	0	Dixon	0.3043	0.4246	highest value 0.69 is an outlier	No	NA
CCR-AP-3	Fluoride	22	1	Dixon	0.5	0.02699	highest value 0.93 is an outlier	Yes	No
CCR-AP-4R	Fluoride	23	1	Dixon	0.4667	0.04464	highest value 0.89 is an outlier	Yes	No
CCR-AP-5	Fluoride	23	0	Dixon	0.2055	0.99	highest value 2.3 is an outlier	No	NA
CCR-AP-6	Fluoride	22	0	Dixon	0.2791	0.605	lowest value 0.24 is an outlier	No	NA
CCR-AP-7	Fluoride	24	0	Dixon	0.46	0.04312	highest value 0.72 is an outlier	Yes	No
CCR-AP-8	Fluoride	23	1	Dixon	0.6484	0	highest value 1.1 is an outlier	Yes	No
CCR-AP-9	Fluoride	22	0	Dixon	0.28	0.6	lowest value 0.14 is an outlier	No	NA
CCR-AP-1R	Lead, Total	24	0	Dixon	0.2064	0.9637	highest value 0.094 is an outlier	No	NA
CCR-AP-2	Lead, Total	24	0	Dixon	0.4517	0.05023	highest value 0.1 is an outlier	No	NA
CCR-AP-3	Lead, Total	22	4	Dixon	0.8912	0	highest value 0.01 is an outlier	Yes	No
CCR-AP-4R	Lead, Total	23	1	Dixon	0.5714	0	highest value 0.047 is an outlier	Yes	No
CCR-AP-5	Lead, Total	23	14	Dixon	0.7572	0	highest value 0.02 is an outlier	Yes	No
CCR-AP-6	Lead, Total	22	0	Dixon	0.5276	0.01459	highest value 0.041 is an outlier	Yes	No
CCR-AP-7	Lead, Total	25	11	Dixon	0.6051	0	highest value 0.02 is an outlier	Yes	No
CCR-AP-8	Lead, Total	23	1	Dixon	0.6125	0	highest value 0.0076 is an outlier	Yes	No
CCR-AP-9	Lead, Total	22	0	Dixon	0.4509	0.07083	highest value 0.041 is an outlier	No	NA
CCR-AP-1R	Lithium, Total	24	0	Dixon	0.3608	0.2176	highest value 0.23 is an outlier	No	NA
CCR-AP-2	Lithium, Total	24	5	Dixon	0.3604	0.219	highest value 0.125 is an outlier	No	NA
CCR-AP-3	Lithium, Total	22	18	Dixon	0	0	highest value 0.025 is an outlier	Yes	No
CCR-AP-4R	Lithium, Total	23	6	Dixon	0.4989	0.02284	highest value 0.047 is an outlier	Yes	No
CCR-AP-5	Lithium, Total	23	0	Dixon	0.1844	0.8494	lowest value 0.009 is an outlier	No	NA
CCR-AP-6	Lithium, Total	22	11	Dixon	0.8163	0	highest value 0.125 is an outlier	Yes	No
CCR-AP-7	Lithium, Total	25	0	Dixon	0.6355	0	highest value 0.039 is an outlier	Yes	No
CCR-AP-8	Lithium, Total	23	17	Dixon	0	0	highest value 0.025 is an outlier	Yes	No
CCR-AP-9	Lithium, Total	22	0	Dixon	0.6437	0	highest value 0.12 is an outlier	Yes	No
CCR-AP-1R	Mercury, Total	23	23	Dixon	NA	NA	Not Evaluated - All results are non-detect	NA	NA
CCR-AP-2	Mercury, Total	23	14	Dixon	0.541	0.006673	highest value 0.00071 is an outlier	Yes	No
CCR-AP-3	Mercury, Total	21	21	Dixon	NA	NA	Not Evaluated - All results are non-detect	NA	NA
CCR-AP-4R	Mercury, Total	22	22	Dixon	NA	NA	Not Evaluated - All results are non-detect	NA	NA
CCR-AP-5	Mercury, Total	22	19	Dixon	0.8533	0	highest value 0.0016 is an outlier	Yes	No
CCR-AP-6	Mercury, Total	21	19	Dixon	0.7742	0	highest value 0.00041 is an outlier	Yes	No
CCR-AP-7	Mercury, Total	22	21	Dixon	1	0	highest value 0.00032 is an outlier	Yes	No
CCR-AP-8	Mercury, Total	22	21	Dixon	1	0	highest value 0.00026 is an outlier	Yes	No
CCR-AP-9	Mercury, Total	21	21	Dixon	NA	NA	Not Evaluated - All results are non-detect	NA	NA
CCR-AP-1R	Molybdenum, Total	24	0	Dixon	0.565	0	highest value 0.023 is an outlier	Yes	No
CCR-AP-2	Molybdenum, Total	24	1	Dixon	0.2558	0.6643	highest value 0.01 is an outlier	No	NA
CCR-AP-3	Molybdenum, Total	22	0	Dixon	0.6145	0	highest value 0.025 is an outlier	Yes	No
CCR-AP-4R	Molybdenum, Total	23	3	Dixon	0.4605	0.05051	highest value 0.017 is an outlier	No	NA
CCR-AP-5	Molybdenum, Total	23	0	Dixon	0.2733	0.604	lowest value 0.046 is an outlier	No	NA
CCR-AP-6	Molybdenum, Total	22	0	Dixon	0.4	0.1567	highest value 0.043 is an outlier	No	NA
CCR-AP-7	Molybdenum, Total	25	1	Dixon	0.4103	0.09312	highest value 0.013 is an outlier	No	NA
CCR-AP-8	Molybdenum, Total	23	0	Dixon	0.4245	0.09452	highest value 0.029 is an outlier	No	NA
CCR-AP-9	Molybdenum, Total	22	2	Dixon	0.6034	0	highest value 0.025 is an outlier	Yes	No
CCR-AP-1R	Radium-226 & 228	22	0	Dixon	0.5301	0.01371	highest value 14.4 is an outlier	Yes	No
CCR-AP-2	Radium-226 & 228	22	0	Dixon	0.47	0.05	highest value 5.53 is an outlier	No	NA
CCR-AP-3	Radium-226 & 228	20	0	Dixon	0.4608	0.08453	highest value 4.87 is an outlier	No	NA
CCR-AP-4R	Radium-226 & 228	21	1	Dixon	0.8918	0	highest value 30 is an outlier	Yes	No
CCR-AP-5	Radium-226 & 228	21	0	Dixon	0.5274	0.01853	highest value 5.54 is an outlier	Yes	No
CCR-AP-6	Radium-226 & 228	20	1	Dixon	0.7758	0	highest value 10.2 is an outlier	Yes	No
CCR-AP-7	Radium-226 & 228	22	0	Dixon	0.2152	0.9858	highest value 1.72 is an outlier	No	NA
CCR-AP-8	Radium-226 & 228	20	1	Dixon	0.3286	0.4457	highest value 2.88 is an outlier	No	NA
CCR-AP-9	Radium-226 & 228	20	0	Dixon	0.5544	0.01257	highest value 12.6 is an outlier	Yes	No
CCR-AP-1R	Selenium, Total	24	13	Dixon	0	0	highest value 0.025 is an outlier	Yes	No
CCR-AP-2	Selenium, Total	24	8	Dixon	0.4049	0.1142	highest value 0.026 is an outlier	No	NA
CCR-AP-3	Selenium, Total	22	1	Dixon	0.8269	0	highest value 0.0068 is an outlier	Yes	No
CCR-AP-4R	Selenium, Total	23	11	Dixon	0.9532	0	highest value 0.031 is an outlier	Yes	No
CCR-AP-5	Selenium, Total	23	15	Dixon	0.7729	0	highest value 0.025 is an outlier	Yes	No
CCR-AP-6	Selenium, Total	22	5	Dixon	0.8407	0	highest value 0.0125 is an outlier	Yes	No
CCR-AP-7	Selenium, Total	23	20	Dixon	1	0	lowest value 0.00035 is an outlier	Yes	No
CCR-AP-8	Selenium, Total	23	3	Dixon	0.6909	0	highest value 0.007 is an outlier	Yes	No

Rosner or Dixon Test for Outliers (R programming, package = outliers, version 0.15, function = dixon.test or rosnerTest, non-detects substituted by 0.5*reporting limit)

Location	Constituent	n	n, non-detects	Outlier Test	statistic	p-value	Alternative Hypothesis	Statistical Outlier (significance level = 0.05)	Outlier Removed
CCR-AP-9	Selenium, Total	22	16	Dixon	0.5297	0.01386	highest value 0.025 is an outlier	Yes	No
CCR-AP-1R	Thallium, Total	24	7	Dixon	0.4977	0.01968	highest value 0.0027 is an outlier	Yes	No
CCR-AP-2	Thallium, Total	24	4	Dixon	0.8445	0	highest value 0.0076 is an outlier	Yes	No
CCR-AP-3	Thallium, Total	22	21	Dixon	1	0	highest value 0.001 is an outlier	Yes	No
CCR-AP-4R	Thallium, Total	23	13	Dixon	0.8207	0	highest value 0.0025 is an outlier	Yes	No
CCR-AP-5	Thallium, Total	23	16	Dixon	0.9298	0	highest value 0.005 is an outlier	Yes	No
CCR-AP-6	Thallium, Total	22	14	Dixon	0.8299	0	highest value 0.0025 is an outlier	Yes	No
CCR-AP-7	Thallium, Total	25	21	Dixon	0.5482	0	highest value 0.001 is an outlier	Yes	No
CCR-AP-8	Thallium, Total	23	18	Dixon	0.5453	0.00509	highest value 0.001 is an outlier	Yes	No
CCR-AP-9	Thallium, Total	22	13	Dixon	0.8221	0	highest value 0.005 is an outlier	Yes	No

Table A-4. Results of Mann Kendall and Thiel Sen Trend Tests

Secular Trend Evaluation for All Data												Secular Trend Evaluation for Recent Data (subset of 8 most recent data points)									
Mann Kendall Trends				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)								Thiel-Sen Test (R programming, package = trend, version = 1.1.6, function = sens.slope, non-detects substituted by 0.5*reporting limit)		Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)							
Location	Constituent	Trends, All Data	Trends, Recent Data	Seasonal Mann Kendall Used	n	n, detected results	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)	Sen Slope (mg/L per year)	p-value	n	n, detected results	recent data date range	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)
CCR-AP-1R	Antimony, Total	No Trend	Stable	No	24	18	1.2	0.0448	0.783	21.7	12	0	0.783	8	8	2021-11-22 to 2024-11-14	0.749	-0.473	0.135	86.5	-13
CCR-AP-2	Antimony, Total	No Trend	Stable	No	24	14	1.07	0.148	0.339	66.1	39	0.00000769	0.339	8	7	2021-11-22 to 2024-11-14	0.992	-0.327	0.319	68.1	-9
CCR-AP-3	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Majority of data (>50%) non-detect.	No	22	5	0.77	NA	NA	NA	NA	NA	NA	8	3	2020-11-13 to 2024-05-07	0.878	NA	NA	NA	NA
CCR-AP-4R	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect.	No Trend	No	23	8	2.32	NA	NA	NA	NA	NA	NA	8	5	2021-05-12 to 2024-11-14	2	-0.189	0.61	39	-5
CCR-AP-5	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect.	No Trend	No	23	6	1.33	NA	NA	NA	NA	NA	NA	8	4	2021-05-12 to 2024-11-14	0.846	0.161	0.69	31	4
CCR-AP-6	Antimony, Total	No Trend	No Trend	No	22	13	1.99	0.033	0.861	13.9	7	0	0.861	8	6	2020-11-13 to 2024-05-07	1.96	0.0378	1	0	1
CCR-AP-7	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	25	3	0.359	NA	NA	NA	NA	NA	NA	8	0	2021-05-07 to 2024-11-15	0.447	NA	No detected results.	NA	NA
CCR-AP-8	Antimony, Total	Stable	No Trend	No	23	16	0.808	-0.206	0.194	80.6	-49	-0.0000125	0.194	8	6	2021-05-12 to 2025-01-24	1.12	0.0364	1	0	1
CCR-AP-9	Antimony, Total	No Trend	Decreasing	No	22	15	1.11	-0.0891	0.59	41	-20	-0.0000111	0.59	8	5	2020-11-13 to 2024-11-14	1.16	-0.618	0.0461	95.4	-17
Pooled Background	Antimony, Total	No Trend	Not Evaluated - Majority of data (>50%) non-detect.	No	71	36	1.23	0.0955	0.271	72.9	213	0	0.271	8	3	2023-11-02 to 2024-11-15	0.492	NA	NA	NA	NA
CCR-AP-1R	Arsenic, Total	Probably Increasing	Decreasing	No	24	24	0.705	0.291	0.0499	95	80	0.000486	0.0499	8	8	2021-11-22 to 2024-11-14	0.541	-0.714	0.0187	98.1	-20
CCR-AP-2	Arsenic, Total	Increasing	No Trend	No	24	24	0.83	0.504	0.000668	99.9	138	0.0011	0.000668	8	8	2021-11-22 to 2024-11-14	0.673	0.143	0.711	28.9	4
CCR-AP-3	Arsenic, Total	Probably Increasing	Stable	No	22	22	0.134	0.271	0.0883	91.2	61	0.000625	0.0883	8	8	2020-11-13 to 2024-05-07	0.166	-0.265	0.445	55.5	-7
CCR-AP-4R	Arsenic, Total	Increasing	Stable	No	23	23	0.719	0.383	0.0119	98.8	96	0.00467	0.0119	8	8	2021-05-12 to 2024-11-14	0.702	-0.143	0.711	28.9	-4
CCR-AP-5	Arsenic, Total	Increasing	No Trend	No	22	20	1.72	0.444	0.00435	99.6	102	0.00008	0.00435	8	8	2021-05-12 to 2024-11-14	1.05	0.0364	1	0	1
CCR-AP-6	Arsenic, Total	Probably Increasing	Stable	No	22	22	0.243	0.292	0.0711	92.9	64	0.00171	0.0711	8	8	2020-11-13 to 2024-05-07	0.189	-0.309	0.369	63.1	-8
CCR-AP-7	Arsenic, Total	Decreasing	No Trend	No	25	25	0.727	-0.376	0.00944	99.1	-112	-0.000229	0.00944	8	8	2021-05-07 to 2024-11-15	0.692	0.109	0.803	19.7	3
CCR-AP-8	Arsenic, Total	Increasing	Probably Decreasing	No	23	23	0.307	0.352	0.0224	97.8	87	0.002	0.0224	8	8	2021-05-12 to 2025-01-24	0.403	-0.593	0.0595	94	-16
CCR-AP-9	Arsenic, Total	No Trend	Decreasing	No	22	22	0.654	0.0261	0.888	11.2	6	0.0000333	0.888	8	8	2020-11-13 to 2024-11-14	0.596	-0.857	0.00443	99.6	-24
Pooled Background	Arsenic, Total	No Trend	Stable	No	71	71	0.851	0.0433	0.599	40.1	107	0.0000175	0.599	8	8	2023-11-02 to 2024-11-15	0.876	-0.143	0.711	28.9	-4
CCR-AP-1R	Barium, Total	Increasing	Stable	No	24	24	0.652	0.313	0.0349	96.5	86	0.00715	0.0349	8	8	2021-11-22 to 2024-11-14	0.285	-0.109	0.803	19.7	-3
CCR-AP-2	Barium, Total	Increasing	No Trend	No	24	24	0.776	0.368	0.013	98.7	101	0.015	0.013	8	8	2021-11-22 to 2024-11-14	0.712	0.5	0.108	89.2	14
CCR-AP-3	Barium, Total	No Trend	Stable	No	22	22	0.0764	0.147	0.364	63.6	33	0.00125	0.364	8	8	2020-11-13 to 2024-05-07	0.0905	-0.286	0.386	61.4	-8
CCR-AP-4R	Barium, Total	Stable	Stable	No	23	23	0.35	-0.0563	0.73	27	-14	-0.00167	0.73	8	8	2021-05-12 to 2024-11-14	0.442	-0.182	0.618	38.2	-5
CCR-AP-5	Barium, Total	Increasing	No Trend	No	23	23	0.704	0.549	0.000292	100	138	0.00242	0.000292	8	8	2021-05-12 to 2024-11-14	0.616	0.0714	0.902	9.8	2
CCR-AP-6	Barium, Total	Stable	Decreasing	No	22	22	0.126	-0.238	0.133	86.7	-54	-0.004	0.133	8	8	2020-11-13 to 2024-05-07	0.143	-0.691	0.0248	97.5	-19
CCR-AP-7	Barium, Total	Decreasing	No Trend	No	25	25	0.222	-0.374	0.0124	98.8	-107	-0.002	0.0124	8	8	2021-05-07 to 2024-11-15	0.143	0.309	0.369	63.1	8
CCR-AP-8	Barium, Total	Decreasing	Decreasing	No	23	23	0.215	-0.564	0.000211	100	-141	-0.0115	0.000211	8	8	2021-05-12 to 2025-01-24	0.241	-0.667	0.0327	96.7	-18
CCR-AP-9	Barium, Total	No Trend	Decreasing	No	22	22	0.433	0.119	0.462	53.8	27	0.0025	0.462	8	8	2020-11-13 to 2024-11-14	0.345	-0.691	0.0248	97.5	-19
Pooled Background	Barium, Total	No Trend	Stable	No	71	71	0.611	0.125	0.13	87	306	0.000794	0.13	8	8	2023-11-02 to 2024-11-15	0.465	-0.255	0.454	54.6	-7
CCR-AP-1R	Beryllium, Total	Increasing	Decreasing	No	24	24	0.821	0.326	0.0273	97.3	90	0.0000955	0.0273	8	8	2021-11-22 to 2024-11-14	0.587	-0.714	0.0187	98.1	-20
CCR-AP-2	Beryllium, Total	Increasing	No Trend	No	24	23	0.964	0.48	0.00115	99.9	132	0.000151	0.00115	8	7	2021-11-22 to 2024-11-14	0.788	0.286	0.386	61.4	8
CCR-AP-3	Beryllium, Total	Not Evaluated - Only one detected result.	Not Evaluated - Only one detected result.	No	22	1	0.0254	NA	NA	NA	NA	NA	NA	8	1	2020-11-13 to 2024-05-07	0.0418	NA	NA	NA	NA
CCR-AP-4R	Beryllium, Total	Increasing	Stable	No	23	16	0.68	0.454	0.00345	99.7	110	0.0000213	0.00345	8	4	2021-05-12 to 2024-11-14	0.585	-0.161	0.69	31	-4
CCR-AP-5	Beryllium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Only one detected result.	No	23	6	1.31	NA	NA	NA	NA	NA	NA	8	1	2021-05-12 to 2024-11-14	0.61	NA	NA	NA	NA
CCR-AP-6	Beryllium, Total	No Trend	Not Evaluated - Majority of data (>50%) non-detect.	No	22	13	0.925	0.232	0.151	84.9	51	0.000008	0.151	8	2	2020-11-13 to 2024-05-07	0.452	NA	NA	NA	NA
CCR-AP-7	Beryllium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	25	7	0.395	NA	NA	NA	NA	NA	NA	8	0	2021-05-07 to 2024-11-15	0.189	NA	No detected results.	NA	NA
CCR-AP-8	Beryllium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	23	6	0.289	NA	NA	NA	NA	NA	NA	8	0	2021-05-12 to 2025-01-24	0.189	NA	No detected results.	NA	NA
CCR-AP-9	Beryllium, Total	No Trend	Decreasing	No	22	19	1.03	0.193	0.224	77.6	44	0.00002	0.224	8	5	2020-11-13 to 2024-11-14	0.983	-0.691	0.0248	97.5	-19
Pooled Background	Beryllium, Total	Increasing	Not Evaluated - Majority of data (>50%) non-detect.	No	71	50	1.2	0.207	0.0134	98.7	494	0.00000683	0.0134	8	3	2023-11-02 to 2024-11-15	0.967	NA	NA	NA	NA

Note:

Mann Kendall Trends are classified based on Aziz (2003) guidance. Mann Kendall test run on seasonally adjusted data if seasonal trend identified. Seasonal trends identified based on Kruskal Wallis test and time series plots, where n seasons = 4 and (Dec-Feb, Mar-May, Jun-Aug, Sept-Nov).

Secular Trend Evaluation for All Data												Secular Trend Evaluation for Recent Data (subset of 8 most recent data points)									
Mann Kendall Trends				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)								Thiel-Sen Test (R programming, package = trend, version = 1.1.6, function = sens.slope, non-detects substituted by 0.5*reporting limit)				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)					
Location	Constituent	Trends, All Data	Trends, Recent Data	Seasonal Mann Kendall Used	n	n, detected results	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)	Sen Slope (mg/L per year)	p-value	n	n, detected results	recent data date range	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)
CCR-AP-1R	Cadmium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Stable	No	24	11	1.34	NA	NA	NA	NA	NA	NA	8	7	2021-11-22 to 2024-11-14	0.283	0	1	0	0
CCR-AP-2	Cadmium, Total	Increasing	No Trend	No	24	21	1.03	0.307	0.0393	96.1	84	0.000052	0.0393	8	8	2021-11-22 to 2024-11-14	0.752	0.429	0.174	82.6	12
CCR-AP-3	Cadmium, Total	Not Evaluated - Only one detected result.	Not Evaluated - Only one detected result.	No	22	1	0.0517	NA	NA	NA	NA	NA	NA	8	1	2020-11-13 to 2024-05-07	0.0875	NA	NA	NA	NA
CCR-AP-4R	Cadmium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Stable	No	23	11	0.887	NA	NA	NA	NA	NA	NA	8	4	2021-05-12 to 2024-11-14	0.287	-0.403	0.232	76.8	-10
CCR-AP-5	Cadmium, Total	No Trend	No Trend	No	23	17	1.43	-0.00405	1	0	-1	0	1	8	5	2021-05-12 to 2024-11-14	0.7	0.0378	1	0	1
CCR-AP-6	Cadmium, Total	No Trend	Not Evaluated - Majority of data (>50%) non-detect.	No	22	13	0.485	0.183	0.272	72.8	38	0	0.272	8	2	2020-11-13 to 2024-05-07	0.52	NA	NA	NA	NA
CCR-AP-7	Cadmium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Only one detected result.	No	25	3	0.259	NA	NA	NA	NA	NA	NA	8	1	2021-05-07 to 2024-11-15	0.374	NA	NA	NA	NA
CCR-AP-8	Cadmium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Majority of data (>50%) non-detect.	No	23	7	0.341	NA	NA	NA	NA	NA	NA	8	3	2021-05-12 to 2025-01-24	0.431	NA	NA	NA	NA
CCR-AP-9	Cadmium, Total	Increasing	Not Evaluated - Majority of data (>50%) non-detect.	No	22	12	1.64	0.343	0.0321	96.8	76	0.0000187	0.0321	8	3	2020-11-13 to 2024-11-14	1.71	NA	NA	NA	NA
Pooled Background	Cadmium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Stable	No	71	26	1.48	NA	NA	NA	NA	NA	NA	8	4	2023-11-02 to 2024-11-15	0.563	-0.189	0.61	39	-5
CCR-AP-1R	Chromium, Total	Increasing	Probably Decreasing	No	24	24	0.84	0.295	0.047	95.3	81	0.00173	0.047	8	8	2021-11-22 to 2024-11-14	0.501	-0.571	0.0635	93.7	-16
CCR-AP-2	Chromium, Total	Increasing	No Trend	No	24	24	0.877	0.457	0.00193	99.8	126	0.00399	0.00193	8	8	2021-11-22 to 2024-11-14	0.744	0.429	0.174	82.6	12
CCR-AP-3	Chromium, Total	Probably Increasing	No Trend	No	22	18	0.951	0.276	0.0868	91.3	61	0.00005	0.0868	8	7	2020-11-13 to 2024-05-07	1.1	0.4	0.212	78.8	11
CCR-AP-4R	Chromium, Total	Probably Increasing	Stable	Yes	22	19	0.83	0.283	0.0709	92.9	65	0.000366	0.0709	8	7	2021-05-12 to 2024-11-14	0.74	-0.143	0.711	28.9	-4
CCR-AP-5	Chromium, Total	Not Evaluated - Majority of data (>50%) non-detect.	No Trend	No	23	6	2.29	NA	NA	NA	NA	NA	NA	8	4	2021-05-12 to 2024-11-14	1.58	0.416	0.203	79.7	11
CCR-AP-6	Chromium, Total	Stable	No Trend	No	22	21	0.862	-0.166	0.296	70.4	-38	-0.000237	0.296	8	7	2020-11-13 to 2024-05-07	1.44	-0.214	0.536	46.4	-6
CCR-AP-7	Chromium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	25	12	1.24	NA	NA	NA	NA	NA	NA	8	0	2021-05-07 to 2024-11-15	0.594	NA	No detected results.	NA	NA
CCR-AP-8	Chromium, Total	No Trend	No Trend	No	22	20	0.813	0.061	0.714	28.6	14	0.00005	0.714	8	7	2021-05-12 to 2025-01-24	0.995	0.0714	0.902	9.8	2
CCR-AP-9	Chromium, Total	No Trend	Probably Decreasing	No	22	22	1.24	0.244	0.12	88	56	0.000613	0.12	8	8	2020-11-13 to 2024-11-14	0.635	-0.546	0.0809	91.9	-15
Pooled Background	Chromium, Total	Probably Increasing	No Trend	No	71	58	1.4	0.141	0.0856	91.4	347	0.000113	0.0856	8	5	2023-11-02 to 2024-11-15	1.19	-0.4	0.212	78.8	-11
CCR-AP-1R	Cobalt, Total	Increasing	Decreasing	No	24	24	0.829	0.335	0.0239	97.6	92	0.00114	0.0239	8	8	2021-11-22 to 2024-11-14	0.618	-0.714	0.0187	98.1	-20
CCR-AP-2	Cobalt, Total	Increasing	No Trend	No	24	24	0.717	0.514	0.000509	99.9	141	0.00156	0.000509	8	8	2021-11-22 to 2024-11-14	0.686	0.286	0.386	61.4	8
CCR-AP-3	Cobalt, Total	Decreasing	No Trend	No	22	22	0.255	-0.515	0.000877	99.9	-119	-0.000175	0.000877	8	8	2020-11-13 to 2024-05-07	0.318	0.286	0.386	61.4	8
CCR-AP-4R	Cobalt, Total	No Trend	Stable	Yes	23	23	0.593	0.127	0.413	58.7	32	0.0000645	0.413	8	8	2021-05-12 to 2024-11-14	0.61	0	1	0	0
CCR-AP-5	Cobalt, Total	Decreasing	No Trend	No	23	23	0.644	-0.487	0.00137	99.9	-122	-0.00028	0.00137	8	8	2021-05-12 to 2024-11-14	1.01	0.286	0.386	61.4	8
CCR-AP-6	Cobalt, Total	Stable	Stable	No	22	22	0.522	-0.252	0.108	89.2	-58	-0.00022	0.108	8	8	2020-11-13 to 2024-05-07	0.781	-0.4	0.212	78.8	-11
CCR-AP-7	Cobalt, Total	Decreasing	Stable	No	25	23	1.54	-0.419	0.00375	99.6	-125	-0.0000767	0.00375	8	6	2021-05-07 to 2024-11-15	0.507	-0.143	0.711	28.9	-4
CCR-AP-8	Cobalt, Total	Decreasing	Stable	No	23	23	0.482	-0.631	0.0000357	100	-157	-0.000467	0.0000357	8	8	2021-05-12 to 2025-01-24	0.641	-0.429	0.174	82.6	-12
CCR-AP-9	Cobalt, Total	No Trend	Decreasing	No	22	22	0.611	0.119	0.461	53.9	27	0.000125	0.461	8	8	2020-11-13 to 2024-11-14	0.486	-0.718	0.0219	97.8	-19
Pooled Background	Cobalt, Total	No Trend	No Trend	No	71	69	1.26	0.0619	0.45	55	153	0.0000333	0.45	8	7	2023-11-02 to 2024-11-15	1.28	-0.357	0.266	73.4	-10
CCR-AP-1R	Fluoride	Decreasing	Decreasing	No	24	24	0.218	-0.504	0.000767	99.9	-136	-0.00799	0.000767	8	8	2021-11-22 to 2024-11-14	0.25	-0.837	0.00609	99.4	-23
CCR-AP-2	Fluoride	Increasing	Decreasing	No	24	24	0.416	0.384	0.00976	99	105	0.0119	0.00976	8	8	2021-11-22 to 2024-11-14	0.327	-0.764	0.0126	98.7	-21
CCR-AP-3	Fluoride	Stable	Stable	No	22	21	0.474	-0.209	0.185	81.5	-48	-0.00933	0.185	8	8	2020-11-13 to 2024-05-07	0.403	-0.143	0.711	28.9	-4
CCR-AP-4R	Fluoride	Probably Increasing	Probably Increasing	No	23	22	0.395	0.294	0.0536	94.6	74	0.0075	0.0536	8	8	2021-05-12 to 2024-11-14	0.358	0.571	0.0635	93.7	16
CCR-AP-5	Fluoride	Increasing	Stable	No	23	23	0.348	0.446	0.00357	99.6	111	0.04	0.00357	8	8	2021-05-12 to 2024-11-14	0.345	-0.0741	0.9	10	-2
CCR-AP-6	Fluoride	Stable	Stable	No	22	22	0.265	-0.122	0.446	55.4	-28	-0.00467	0.446	8	8	2020-11-13 to 2024-05-07	0.318	-0.0364	1	0	-1
CCR-AP-7	Fluoride	Increasing	Stable	No	24	24	0.38	0.371	0.0129	98.7	101	0.0069	0.0129	8	8	2021-05-07 to 2024-11-15	0.303	-0.429	0.174	82.6	-12
CCR-AP-8	Fluoride	No Trend	No Trend	No	23	22	0.627	0.211	0.169	83.1	53	0.00778	0.169	8	8	2021-05-12 to 2025-01-24	0.694	0.214	0.536	46.4	6
CCR-AP-9	Fluoride	Stable	Stable	No	22	22	0.228	-0.0221	0.91	9	-5	0	0.91	8	8	2020-11-13 to 2024-11-14	0.258	-0.473	0.135	86.5	-13
Pooled Background	Fluoride	Stable	No Trend	No	70	70	0.338	-0.00377	0.968	3.2	-9	0	0.968	8	8	2023-11-02 to 2024-11-15	0.279	0.214	0.536	46.4	6
CCR-AP-1R	Lead, Total	Increasing	Decreasing	No	24	24	0.833	0.323	0.029	97.1	89	0.00117	0.029	8	8	2021-11-22 to 2024-11-14	0.607	-0.643	0.0354	96.5	-18
CCR-AP-2	Lead, Total	Increasing	No Trend	No	24	24	0.889	0.455	0.00208	99.8	125	0.00228	0.00208	8	8	2021-11-22 to 2024-11-14	0.76	0.286	0.386	61.4	8
CCR-AP-3	Lead, Total	Increasing	No Trend	No	22	18	1.81	0.364	0.0203	98	83	0.0000267	0.0203	8	7	2020-11-13 to 2024-05-07	1.66	0.357	0.266	73.4	10
CCR-AP-4R	Lead, Total	No Trend	Stable	Yes	23	22	0.872	0.139	0.368	63.2	35	0.000123	0.368	8	7	2021-05-12 to 2024-11-14	0.799	-0.5	0.108	89.2	-14

Note:
Mann Kendall Trends are classified based on Aziz (2003) guidance. Mann Kendall test run on seasonally adjusted data if seasonal trend identified. Seasonal trends identified based on Kruskal Wallis test and time series plots, where n seasons = 4 and (Dec-Feb, Mar-May, Jun-Aug, Sept-Nov).

Secular Trend Evaluation for All Data												Secular Trend Evaluation for Recent Data (subset of 8 most recent data points)									
Mann Kendall Trends				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)								Thiel-Sen Test (R programming, package = trend, version = 1.1.6, function = sens.slope, non-detects substituted by 0.5*reporting limit)		Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)							
Location	Constituent	Trends, All Data	Trends, Recent Data	Seasonal Mann Kendall Used	n	n, detected results	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (\$)	Sen Slope (mg/L per year)	p-value	n	n, detected results	recent data date range	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (\$)
CCR-AP-5	Lead, Total	Not Evaluated - Majority of data (>50%) non-detect.	No Trend	No	23	9	2.21	NA	NA	NA	NA	NA	NA	8	7	2021-05-12 to 2024-11-14	1.69	0.357	0.266	73.4	10
CCR-AP-6	Lead, Total	No Trend	No Trend	No	22	22	1	-0.121	0.446	55.4	-28	-0.000167	0.446	8	8	2020-11-13 to 2024-05-07	1.71	-0.0714	0.902	9.8	-2
CCR-AP-7	Lead, Total	Decreasing	Not Evaluated - Majority of data (>50%) non-detect.	No	25	14	1.69	-0.309	0.042	95.8	-85	-0.0000319	0.042	8	2	2021-05-07 to 2024-11-15	0.648	NA	NA	NA	NA
CCR-AP-8	Lead, Total	No Trend	No Trend	No	23	22	0.802	0.2	0.195	80.5	50	0.00004	0.195	8	7	2021-05-12 to 2025-01-24	0.829	0.143	0.711	28.9	4
CCR-AP-9	Lead, Total	No Trend	Decreasing	No	22	22	0.744	0.157	0.323	67.7	36	0.00032	0.323	8	8	2020-11-13 to 2024-11-14	0.602	-0.714	0.0187	98.1	-20
Pooled Background	Lead, Total	No Trend	No Trend	No	71	60	1.34	0.0676	0.412	58.8	166	0.0000312	0.412	8	5	2023-11-02 to 2024-11-15	1.32	-0.4	0.212	78.8	-11
CCR-AP-1R	Lithium, Total	Probably Increasing	Probably Decreasing	No	24	24	0.584	0.256	0.0863	91.4	70	0.00224	0.0863	8	8	2021-11-22 to 2024-11-14	0.389	-0.546	0.0809	91.9	-15
CCR-AP-2	Lithium, Total	No Trend	No Trend	No	24	19	0.775	0.239	0.111	88.9	65	0.00138	0.111	8	8	2021-11-22 to 2024-11-14	0.753	0.429	0.174	82.6	12
CCR-AP-3	Lithium, Total	Not Evaluated - Majority of data (>50%) non-detect.	No Trend	No	22	4	0.949	NA	NA	NA	NA	NA	NA	8	4	2020-11-13 to 2024-05-07	0.258	0.0806	0.894	10.6	2
CCR-AP-4R	Lithium, Total	Stable	No Trend	No	23	17	0.746	-0.143	0.364	63.6	-35	-0.000232	0.364	8	7	2021-05-12 to 2024-11-14	0.838	0.286	0.386	61.4	8
CCR-AP-5	Lithium, Total	Decreasing	No Trend	No	23	23	0.45	-0.647	0.0000204	100	-162	-0.00492	0.0000204	8	8	2021-05-12 to 2024-11-14	0.483	0.5	0.108	89.2	14
CCR-AP-6	Lithium, Total	Decreasing	No Trend	No	22	11	1.37	-0.639	0.000065	100	-140	-0.00127	0.000065	8	5	2020-11-13 to 2024-05-07	1.05	0.0364	1	0	1
CCR-AP-7	Lithium, Total	Decreasing	No Trend	No	25	25	0.5	-0.417	0.00495	99.5	-120	-0.000167	0.00495	8	8	2021-05-07 to 2024-11-15	0.164	0.4	0.212	78.8	11
CCR-AP-8	Lithium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Majority of data (>50%) non-detect.	No	23	6	0.89	NA	NA	NA	NA	NA	NA	8	2	2021-05-12 to 2025-01-24	0.407	NA	NA	NA	NA
CCR-AP-9	Lithium, Total	No Trend	Probably Decreasing	No	22	22	0.421	0.197	0.214	78.6	45	0.000389	0.214	8	8	2020-11-13 to 2024-11-14	0.237	-0.571	0.0635	93.7	-16
Pooled Background	Lithium, Total	No Trend	Stable	No	71	71	0.921	0.0426	0.605	39.5	105	0.0000478	0.605	8	8	2023-11-02 to 2024-11-15	0.911	-0.327	0.319	68.1	-9
CCR-AP-1R	Mercury, Total	Not Evaluated - No detected results.	Not Evaluated - No detected results.	No	23	0	1.25	NA	No detected results.	NA	NA	NA	No detected results.	8	0	2021-11-22 to 2024-11-14	0.505	NA	No detected results.	NA	NA
CCR-AP-2	Mercury, Total	Not Evaluated - Majority of data (>50%) non-detect.	No Trend	No	23	9	0.848	NA	NA	NA	NA	NA	NA	8	6	2021-11-22 to 2024-11-14	0.792	0.109	0.803	19.7	3
CCR-AP-3	Mercury, Total	Not Evaluated - No detected results.	Not Evaluated - No detected results.	No	21	0	0.306	NA	No detected results.	NA	NA	NA	No detected results.	8	0	2020-11-13 to 2024-05-07	0.447	NA	No detected results.	NA	NA
CCR-AP-4R	Mercury, Total	Not Evaluated - No detected results.	Not Evaluated - No detected results.	No	22	0	0.337	NA	No detected results.	NA	NA	NA	No detected results.	8	0	2021-05-12 to 2024-11-14	0.447	NA	No detected results.	NA	NA
CCR-AP-5	Mercury, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Majority of data (>50%) non-detect.	No	22	3	1.66	NA	NA	NA	NA	NA	NA	8	3	2021-05-12 to 2024-11-14	1.33	NA	NA	NA	NA
CCR-AP-6	Mercury, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Majority of data (>50%) non-detect.	No	21	2	0.593	NA	NA	NA	NA	NA	NA	8	2	2020-11-13 to 2024-05-07	0.676	NA	NA	NA	NA
CCR-AP-7	Mercury, Total	Not Evaluated - Only one detected result.	Not Evaluated - Only one detected result.	No	22	1	0.475	NA	NA	NA	NA	NA	NA	8	1	2021-05-07 to 2024-11-15	0.599	NA	NA	NA	NA
CCR-AP-8	Mercury, Total	Not Evaluated - Only one detected result.	Not Evaluated - Only one detected result.	No	22	1	0.4	NA	NA	NA	NA	NA	NA	8	1	2021-05-12 to 2025-01-24	0.517	NA	NA	NA	NA
CCR-AP-9	Mercury, Total	Not Evaluated - No detected results.	Not Evaluated - No detected results.	No	21	0	0	NA	No detected results.	NA	NA	NA	No detected results.	8	0	2020-11-13 to 2024-11-14	0	NA	No detected results.	NA	NA
Pooled Background	Mercury, Total	Not Evaluated - Only one detected result.	Not Evaluated - Only one detected result.	No	66	1	0.945	NA	NA	NA	NA	NA	NA	8	1	2023-11-02 to 2024-11-15	0.559	NA	NA	NA	NA
CCR-AP-1R	Molybdenum, Total	Stable	Probably Decreasing	No	24	24	0.439	-0.173	0.252	74.8	-47	-0.0001	0.252	8	8	2021-11-22 to 2024-11-14	0.664	-0.571	0.0635	93.7	-16
CCR-AP-2	Molybdenum, Total	Increasing	No Trend	No	24	23	0.574	0.55	0.000195	100	151	0.000281	0.000195	8	7	2021-11-22 to 2024-11-14	0.409	0.143	0.711	28.9	4
CCR-AP-3	Molybdenum, Total	Decreasing	No Trend	No	22	22	0.345	-0.446	0.00494	99.5	-100	-0.000262	0.00494	8	8	2020-11-13 to 2024-05-07	0.57	0.214	0.536	46.4	6
CCR-AP-4R	Molybdenum, Total	Increasing	No Trend	No	23	20	1.07	0.438	0.0042	99.6	109	0.000186	0.0042	8	6	2021-05-12 to 2024-11-14	0.791	0.327	0.319	68.1	9
CCR-AP-5	Molybdenum, Total	Decreasing	No Trend	No	23	23	0.407	-0.45	0.00351	99.6	-111	-0.0106	0.00351	8	8	2021-05-12 to 2024-11-14	0.492	0.371	0.258	74.2	10
CCR-AP-6	Molybdenum, Total	No Trend	No Trend	No	22	22	0.262	0.0398	0.821	17.9	9	0	0.821	8	8	2020-11-13 to 2024-05-07	0.383	0.143	0.711	28.9	4
CCR-AP-7	Molybdenum, Total	Decreasing	Stable	No	25	24	0.866	-0.698	0.00000143	100	-207	-0.000215	0.00000143	8	7	2021-05-07 to 2024-11-15	0.274	-0.4	0.212	78.8	-11
CCR-AP-8	Molybdenum, Total	Stable	Stable	No	23	23	0.391	-0.149	0.35	65	-36	-0.000111	0.35	8	8	2021-05-12 to 2025-01-24	0.607	-0.357	0.266	73.4	-10
CCR-AP-9	Molybdenum, Total	Decreasing	Decreasing	No	22	20	0.86	-0.561	0.000304	100	-129	-0.0003	0.000304	8	6	2020-11-13 to 2024-11-14	1.47	-0.618	0.0461	95.4	-17
Pooled Background	Molybdenum, Total	Decreasing	Stable	No	71	68	0.76	-0.312	0.000132	100	-771	-0.0000764	0.000132	8	7	2023-11-02 to 2024-11-15	0.639	-0.4	0.212	78.8	-11
CCR-AP-1R	Radium-226 & 228	No Trend	Stable	No	22	22	0.694	0.16	0.31	69	37	0.0767	0.31	8	8	2021-05-13 to 2024-12-19	0.684	0	1	0	0

Note:

Mann Kendall Trends are classified based on Aziz (2003) guidance. Mann Kendall test run on seasonally adjusted data if seasonal trend identified. Seasonal trends identified based on Kruskal Wallis test and time series plots, where n seasons = 4 and (Dec-Feb, Mar-May, Jun-Aug, Sept-Nov).

Secular Trend Evaluation for All Data												Secular Trend Evaluation for Recent Data (subset of 8 most recent data points)									
Mann Kendall Trends				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)								Thiel-Sen Test (R programming, package = trend, version = 1.1.6, function = sens.slope, non-detects substituted by 0.5*reporting limit)				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)					
Location	Constituent	Trends, All Data	Trends, Recent Data	Seasonal Mann Kendall Used	n	n, detected results	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (\$)	Sen Slope (mg/L per year)	p-value	n	n, detected results	recent data date range	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (\$)
CCR-AP-2	Radium-226 & 228	No Trend	Stable	No	22	22	0.661	0.0649	0.693	30.7	15	0.015	0.693	8	8	2021-05-12 to 2024-12-19	0.654	-0.0714	0.902	9.8	-2
CCR-AP-3	Radium-226 & 228	No Trend	No Trend	No	20	20	0.652	0.0211	0.922	7.8	4	0.00597	0.922	8	8	2020-11-13 to 2024-05-07	0.733	0.0714	0.902	9.8	2
CCR-AP-4R	Radium-226 & 228	No Trend	No Trend	No	21	20	1.72	-0.105	0.526	47.4	-22	-0.028	0.526	8	7	2021-05-12 to 2024-12-19	1.74	-0.214	0.536	46.4	-6
CCR-AP-5	Radium-226 & 228	No Trend	Stable	No	21	21	1.13	0.0571	0.74	26	12	0.0136	0.74	8	8	2021-05-12 to 2024-11-14	0.862	0	1	0	0
CCR-AP-6	Radium-226 & 228	Stable	Stable	No	20	19	0.929	0	1	0	0	-0.000548	1	8	7	2020-11-13 to 2024-05-07	0.621	0	1	0	0
CCR-AP-7	Radium-226 & 228	Stable	No Trend	No	22	22	0.52	-0.0996	0.535	46.5	-23	-0.0115	0.535	8	8	2021-05-07 to 2024-11-15	0.421	0.429	0.174	82.6	12
CCR-AP-8	Radium-226 & 228	Stable	Stable	No	20	19	0.498	-0.221	0.183	81.7	-42	-0.0362	0.183	8	7	2021-05-12 to 2025-01-24	0.641	-0.214	0.536	46.4	-6
CCR-AP-9	Radium-226 & 228	Increasing	No Trend	No	20	20	0.754	0.385	0.0194	98.1	73	0.2	0.0194	8	8	2020-11-13 to 2024-11-14	0.605	0.255	0.454	54.6	7
Pooled Background	Radium-226 & 228	No Trend	Stable	No	64	64	0.965	0.0958	0.266	73.4	193	0.012	0.266	8	8	2023-11-06 to 2024-12-19	0.961	-0.4	0.212	78.8	-11
CCR-AP-1R	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Stable	No	24	11	1.3	NA	NA	NA	NA	NA	NA	8	6	2021-11-22 to 2024-11-14	0.472	-0.296	0.379	62.1	-8
CCR-AP-2	Selenium, Total	Increasing	No Trend	No	24	16	1.15	0.299	0.048	95.2	80	0.0000877	0.048	8	6	2021-11-22 to 2024-11-14	0.89	0.255	0.454	54.6	7
CCR-AP-3	Selenium, Total	No Trend	No Trend	No	22	21	0.545	0.196	0.23	77	43	0.0000111	0.23	8	8	2020-11-13 to 2024-05-07	0.224	0.0772	0.898	10.2	2
CCR-AP-4R	Selenium, Total	No Trend	No Trend	No	23	12	1.8	0.25	0.128	87.2	55	0	0.128	8	4	2021-05-12 to 2024-11-14	0.242	0.0412	1	0	1
CCR-AP-5	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect.	No Trend	No	23	8	1.28	NA	NA	NA	NA	NA	NA	8	6	2021-05-12 to 2024-11-14	1.2	0.182	0.618	38.2	5
CCR-AP-6	Selenium, Total	No Trend	Stable	No	22	17	0.965	0.143	0.378	62.2	32	0.00002	0.378	8	6	2020-11-13 to 2024-05-07	0.373	-0.0364	1	0	-1
CCR-AP-7	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	23	3	0.245	NA	NA	NA	NA	NA	NA	8	0	2021-05-07 to 2024-11-15	0	NA	No detected results.	NA	NA
CCR-AP-8	Selenium, Total	Stable	Stable	No	23	20	0.562	-0.0122	0.958	4.2	-3	0	0.958	8	8	2021-05-12 to 2025-01-24	0.584	-0.143	0.711	28.9	-4
CCR-AP-9	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Only one detected result.	No	22	6	1.17	NA	NA	NA	NA	NA	NA	8	1	2020-11-13 to 2024-11-14	1.57	NA	NA	NA	NA
Pooled Background	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Majority of data (>50%) non-detect.	No	69	20	1.31	NA	NA	NA	NA	NA	NA	8	2	2023-11-02 to 2024-11-15	0.347	NA	NA	NA	NA
CCR-AP-1R	Thallium, Total	Increasing	No Trend	No	24	17	0.892	0.33	0.0281	97.2	89	0.0000262	0.0281	8	5	2021-11-22 to 2024-11-14	0.329	0.327	0.319	68.1	9
CCR-AP-2	Thallium, Total	Increasing	No Trend	No	24	20	1.52	0.552	0.000209	100	150	0.0000461	0.000209	8	7	2021-11-22 to 2024-11-14	0.431	0.222	0.53	47	6
CCR-AP-3	Thallium, Total	Not Evaluated - Only one detected result.	Not Evaluated - No detected results.	No	22	1	0.277	NA	NA	NA	NA	NA	NA	8	0	2020-11-13 to 2024-05-07	0.314	NA	No detected results.	NA	NA
CCR-AP-4R	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Majority of data (>50%) non-detect.	No	23	10	1.06	NA	NA	NA	NA	NA	NA	8	2	2021-05-12 to 2024-11-14	0.342	NA	NA	NA	NA
CCR-AP-5	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Probably Increasing	No	23	7	1.54	NA	NA	NA	NA	NA	NA	8	4	2021-05-12 to 2024-11-14	0.579	0.564	0.0842	91.6	14
CCR-AP-6	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	22	8	1.06	NA	NA	NA	NA	NA	NA	8	0	2020-11-13 to 2024-05-07	0.314	NA	No detected results.	NA	NA
CCR-AP-7	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	25	4	0.38	NA	NA	NA	NA	NA	NA	8	0	2021-05-07 to 2024-11-15	0.314	NA	No detected results.	NA	NA
CCR-AP-8	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	23	5	0.457	NA	NA	NA	NA	NA	NA	8	0	2021-05-12 to 2025-01-24	0.314	NA	No detected results.	NA	NA
CCR-AP-9	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - No detected results.	No	22	9	1.52	NA	NA	NA	NA	NA	NA	8	0	2020-11-13 to 2024-11-14	1.5	NA	No detected results.	NA	NA
Pooled Background	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect.	Not Evaluated - Only one detected result.	No	71	30	1.13	NA	NA	NA	NA	NA	NA	8	1	2023-11-02 to 2024-11-15	0.363	NA	NA	NA	NA

Note:

Mann Kendall Trends are classified based on Aziz (2003) guidance. Mann Kendall test run on seasonally adjusted data if seasonal trend identified. Seasonal trends identified based on Kruskal Wallis test and time series plots, where n seasons = 4 and (Dec-Feb, Mar-May, Jun-Aug, Sept-Nov).

Table A-5. Upper Tolerance Limits (UTLs) & Updated Groundwater Protection Standards (GWPS)

Constituent	Units	Interwell Background Data Characterization [a]												Groundwater Protection Standard (GWPS) Determination					UTL Calculation Details		
		n	n, non-detects	max reporting limit	max detected value	mean	median	min sample date	max sample date	standard deviation	coefficient of variation	Mann Kendall trend	normalizing data transformation (if any)	UTL	UTL Result Detection Status [b]	MCL/RL	GWPS	GWPS Source	UTL calculation method	UTL calculation details	Minimum Coverage (%)
Antimony, Total	mg/L	68	33	0.02	0.0079	0.00317	0.002	2016-06-10	2024-05-10	0.00465	1.47	No Trend	NA - Original Data	0.02	No	0.006	0.02	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Barium, Total	mg/L	68	0	NA	0.72	0.212	0.165	2016-06-10	2024-05-10	0.13	0.615	Probably Increasing	NA - Original Data	0.72	Yes	2	2	MCL/RL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Beryllium, Total	mg/L	68	19	0.01	0.0066	0.0016	0.001	2016-06-10	2024-05-10	0.00188	1.17	Increasing	NA - Original Data	0.01	No	0.004	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Cadmium, Total	mg/L	68	45	0.01	0.00087	0.00156	0.001	2016-06-10	2024-05-10	0.00243	1.56	No Trend	NA - Original Data	0.01	No	0.005	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Chromium, Total	mg/L	68	12	0.01	0.16	0.0281	0.012	2016-06-10	2024-05-10	0.0385	1.37	Increasing	NA - Original Data	0.16	Yes	0.1	0.16	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Cobalt, Total	mg/L	68	2	0.002	0.081	0.0158	0.0098	2016-06-10	2024-05-10	0.0197	1.24	No Trend	NA - Original Data	0.081	Yes	0.006	0.081	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Fluoride	mg/L	67	0	NA	0.81	0.387	0.36	2016-06-10	2024-05-10	0.13	0.335	No Trend	NA - Original Data	0.646	NA	4	4	MCL/RL	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)	Background mean + K * Background Standard Deviation	NA
Lead, Total	mg/L	68	10	0.003	0.094	0.0163	0.0085	2016-06-10	2024-05-10	0.0215	1.32	No Trend	NA - Original Data	0.094	Yes	0.015	0.094	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Lithium, Total	mg/L	68	0	NA	0.23	0.0502	0.0385	2016-06-10	2024-05-10	0.0464	0.924	No Trend	NA - Original Data	0.23	Yes	0.04	0.23	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Mercury, Total	mg/L	63	63	0.002	NA	0.000243	0.0002	2016-06-10	2024-05-10	0.000234	0.963	All non-detect results.	NA - Original Data	0.002	No	0.002	0.002	BTV = MCL/RL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.4
Molybdenum, Total	mg/L	68	3	0.05	0.023	0.00675	0.0056	2016-06-10	2024-05-10	0.0067	0.993	Decreasing	NA - Original Data	0.05	No	0.1	0.1	MCL/RL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7
Radium-226 & 228	pCi/L	61	0	NA	14.4	3.12	1.93	2016-06-10	2024-05-10	3.03	0.971	No Trend	NA - Original Data	14.4	Yes	5	14.4	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.2
Selenium, Total	mg/L	66	47	0.05	0.025	0.00815	0.005	2016-06-10	2024-05-10	0.0111	1.37	No Trend	NA - Original Data	0.05	No	0.05	0.05	BTV = MCL/RL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.6
Thallium, Total	mg/L	68	39	0.01	0.0027	0.00107	0.001	2016-06-10	2024-05-10	0.0014	1.31	Increasing	NA - Original Data	0.01	No	0.002	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.7

Note:

[a] Interwell background datasets are analyte specific and include data collected from background wells (CCR-AP-7 and WAP-1). Interwell background datasets were re-tested for outliers, secular trends, and data normality. No outliers were removed.

[b] In some cases, the maximum value selected as the UTL is a non-detect result with an elevated reporting limit.

Units = mg/L, milligrams per liter. pCi/L = picocuries per liter.

Table A-5. Intrawell Arsenic Prediction Limit Calculations

Location	Constituent	Units	Baseline Distribution [a]	Prediction Interval Calculation	Baseline Data Characterization [a]										Prediction Limits		Parametric UPL Calculation Statistics			Non-Parametric UPL Calculation Statistics	
					min baseline sample date	compliance sample	n	n, non-detects	max	mean	standard deviation	Trend (Baseline Data)	degrees of freedom	future samples (M)	Prediction Limit Calculation Method	UPL	confidence level (%)	t (percentile of student's t-test)	t quantile	actual confidence level (%)	false positive rate (%)
CCR-AP-2	Arsenic, Total	mg/L	Normal (Baseline, 95% Confidence)	Parametric	2016-06-10	2023-07-28	21	0	0.048	0.0143	0.0119	Increasing	20	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.0526	99	0.9975	3.153	NA	NA
CCR-AP-3	Arsenic, Total	mg/L	Normal (Baseline, 95% Confidence)	Parametric	2016-06-10	2023-05-23	20	0	0.095	0.0759	0.00848	Increasing	19	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.103	99	0.9975	3.174	NA	NA
CCR-AP-4R	Arsenic, Total	mg/L	Normal (Baseline, In Trans, 95% Confidence)	Parametric (ln Transformed Data)	2016-06-10	2023-05-23	20	0	0.33	0.112	0.081	Increasing	19	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.707	99	0.9975	3.174	NA	NA
CCR-AP-5	Arsenic, Total	mg/L	Not normal (Baseline, In Trans, 95% Confidence)	Non-Parametric	2016-06-10	2023-05-25	19	2	0.024	0.00355	0.00584	Increasing	18	4	Non-Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.3.1)	0.024	NA	NA	NA	82.6	17.4
CCR-AP-6	Arsenic, Total	mg/L	Normal (Baseline, 95% Confidence)	Parametric	2016-06-10	2023-05-23	20	0	0.12	0.0942	0.0221	Increasing	19	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.166	99	0.9975	3.174	NA	NA
CCR-AP-8	Arsenic, Total	mg/L	Normal (Baseline, 95% Confidence)	Parametric	2017-03-09	2023-05-25	20	0	0.12	0.091	0.0216	Increasing	19	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.161	99	0.9975	3.174	NA	NA

Note:
[a] 'Baseline' data refer to the entire statistical dataset, except the most recent data point (May 2023). The most recent data points is considered a 'compliance' or 'recent' sample. Baseline datasets were re-tested for outliers, secular trends, and data normality. No outliers were removed. Prediction limits calculated using simple replacement with the reporting limit for non-detect results.

Table A-6. Confidence Intervals

Confidence Interval (CI) Dataset									CI Calculation [a]			SSL Confirmation		Non-Parametric CI Statistics (if applicable)	
Location	Constituent	Units	n	max (Rank n)	min (Rank 1)	median	mean	standard deviation	CI calculation method	degrees of freedom	95% Confidence LCL	GWPS	LCL > GWPS?	bootstrap iterations	bootstrap median
CCR-AP-5	Molybdenum, Total	mg/L	23	0.53	0.046	0.33	0.289	0.12	Calculation of the Confidence Interval Around the Normal Mean (Parametric)	22	0.238	0.1	Yes	NA	NA

Note:
Confidence intervals are calculated for analyte/well pairs with GWPS exceedances in the sampling event dataset.
[a] The 95% lower confidence level (LCL) is compared to the Groundwater Protection Standard (GWPS) to confirm a statistically significant level (SSL). The 99% confidence interval is also shown for purposes of comparison. UCL = upper confidence level.

Table A-8. Groundwater Protection Standard (GWPS) Comparison Table

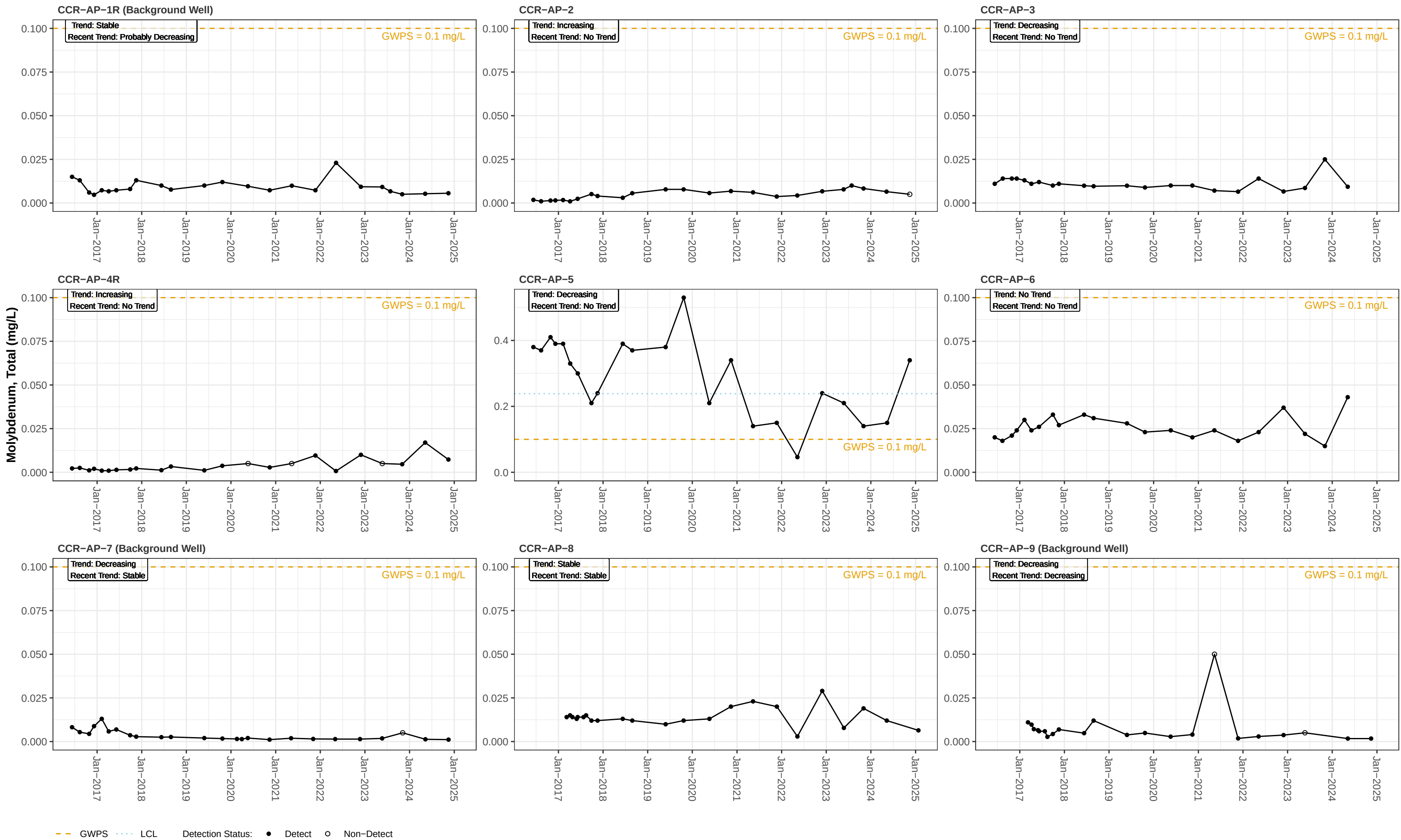
Location	Constituent	Units	Sample Date	Sample Result	Background Threshold Value (BTV)	BTV Type	GWPS	GWPS Exceedance	LCL	SSL Confirmed
CCR-AP-5	Molybdenum, Total	mg/L	2024-11-14	0.34	0.05	Interwell UTL	0.1	Yes	0.238	Yes
CCR-AP-2	Antimony, Total	mg/L	2024-11-14	0.002 U	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-4R	Antimony, Total	mg/L	2024-11-14	0.00096 J	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-5	Antimony, Total	mg/L	2024-11-14	0.002 U	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-8	Antimony, Total	mg/L	2025-01-24	0.002 U	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-2	Arsenic, Total	mg/L	2024-11-14	0.0021 J	0.0526	Intrawell UPL	0.0526	No	NA	No
CCR-AP-4R	Arsenic, Total	mg/L	2024-11-14	0.089	0.707	Intrawell UPL	0.707	No	NA	No
CCR-AP-5	Arsenic, Total	mg/L	2024-11-14	0.0013 J	0.024	Intrawell UPL	0.024	No	NA	No
CCR-AP-8	Arsenic, Total	mg/L	2025-01-24	0.076	0.161	Intrawell UPL	0.161	No	NA	No
CCR-AP-2	Barium, Total	mg/L	2024-11-14	0.045	0.72	Interwell UTL	2	No	NA	No
CCR-AP-4R	Barium, Total	mg/L	2024-11-14	0.52	0.72	Interwell UTL	2	No	NA	No
CCR-AP-5	Barium, Total	mg/L	2024-11-14	0.053	0.72	Interwell UTL	2	No	NA	No
CCR-AP-8	Barium, Total	mg/L	2025-01-24	0.37	0.72	Interwell UTL	2	No	NA	No
CCR-AP-2	Beryllium, Total	mg/L	2024-11-14	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-4R	Beryllium, Total	mg/L	2024-11-14	0.00099 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-5	Beryllium, Total	mg/L	2024-11-14	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-8	Beryllium, Total	mg/L	2025-01-24	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-2	Cadmium, Total	mg/L	2024-11-14	0.00011 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-4R	Cadmium, Total	mg/L	2024-11-14	0.00045 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-5	Cadmium, Total	mg/L	2024-11-14	0.0001 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-8	Cadmium, Total	mg/L	2025-01-24	0.00012 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-2	Chromium, Total	mg/L	2024-11-14	0.0024 J	0.16	Interwell UTL	0.16	No	NA	No
CCR-AP-4R	Chromium, Total	mg/L	2024-11-14	0.027	0.16	Interwell UTL	0.16	No	NA	No
CCR-AP-5	Chromium, Total	mg/L	2024-11-14	0.005 U	0.16	Interwell UTL	0.16	No	NA	No
CCR-AP-8	Chromium, Total	mg/L	2025-01-24	0.0041 J	0.16	Interwell UTL	0.16	No	NA	No
CCR-AP-2	Cobalt, Total	mg/L	2024-11-14	0.008	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-4R	Cobalt, Total	mg/L	2024-11-14	0.014	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-5	Cobalt, Total	mg/L	2024-11-14	0.0023	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-8	Cobalt, Total	mg/L	2025-01-24	0.0023	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-2	Fluoride	mg/L	2024-11-14	0.24	0.646	Interwell UTL	4	No	NA	No
CCR-AP-4R	Fluoride	mg/L	2024-11-14	0.89	0.646	Interwell UTL	4	No	NA	No
CCR-AP-5	Fluoride	mg/L	2024-11-14	1.7	0.646	Interwell UTL	4	No	NA	No
CCR-AP-8	Fluoride	mg/L	2025-01-24	0.52	0.646	Interwell UTL	4	No	NA	No
CCR-AP-2	Lead, Total	mg/L	2024-11-14	0.0013	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-4R	Lead, Total	mg/L	2024-11-14	0.019	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-5	Lead, Total	mg/L	2024-11-14	0.001 U	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-8	Lead, Total	mg/L	2025-01-24	0.0023	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-2	Lithium, Total	mg/L	2024-11-14	0.0038 J	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-4R	Lithium, Total	mg/L	2024-11-14	0.02	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-5	Lithium, Total	mg/L	2024-11-14	0.08	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-8	Lithium, Total	mg/L	2025-01-24	0.008 U	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-2	Mercury, Total	mg/L	2024-11-14	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-4R	Mercury, Total	mg/L	2024-11-14	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-5	Mercury, Total	mg/L	2024-11-14	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-8	Mercury, Total	mg/L	2025-01-24	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-2	Molybdenum, Total	mg/L	2024-11-14	0.005 U	0.05	Interwell UTL	0.1	No	NA	No
CCR-AP-4R	Molybdenum, Total	mg/L	2024-11-14	0.0073	0.05	Interwell UTL	0.1	No	NA	No
CCR-AP-8	Molybdenum, Total	mg/L	2025-01-24	0.0064	0.05	Interwell UTL	0.1	No	NA	No
CCR-AP-2	Radium-226 & 228	pCi/L	2024-12-19	1.97 J	14.4	Interwell UTL	14.4	No	NA	No
CCR-AP-4R	Radium-226 & 228	pCi/L	2024-12-19	0.221 U	14.4	Interwell UTL	14.4	No	NA	No
CCR-AP-5	Radium-226 & 228	pCi/L	2024-11-14	0.158 UJ	14.4	Interwell UTL	14.4	No	NA	No
CCR-AP-8	Radium-226 & 228	pCi/L	2025-01-24	0.419 UJ	14.4	Interwell UTL	14.4	No	NA	No
CCR-AP-2	Selenium, Total	mg/L	2024-11-14	0.005 U	0.05	Interwell UTL	0.05	No	NA	No
CCR-AP-4R	Selenium, Total	mg/L	2024-11-14	0.0018 J	0.05	Interwell UTL	0.05	No	NA	No
CCR-AP-5	Selenium, Total	mg/L	2024-11-14	0.005 U	0.05	Interwell UTL	0.05	No	NA	No

Background Threshold Values (BTVs) include Upper Threshold Limits (UTLs) calculated from pooled/interwell background data and Upper Prediction Limits (UPLs) for Arsenic calculated from intrawell data. Groundwater Protection Standard (GWPS) is the maximum value between the BTV and the Maximum Contaminant Level/Regional Screening Level (MCL/RSI). Lower Confidence Limit (LCL) calculated if the event sample result exceeds the GWPS. If the LCL is greater than the GWPS, a Statistically Significant Level (SSL) is confirmed.

Location	Constituent	Units	Sample Date	Sample Result	Background Threshold Value (BTV)	BTV Type	GWPS	GWPS Exceedance	LCL	SSL Confirmed
CCR-AP-8	Selenium, Total	mg/L	2025-01-24	0.0013 J	0.05	Interwell UTL	0.05	No	NA	No
CCR-AP-2	Thallium, Total	mg/L	2024-11-14	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-4R	Thallium, Total	mg/L	2024-11-14	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-5	Thallium, Total	mg/L	2024-11-14	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-8	Thallium, Total	mg/L	2025-01-24	0.001 U	0.01	Interwell UTL	0.01	No	NA	No

Background Threshold Values (BTVs) include Upper Threshold Limits (UTLs) calculated from pooled/interwell background data and Upper Prediction Limits (UPLs) for Arsenic calculated from intrawell data. Groundwater Protection Standard (GWPS) is the maximum value between the BTV and the Maximum Contaminant Level/Regional Screening Level (MCL/RSL). Lower Confidence Limit (LCL) calculated if the event sample result exceeds the GWPS. If the LCL is greater than the GWPS, a Statistically Significant Level (SSL) is confirmed.

Assessment Monitoring Trend Analysis for Molybdenum, Total



Notes: GWPS = Groundwater Protection Standard (max level between the MCL/RSI and UTL). LCL = lower confidence limit. If the LCL > GWPS, a statistically significant level is concluded.
*Recent data are considered the 8 most recent data points collected for each well/analyte.
Trend classifications are based on Aziz (2003) guidance for Mann Kendall trend test results.



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TECHNICAL MEMORANDUM

September 17, 2025
File No. 0129420-032

TO: Southern Indiana Gas and Electric Company

FROM: Haley & Aldrich, Inc.
Cassidy Sutherland, P.G., Senior Project Manager, Geologist
Steven F. Putrich, P.E., Project Principal

SUBJECT: Statistical Evaluation of the May 2025 Semi-annual Groundwater Assessment
Monitoring Data
Southern Indiana Gas and Electric Company
East Ash Pond
F.B. Culley Generating Station; Warrick County, Indiana

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 May 2025 semi-annual assessment monitoring event for the F.B. Culley Generating Station (FBC) East Ash Pond (EAP). Haley & Aldrich, Inc. (Haley & Aldrich) completed this statistical evaluation to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at statistically significant levels (SSL) greater than Groundwater Protection Standards (GWPS), consistent with the requirements in 40 CFR § 257.95.

Methods used during this statistical analysis are described in Haley & Aldrich's 2017 *Statistical Data Analysis Plan for the F.B. Culley Generating Station*. A summary of how applicable performance standards described in 40 CFR § 257.93 (g) were achieved include:

- 40 CFR § 257.93 (g) (1) - Data set distributions were evaluated using basic summary statistics, graphical methods including probability plots, and the Shapiro-Wilk Test for Normality. Data sets were also evaluated for statistical outliers using box plots and either Dixon's Q Test for Outliers or Rosner's Outlier Test depending on sample size. Outlier identification and data set distribution groups are summarized in Attachment A. For background limit calculations, parametric methods were used for normally distributed data sets and non-parametric methods were used for non-normally distributed data sets.
- 40 CFR § 257.93 (g) (2) – Not applicable
- 40 CFR § 257.93 (g) (3) – Not applicable

- 40 CFR § 257.93 (g) (4) – Levels of confidence and additional supporting information for the use of tolerance intervals and prediction limits are included in Attachment A.
- 40 CFR § 257.93 (g) (5) – Non-detect values were accounted for by simple substitution, where the reporting limit replaced the non-detect result. Non-detect values are identified and summarized in Attachment A.
- 40 CFR § 257.93 (g) (6) – Time series plots for groundwater monitoring wells included in this evaluation were reviewed to identify potential seasonal variability. Temporal trends were evaluated using the non-parametric Mann-Kendall Trend Test and Theil-Sen Estimator.

Data from the groundwater sampling event for the downgradient monitoring wells (CCR-AP-2 through CCR-AP-6 and CCR-AP-8) were compared to the GWPS established from the background dataset for the upgradient monitoring wells (CCR-AP-1R, CCR-AP-7, and CCR-AP-9) for detected Appendix IV constituents. The GWPS for each of the Appendix IV constituents has been set equal to the highest value among the maximum contaminant level (MCL), regional screening level (RSL), and background threshold value (BTV). The results of the assessment monitoring statistical evaluation are discussed below and provided in Attachment A.

Development of Groundwater Protection Standard

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR §257.93(f) (1-4)). Haley & Aldrich certified the tolerance limit (TL) as the statistical method used for developing BTVs on January 14, 2019. An alternate source demonstration was performed for arsenic on September 13, 2019, certifying the prediction limit (PL) as the statistical method for developing arsenic BTVs. As noted above, the GWPS for each of the Appendix IV constituents has been set equal to the highest value of the MCL, RSL, or BTV (either the TL or PL). The most recent groundwater sampling result from each compliance well was compared to the GWPS to determine if additional statistical testing is warranted.

STATISTICAL EVALUATION

BTVs are periodically updated per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009* (Unified Guidance). Prior to calculating BTVs, data were evaluated for outlier results, data distribution, and spatial and temporal variability. Potential outlier sample results that would warrant removal from the data set based on likely error in sampling or measurement were identified through statistical outlier using the outliers (version 0.15) R programming package and either the Dixon's or Rosner's Test for Outliers. Potential outliers were further evaluated by visual inspection of box plots and probability plots, and field forms and analytical laboratory reports were reviewed as necessary. No sample data were identified as outliers that warranted removal from the dataset.

Background data distributions were assessed using the stats (version 4.3.3) R programming package and either the Shapiro-Wilk or Shapiro-Francia Test for Normality. Data distributions were further evaluated by visual inspection of probability and distribution plots. Data distributions inform appropriate BTV calculation methods.

Background and downgradient data sets were evaluated for spatial and temporal variability by visual inspection of box plots and time series plots and using the Mann-Kendall Trend Tests (Kendall R programming package, version 2.2.1) and Theil-Sen Estimator (trend R programming package, version 1.1.6). Spatial and temporal variability in background data sets inform appropriate BTV calculation methods.

Note that the CCR unit is in assessment monitoring, so Appendix III (detection monitoring) constituents were not evaluated.

Interwell Background Evaluation

An interwell statistical evaluation was used to determine the TL and identify potential SSLs for detected Appendix IV constituents, except arsenic (Table 1). The interwell evaluation compares the most recent value from downgradient compliance wells to a background dataset composed of pooled upgradient well data. TLs were calculated from the pooled background well dataset utilizing R programming language and the EnvStats (version 2.8.1) and tolerance (version 2.0.0) packages. 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. Parametric TLs utilize normally distributed data or data normalized via a transformation of the 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.

Intrawell Background Evaluation for Arsenic

For arsenic, an intrawell statistical evaluation was used to determine the PL and identify potential SSLs. The intrawell evaluation compares the most recent data point from each downgradient compliance well to its well-specific background dataset, composed of data collected from the same well prior to the most recent sampling event. PLs were calculated from the well-specific background dataset utilizing R programming language and the stats (version 4.3.3) package. The PL procedure is one in which a concentration limit for each constituent at each downgradient well is established from the distribution of the background data, with a minimum 95 percent confidence level. The upper endpoint of a prediction interval is called the UPL. Depending on the data distribution, parametric or non-parametric PL procedures are used. Parametric PLs utilize normally distributed data or data normalized via a transformation of the 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 PL. Note that the PL accounts for future variability based on existing data, so it is possible for the PL to be greater than the maximum measured background concentration.

GWPS Comparison and LCL Calculations

The lower confidence limits (LCL) were calculated for any Appendix IV constituent measured in a downgradient well during the May 2025 sampling event at a concentration greater than the GWPS. 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. An SSL is indicated when the downgradient well/constituent-specific LCL is greater than the GWPS.

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

The sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the May 2025 assessment monitoring event were compared to their respective GWPS (Attachment A). LCLs were calculated where constituents were detected at concentrations greater than the GWPS. An SSL is indicated when the LCL is greater than the GWPS. SSLs are summarized in the table below. Based on previous compliance sampling events and statistical evaluations, interwell comparisons were used to evaluate constituents not subject to an Alternative Source Demonstration (ASD) in downgradient monitoring wells. Because a successful ASD was completed for arsenic, an intrawell statistical analysis was used to evaluate that constituent.

The results of the statistical analyses conducted for detected Appendix IV constituents confirm that molybdenum remains the only SSL downgradient of the EAP. As a result, the EAP will remain in Assessment Monitoring.

Table 1. Statistically Significant Level Summary – Appendix IV Constituents				
Location ID	Trend	Constituent	Newly Identified SSL	Concentration (mg/L)
CCR-AP-5	Decrease	Molybdenum	No	0.22
Notes: <i>mg/L= milligrams per liter</i>				

TREND SUMMARY

Mann Kendall trend analyses were performed on data sets from downgradient wells of sufficient sample size as described above. Results of the trend analysis are summarized in Table 2. Trends indicated for constituents identified as SSLs are summarized below:

- Molybdenum was determined to be increasing at monitoring well locations CCR-AP-2 and CCR-AP-4R. Analytical results at those locations are below the GWPS.
- Molybdenum was determined to be stable at upgradient location CCR-AP-1R and downgradient location CCR-AP-8. No trend established at CCR-AP-6.
- Molybdenum was determined to be decreasing at upgradient locations CCR-AP-7 and CCR-AP-9, along with downgradient locations CCR-AP-3 and CCR-AP-5.

Enclosure:

Table 2 – Trend Summary

Attachment A - Assessment Monitoring Statistical Analysis Summary

TABLES

Table 2. Trend Summary

Location	Chemical	Units	Identified Trends		Trend Analysis on All Available Data				Trend Analysis on Recent Data			
			Trend (All Data)	Trend (Recent Data)	Results, n	Detected Results, n	Max Concentration	Sen Slope (units per year)	*Results, n	*Detected Results, n	*Max Concentration	*Sen Slope (units per year)
CCR-AP-2	Arsenic, Total	mg/L	Increasing	Stable	25	25	0.048	0.00261	8	8	0.048	NA
CCR-AP-4R	Arsenic, Total	mg/L	Increasing	Stable	24	24	0.55	0.0147	8	8	0.55	NA
CCR-AP-5	Arsenic, Total	mg/L	Increasing	No Trend	23	21	0.024	0.000136	8	8	0.024	NA
CCR-AP-8	Arsenic, Total	mg/L	Increasing	Stable	24	24	0.12	0.00406	8	8	0.11	NA
CCR-AP-5	Barium, Total	mg/L	Increasing	Stable	24	24	0.2	0.00642	8	8	0.2	NA
CCR-AP-1R	Beryllium, Total	mg/L	Increasing	Decreasing	25	25	0.0066	0.000194	8	8	0.0053	-0.00119
CCR-AP-2	Beryllium, Total	mg/L	Increasing	Stable	25	24	0.0077	0.000364	8	7	0.0072	NA
CCR-AP-4R	Beryllium, Total	mg/L	Increasing	Stable	24	17	0.0017	5.83e-05	8	5	0.0017	NA
CCR-AP-2	Chromium, Total	mg/L	Increasing	No Trend	25	25	0.14	0.00918	8	8	0.14	NA
CCR-AP-1R	Cobalt, Total	mg/L	Increasing	Decreasing	25	25	0.081	0.00193	8	8	0.08	-0.0132
CCR-AP-2	Cobalt, Total	mg/L	Increasing	Stable	25	25	0.091	0.0039	8	8	0.091	NA
CCR-AP-2	Fluoride	mg/L	Increasing	Decreasing	25	25	0.69	0.027	8	8	0.63	-0.149
CCR-AP-4R	Fluoride	mg/L	Increasing	Increasing	24	23	0.89	0.023	8	8	0.89	0.109
CCR-AP-5	Fluoride	mg/L	Increasing	Stable	24	24	2.3	0.0905	8	8	2.3	NA
CCR-AP-7	Fluoride	mg/L	Increasing	Stable	25	25	0.72	0.0175	8	8	0.72	NA
CCR-AP-1R	Lead, Total	mg/L	Increasing	Probably Decreasing	25	25	0.094	0.0021	8	8	0.078	NA
CCR-AP-2	Lead, Total	mg/L	Increasing	Stable	25	25	0.1	0.00507	8	8	0.1	NA
CCR-AP-3	Lead, Total	mg/L	Increasing	No Trend	22	18	0.01	7.11e-05	8	7	0.01	NA
CCR-AP-2	Molybdenum, Total	mg/L	Increasing	Stable	25	24	0.01	0.000678	8	7	0.01	NA
CCR-AP-4R	Molybdenum, Total	mg/L	Increasing	No Trend	24	21	0.017	0.000544	8	7	0.017	NA
CCR-AP-9	Radium-226 & 228	pCi/L	Increasing	Stable	21	21	12.6	0.401	8	8	12.6	NA
CCR-AP-2	Thallium, Total	mg/L	Increasing	Stable	25	20	0.0076	0.000107	8	6	0.0013	NA
CCR-AP-1R	Antimony, Total	mg/L	No Trend	Decreasing	25	18	0.01	NA	8	7	0.0041	-0.00046
CCR-AP-2	Antimony, Total	mg/L	No Trend	Decreasing	25	14	0.01	NA	8	6	0.0079	-0.000468
CCR-AP-3	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	22	5	0.005	NA	8	3	0.005	NA
CCR-AP-4R	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	24	9	0.028	NA	8	6	0.028	NA
CCR-AP-5	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	24	6	0.01	NA	8	4	0.0047	NA
CCR-AP-6	Antimony, Total	mg/L	No Trend	No Trend	22	13	0.018	NA	8	6	0.018	NA
CCR-AP-7	Antimony, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	26	3	0.0025	NA	8	0	0.0025	NA
CCR-AP-8	Antimony, Total	mg/L	Stable	Stable	24	17	0.0046	NA	8	6	0.0046	NA
CCR-AP-9	Antimony, Total	mg/L	No Trend	Decreasing	23	16	0.01	NA	8	5	0.01	-0.000413
CCR-AP-1R	Arsenic, Total	mg/L	Probably Increasing	Decreasing	25	25	0.038	NA	8	8	0.034	-0.00476
CCR-AP-3	Arsenic, Total	mg/L	Probably Increasing	Stable	22	22	0.095	NA	8	8	0.095	NA
CCR-AP-6	Arsenic, Total	mg/L	Probably Increasing	Stable	22	22	0.12	NA	8	8	0.12	NA
CCR-AP-7	Arsenic, Total	mg/L	Decreasing	Stable	26	26	0.018	-0.000651	8	8	0.0055	NA
CCR-AP-9	Arsenic, Total	mg/L	No Trend	Stable	23	23	0.032	NA	8	8	0.015	NA
CCR-AP-1R	Barium, Total	mg/L	Probably Increasing	Stable	25	25	0.59	NA	8	8	0.35	NA
CCR-AP-2	Barium, Total	mg/L	Probably Increasing	No Trend	25	25	0.83	NA	8	8	0.83	NA
CCR-AP-3	Barium, Total	mg/L	No Trend	Stable	22	22	0.49	NA	8	8	0.49	NA
CCR-AP-4R	Barium, Total	mg/L	No Trend	Stable	24	24	1.7	NA	8	8	1.7	NA
CCR-AP-6	Barium, Total	mg/L	Stable	Decreasing	22	22	0.69	NA	8	8	0.69	-0.0336
CCR-AP-7	Barium, Total	mg/L	Decreasing	No Trend	26	26	0.19	-0.00412	8	8	0.12	NA
CCR-AP-8	Barium, Total	mg/L	Decreasing	Stable	24	24	0.68	-0.0342	8	8	0.5	NA
CCR-AP-9	Barium, Total	mg/L	No Trend	Stable	23	23	0.72	NA	8	8	0.39	NA
CCR-AP-3	Beryllium, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.00056	NA	8	1	0.00056	NA
CCR-AP-5	Beryllium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	24	6	0.005	NA	8	1	0.0016	NA
CCR-AP-6	Beryllium, Total	mg/L	No Trend	Not Evaluated - Majority of data (>50%) non-detect	22	13	0.0025	NA	8	2	0.00096	NA
CCR-AP-7	Beryllium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	26	7	0.00075	NA	8	0	0.0005	NA
CCR-AP-8	Beryllium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	24	7	0.00061	NA	8	1	0.00061	NA
CCR-AP-9	Beryllium, Total	mg/L	No Trend	No Trend	23	20	0.005	NA	8	5	0.005	NA
CCR-AP-1R	Cadmium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	25	12	0.005	NA	8	7	0.0005	NA

Abbreviations: CF = confidence factor; CV = coefficient of variation; mg/L = milligrams per liter; pCi/L = picocuries per liter.

Notes: *Recent data defined as the 8 most recent data points. MK = Mann Kendall Trend Test. Secular Trend Classification based on Aziz (2003) guidance and MK Results. Sen slope only calculated for increasing or decreasing trends as indicated by Mann-Kendall trend test results.

Additional information about trend analysis provided in Attachment A.

Location	Chemical	Units	Identified Trends		Trend Analysis on All Available Data				Trend Analysis on Recent Data			
			Trend (All Data)	Trend (Recent Data)	Results, n	Detected Results, n	Max Concentration	Sen Slope (units per year)	*Results, n	*Detected Results, n	*Max Concentration	*Sen Slope (units per year)
CCR-AP-2	Cadmium, Total	mg/L	No Trend	No Trend	25	22	0.0066	NA	8	8	0.003	NA
CCR-AP-3	Cadmium, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.0005	NA	8	1	0.0005	NA
CCR-AP-4R	Cadmium, Total	mg/L	No Trend	Stable	24	12	0.0025	NA	8	5	0.00079	NA
CCR-AP-5	Cadmium, Total	mg/L	No Trend	Stable	24	18	0.005	NA	8	5	0.0014	NA
CCR-AP-6	Cadmium, Total	mg/L	No Trend	Not Evaluated - Majority of data (>50%) non-detect	22	13	0.0011	NA	8	2	0.0011	NA
CCR-AP-7	Cadmium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	26	3	0.0005	NA	8	1	0.0005	NA
CCR-AP-8	Cadmium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	24	8	0.00064	NA	8	4	0.00064	NA
CCR-AP-9	Cadmium, Total	mg/L	Probably Increasing	Not Evaluated - Majority of data (>50%) non-detect	23	13	0.005	NA	8	3	0.005	NA
CCR-AP-1R	Chromium, Total	mg/L	Probably Increasing	Decreasing	25	25	0.16	NA	8	8	0.11	-0.026
CCR-AP-3	Chromium, Total	mg/L	Probably Increasing	No Trend	22	18	0.014	NA	8	7	0.014	NA
CCR-AP-4R	Chromium, Total	mg/L	No Trend	Stable	23	20	0.058	NA	8	7	0.058	NA
CCR-AP-5	Chromium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	24	6	0.056	NA	8	4	0.056	NA
CCR-AP-6	Chromium, Total	mg/L	Stable	No Trend	22	21	0.043	NA	8	7	0.043	NA
CCR-AP-7	Chromium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	26	12	0.019	NA	8	0	0.005	NA
CCR-AP-8	Chromium, Total	mg/L	No Trend	No Trend	23	21	0.015	NA	8	7	0.015	NA
CCR-AP-9	Chromium, Total	mg/L	Probably Increasing	Stable	23	23	0.15	NA	8	8	0.045	NA
CCR-AP-3	Cobalt, Total	mg/L	Decreasing	No Trend	22	22	0.0094	-0.000406	8	8	0.0092	NA
CCR-AP-4R	Cobalt, Total	mg/L	No Trend	Stable	24	24	0.021	NA	8	8	0.021	NA
CCR-AP-5	Cobalt, Total	mg/L	Decreasing	No Trend	24	24	0.01	-0.000602	8	8	0.01	NA
CCR-AP-6	Cobalt, Total	mg/L	Stable	Stable	22	22	0.019	NA	8	8	0.019	NA
CCR-AP-7	Cobalt, Total	mg/L	Decreasing	Stable	26	24	0.015	-0.000193	8	6	0.001	NA
CCR-AP-8	Cobalt, Total	mg/L	Decreasing	Stable	24	24	0.017	-0.00114	8	8	0.012	NA
CCR-AP-9	Cobalt, Total	mg/L	No Trend	Stable	23	23	0.047	NA	8	8	0.019	NA
CCR-AP-1R	Fluoride	mg/L	Decreasing	Decreasing	25	25	0.81	-0.0212	8	8	0.48	-0.0666
CCR-AP-3	Fluoride	mg/L	Stable	Stable	22	21	0.93	NA	8	8	0.57	NA
CCR-AP-6	Fluoride	mg/L	Stable	Stable	22	22	0.69	NA	8	8	0.69	NA
CCR-AP-8	Fluoride	mg/L	Probably Increasing	No Trend	24	23	1.1	NA	8	8	1.1	NA
CCR-AP-9	Fluoride	mg/L	Stable	Stable	23	23	0.42	NA	8	8	0.39	NA
CCR-AP-4R	Lead, Total	mg/L	No Trend	Stable	24	23	0.047	NA	8	7	0.047	NA
CCR-AP-5	Lead, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	24	9	0.02	NA	8	6	0.02	NA
CCR-AP-6	Lead, Total	mg/L	No Trend	No Trend	22	22	0.041	NA	8	8	0.041	NA
CCR-AP-7	Lead, Total	mg/L	Decreasing	Not Evaluated - Majority of data (>50%) non-detect	26	14	0.02	-9.22e-05	8	2	0.0015	NA
CCR-AP-8	Lead, Total	mg/L	Probably Increasing	No Trend	24	23	0.0076	NA	8	7	0.0061	NA
CCR-AP-9	Lead, Total	mg/L	No Trend	Stable	23	23	0.041	NA	8	8	0.024	NA
CCR-AP-1R	Lithium, Total	mg/L	No Trend	Decreasing	25	25	0.23	NA	8	8	0.15	-0.031
CCR-AP-2	Lithium, Total	mg/L	No Trend	No Trend	25	20	0.125	NA	8	8	0.11	NA
CCR-AP-3	Lithium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	22	4	0.025	NA	8	4	0.0043	NA
CCR-AP-4R	Lithium, Total	mg/L	Stable	No Trend	24	18	0.047	NA	8	8	0.025	NA
CCR-AP-5	Lithium, Total	mg/L	Decreasing	No Trend	24	24	0.15	-0.011	8	8	0.08	NA
CCR-AP-6	Lithium, Total	mg/L	Decreasing	No Trend	22	11	0.125	-0.00334	8	5	0.018	NA
CCR-AP-7	Lithium, Total	mg/L	Decreasing	No Trend	26	26	0.039	-0.000411	8	8	0.011	NA
CCR-AP-8	Lithium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	24	7	0.025	NA	8	3	0.0067	NA
CCR-AP-9	Lithium, Total	mg/L	No Trend	Stable	23	23	0.12	NA	8	8	0.064	NA
CCR-AP-1R	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	24	0	0.001	NA	8	0	0.00025	NA
CCR-AP-2	Mercury, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	24	9	0.00071	NA	8	6	0.00071	NA
CCR-AP-3	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	21	0	0.00025	NA	8	0	0.00025	NA
CCR-AP-4R	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	23	0	0.00025	NA	8	0	0.00025	NA

Abbreviations: CF = confidence facotr; CV = coefficient of variation; mg/L = milligrams per liter; pCi/L = picocuries per liter.

Notes: *Recent data defined as the 8 most recent data points. MK = Mann Kendall Trend Test. Secular Trend Classification based on Aziz (2003) guidance and MK Results. Sen slope only calculated for increasing or decreasing trends as indicated by Mann-Kendall trend test results.

Additional information about trend analysis provided in Attachment A.

Location	Chemical	Units	Identified Trends		Trend Analysis on All Available Data				Trend Analysis on Recent Data			
			Trend (All Data)	Trend (Recent Data)	Results, n	Detected Results, n	Max Concentration	Sen Slope (units per year)	*Results, n	*Detected Results, n	*Max Concentration	*Sen Slope (units per year)
CCR-AP-5	Mercury, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	23	3	0.0016	NA	8	3	0.0016	NA
CCR-AP-6	Mercury, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	21	2	0.00041	NA	8	2	0.00041	NA
CCR-AP-7	Mercury, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	23	1	0.00032	NA	8	1	0.00032	NA
CCR-AP-8	Mercury, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	23	1	0.00026	NA	8	1	0.00026	NA
CCR-AP-9	Mercury, Total	mg/L	Not Evaluated - No detected results	Not Evaluated - No detected results	22	0	0.0001	NA	8	0	0.0001	NA
CCR-AP-1R	Molybdenum, Total	mg/L	Stable	Decreasing	25	25	0.023	NA	8	8	0.023	-0.00344
CCR-AP-3	Molybdenum, Total	mg/L	Decreasing	No Trend	22	22	0.025	-0.000657	8	8	0.025	NA
CCR-AP-5	Molybdenum, Total	mg/L	Decreasing	No Trend	24	24	0.53	-0.023	8	8	0.34	NA
CCR-AP-6	Molybdenum, Total	mg/L	No Trend	No Trend	22	22	0.043	NA	8	8	0.043	NA
CCR-AP-7	Molybdenum, Total	mg/L	Decreasing	Stable	26	24	0.013	-0.000547	8	6	0.0025	NA
CCR-AP-8	Molybdenum, Total	mg/L	Stable	Stable	24	24	0.029	NA	8	8	0.029	NA
CCR-AP-9	Molybdenum, Total	mg/L	Decreasing	No Trend	23	21	0.025	-0.000652	8	6	0.025	NA
CCR-AP-1R	Radium-226 & 228	pCi/L	No Trend	Stable	23	23	14.4	NA	8	8	14.4	NA
CCR-AP-2	Radium-226 & 228	pCi/L	Stable	Stable	23	22	5.53	NA	8	7	5.53	NA
CCR-AP-3	Radium-226 & 228	pCi/L	No Trend	No Trend	20	20	4.87	NA	8	8	4.87	NA
CCR-AP-4R	Radium-226 & 228	pCi/L	No Trend	No Trend	22	21	30	NA	8	7	30	NA
CCR-AP-5	Radium-226 & 228	pCi/L	No Trend	Stable	22	22	5.54	NA	8	8	5.54	NA
CCR-AP-6	Radium-226 & 228	pCi/L	Stable	Stable	20	20	10.2	NA	8	8	3.21	NA
CCR-AP-7	Radium-226 & 228	pCi/L	Stable	Stable	23	23	1.72	NA	8	8	1.44	NA
CCR-AP-8	Radium-226 & 228	pCi/L	Probably Decreasing	Decreasing	21	19	2.88	NA	8	6	2.88	-0.561
CCR-AP-1R	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Stable	25	11	0.025	NA	8	6	0.0046	NA
CCR-AP-2	Selenium, Total	mg/L	No Trend	Stable	25	16	0.026	NA	8	6	0.013	NA
CCR-AP-3	Selenium, Total	mg/L	No Trend	No Trend	22	21	0.0068	NA	8	8	0.003	NA
CCR-AP-4R	Selenium, Total	mg/L	No Trend	No Trend	24	13	0.031	NA	8	5	0.0036	NA
CCR-AP-5	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	No Trend	24	8	0.025	NA	8	5	0.02	NA
CCR-AP-6	Selenium, Total	mg/L	No Trend	Stable	22	17	0.0125	NA	8	6	0.003	NA
CCR-AP-7	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	24	3	0.0028	NA	8	0	0.0025	NA
CCR-AP-8	Selenium, Total	mg/L	No Trend	No Trend	24	21	0.007	NA	8	8	0.0051	NA
CCR-AP-9	Selenium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	23	6	0.025	NA	8	1	0.025	NA
CCR-AP-1R	Thallium, Total	mg/L	Probably Increasing	Stable	25	17	0.0027	NA	8	4	0.001	NA
CCR-AP-3	Thallium, Total	mg/L	Not Evaluated - Only one detected result	Not Evaluated - No detected results	22	1	0.001	NA	8	0	0.001	NA
CCR-AP-4R	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	24	10	0.0025	NA	8	2	0.001	NA
CCR-AP-5	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	24	7	0.005	NA	8	3	0.00096	NA
CCR-AP-6	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	22	8	0.0025	NA	8	0	0.001	NA
CCR-AP-7	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	26	4	0.001	NA	8	0	0.001	NA
CCR-AP-8	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	24	6	0.001	NA	8	1	0.001	NA
CCR-AP-9	Thallium, Total	mg/L	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	23	9	0.005	NA	8	0	0.005	NA

Abbreviations: CF = confidence facotr; CV = coefficient of variation; mg/L = milligrams per liter; pCi/L = picocuries per liter.

Notes: *Recent data defined as the 8 most recent data points. MK = Mann Kendall Trend Test. Secular Trend Classification based on Aziz (2003) guidance and MK Results. Sen slope only calculated for increasing or decreasing trends as indicated by Mann-Kendall trend test results.

Additional information about trend analysis provided in Attachment A.

ATTACHMENT A
Assessment Monitoring Statistical Analysis Summary

Table A-1. Descriptive Statistics

Location	Constituent	Units	n	n, non-detects	percent of non-detects	max	min	mean	median	standard deviation	variance	reporting limit range	date range
CCR-AP-1R	Antimony, Total	mg/L	25	7	28	0.02000	0.00053	0.00331	0.0015	0.0054	2.9e-05	0.002 - 0.02	2016-06-10 to 2025-05-13
CCR-AP-2	Antimony, Total	mg/L	25	11	44	0.02000	0.00024	0.00335	0.002	0.0044	1.9e-05	0.002 - 0.02	2016-06-10 to 2025-05-14
CCR-AP-3	Antimony, Total	mg/L	22	17	77	0.00500	0.00031	0.00195	0.002	0.00085	7.2e-07	0.002 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-4R	Antimony, Total	mg/L	24	15	62	0.02800	0.0004	0.00318	0.002	0.0056	3.1e-05	0.002 - 0.01	2016-06-10 to 2025-05-13
CCR-AP-5	Antimony, Total	mg/L	24	18	75	0.02000	5.8e-05	0.00264	0.002	0.0038	1.4e-05	0.002 - 0.02	2016-06-10 to 2025-05-15
CCR-AP-6	Antimony, Total	mg/L	22	9	41	0.01800	0.00042	0.00246	0.00155	0.004	1.6e-05	0.002 - 0.01	2016-06-10 to 2024-05-07
CCR-AP-7	Antimony, Total	mg/L	26	23	88	0.00500	0.00016	0.00195	0.002	0.00079	6.2e-07	0.002 - 0.005	2016-06-10 to 2025-05-15
CCR-AP-8	Antimony, Total	mg/L	24	7	29	0.00460	0.0004	0.00136	0.0011	0.00093	8.7e-07	0.002 - 0.002	2017-03-09 to 2025-05-15
CCR-AP-9	Antimony, Total	mg/L	23	7	30	0.02000	0.00061	0.004	0.0014	0.0057	3.2e-05	0.002 - 0.02	2017-03-09 to 2025-05-13
Pooled Background	Antimony, Total	mg/L	74	37	50	0.02000	0.00016	0.00305	0.002	0.0045	2e-05	0.002 - 0.02	2016-06-10 to 2025-05-15
CCR-AP-1R	Arsenic, Total	mg/L	25	0	0	0.03800	0.0024	0.0156	0.012	0.011	0.00012	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Arsenic, Total	mg/L	25	0	0	0.04800	0.0016	0.0148	0.013	0.013	0.00016	NA	2016-06-10 to 2025-05-14
CCR-AP-3	Arsenic, Total	mg/L	22	0	0	0.09500	0.051	0.0754	0.077	0.01	0.0001	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Arsenic, Total	mg/L	24	0	0	0.55000	0.027	0.129	0.087	0.12	0.014	NA	2016-06-10 to 2025-05-13
CCR-AP-5	Arsenic, Total	mg/L	23	2	9	0.02400	0.00039	0.00412	0.0011	0.0069	4.7e-05	0.001 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-6	Arsenic, Total	mg/L	22	0	0	0.12000	0.04	0.0926	0.1	0.022	0.0005	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Arsenic, Total	mg/L	26	0	0	0.01800	0.00066	0.00547	0.0045	0.0041	1.7e-05	NA	2016-06-10 to 2025-05-15
CCR-AP-8	Arsenic, Total	mg/L	24	0	0	0.12000	0.013	0.0857	0.0885	0.026	0.00066	NA	2017-03-09 to 2025-05-15
CCR-AP-9	Arsenic, Total	mg/L	23	0	0	0.03200	0.0022	0.0098	0.0087	0.0062	3.9e-05	NA	2017-03-09 to 2025-05-13
Pooled Background	Arsenic, Total	mg/L	74	0	0	0.03800	0.00066	0.0102	0.00765	0.0087	7.6e-05	NA	2016-06-10 to 2025-05-15
CCR-AP-1R	Barium, Total	mg/L	25	0	0	0.59000	0.05	0.227	0.2	0.15	0.022	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Barium, Total	mg/L	25	0	0	0.83000	0.038	0.257	0.23	0.21	0.042	NA	2016-06-10 to 2025-05-14
CCR-AP-3	Barium, Total	mg/L	22	0	0	0.49000	0.38	0.429	0.425	0.033	0.0011	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Barium, Total	mg/L	24	0	0	1.70000	0.45	0.73	0.63	0.31	0.098	NA	2016-06-10 to 2025-05-13
CCR-AP-5	Barium, Total	mg/L	24	0	0	0.20000	0.029	0.0603	0.044	0.042	0.0018	NA	2016-06-10 to 2025-05-15
CCR-AP-6	Barium, Total	mg/L	22	0	0	0.69000	0.43	0.575	0.575	0.072	0.0052	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Barium, Total	mg/L	26	0	0	0.19000	0.076	0.126	0.12	0.028	0.00076	NA	2016-06-10 to 2025-05-15
CCR-AP-8	Barium, Total	mg/L	24	0	0	0.68000	0.27	0.516	0.55	0.12	0.014	NA	2017-03-09 to 2025-05-15
CCR-AP-9	Barium, Total	mg/L	23	0	0	0.72000	0.13	0.284	0.27	0.12	0.014	NA	2017-03-09 to 2025-05-13
Pooled Background	Barium, Total	mg/L	74	0	0	0.72000	0.05	0.209	0.16	0.13	0.016	NA	2016-06-10 to 2025-05-15
CCR-AP-1R	Beryllium, Total	mg/L	25	0	0	0.00660	0.00011	0.00253	0.0015	0.0021	4.3e-06	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Beryllium, Total	mg/L	25	1	4	0.00770	0.00014	0.00205	0.0017	0.002	4e-06	0.001 - 0.001	2016-06-10 to 2025-05-14
CCR-AP-3	Beryllium, Total	mg/L	22	21	95	0.00100	0.00056	0.00098	0.001	9.4e-05	8.8e-09	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-4R	Beryllium, Total	mg/L	24	7	29	0.00170	0.00014	0.000735	0.000915	0.00042	1.8e-07	0.001 - 0.001	2016-06-10 to 2025-05-13
CCR-AP-5	Beryllium, Total	mg/L	24	18	75	0.01000	0.00017	0.00129	0.001	0.0019	3.5e-06	0.001 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-6	Beryllium, Total	mg/L	22	9	41	0.00500	0.00011	0.000805	0.000575	0.00099	9.9e-07	0.0005 - 0.005	2016-06-10 to 2024-05-07
CCR-AP-7	Beryllium, Total	mg/L	26	19	73	0.00100	6.7e-05	0.000779	0.001	0.00036	1.3e-07	0.0005 - 0.001	2016-06-10 to 2025-05-15
CCR-AP-8	Beryllium, Total	mg/L	24	17	71	0.00100	0.00016	0.000776	0.001	0.00033	1.1e-07	0.0005 - 0.001	2017-03-09 to 2025-05-15
CCR-AP-9	Beryllium, Total	mg/L	23	3	13	0.01000	0.00017	0.00142	0.00095	0.002	4.1e-06	0.001 - 0.01	2017-03-09 to 2025-05-13
Pooled Background	Beryllium, Total	mg/L	74	22	30	0.01000	6.7e-05	0.00157	0.001	0.0018	3.2e-06	0.0005 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-1R	Cadmium, Total	mg/L	25	13	52	0.01000	8.1e-05	0.00188	0.001	0.0029	8.2e-06	0.001 - 0.01	2016-06-10 to 2025-05-13
CCR-AP-2	Cadmium, Total	mg/L	25	3	12	0.01000	0.00011	0.00187	0.00086	0.0024	5.7e-06	0.005 - 0.01	2016-06-10 to 2025-05-14
CCR-AP-3	Cadmium, Total	mg/L	22	21	95	0.00100	0.00038	0.000972	0.001	0.00013	1.7e-08	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-4R	Cadmium, Total	mg/L	24	12	50	0.00500	0.00014	0.000852	0.000895	0.00095	9e-07	0.001 - 0.005	2016-06-10 to 2025-05-13
CCR-AP-5	Cadmium, Total	mg/L	24	6	25	0.01000	0.0001	0.00098	0.00054	0.002	3.8e-06	0.001 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-6	Cadmium, Total	mg/L	22	9	41	0.00110	9.4e-05	0.000638	0.00056	0.00037	1.4e-07	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-7	Cadmium, Total	mg/L	26	23	88	0.00100	9.7e-05	0.000887	0.001	0.00028	7.7e-08	0.0005 - 0.001	2016-06-10 to 2025-05-15
CCR-AP-8	Cadmium, Total	mg/L	24	16	67	0.00100	0.00012	0.000758	0.001	0.00036	1.3e-07	0.001 - 0.001	2017-03-09 to 2025-05-15
CCR-AP-9	Cadmium, Total	mg/L	23	10	43	0.01000	7.7e-05	0.00165	0.00022	0.003	8.8e-06	0.001 - 0.01	2017-03-09 to 2025-05-13
Pooled Background	Cadmium, Total	mg/L	74	46	62	0.01000	7.7e-05	0.00146	0.001	0.0024	5.6e-06	0.0005 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-1R	Chromium, Total	mg/L	25	0	0	0.16000	0.0019	0.0537	0.034	0.045	0.0021	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Chromium, Total	mg/L	25	0	0	0.14000	0.0024	0.0412	0.033	0.037	0.0014	NA	2016-06-10 to 2025-05-14
CCR-AP-3	Chromium, Total	mg/L	22	4	18	0.01400	0.0018	0.00297	0.0021	0.0026	6.5e-06	0.002 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-4R	Chromium, Total	mg/L	23	3	13	0.05800	0.0015	0.0137	0.0081	0.014	0.0002	0.002 - 0.005	2016-06-10 to 2025-05-13
CCR-AP-5	Chromium, Total	mg/L	24	18	75	0.05600	0.0014	0.00658	0.002	0.012	0.00015	0.002 - 0.02	2016-06-10 to 2025-05-15
CCR-AP-6	Chromium, Total	mg/L	22	1	5	0.04300	0.0019	0.0128	0.0095	0.011	0.00002	0.002 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-7	Chromium, Total	mg/L	26	14	54	0.01900	0.00047	0.00398	0.0023	0.0037	1.4e-05	0.002 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-8	Chromium, Total	mg/L	23	2	9	0.01500	0.0012	0.00476	0.0034	0.0039	1.5e-05	0.002 - 0.0034	2017-03-09 to 2025-05-15
CCR-AP-9	Chromium, Total	mg/L	23	0	0	0.15000	0.0042	0.0248	0.016	0.03	0.00089	NA	2017-03-09 to 2025-05-13
Pooled Background	Chromium, Total	mg/L	74	14	19	0.16000	0.00047	0.0273	0.012	0.037	0.0014	0.002 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-1R	Cobalt, Total	mg/L	25	0	0	0.08100	0.0015	0.0298	0.018	0.025	0.00062	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Cobalt, Total	mg/L	25	0	0	0.09100	0.0073	0.027	0.021	0.02	0.00039	NA	2016-06-10 to 2025-05-14
CCR-AP-3	Cobalt, Total	mg/L	22	0	0	0.00940	0.004	0.00603	0.00565	0.0015	2.4e-06	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Cobalt, Total	mg/L	24	0	0	0.02100	0.00071	0.00738	0.00595	0.0056	3.2e-05	NA	2016-06-10 to 2025-05-13
CCR-AP-5	Cobalt, Total	mg/L	24	0	0	0.01000	0.00036	0.00388	0.00315	0.0025	6.2e-06	NA	2016-06-10 to 2025-05-15
CCR-AP-6	Cobalt, Total	mg/L	22	0	0	0.01900	0.0034	0.00855	0.0074	0.0045	2e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Cobalt, Total	mg/L	26	2	8	0.01500	0.00021	0.00204	0.000815	0.0031	9.6e-06	0.0005 - 0.002	2016-06-10 to 2025-05-15
CCR-AP-8	Cobalt, Total	mg/L	24	0	0	0.01700	0.0023	0.00813	0.0079	0.004	1.6e-05	NA	2017-03-09 to 2025-05-15
CCR-AP-9	Cobalt, Total	mg/L	23	0	0	0.04700	0.0025	0.0142	0.014	0.0085	7.2e-05	NA	2017-03-09 to 2025-05-13
Pooled Background	Cobalt, Total	mg/L	74	2	3	0.08100	0.00021	0.0152	0.0098	0.019	0.00036	0.0005 - 0.002	2016-06-10 to 2025-05-15
CCR-AP-1R	Fluoride	mg/L	25	0	0	0.81000	0.25	0.483	0.48	0.11	0.012	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Fluoride	mg/L	25	0	0	0.69000	0.11	0.35	0.3	0.15	0.022	NA	2016-06-10 to 2025-05-14
CCR-AP-3	Fluoride	mg/L	22	1	5	0.93000	0.1	0.401	0.375	0.19	0.034	0.1 - 0.1	2016-06-10 to 2024-05-07
CCR-AP-4R	Fluoride	mg/L	24	1	4	0.89000	0.1	0.42	0.395	0.16	0.025	0.1 - 0.1	2016-06-10 to 2025-05-13
CCR-AP-5	Fluoride	mg/L	24	0	0	2.30000	0.58	1.28	1.2	0.44	0.19	NA	2016-06-10 to 2025-05-15
CCR-AP-6	Fluoride	mg/L	22	0	0	0.69000	0.24	0.49	0.47	0.13	0.017	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Fluoride	mg/L	25	0	0	0.72000	0.14	0.336	0.31	0.12	0.016	NA	2016-08-12 to 2025-05-15
CCR-AP-8	Fluoride	mg/L	24	1	4	1.10000	0.1	0.334	0.29	0.2	0.04	0.1 - 0.1	2017-03-09 to 2025-05-15

Note:

Location	Constituent	Units	n	n, non-detects	percent of non-detects	max	min	mean	median	standard deviation	variance	reporting limit range	date range
CCR-AP-9	Fluoride	mg/L	23	0	0	0.42000	0.14	0.318	0.33	0.072	0.0052	NA	2017-03-09 to 2025-05-13
Pooled Background	Fluoride	mg/L	73	0	0	0.81000	0.14	0.381	0.36	0.13	0.017	NA	2016-06-10 to 2025-05-15
CCR-AP-1R	Lead, Total	mg/L	25	0	0	0.09400	0.0011	0.0326	0.019	0.027	0.00074	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Lead, Total	mg/L	25	0	0	0.10000	0.0013	0.0271	0.019	0.025	0.00062	NA	2016-06-10 to 2025-05-14
CCR-AP-3	Lead, Total	mg/L	22	4	18	0.01000	0.00021	0.0012	0.00085	0.002	4e-06	0.001 - 0.001	2016-06-10 to 2024-05-07
CCR-AP-4R	Lead, Total	mg/L	24	1	4	0.04700	0.00052	0.0108	0.00525	0.012	0.00015	0.001 - 0.001	2016-06-10 to 2025-05-13
CCR-AP-5	Lead, Total	mg/L	24	15	62	0.02000	9.9e-05	0.00241	0.001	0.0044	2e-05	0.001 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-6	Lead, Total	mg/L	22	0	0	0.04100	0.00039	0.00953	0.00685	0.0095	9.1e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Lead, Total	mg/L	26	12	46	0.02000	0.00013	0.00276	0.001	0.0042	1.8e-05	0.001 - 0.003	2016-06-10 to 2025-05-15
CCR-AP-8	Lead, Total	mg/L	24	1	4	0.00760	0.00027	0.00237	0.00215	0.0018	3.4e-06	0.003 - 0.003	2017-03-09 to 2025-05-15
CCR-AP-9	Lead, Total	mg/L	23	0	0	0.04100	0.0024	0.0121	0.01	0.0087	7.6e-05	NA	2017-03-09 to 2025-05-13
Pooled Background	Lead, Total	mg/L	74	12	16	0.09400	0.00013	0.0158	0.0085	0.021	0.00043	0.001 - 0.003	2016-06-10 to 2025-05-15
CCR-AP-1R	Lithium, Total	mg/L	25	0	0	0.23000	0.035	0.0892	0.067	0.052	0.0027	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Lithium, Total	mg/L	25	5	20	0.25000	0.0038	0.049	0.036	0.05	0.0025	0.05 - 0.25	2016-06-10 to 2025-05-14
CCR-AP-3	Lithium, Total	mg/L	22	18	82	0.05000	0.0021	0.0231	0.005	0.023	0.00052	0.005 - 0.05	2016-06-10 to 2024-05-07
CCR-AP-4R	Lithium, Total	mg/L	24	6	25	0.05000	0.0028	0.0202	0.0125	0.018	0.00033	0.005 - 0.05	2016-06-10 to 2025-05-13
CCR-AP-5	Lithium, Total	mg/L	24	0	0	0.15000	0.009	0.0901	0.0905	0.04	0.0016	NA	2016-06-10 to 2025-05-15
CCR-AP-6	Lithium, Total	mg/L	22	11	50	0.25000	0.0014	0.0327	0.014	0.052	0.0028	0.005 - 0.25	2016-06-10 to 2024-05-07
CCR-AP-7	Lithium, Total	mg/L	26	0	0	0.03900	0.007	0.0131	0.011	0.0065	4.2e-05	NA	2016-06-10 to 2025-05-15
CCR-AP-8	Lithium, Total	mg/L	24	17	71	0.05000	0.0031	0.0208	0.00735	0.021	0.00045	0.005 - 0.05	2017-03-09 to 2025-05-15
CCR-AP-9	Lithium, Total	mg/L	23	0	0	0.12000	0.029	0.047	0.04	0.019	0.00037	NA	2017-03-09 to 2025-05-13
Pooled Background	Lithium, Total	mg/L	74	0	0	0.23000	0.007	0.0494	0.0385	0.045	0.002	NA	2016-06-10 to 2025-05-15
CCR-AP-1R	Mercury, Total	mg/L	24	24	100	0.00200	0.0002	0.0003	0.0002	0.00037	1.4e-07	0.0002 - 0.002	2016-06-10 to 2025-05-13
CCR-AP-2	Mercury, Total	mg/L	24	15	62	0.00071	0.00015	0.000236	0.0002	0.00012	1.5e-08	0.0002 - 0.0002	2016-06-10 to 2025-05-14
CCR-AP-3	Mercury, Total	mg/L	21	21	100	0.00050	0.0002	0.000214	0.0002	6.5e-05	4.3e-09	0.0002 - 0.0005	2016-06-10 to 2024-05-07
CCR-AP-4R	Mercury, Total	mg/L	23	23	100	0.00050	0.0002	0.000222	0.0002	7.4e-05	5.4e-09	0.0002 - 0.0005	2016-06-10 to 2025-05-13
CCR-AP-5	Mercury, Total	mg/L	23	20	87	0.00160	0.0002	0.000297	0.0002	0.00032	1e-07	0.0002 - 0.0002	2016-06-10 to 2025-05-15
CCR-AP-6	Mercury, Total	mg/L	21	19	90	0.00050	0.00017	0.000223	0.0002	7.9e-05	6.2e-09	0.0002 - 0.0005	2016-06-10 to 2024-05-07
CCR-AP-7	Mercury, Total	mg/L	23	22	96	0.00050	0.0002	0.000218	0.0002	6.6e-05	4.4e-09	0.0002 - 0.0005	2016-06-10 to 2025-05-15
CCR-AP-8	Mercury, Total	mg/L	23	22	96	0.00050	0.0002	0.000216	0.0002	6.3e-05	4e-09	0.0002 - 0.0005	2017-03-09 to 2025-05-15
CCR-AP-9	Mercury, Total	mg/L	22	22	100	0.00020	0.0002	0.0002	0.0002	0	0	0.0002 - 0.0002	2017-03-09 to 2025-05-13
Pooled Background	Mercury, Total	mg/L	69	68	99	0.00200	0.0002	0.000241	0.0002	0.00022	5e-08	0.0002 - 0.002	2016-06-10 to 2025-05-15
CCR-AP-1R	Molybdenum, Total	mg/L	25	0	0	0.02300	0.0034	0.00889	0.0077	0.0041	1.7e-05	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Molybdenum, Total	mg/L	25	1	4	0.01000	0.00094	0.00464	0.005	0.0027	7.3e-06	0.005 - 0.005	2016-06-10 to 2025-05-14
CCR-AP-3	Molybdenum, Total	mg/L	22	0	0	0.02500	0.0065	0.0112	0.01	0.0039	1.5e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Molybdenum, Total	mg/L	24	3	12	0.01700	0.00071	0.00415	0.00265	0.0039	1.5e-05	0.005 - 0.005	2016-06-10 to 2025-05-13
CCR-AP-5	Molybdenum, Total	mg/L	24	0	0	0.53000	0.046	0.286	0.315	0.12	0.013	NA	2016-06-10 to 2025-05-15
CCR-AP-6	Molybdenum, Total	mg/L	22	0	0	0.04300	0.015	0.0256	0.024	0.0067	4.5e-05	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Molybdenum, Total	mg/L	26	2	8	0.01300	0.0011	0.00362	0.00225	0.003	8.8e-06	0.005 - 0.005	2016-06-10 to 2025-05-15
CCR-AP-8	Molybdenum, Total	mg/L	24	0	0	0.02900	0.0029	0.0142	0.0135	0.0055	3e-05	NA	2017-03-09 to 2025-05-15
CCR-AP-9	Molybdenum, Total	mg/L	23	2	9	0.05000	0.0017	0.00701	0.0048	0.0098	9.6e-05	0.005 - 0.05	2017-03-09 to 2025-05-13
Pooled Background	Molybdenum, Total	mg/L	74	4	5	0.05000	0.0011	0.00645	0.00515	0.0065	4.2e-05	0.005 - 0.05	2016-06-10 to 2025-05-15
CCR-AP-1R	Radium-226 & 228	pCi/L	23	0	0	14.40000	0.862	4.68	4.15	3.2	10	NA	2016-06-10 to 2025-05-13
CCR-AP-2	Radium-226 & 228	pCi/L	23	1	4	5.53000	0.386	2.04	1.91	1.4	2	0.386 - 0.386	2016-06-10 to 2025-05-14
CCR-AP-3	Radium-226 & 228	pCi/L	20	0	0	4.87000	0.593	1.75	1.67	1.1	1.3	NA	2016-06-10 to 2024-05-07
CCR-AP-4R	Radium-226 & 228	pCi/L	22	1	5	30.00000	0.221	3.51	2.19	6	36	0.221 - 0.221	2016-06-10 to 2025-05-13
CCR-AP-5	Radium-226 & 228	pCi/L	22	0	0	5.54000	0.158	1.19	0.686	1.3	1.7	NA	2016-06-10 to 2025-05-15
CCR-AP-6	Radium-226 & 228	pCi/L	20	0	0	10.20000	0.351	2.38	1.64	2.2	4.8	NA	2016-06-10 to 2024-05-07
CCR-AP-7	Radium-226 & 228	pCi/L	23	0	0	1.72000	0.126	0.825	0.764	0.44	0.2	NA	2016-06-10 to 2025-05-15
CCR-AP-8	Radium-226 & 228	pCi/L	21	2	10	2.88000	0.362	1.34	1.18	0.69	0.47	0.362 - 0.419	2017-03-09 to 2025-05-15
CCR-AP-9	Radium-226 & 228	pCi/L	21	0	0	12.60000	0.934	3.78	3.13	2.8	8	NA	2017-03-09 to 2025-05-13
Pooled Background	Radium-226 & 228	pCi/L	67	0	0	14.40000	0.126	3.07	1.93	3	8.7	NA	2016-06-10 to 2025-05-15
CCR-AP-1R	Selenium, Total	mg/L	25	14	56	0.05000	0.00045	0.0105	0.005	0.014	0.00021	0.005 - 0.05	2016-06-10 to 2025-05-13
CCR-AP-2	Selenium, Total	mg/L	25	9	36	0.05000	0.00044	0.00827	0.005	0.011	0.00012	0.005 - 0.05	2016-06-10 to 2025-05-14
CCR-AP-3	Selenium, Total	mg/L	22	1	5	0.00680	0.00062	0.0022	0.00185	0.0013	1.7e-06	0.005 - 0.005	2016-06-10 to 2024-05-07
CCR-AP-4R	Selenium, Total	mg/L	24	11	46	0.03100	0.0009	0.00447	0.0043	0.0059	3.5e-05	0.005 - 0.005	2016-06-10 to 2025-05-13
CCR-AP-5	Selenium, Total	mg/L	24	16	67	0.05000	0.00095	0.0071	0.005	0.0098	9.5e-05	0.005 - 0.05	2016-06-10 to 2025-05-15
CCR-AP-6	Selenium, Total	mg/L	22	5	23	0.02500	0.001	0.00352	0.0019	0.005	2.5e-05	0.005 - 0.025	2016-06-10 to 2024-05-07
CCR-AP-7	Selenium, Total	mg/L	24	21	88	0.00500	0.00035	0.00454	0.005	0.0013	1.7e-06	0.005 - 0.005	2016-06-10 to 2025-05-15
CCR-AP-8	Selenium, Total	mg/L	24	3	12	0.00700	0.0013	0.00264	0.00195	0.0016	2.4e-06	0.005 - 0.005	2017-03-09 to 2025-05-15
CCR-AP-9	Selenium, Total	mg/L	23	17	74	0.05000	0.001	0.00839	0.005	0.011	0.00012	0.005 - 0.05	2017-03-09 to 2025-05-13
Pooled Background	Selenium, Total	mg/L	72	52	72	0.05000	0.00035	0.00783	0.005	0.011	0.00011	0.005 - 0.05	2016-06-10 to 2025-05-15
CCR-AP-1R	Thallium, Total	mg/L	25	8	32	0.00500	7.9e-05	0.00101	0.00094	0.001	1.1e-06	0.001 - 0.005	2016-06-10 to 2025-05-13
CCR-AP-2	Thallium, Total	mg/L	25	5	20	0.00760	4.8e-05	0.00115	0.0009	0.0016	2.7e-06	0.001 - 0.005	2016-06-10 to 2025-05-14
CCR-AP-3	Thallium, Total	mg/L	22	21	95	0.00200	0.0001	0.001	0.001	0.00029	8.6e-08	0.001 - 0.002	2016-06-10 to 2024-05-07
CCR-AP-4R	Thallium, Total	mg/L	24	14	58	0.00500	6.1e-05	0.000866	0.001	0.001	1e-06	0.001 - 0.005	2016-06-10 to 2025-05-13
CCR-AP-5	Thallium, Total	mg/L	24	17	71	0.01000	6.5e-05	0.00117	0.001	0.0019	3.7e-06	0.001 - 0.01	2016-06-10 to 2025-05-15
CCR-AP-6	Thallium, Total	mg/L	22	14	64	0.00500	4.7e-05	0.00091	0.001	0.001	1.1e-06	0.001 - 0.005	2016-06-10 to 2024-05-07
CCR-AP-7	Thallium, Total	mg/L	26	22	85	0.00200	6.6e-05	0.000917	0.001	0.00038	1.4e-07	0.001 - 0.002	2016-06-10 to 2025-05-15
CCR-AP-8	Thallium, Total	mg/L	24	18	75	0.00200	5.8e-05	0.000842	0.001	0.00044	1.9e-07	0.001 - 0.002	2017-03-09 to 2025-05-15
CCR-AP-9	Thallium, Total	mg/L	23	14	61	0.01000	9.8e-05	0.00129	0.001	0.0021	4.6e-06	0.001 - 0.01	2017-03-09 to 2025-05-13
Pooled Background	Thallium, Total	mg/L	74	44	59	0.01000	6.6e-05	0.00106	0.001	0.0013	1.8e-06	0.001 - 0.01	2016-06-10 to 2025-05-15

Note:
Units: mg/L = milligrams per liter, pCi/L = picocuries per liter

Table A-2. Results of Shapiro-Wilk Test for Normality

Location	Constituent	n	n, non-detects	Shapiro-Wilk Test for Normality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)			Shapiro-Wilk Test for Lognormality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)			Distribution
				W statistic	p-value	Data Normality (significance level = 0.01)	W statistic	p-value	Data Lognormality (significance level = 0.01)	
CCR-AP-1R	Antimony, Total	25	7	0.6034	4.652e-07	Not normal	0.8691	0.004145	Not lognormal	Not normal
CCR-AP-2	Antimony, Total	25	11	0.6621	2.343e-06	Not normal	0.8825	0.007778	Not lognormal	Not normal
CCR-AP-3	Antimony, Total	22	17	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-4R	Antimony, Total	24	15	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-5	Antimony, Total	24	18	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-6	Antimony, Total	22	9	0.3591	7.95e-09	Not normal	0.7424	7.123e-05	Not lognormal	Not normal
CCR-AP-7	Antimony, Total	26	23	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-8	Antimony, Total	24	7	0.5948	5.41e-07	Not normal	0.904	0.02619	Lognormal	Lognormal
CCR-AP-9	Antimony, Total	23	7	0.6659	5.211e-06	Not normal	0.8119	0.0005985	Not lognormal	Not normal
Pooled Background	Antimony, Total	74	37	0.5353	6.113e-14	Not normal	0.7908	7.002e-09	Not lognormal	Not normal
CCR-AP-1R	Arsenic, Total	25	0	0.8855	0.008991	Not normal	0.9612	0.4394	Lognormal	Lognormal
CCR-AP-2	Arsenic, Total	25	0	0.8913	0.01193	Normal	0.9219	0.05646	Lognormal	Normal
CCR-AP-3	Arsenic, Total	22	0	0.9744	0.8093	Normal	0.9447	0.2474	Lognormal	Normal
CCR-AP-4R	Arsenic, Total	24	0	0.7118	1.446e-05	Not normal	0.9608	0.4546	Lognormal	Lognormal
CCR-AP-5	Arsenic, Total	23	2	0.5496	2.646e-07	Not normal	0.8639	0.004903	Not lognormal	Not normal
CCR-AP-6	Arsenic, Total	22	0	0.8796	0.01186	Normal	0.8208	0.001078	Not lognormal	Normal
CCR-AP-7	Arsenic, Total	26	0	0.8605	0.002285	Not normal	0.9427	0.1561	Lognormal	Lognormal
CCR-AP-8	Arsenic, Total	24	0	0.9295	0.09494	Normal	0.7109	1.408e-05	Not lognormal	Normal
CCR-AP-9	Arsenic, Total	23	0	0.7897	0.0002634	Not normal	0.963	0.5263	Lognormal	Lognormal
Pooled Background	Arsenic, Total	74	0	0.807	1.922e-08	Not normal	0.9702	0.077	Lognormal	Lognormal
CCR-AP-1R	Barium, Total	25	0	0.8907	0.0116	Normal	0.9758	0.7914	Lognormal	Normal
CCR-AP-2	Barium, Total	25	0	0.8754	0.005572	Not normal	0.9625	0.467	Lognormal	Lognormal
CCR-AP-3	Barium, Total	22	0	0.9503	0.3198	Normal	0.956	0.4123	Lognormal	Normal
CCR-AP-4R	Barium, Total	24	0	0.7266	2.312e-05	Not normal	0.845	0.001768	Not lognormal	Not normal
CCR-AP-5	Barium, Total	24	0	0.7052	1.18e-05	Not normal	0.8694	0.005121	Not lognormal	Not normal
CCR-AP-6	Barium, Total	22	0	0.9674	0.6512	Normal	0.9662	0.6241	Lognormal	Normal
CCR-AP-7	Barium, Total	26	0	0.9446	0.1729	Normal	0.9724	0.6855	Lognormal	Normal
CCR-AP-8	Barium, Total	24	0	0.9284	0.08957	Normal	0.8848	0.0104	Lognormal	Normal
CCR-AP-9	Barium, Total	23	0	0.8052	0.0004642	Not normal	0.9642	0.5541	Lognormal	Lognormal
Pooled Background	Barium, Total	74	0	0.8465	2.903e-07	Not normal	0.9785	0.2383	Lognormal	Lognormal
CCR-AP-1R	Beryllium, Total	25	0	0.8787	0.006497	Not normal	0.9384	0.136	Lognormal	Lognormal
CCR-AP-2	Beryllium, Total	25	1	0.8014	0.0002401	Not normal	0.9636	0.4916	Lognormal	Lognormal
CCR-AP-3	Beryllium, Total	22	21	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-4R	Beryllium, Total	24	7	0.8514	0.002321	Not normal	0.9464	0.2262	Lognormal	Lognormal
CCR-AP-5	Beryllium, Total	24	18	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-6	Beryllium, Total	22	9	0.5777	7.704e-07	Not normal	0.9246	0.09472	Lognormal	Lognormal
CCR-AP-7	Beryllium, Total	26	19	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-8	Beryllium, Total	24	17	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-9	Beryllium, Total	23	3	0.6617	4.64e-06	Not normal	0.9394	0.1743	Lognormal	Lognormal
Pooled Background	Beryllium, Total	74	22	0.6839	2.453e-11	Not normal	0.9418	0.001966	Not lognormal	Not normal
CCR-AP-1R	Cadmium, Total	25	13	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-2	Cadmium, Total	25	3	0.7683	7.036e-05	Not normal	0.9757	0.7886	Lognormal	Lognormal
CCR-AP-3	Cadmium, Total	22	21	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-4R	Cadmium, Total	24	12	0.5182	8.52e-08	Not normal	0.8367	0.001252	Not lognormal	Not normal
CCR-AP-5	Cadmium, Total	24	6	0.4759	3.313e-08	Not normal	0.9341	0.1204	Lognormal	Lognormal
CCR-AP-6	Cadmium, Total	22	9	0.8129	0.0008008	Not normal	0.8481	0.003141	Not lognormal	Not normal
CCR-AP-7	Cadmium, Total	26	23	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-8	Cadmium, Total	24	16	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-9	Cadmium, Total	23	10	0.5652	3.826e-07	Not normal	0.8723	0.007085	Not lognormal	Not normal

Shapiro-Wilk Test for Normality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)												Shapiro-Wilk Test for Lognormality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)											
Location	Constituent	n	n, non-detects	W statistic	p-value	Data Normality (significance level = 0.01)		W statistic	p-value	Data Lognormality (significance level = 0.01)		Distribution											
Pooled Background	Cadmium, Total	74	46	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-1R	Chromium, Total	25	0	0.8844	0.008545	Not normal		0.941	0.1558	Lognormal		Lognormal											
CCR-AP-2	Chromium, Total	25	0	0.8869	0.009605	Not normal		0.9366	0.1235	Lognormal		Lognormal											
CCR-AP-3	Chromium, Total	22	4	0.5175	1.927e-07	Not normal		0.8619	0.00556	Not lognormal		Not normal											
CCR-AP-4R	Chromium, Total	23	3	0.8015	0.0004046	Not normal		0.966	0.5938	Lognormal		Lognormal											
CCR-AP-5	Chromium, Total	24	18	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-6	Chromium, Total	22	1	0.8493	0.003296	Not normal		0.9757	0.8373	Lognormal		Lognormal											
CCR-AP-7	Chromium, Total	26	14	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-8	Chromium, Total	23	2	0.7815	0.0001965	Not normal		0.9599	0.4604	Lognormal		Lognormal											
CCR-AP-9	Chromium, Total	23	0	0.5646	3.772e-07	Not normal		0.9656	0.5858	Lognormal		Lognormal											
Pooled Background	Chromium, Total	74	14	0.6992	5.042e-11	Not normal		0.9681	0.05809	Lognormal		Lognormal											
CCR-AP-1R	Cobalt, Total	25	0	0.8623	0.003042	Not normal		0.9494	0.2433	Lognormal		Lognormal											
CCR-AP-2	Cobalt, Total	25	0	0.8079	0.0003085	Not normal		0.981	0.9039	Lognormal		Lognormal											
CCR-AP-3	Cobalt, Total	22	0	0.9257	0.09982	Normal		0.9624	0.5387	Lognormal		Normal											
CCR-AP-4R	Cobalt, Total	24	0	0.8939	0.01603	Normal		0.9747	0.7822	Lognormal		Normal											
CCR-AP-5	Cobalt, Total	24	0	0.9469	0.2324	Normal		0.886	0.01098	Lognormal		Normal											
CCR-AP-6	Cobalt, Total	22	0	0.9072	0.04147	Normal		0.9704	0.7193	Lognormal		Normal											
CCR-AP-7	Cobalt, Total	26	2	0.5829	1.887e-07	Not normal		0.9279	0.06925	Lognormal		Lognormal											
CCR-AP-8	Cobalt, Total	24	0	0.9569	0.3789	Normal		0.94	0.1633	Lognormal		Normal											
CCR-AP-9	Cobalt, Total	23	0	0.7398	4.82e-05	Not normal		0.9047	0.0316	Lognormal		Lognormal											
Pooled Background	Cobalt, Total	74	2	0.7313	2.493e-10	Not normal		0.9259	0.0003249	Not lognormal		Not normal											
CCR-AP-1R	Fluoride	25	0	0.9395	0.144	Normal		0.9379	0.1323	Lognormal		Normal											
CCR-AP-2	Fluoride	25	0	0.9235	0.06159	Normal		0.9619	0.4535	Lognormal		Normal											
CCR-AP-3	Fluoride	22	1	0.9465	0.2689	Normal		0.8764	0.01032	Lognormal		Normal											
CCR-AP-4R	Fluoride	24	1	0.9301	0.09784	Normal		0.7682	9.283e-05	Not lognormal		Normal											
CCR-AP-5	Fluoride	24	0	0.9145	0.0443	Normal		0.9761	0.8149	Lognormal		Normal											
CCR-AP-6	Fluoride	22	0	0.9547	0.3907	Normal		0.9355	0.1598	Lognormal		Normal											
CCR-AP-7	Fluoride	25	0	0.8887	0.01049	Normal		0.9722	0.6999	Lognormal		Normal											
CCR-AP-8	Fluoride	24	1	0.7803	0.0001426	Not normal		0.9257	0.07823	Lognormal		Lognormal											
CCR-AP-9	Fluoride	23	0	0.8838	0.01189	Normal		0.7834	0.0002103	Not lognormal		Normal											
Pooled Background	Fluoride	73	0	0.963	0.03081	Normal		0.9747	0.1496	Lognormal		Normal											
CCR-AP-1R	Lead, Total	25	0	0.8805	0.007064	Not normal		0.9361	0.1204	Lognormal		Lognormal											
CCR-AP-2	Lead, Total	25	0	0.8788	0.006514	Not normal		0.9442	0.1853	Lognormal		Lognormal											
CCR-AP-3	Lead, Total	22	4	0.3698	9.685e-09	Not normal		0.8388	0.002169	Not lognormal		Not normal											
CCR-AP-4R	Lead, Total	24	1	0.7629	7.743e-05	Not normal		0.9635	0.5132	Lognormal		Lognormal											
CCR-AP-5	Lead, Total	24	15	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-6	Lead, Total	22	0	0.7959	0.0004312	Not normal		0.9638	0.5701	Lognormal		Lognormal											
CCR-AP-7	Lead, Total	26	12	0.5516	8.571e-08	Not normal		0.8618	0.002431	Not lognormal		Not normal											
CCR-AP-8	Lead, Total	24	1	0.8257	0.0008006	Not normal		0.9796	0.8889	Lognormal		Lognormal											
CCR-AP-9	Lead, Total	23	0	0.8423	0.001982	Not normal		0.9741	0.7855	Lognormal		Lognormal											
Pooled Background	Lead, Total	74	12	0.7177	1.247e-10	Not normal		0.9406	0.001713	Not lognormal		Not normal											
CCR-AP-1R	Lithium, Total	25	0	0.8835	0.008174	Not normal		0.9374	0.1289	Lognormal		Lognormal											
CCR-AP-2	Lithium, Total	25	5	0.8441	0.001364	Not normal		0.9635	0.4881	Lognormal		Lognormal											
CCR-AP-3	Lithium, Total	22	18	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-4R	Lithium, Total	24	6	0.8779	0.007548	Not normal		0.9282	0.08866	Lognormal		Lognormal											
CCR-AP-5	Lithium, Total	24	0	0.9668	0.5893	Normal		0.8381	0.001325	Not lognormal		Normal											
CCR-AP-6	Lithium, Total	22	11	0.5415	3.306e-07	Not normal		0.9309	0.1282	Lognormal		Lognormal											
CCR-AP-7	Lithium, Total	26	0	0.6686	2.029e-06	Not normal		0.8443	0.001103	Not lognormal		Not normal											
CCR-AP-8	Lithium, Total	24	17	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-9	Lithium, Total	23	0	0.7207	2.63e-05	Not normal		0.8923	0.01757	Lognormal		Lognormal											
Pooled Background	Lithium, Total	74	0	0.8017	1.378e-08	Not normal		0.9468	0.003625	Not lognormal		Not normal											
CCR-AP-1R	Mercury, Total	24	24	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-2	Mercury, Total	24	15	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											
CCR-AP-3	Mercury, Total	21	21	NA	NA	Not Evaluated - Majority (>50% ND)		NA	NA	Not Evaluated - Majority (>50% ND)		Not normal											

Location	Constituent	n	n, non-detects	Shapiro-Wilk Test for Normality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)			Shapiro-Wilk Test for Lognormality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)			Distribution
				W statistic	p-value	Data Normality (significance level = 0.01)	W statistic	p-value	Data Lognormality (significance level = 0.01)	
CCR-AP-4R	Mercury, Total	23	23	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-5	Mercury, Total	23	20	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-6	Mercury, Total	21	19	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-7	Mercury, Total	23	22	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-8	Mercury, Total	23	22	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-9	Mercury, Total	22	22	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
Pooled Background	Mercury, Total	69	68	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-1R	Molybdenum, Total	25	0	0.8536	0.002067	Not normal	0.9833	0.9418	Lognormal	Lognormal
CCR-AP-2	Molybdenum, Total	25	1	0.9321	0.09702	Normal	0.9099	0.03036	Lognormal	Normal
CCR-AP-3	Molybdenum, Total	22	0	0.7873	0.0003192	Not normal	0.9233	0.089	Lognormal	Lognormal
CCR-AP-4R	Molybdenum, Total	24	3	0.7293	2.517e-05	Not normal	0.9486	0.253	Lognormal	Lognormal
CCR-AP-5	Molybdenum, Total	24	0	0.9498	0.2684	Normal	0.8548	0.002693	Not lognormal	Normal
CCR-AP-6	Molybdenum, Total	22	0	0.9466	0.2706	Normal	0.986	0.9824	Lognormal	Normal
CCR-AP-7	Molybdenum, Total	26	2	0.751	2.877e-05	Not normal	0.9116	0.0287	Lognormal	Lognormal
CCR-AP-8	Molybdenum, Total	24	0	0.9378	0.146	Normal	0.8678	0.00477	Not lognormal	Normal
CCR-AP-9	Molybdenum, Total	23	2	0.7143	2.156e-05	Not normal	0.9631	0.528	Lognormal	Lognormal
Pooled Background	Molybdenum, Total	74	4	0.8421	2.101e-07	Not normal	0.9683	0.05989	Lognormal	Lognormal
CCR-AP-1R	Radium-226 & 228	23	0	0.8876	0.01416	Normal	0.9545	0.3623	Lognormal	Normal
CCR-AP-2	Radium-226 & 228	23	1	0.896	0.02091	Normal	0.9558	0.3844	Lognormal	Normal
CCR-AP-3	Radium-226 & 228	20	0	0.846	0.004566	Not normal	0.9531	0.4167	Lognormal	Lognormal
CCR-AP-4R	Radium-226 & 228	22	1	0.3924	1.482e-08	Not normal	0.8455	0.002824	Not lognormal	Not normal
CCR-AP-5	Radium-226 & 228	22	0	0.6939	1.637e-05	Not normal	0.9641	0.5755	Lognormal	Lognormal
CCR-AP-6	Radium-226 & 228	20	0	0.6638	1.457e-05	Not normal	0.9467	0.3199	Lognormal	Lognormal
CCR-AP-7	Radium-226 & 228	23	0	0.9525	0.3289	Normal	0.9456	0.2365	Lognormal	Normal
CCR-AP-8	Radium-226 & 228	21	2	0.9767	0.8714	Normal	0.891	0.0235	Lognormal	Normal
CCR-AP-9	Radium-226 & 228	21	0	0.8221	0.001456	Not normal	0.9805	0.9328	Lognormal	Lognormal
Pooled Background	Radium-226 & 228	67	0	0.816	1.065e-07	Not normal	0.9838	0.5343	Lognormal	Lognormal
CCR-AP-1R	Selenium, Total	25	14	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-2	Selenium, Total	25	9	0.6825	4.279e-06	Not normal	0.9237	0.06225	Lognormal	Lognormal
CCR-AP-3	Selenium, Total	22	1	0.5438	3.48e-07	Not normal	0.7506	9.283e-05	Not lognormal	Not normal
CCR-AP-4R	Selenium, Total	24	11	0.2917	8.998e-10	Not normal	0.6634	3.425e-06	Not lognormal	Not normal
CCR-AP-5	Selenium, Total	24	16	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-6	Selenium, Total	22	5	0.5132	1.751e-07	Not normal	0.842	0.002459	Not lognormal	Not normal
CCR-AP-7	Selenium, Total	24	21	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-8	Selenium, Total	24	3	0.6558	2.766e-06	Not normal	0.85	0.002186	Not lognormal	Not normal
CCR-AP-9	Selenium, Total	23	17	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
Pooled Background	Selenium, Total	72	52	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-1R	Thallium, Total	25	8	0.8014	0.00024	Not normal	0.9102	0.03073	Lognormal	Lognormal
CCR-AP-2	Thallium, Total	25	5	0.5025	3.954e-08	Not normal	0.9438	0.1812	Lognormal	Lognormal
CCR-AP-3	Thallium, Total	22	21	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-4R	Thallium, Total	24	14	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-5	Thallium, Total	24	17	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-6	Thallium, Total	22	14	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-7	Thallium, Total	26	22	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
CCR-AP-8	Thallium, Total	24	18	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal

Location	Constituent	n	n, non-detects	Shapiro-Wilk Test for Normality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)			Shapiro-Wilk Test for Lognormality (R programming, package = stats, version 4.3.3, function = shapiro.test, non-detects substituted by 0.5*reporting limit)			Distribution
				W statistic	p-value	Data Normality (significance level = 0.01)	W statistic	p-value	Data Lognormality (significance level = 0.01)	
CCR-AP-9	Thallium, Total	23	14	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal
Pooled Background	Thallium, Total	74	44	NA	NA	Not Evaluated - Majority (>50% ND)	NA	NA	Not Evaluated - Majority (>50% ND)	Not normal

Table A-3. Results of Rosner/Dixon Test for Outliers

Rosner or Dixon Test for Outliers (R programming, package = outliers, version 0.15, function = dixon.test or rosnerTest, non-detects substituted by 0.5*reporting limit)										
Location	Constituent	n	n, non-detects	Outlier Test	statistic	p-value (Dixon)	critical value (Rosner)	n of statistical outliers (significance level = 0.05, Rosner)	statistical outlier (significance level = 0.05, Dixon)	outlier removed
CCR-AP-1R	Antimony, Total	25	7	Dixon	0.5302	0.004732	NA	NA	Yes	No
CCR-AP-2	Antimony, Total	25	11	Dixon	0.5476	0	NA	NA	Yes	No
CCR-AP-3	Antimony, Total	22	17	Dixon	0.9662	0	NA	NA	Yes	No
CCR-AP-4R	Antimony, Total	24	15	Dixon	0.9134	0	NA	NA	Yes	No
CCR-AP-5	Antimony, Total	24	18	Dixon	0.8111	0	NA	NA	Yes	No
CCR-AP-6	Antimony, Total	22	9	Dixon	0.9304	0	NA	NA	Yes	No
CCR-AP-7	Antimony, Total	26	23	Rosner	4.228, 4.292, 4.272	NA	2.841, 2.822, 2.802	3	NA	No
CCR-AP-8	Antimony, Total	24	7	Dixon	0.7005	0	NA	NA	Yes	No
CCR-AP-9	Antimony, Total	23	7	Dixon	0.2278	0.8685	NA	NA	No	NA
Pooled Background	Antimony, Total	74	37	Rosner	3.383, 3.714, 4.165	NA	3.278, 3.273, 3.268	3	NA	No
CCR-AP-1R	Arsenic, Total	25	0	Dixon	0.1194	0.4744	NA	NA	No	NA
CCR-AP-2	Arsenic, Total	25	0	Dixon	0.3463	0.2413	NA	NA	No	NA
CCR-AP-3	Arsenic, Total	22	0	Dixon	0.4286	0.1023	NA	NA	No	NA
CCR-AP-4R	Arsenic, Total	24	0	Dixon	0.4475	0.05432	NA	NA	No	NA
CCR-AP-5	Arsenic, Total	23	2	Dixon	0.6319	0	NA	NA	Yes	No
CCR-AP-6	Arsenic, Total	22	0	Dixon	0.2714	0.6465	NA	NA	No	NA
CCR-AP-7	Arsenic, Total	26	0	Rosner	3.081, 3.107, 1.545	NA	2.841, 2.822, 2.802	2	NA	NA
CCR-AP-8	Arsenic, Total	24	0	Dixon	0.4021	0.1194	NA	NA	No	NA
CCR-AP-9	Arsenic, Total	23	0	Dixon	0.605	0	NA	NA	Yes	No
Pooled Background	Arsenic, Total	74	0	Rosner	3.183, 3.334, 3.257	NA	3.278, 3.273, 3.268	2	NA	NA
CCR-AP-1R	Barium, Total	25	0	Dixon	0.2358	0.7473	NA	NA	No	NA
CCR-AP-2	Barium, Total	25	0	Dixon	0.347	0.239	NA	NA	No	NA
CCR-AP-3	Barium, Total	22	0	Dixon	0.1	0.31	NA	NA	No	NA
CCR-AP-4R	Barium, Total	24	0	Dixon	0.339	0.2879	NA	NA	No	NA
CCR-AP-5	Barium, Total	24	0	Dixon	0.4762	0.03143	NA	NA	Yes	No
CCR-AP-6	Barium, Total	22	0	Dixon	0.2308	0.8875	NA	NA	No	NA
CCR-AP-7	Barium, Total	26	0	Rosner	2.303, 2.658, 2.136	NA	2.841, 2.822, 2.802	0	NA	NA
CCR-AP-8	Barium, Total	24	0	Dixon	0.1842	0.8845	NA	NA	No	NA
CCR-AP-9	Barium, Total	23	0	Dixon	0.6	0	NA	NA	Yes	No
Pooled Background	Barium, Total	74	0	Rosner	4.007, 3.427, 3.393	NA	3.278, 3.273, 3.268	3	NA	No
CCR-AP-1R	Beryllium, Total	25	0	Dixon	0.1637	0.7705	NA	NA	No	NA
CCR-AP-2	Beryllium, Total	25	1	Dixon	0.3774	0.1563	NA	NA	No	NA
CCR-AP-3	Beryllium, Total	22	21	Dixon	1	0	NA	NA	Yes	No
CCR-AP-4R	Beryllium, Total	24	7	Dixon	0.3922	0.1393	NA	NA	No	NA
CCR-AP-5	Beryllium, Total	24	18	Dixon	0.8918	0	NA	NA	Yes	No
CCR-AP-6	Beryllium, Total	22	9	Dixon	0.7974	0	NA	NA	Yes	No
CCR-AP-7	Beryllium, Total	26	19	Rosner	2.182, 2.128, 2.2	NA	2.841, 2.822, 2.802	0	NA	NA
CCR-AP-8	Beryllium, Total	24	17	Dixon	0.1765	0.8309	NA	NA	No	NA
CCR-AP-9	Beryllium, Total	23	3	Dixon	0.7064	0	NA	NA	Yes	No
Pooled Background	Beryllium, Total	74	22	Rosner	3.232, 3.188, 3.112	NA	3.278, 3.273, 3.268	0	NA	NA
CCR-AP-1R	Cadmium, Total	25	13	Dixon	0.5187	0.00901	NA	NA	Yes	No
CCR-AP-2	Cadmium, Total	25	3	Dixon	0.5625	0	NA	NA	Yes	No
CCR-AP-3	Cadmium, Total	22	21	Dixon	1	0	NA	NA	Yes	No
CCR-AP-4R	Cadmium, Total	24	12	Dixon	0.7716	0	NA	NA	Yes	No
CCR-AP-5	Cadmium, Total	24	6	Dixon	0.7835	0	NA	NA	Yes	No
CCR-AP-6	Cadmium, Total	22	9	Dixon	0.6304	0	NA	NA	Yes	No
CCR-AP-7	Cadmium, Total	26	23	Rosner	3.098, 3.602, 3.769	NA	2.841, 2.822, 2.802	3	NA	No
CCR-AP-8	Cadmium, Total	24	16	Dixon	0.1053	0.3655	NA	NA	No	NA
CCR-AP-9	Cadmium, Total	23	10	Dixon	0.5097	0.01802	NA	NA	Yes	No
Pooled Background	Cadmium, Total	74	46	Rosner	3.642, 4.059, 4.664	NA	3.278, 3.273, 3.268	3	NA	No
CCR-AP-1R	Chromium, Total	25	0	Dixon	0.2667	0.5756	NA	NA	No	NA
CCR-AP-2	Chromium, Total	25	0	Dixon	0.293	0.448	NA	NA	No	NA
CCR-AP-3	Chromium, Total	22	4	Dixon	0.7615	0	NA	NA	Yes	No
CCR-AP-4R	Chromium, Total	23	3	Dixon	0.5329	0.009682	NA	NA	Yes	No
CCR-AP-5	Chromium, Total	24	18	Dixon	0.8364	0	NA	NA	Yes	No
CCR-AP-6	Chromium, Total	22	1	Dixon	0.3474	0.3069	NA	NA	No	NA
CCR-AP-7	Chromium, Total	26	14	Rosner	4.363, 2.25, 2.532	NA	2.841, 2.822, 2.802	1	NA	NA
CCR-AP-8	Chromium, Total	23	2	Dixon	0.2206	0.9132	NA	NA	No	NA
CCR-AP-9	Chromium, Total	23	0	Dixon	0.7327	0	NA	NA	Yes	No
Pooled Background	Chromium, Total	74	14	Rosner	3.558, 3.653, 3.436	NA	3.278, 3.273, 3.268	3	NA	No
CCR-AP-1R	Cobalt, Total	25	0	Dixon	0.07989	0.2342	NA	NA	No	NA
CCR-AP-2	Cobalt, Total	25	0	Dixon	0.5283	0.005461	NA	NA	Yes	No
CCR-AP-3	Cobalt, Total	22	0	Dixon	0.28	0.6	NA	NA	No	NA
CCR-AP-4R	Cobalt, Total	24	0	Dixon	0.3627	0.212	NA	NA	No	NA
CCR-AP-5	Cobalt, Total	24	0	Dixon	0.327	0.3316	NA	NA	No	NA
CCR-AP-6	Cobalt, Total	22	0	Dixon	0.3311	0.3674	NA	NA	No	NA
CCR-AP-7	Cobalt, Total	26	2	Rosner	4.178, 2.363, 2.701	NA	2.841, 2.822, 2.802	1	NA	NA

Rosner or Dixon Test for Outliers (R programming, package = outliers, version 0.15, function = dixon.test or rosnerTest, non-detects substituted by 0.5*reporting limit)

Location	Constituent	n	n, non-detects	Outlier Test	statistic	p-value (Dixon)	critical value (Rosner)	n of statistical outliers (significance level = 0.05, Rosner)	statistical outlier (significance level = 0.05, Dixon)	outlier removed
CCR-AP-8	Cobalt, Total	24	0	Dixon	0.3597	0.2209	NA	NA	No	NA
CCR-AP-9	Cobalt, Total	23	0	Dixon	0.6863	0	NA	NA	Yes	No
Pooled Background	Cobalt, Total	74	2	Rosner	3.447, 3.74, 3.887	NA	3.278, 3.273, 3.268	3	NA	No
CCR-AP-1R	Fluoride	25	0	Dixon	0.4894	0.01983	NA	NA	Yes	No
CCR-AP-2	Fluoride	25	0	Dixon	0.2857	0.4818	NA	NA	No	NA
CCR-AP-3	Fluoride	22	1	Dixon	0.5	0.02699	NA	NA	Yes	No
CCR-AP-4R	Fluoride	24	1	Dixon	0.4333	0.07039	NA	NA	No	NA
CCR-AP-5	Fluoride	24	0	Dixon	0.2055	0.97	NA	NA	No	NA
CCR-AP-6	Fluoride	22	0	Dixon	0.2791	0.605	NA	NA	No	NA
CCR-AP-7	Fluoride	25	0	Dixon	0.46	0.03778	NA	NA	Yes	No
CCR-AP-8	Fluoride	24	1	Dixon	0.6484	0	NA	NA	Yes	No
CCR-AP-9	Fluoride	23	0	Dixon	0.28	0.5687	NA	NA	No	NA
Pooled Background	Fluoride	73	0	Rosner	3.339, 2.904, 2.316	NA	3.273, 3.268, 3.263	1	NA	NA
CCR-AP-1R	Lead, Total	25	0	Dixon	0.2064	0.9303	NA	NA	No	NA
CCR-AP-2	Lead, Total	25	0	Dixon	0.4517	0.04415	NA	NA	Yes	No
CCR-AP-3	Lead, Total	22	4	Dixon	0.8912	0	NA	NA	Yes	No
CCR-AP-4R	Lead, Total	24	1	Dixon	0.5714	0	NA	NA	Yes	No
CCR-AP-5	Lead, Total	24	15	Dixon	0.7572	0	NA	NA	Yes	No
CCR-AP-6	Lead, Total	22	0	Dixon	0.5276	0.01459	NA	NA	Yes	No
CCR-AP-7	Lead, Total	26	12	Rosner	4.08, 2.843, 3.348	NA	2.841, 2.822, 2.802	3	NA	No
CCR-AP-8	Lead, Total	24	1	Dixon	0.2564	0.6611	NA	NA	No	NA
CCR-AP-9	Lead, Total	23	0	Dixon	0.4509	0.06059	NA	NA	No	NA
Pooled Background	Lead, Total	74	12	Rosner	3.746, 3.356, 3.569	NA	3.278, 3.273, 3.268	3	NA	No
CCR-AP-1R	Lithium, Total	25	0	Dixon	0.3608	0.1977	NA	NA	No	NA
CCR-AP-2	Lithium, Total	25	5	Dixon	0.3478	0.2365	NA	NA	No	NA
CCR-AP-3	Lithium, Total	22	18	Dixon	0	0	NA	NA	Yes	No
CCR-AP-4R	Lithium, Total	24	6	Dixon	0.4989	0.01915	NA	NA	Yes	No
CCR-AP-5	Lithium, Total	24	0	Dixon	0.1844	0.8858	NA	NA	No	NA
CCR-AP-6	Lithium, Total	22	11	Dixon	0.8163	0	NA	NA	Yes	No
CCR-AP-7	Lithium, Total	26	0	Rosner	3.985, 2.047, 2.307	NA	2.841, 2.822, 2.802	1	NA	NA
CCR-AP-8	Lithium, Total	24	17	Dixon	0	0	NA	NA	Yes	No
CCR-AP-9	Lithium, Total	23	0	Dixon	0.6437	0	NA	NA	Yes	No
Pooled Background	Lithium, Total	74	0	Rosner	4.009, 3.079, 3.063	NA	3.278, 3.273, 3.268	1	NA	NA
CCR-AP-1R	Mercury, Total	24	24	Dixon	All results are non-detect	NA	NA	NA	NA	NA
CCR-AP-2	Mercury, Total	24	15	Dixon	0.541	0.00371	NA	NA	Yes	No
CCR-AP-3	Mercury, Total	21	21	Dixon	All results are non-detect	NA	NA	NA	NA	NA
CCR-AP-4R	Mercury, Total	23	23	Dixon	All results are non-detect	NA	NA	NA	NA	NA
CCR-AP-5	Mercury, Total	23	20	Dixon	0.8533	0	NA	NA	Yes	No
CCR-AP-6	Mercury, Total	21	19	Dixon	0.7742	0	NA	NA	Yes	No
CCR-AP-7	Mercury, Total	23	22	Dixon	1	0	NA	NA	Yes	No
CCR-AP-8	Mercury, Total	23	22	Dixon	1	0	NA	NA	Yes	No
CCR-AP-9	Mercury, Total	22	22	Dixon	All results are non-detect	NA	NA	NA	NA	NA
Pooled Background	Mercury, Total	69	68	Rosner	7.667, 5.203, 4.584	NA	3.252, 3.247, 3.241	3	NA	No
CCR-AP-1R	Molybdenum, Total	25	0	Dixon	0.5556	0	NA	NA	Yes	No
CCR-AP-2	Molybdenum, Total	25	1	Dixon	0.2472	0.6811	NA	NA	No	NA
CCR-AP-3	Molybdenum, Total	22	0	Dixon	0.6145	0	NA	NA	Yes	No
CCR-AP-4R	Molybdenum, Total	24	3	Dixon	0.4605	0.04273	NA	NA	Yes	No
CCR-AP-5	Molybdenum, Total	24	0	Dixon	0.359	0.2231	NA	NA	No	NA
CCR-AP-6	Molybdenum, Total	22	0	Dixon	0.4	0.1567	NA	NA	No	NA
CCR-AP-7	Molybdenum, Total	26	2	Rosner	3.252, 2.56, 2.777	NA	2.841, 2.822, 2.802	1	NA	NA
CCR-AP-8	Molybdenum, Total	24	0	Dixon	0.4245	0.08222	NA	NA	No	NA
CCR-AP-9	Molybdenum, Total	23	2	Dixon	0.6034	0	NA	NA	Yes	No
Pooled Background	Molybdenum, Total	74	4	Rosner	4.095, 4.217, 2.66	NA	3.278, 3.273, 3.268	2	NA	NA
CCR-AP-1R	Radium-226 & 228	23	0	Dixon	0.5301	0.01063	NA	NA	Yes	No
CCR-AP-2	Radium-226 & 228	23	1	Dixon	0.462	0.04898	NA	NA	Yes	No
CCR-AP-3	Radium-226 & 228	20	0	Dixon	0.4608	0.08453	NA	NA	No	NA
CCR-AP-4R	Radium-226 & 228	22	1	Dixon	0.8918	0	NA	NA	Yes	No
CCR-AP-5	Radium-226 & 228	22	0	Dixon	0.5274	0.01466	NA	NA	Yes	No
CCR-AP-6	Radium-226 & 228	20	0	Dixon	0.7758	0	NA	NA	Yes	No
CCR-AP-7	Radium-226 & 228	23	0	Dixon	0.2009	0.9594	NA	NA	No	NA
CCR-AP-8	Radium-226 & 228	21	2	Dixon	0.3209	0.4416	NA	NA	No	NA
CCR-AP-9	Radium-226 & 228	21	0	Dixon	0.5544	0.008749	NA	NA	Yes	No
Pooled Background	Radium-226 & 228	67	0	Rosner	3.831, 3.7, 2.475	NA	3.241, 3.236, 3.23	2	NA	NA
CCR-AP-1R	Selenium, Total	25	14	Dixon	0	0	NA	NA	Yes	No
CCR-AP-2	Selenium, Total	25	9	Dixon	0.4049	0.1019	NA	NA	No	NA
CCR-AP-3	Selenium, Total	22	1	Dixon	0.8269	0	NA	NA	Yes	No
CCR-AP-4R	Selenium, Total	24	11	Dixon	0.9532	0	NA	NA	Yes	No
CCR-AP-5	Selenium, Total	24	16	Dixon	0.7729	0	NA	NA	Yes	No
CCR-AP-6	Selenium, Total	22	5	Dixon	0.8407	0	NA	NA	Yes	No

Location	Constituent	n	n, non-detects	Outlier Test	statistic	p-value (Dixon)	critical value (Rosner)	n of statistical outliers (significance level = 0.05, Rosner)	statistical outlier (significance level = 0.05, Dixon)	outlier removed
CCR-AP-7	Selenium, Total	24	21	Dixon	1	0	NA	NA	Yes	No
CCR-AP-8	Selenium, Total	24	3	Dixon	0.6909	0	NA	NA	Yes	No
CCR-AP-9	Selenium, Total	23	17	Dixon	0.5297	0.01078	NA	NA	Yes	No
Pooled Background	Selenium, Total	72	52	Rosner	3.57, 3.975, 4.558	NA	3.268, 3.263, 3.258	3	NA	No
CCR-AP-1R	Thallium, Total	25	8	Dixon	0.4977	0.01613	NA	NA	Yes	No
CCR-AP-2	Thallium, Total	25	5	Dixon	0.8445	0	NA	NA	Yes	No
CCR-AP-3	Thallium, Total	22	21	Dixon	1	0	NA	NA	Yes	No
CCR-AP-4R	Thallium, Total	24	14	Dixon	0.8207	0	NA	NA	Yes	No
CCR-AP-5	Thallium, Total	24	17	Dixon	0.9298	0	NA	NA	Yes	No
CCR-AP-6	Thallium, Total	22	14	Dixon	0.8299	0	NA	NA	Yes	No
CCR-AP-7	Thallium, Total	26	22	Rosner	2.973, 2.705, 3.224	NA	2.841, 2.822, 2.802	3	NA	No
CCR-AP-8	Thallium, Total	24	18	Dixon	0.5453	0.002127	NA	NA	Yes	No
CCR-AP-9	Thallium, Total	23	14	Dixon	0.8221	0	NA	NA	Yes	No
Pooled Background	Thallium, Total	74	44	Rosner	6.116, 4.261, 4.509	NA	3.278, 3.273, 3.268	3	NA	No

Table A-4. Results of Mann Kendall and Thiel Sen Trend Tests

Secular Trend Evaluation for All Data																											
Mann Kendall Trends				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)								Thiel-Sen Test (R programming, package = zyp, version = 0.11-1, function = zyp.sen, non-detects substituted by 0.5*reporting limit)				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)								Thiel-Sen Test (R programming, package = zyp, version = 0.11-1, function = zyp.sen, non-detects substituted by 0.5*reporting limit)			
Location	Constituent	Trends, All Data	Trends, Recent Data	n	n, detected results	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)	Sen Slope	Intercept (for slope in units of change per year)	Sen Slope (units of change per year)	n	n, detected results	Coefficient of Variance	recent data date range	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)	Sen Slope	Intercept (for slope in units of change per year)	Sen Slope (units of change per year)			
CCR-AP-1R	Antimony, Total	No Trend	Decreasing	25	18	1.21	0.0277	0.869	13.1	8	NA	NA	NA	8	7	0.749	2022-05-10 to 2025-05-13	-0.618	0.0461	95.4	-17	-1.3e-06	0.0018	-0.00046			
CCR-AP-2	Antimony, Total	No Trend	Decreasing	25	14	1.07	0.0987	0.52	48	28	NA	NA	NA	8	6	0.98	2022-05-09 to 2025-05-14	-0.815	0.00832	99.2	-22	-1.3e-06	0.0021	-0.00047			
CCR-AP-3	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	22	5	0.77	NA	NA	NA	NA	NA	NA	NA	8	3	0.878	2020-11-13 to 2024-05-07	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-4R	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect	No Trend	24	9	2.32	NA	NA	NA	NA	NA	NA	NA	8	6	1.97	2021-11-22 to 2025-05-13	-0.182	0.618	38.2	-5	NA	NA	NA			
CCR-AP-5	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect	Stable	24	6	1.32	NA	NA	NA	NA	NA	NA	NA	8	4	0.846	2021-11-22 to 2025-05-15	0	1	0	0	NA	NA	NA			
CCR-AP-6	Antimony, Total	No Trend	No Trend	22	13	1.99	0.033	0.861	13.9	7	NA	NA	NA	8	6	1.96	2020-11-13 to 2024-05-07	0.0378	1	0	1	NA	NA	NA			
CCR-AP-7	Antimony, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	26	3	0.352	NA	NA	NA	NA	NA	NA	NA	8	0	0.447	2021-11-04 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-8	Antimony, Total	Stable	Stable	24	17	0.78	-0.115	0.463	53.7	-30	NA	NA	NA	8	6	0.98	2021-11-23 to 2025-05-15	-0.0364	1	0	-1	NA	NA	NA			
CCR-AP-9	Antimony, Total	No Trend	Decreasing	23	16	1.13	-0.15	0.339	66.1	-37	NA	NA	NA	8	5	1.23	2021-05-13 to 2025-05-13	-0.764	0.0126	98.7	-21	-1.1e-06	0.0023	-0.00041			
Pooled Background	Antimony, Total	No Trend	Not Evaluated - Majority of data (>50%) non-detect	74	37	1.23	0.0576	0.499	50.1	139	NA	NA	NA	8	3	0.122	NA	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-1R	Arsenic, Total	Probably Increasing	Decreasing	25	25	0.713	0.241	0.0971	90.3	72	NA	NA	NA	8	8	0.584	2022-05-10 to 2025-05-13	-0.714	0.0187	98.1	-20	-1.3e-05	0.022	-0.0048			
CCR-AP-2	Arsenic, Total	Increasing	Stable	25	25	0.861	0.407	0.00501	99.5	121	7.1e-06	0.0034	0.0026	8	8	0.764	2022-05-09 to 2025-05-14	-0.255	0.454	54.6	-7	NA	NA	NA			
CCR-AP-3	Arsenic, Total	Probably Increasing	Stable	22	22	0.134	0.271	0.0883	91.2	61	NA	NA	NA	8	8	0.166	2020-11-13 to 2024-05-07	-0.265	0.445	55.5	-7	NA	NA	NA			
CCR-AP-4R	Arsenic, Total	Increasing	Stable	24	24	0.922	0.435	0.00337	99.7	119	4e-05	0.064	0.015	8	8	0.875	2021-11-22 to 2025-05-13	-0.0714	0.902	9.8	-2	NA	NA	NA			
CCR-AP-5	Arsenic, Total	Increasing	No Trend	23	21	1.75	0.41	0.00698	99.3	103	3.7e-07	0.0006	0.00014	8	8	1.08	2021-11-22 to 2025-05-15	-0.255	0.454	54.6	-7	NA	NA	NA			
CCR-AP-6	Arsenic, Total	Probably Increasing	Stable	22	22	0.243	0.292	0.0711	92.9	64	NA	NA	NA	8	8	0.189	2020-11-13 to 2024-05-07	-0.309	0.369	63.1	-8	NA	NA	NA			
CCR-AP-7	Arsenic, Total	Decreasing	Stable	26	26	0.744	-0.403	0.00441	99.6	-130	-1.8e-06	0.008	-0.00065	8	8	0.619	2021-11-04 to 2025-05-15	-0.182	0.618	38.2	-5	NA	NA	NA			
CCR-AP-8	Arsenic, Total	Increasing	Stable	24	24	0.3	0.301	0.0461	95.4	81	1.1e-05	0.081	0.0041	8	8	0.393	2021-11-23 to 2025-05-15	-0.371	0.258	74.2	-10	NA	NA	NA			
CCR-AP-9	Arsenic, Total	No Trend	Stable	23	23	0.636	0.0716	0.653	34.7	18	NA	NA	NA	8	8	0.494	2021-05-13 to 2025-05-13	-0.5	0.108	89.2	-14	NA	NA	NA			
Pooled Background	Arsenic, Total	No Trend	No Trend	74	74	0.852	0.0264	0.744	25.6	71	NA	NA	NA	8	8	0.719	NA	0.109	0.803	19.7	3	NA	NA	NA			
CCR-AP-1R	Barium, Total	Probably Increasing	Stable	25	25	0.658	0.258	0.0757	92.4	77	NA	NA	NA	8	8	0.36	2022-05-10 to 2025-05-13	-0.327	0.319	68.1	-9	NA	NA	NA			
CCR-AP-2	Barium, Total	Probably Increasing	No Trend	25	25	0.798	0.285	0.0496	95	85	NA	NA	NA	8	8	0.756	2022-05-09 to 2025-05-14	0.143	0.711	28.9	4	NA	NA	NA			
CCR-AP-3	Barium, Total	No Trend	Stable	22	22	0.0764	0.147	0.364	63.6	33	NA	NA	NA	8	8	0.0905	2020-11-13 to 2024-05-07	-0.286	0.386	61.4	-8	NA	NA	NA			
CCR-AP-4R	Barium, Total	No Trend	Stable	24	24	0.429	0.0332	0.842	15.8	9	NA	NA	NA	8	8	0.509	2021-11-22 to 2025-05-13	-0.182	0.618	38.2	-5	NA	NA	NA			
CCR-AP-5	Barium, Total	Increasing	Stable	24	24	0.698	0.516	0.000504	99.9	141	1.8e-05	0.032	0.0064	8	8	0.656	2021-11-22 to 2025-05-15	-0.109	0.803	19.7	-3	NA	NA	NA			
CCR-AP-6	Barium, Total	Stable	Decreasing	22	22	0.126	-0.338	0.133	86.7	-54	NA	NA	NA	8	8	0.143	2020-11-13 to 2024-05-07	-0.691	0.0248	97.5	-19	-9.2e-05	0.57	-0.034			
CCR-AP-7	Barium, Total	Decreasing	No Trend	26	26	0.218	-0.353	0.016	98.4	-109	-1.1e-05	0.14	-0.0041	8	8	0.143	2021-11-04 to 2025-05-15	0.322	0.358	64.2	8	NA	NA	NA			
CCR-AP-8	Barium, Total	Decreasing	Stable	24	24	0.225	-0.586	0.000778	100	-160	-9.4e-05	0.61	-0.034	8	8	0.196	2021-11-23 to 2025-05-15	-0.519	0.102	89.8	-14	NA	NA	NA			
CCR-AP-9	Barium, Total	No Trend	Stable	23	23	0.422	0.157	0.314	68.6	39	NA	NA	NA	8	8	0.328	2021-05-13 to 2025-05-13	-0.357	0.266	73.4	-10	NA	NA	NA			
Pooled Background	Barium, Total	No Trend	Stable	74	74	0.608	0.109	0.175	82.5	291	NA	NA	NA	8	8	0.537	NA	-0.189	0.61	39	-5	NA	NA	NA			
CCR-AP-1R	Beryllium, Total	Increasing	Decreasing	25	25	0.824	0.29	0.0445	95.5	87	5.3e-07	0.00082	0.00019	8	8	0.58	2022-05-10 to 2025-05-13	-0.643	0.0354	96.5	-18	-3.3e-06	0.0046	-0.0012			
CCR-AP-2	Beryllium, Total	Increasing	Stable	25	24	0.994	0.375	0.00949	99.1	112	1e-06	0.00057	0.00036	8	7	0.841	2022-05-09 to 2025-05-14	-0.143	0.711	28.9	-4	NA	NA	NA			
CCR-AP-3	Beryllium, Total	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.0254	NA	NA	NA	NA	NA	NA	NA	8	1	0.0418	2020-11-13 to 2024-05-07	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-4R	Beryllium, Total	Increasing	Stable	24	17	0.666	0.483	0.0014	99.9	128	1.6e-07	0.00029	5.8e-05	8	5	0.526	2021-11-22 to 2025-05-13	-0.113	0.799	20.1	-3	NA	NA	NA			
CCR-AP-5	Beryllium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	24	6	1.3	NA	NA	NA	NA	NA	NA	NA	8	1	0.61	2021-11-22 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-6	Beryllium, Total	No Trend	Not Evaluated - Majority of data (>50%) non-detect	22	13	0.925	0.232	0.151	84.9	51	NA	NA	NA	8	2	0.452	2020-11-13 to 2024-05-07	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-7	Beryllium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	26	7	0.386	NA	NA	NA	NA	NA	NA	NA	8	0	0.189	2021-11-04 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-8	Beryllium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	24	7	0.291	NA	NA	NA	NA	NA	NA	NA	8	1	0.21	2021-11-23 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA			
CCR-AP-9	Beryllium, Total	No Trend	No Trend	23	20	0.994	0.232	0.132	86.8	58	NA	NA	NA	8	5	1.01	2021-05-13 to 2025-05-13	-0.473	0.135	86.5	-13	NA	NA	NA			
Pooled Background	Beryllium, Total	Increasing	Stable	74	52	1.19	0.207	0.0113	98.9	538	1.6e-07	0.0005	5.8e-05	8	4	0.511	NA	-0.0412	1	0	-1	NA	NA	NA			
CCR-AP-1R	Cadmium, Total	Not Evaluated - Majority of data (>50%) non-detect	Stable	25	12	1.37	NA	NA	NA	NA	NA	NA	NA	8	7	0.415	2022-05-10 to 2025-05-13	-0.143	0.711	28.9	-4	NA	NA	NA			
CCR-AP-2	Cadmium, Total	No Trend	No Trend	25	22	1.06	0.215	0.141	85.9	64	NA	NA	NA	8	8	0.821	2022-05-09 to 2025-05-14	0.0714	0.902	9.8	2	NA	NA	NA			
CCR-AP-3	Cadmium, Total	Not Evaluated - Only one detected result	Not Evaluated - Only one detected result	22	1	0.0517	NA	NA	NA	NA	NA	NA	NA	8	1	0.0875	2020-11-13 to 2024-05-07	NA	NA	NA	NA	NA	NA	NA			

Note: Mann Kendall test run on seasonally adjusted data if a seasonal trend was identified.
Mann Kendall Trends are classified based on Aziz (2003) guidance. Sen slope only calculated for increasing or decreasing trends as indicated by Mann-Kendall trend test results.

Secular Trend Evaluation for All Data														Secular Trend Evaluation for Recent Data (subset of 8 most recent data points)										
Mann Kendall Trends				Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)							Thiel-Sen Test (R programming, package = zyp, version = 0.11-1, function = zyp.sen, non-detects substituted by 0.5*reporting limit)			Mann-Kendall Test (R programming, package = Kendall, version = 2.2.1, function = MannKendall, non-detects substituted by 0.5*reporting limit)							Thiel-Sen Test (R programming, package = zyp, version = 0.11-1, function = zyp.sen, non-detects substituted by 0.5*reporting limit)			
Location	Constituent	Trends, All Data	Trends, Recent Data	n	n _t detected results	Coefficient of Variance	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)	Sen Slope	Intercept (for slope in units of change per year)	Sen Slope (units of change per year)	n	n _t detected results	Coefficient of Variance	recent data date range	Kendall's Tau	p-value	Confidence Factor	Kendall Score (S)	Sen Slope	Intercept (for slope in units of change per year)	Sen Slope (units of change per year)
CCR-AP-9	Molybdenum, Total	Decreasing	No Trend	23	21	0.875	-0.575	0.000141	100	-145	-1.8e-06	0.0065	-0.00065	8	6	1.55	2021-05-13 to 2025-05-13	-0.473	0.135	86.5	-13	NA	NA	NA
Pooled Background	Molybdenum, Total	Decreasing	Stable	74	70	0.771	-0.324	0.0000497	100	-870	-1.5e-06	0.0069	-0.00056	8	7	0.607	NA	-0.0714	0.902	9.8	-2	NA	NA	NA
CCR-AP-1R	Radium-226 & 228	No Trend	Stable	23	23	0.687	0.138	0.369	63.1	35	NA	NA	NA	8	8	0.659	2021-11-22 to 2025-05-13	-0.214	0.536	46.4	-6	NA	NA	NA
CCR-AP-2	Radium-226 & 228	Stable	Stable	23	22	0.7	-0.0277	0.874	12.6	-7	NA	NA	NA	8	7	0.706	2021-11-22 to 2025-05-14	-0.5	0.108	89.2	-14	NA	NA	NA
CCR-AP-3	Radium-226 & 228	No Trend	No Trend	20	20	0.652	0.0211	0.922	7.8	4	NA	NA	NA	8	8	0.733	2020-11-13 to 2024-05-07	0.0714	0.902	9.8	2	NA	NA	NA
CCR-AP-4R	Radium-226 & 228	No Trend	No Trend	22	21	1.72	-0.117	0.463	53.7	-27	NA	NA	NA	8	7	1.71	2021-11-22 to 2025-05-13	-0.5	0.108	89.2	-14	NA	NA	NA
CCR-AP-5	Radium-226 & 228	No Trend	Stable	22	22	1.1	0.0996	0.535	46.5	23	NA	NA	NA	8	8	0.787	2021-11-22 to 2025-05-15	-0.286	0.386	61.4	-8	NA	NA	NA
CCR-AP-6	Radium-226 & 228	Stable	Stable	20	20	0.916	0	1	0	0	NA	NA	NA	8	8	0.572	2020-11-13 to 2024-05-07	0	1	0	0	NA	NA	NA
CCR-AP-7	Radium-226 & 228	Stable	Stable	23	23	0.538	-0.162	0.291	70.9	-41	NA	NA	NA	8	8	0.464	2021-11-04 to 2025-05-15	0	1	0	0	NA	NA	NA
CCR-AP-8	Radium-226 & 228	Probably Decreasing	Decreasing	21	19	0.543	-0.295	0.0655	93.5	-62	NA	NA	NA	8	6	0.691	2021-11-23 to 2025-05-15	-0.643	0.0354	96.5	-18	-0.0015	2.2	-0.56
CCR-AP-9	Radium-226 & 228	Increasing	Stable	21	21	0.749	0.339	0.0345	96.5	71	0.0011	2.1	0.4	8	8	0.587	2021-05-13 to 2025-05-13	-0.109	0.803	19.7	-3	NA	NA	NA
Pooled Background	Radium-226 & 228	No Trend	Stable	67	67	0.962	0.0769	0.36	64	170	NA	NA	NA	8	8	0.888	NA	-0.357	0.266	73.4	-10	NA	NA	NA
CCR-AP-1R	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect	Stable	25	11	1.31	NA	NA	NA	NA	NA	NA	NA	8	6	0.472	2022-05-10 to 2025-05-13	0	1	0	0	NA	NA	NA
CCR-AP-2	Selenium, Total	No Trend	Stable	25	16	1.16	0.242	0.103	89.7	70	NA	NA	NA	8	6	0.89	2022-05-09 to 2025-05-14	-0.0364	1	0	-1	NA	NA	NA
CCR-AP-3	Selenium, Total	No Trend	No Trend	22	21	0.545	0.196	0.23	77	43	NA	NA	NA	8	8	0.224	2020-11-13 to 2024-05-07	0.0772	0.898	10.2	2	NA	NA	NA
CCR-AP-4R	Selenium, Total	No Trend	No Trend	24	13	1.78	0.214	0.181	81.9	52	NA	NA	NA	8	5	0.243	2021-11-22 to 2025-05-13	0.0772	0.898	10.2	2	NA	NA	NA
CCR-AP-5	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect	No Trend	24	8	1.28	NA	NA	NA	NA	NA	NA	NA	8	5	1.19	2021-11-22 to 2025-05-15	-0.113	0.799	20.1	-3	NA	NA	NA
CCR-AP-6	Selenium, Total	No Trend	Stable	22	17	0.965	0.143	0.378	62.2	32	NA	NA	NA	8	6	0.373	2020-11-13 to 2024-05-07	-0.0364	1	0	-1	NA	NA	NA
CCR-AP-7	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	24	3	0.24	NA	NA	NA	NA	NA	NA	NA	8	0	0	2021-11-04 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA
CCR-AP-8	Selenium, Total	No Trend	No Trend	24	21	0.546	0.0521	0.746	25.4	14	NA	NA	NA	8	8	0.558	2021-11-23 to 2025-05-15	0.0714	0.902	9.8	2	NA	NA	NA
CCR-AP-9	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	23	6	1.17	NA	NA	NA	NA	NA	NA	NA	8	1	1.57	2021-05-13 to 2025-05-13	NA	NA	NA	NA	NA	NA	NA
Pooled Background	Selenium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	72	20	1.31	NA	NA	NA	NA	NA	NA	NA	8	1	0.181	NA	NA	NA	NA	NA	NA	NA	NA
CCR-AP-1R	Thallium, Total	Probably Increasing	Stable	25	17	0.888	0.289	0.0506	94.9	84	NA	NA	NA	8	4	0.319	2022-05-10 to 2025-05-13	-0.113	0.799	20.1	-3	NA	NA	NA
CCR-AP-2	Thallium, Total	Increasing	Stable	25	20	1.52	0.497	0.000664	99.9	146	2.9e-07	0.00017	0.00011	8	6	0.401	2022-05-09 to 2025-05-14	-0.231	0.521	47.9	-6	NA	NA	NA
CCR-AP-3	Thallium, Total	Not Evaluated - Only one detected result	Not Evaluated - No detected results	22	1	0.277	NA	NA	NA	NA	NA	NA	NA	8	0	0.314	2020-11-13 to 2024-05-07	NA	NA	NA	NA	NA	NA	NA
CCR-AP-4R	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	24	10	1.04	NA	NA	NA	NA	NA	NA	NA	8	2	0.342	2021-11-22 to 2025-05-13	NA	NA	NA	NA	NA	NA	NA
CCR-AP-5	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Majority of data (>50%) non-detect	24	7	1.52	NA	NA	NA	NA	NA	NA	NA	8	3	0.484	2021-11-22 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA
CCR-AP-6	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	22	8	1.06	NA	NA	NA	NA	NA	NA	NA	8	0	0.314	2020-11-13 to 2024-05-07	NA	NA	NA	NA	NA	NA	NA
CCR-AP-7	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	26	4	0.372	NA	NA	NA	NA	NA	NA	NA	8	0	0.314	2021-11-04 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA
CCR-AP-8	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	24	6	0.445	NA	NA	NA	NA	NA	NA	NA	8	1	0.306	2021-11-23 to 2025-05-15	NA	NA	NA	NA	NA	NA	NA
CCR-AP-9	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - No detected results	23	9	1.5	NA	NA	NA	NA	NA	NA	NA	8	0	1.5	2021-05-13 to 2025-05-13	NA	NA	NA	NA	NA	NA	NA
Pooled Background	Thallium, Total	Not Evaluated - Majority of data (>50%) non-detect	Not Evaluated - Only one detected result	74	30	1.12	NA	NA	NA	NA	NA	NA	NA	8	1	0.269	NA	NA	NA	NA	NA	NA	NA	NA

Note:
Mann Kendall test run on seasonally adjusted data if a seasonal trend was identified.
Mann Kendall Trends are classified based on Aziz (2003) guidance. Sen slope only calculated for increasing or decreasing trends as indicated by Mann-Kendall trend test results.

Table A-5. Upper Tolerance Limits (UTLs) & Updated Groundwater Protection Standards (GWPS), Assessment Monitoring

Constituent	Units	n	n, non-detects	max reporting limit	max detected value	Interwell Background Data Characterization [a]								normalizing data transformation (if any)	Groundwater Protection Standard (GWPS) Determination					UTL Calculation Details		
						mean	median	min sample date	max sample date	standard deviation	coefficient of variation	Mann Kendall trend	data distribution (Shapiro-Francia) [b]		UTL	UTL Result Detection Status [c]	MCL/RSL	GWPS	GWPS Source	UTL calculation method	UTL calculation details	Minimum Coverage (%)
Antimony, Total	mg/L	74	37	0.02	0.0079	0.00305	0.002	2016-06-10	2025-05-15	0.00448	1.47	No Trend	Non-Parametric	NA - Original Data	0.02	No	0.006	0.02	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	96
Barium, Total	mg/L	74	0	NA	0.72	0.209	0.16	2016-06-10	2025-05-15	0.127	0.608	No Trend	Parametric (lognormal trans)	Natural Logarithm	0.529	NA	2	2	MCL/RSL	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)	Background mean + K * Background Standard Deviation	95
Beryllium, Total	mg/L	74	22	0.01	0.0066	0.00157	0.001	2016-06-10	2025-05-15	0.0018	1.15	Increasing	Non-Parametric	NA - Original Data	0.01	No	0.004	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	96
Cadmium, Total	mg/L	74	46	0.01	0.00087	0.00146	0.001	2016-06-10	2025-05-15	0.00236	1.61	More than 50% NDs	Non-Parametric	NA - Original Data	0.01	No	0.005	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	96
Chromium, Total	mg/L	74	14	0.01	0.16	0.0273	0.012	2016-06-10	2025-05-15	0.0372	1.36	Increasing	Parametric (lognormal trans)	Natural Logarithm	0.184	NA	0.1	0.184	BTV	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)	Background mean + K * Background Standard Deviation	95
Cobalt, Total	mg/L	74	2	0.002	0.081	0.0152	0.0098	2016-06-10	2025-05-15	0.0191	1.25	No Trend	Non-Parametric	NA - Original Data	0.081	Yes	0.006	0.081	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	96
Fluoride	mg/L	73	0	NA	0.81	0.381	0.36	2016-06-10	2025-05-15	0.128	0.337	Stable	Parametric (lognormal trans)	Natural Logarithm	0.718	NA	4	4	MCL/RSL	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)	Background mean + K * Background Standard Deviation	95
Lead, Total	mg/L	74	12	0.003	0.094	0.0158	0.0085	2016-06-10	2025-05-15	0.0208	1.32	No Trend	Non-Parametric	NA - Original Data	0.094	Yes	0.015	0.094	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	96
Lithium, Total	mg/L	74	0	NA	0.23	0.0494	0.0385	2016-06-10	2025-05-15	0.0451	0.913	No Trend	Non-Parametric	NA - Original Data	0.23	Yes	0.04	0.23	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	96
Mercury, Total	mg/L	69	68	0.002	0.00032	0.000241	0.0002	2016-06-10	2025-05-15	0.000224	0.93	More than 50% NDs	Non-Parametric	NA - Original Data	0.002	No	0.002	0.002	BTV = MCL/RSL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.8
Molybdenum, Total	mg/L	74	4	0.05	0.023	0.00645	0.00515	2016-06-10	2025-05-15	0.00651	1.01	Decreasing	Parametric (lognormal trans)	Natural Logarithm	0.0223	NA	0.1	0.1	MCL/RSL	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)	Background mean + K * Background Standard Deviation	95
Radium-226 & 228	pCi/L	67	0	NA	14.4	3.07	1.93	2016-06-10	2025-05-15	2.96	0.962	No Trend	Parametric (lognormal trans)	Natural Logarithm	14.8	NA	5	14.8	BTV	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)	Background mean + K * Background Standard Deviation	95
Selenium, Total	mg/L	72	52	0.05	0.025	0.00783	0.005	2016-06-10	2025-05-15	0.0107	1.37	More than 50% NDs	Non-Parametric	NA - Original Data	0.05	No	0.05	0.05	BTV = MCL/RSL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	95.9
Thallium, Total	mg/L	74	44	0.01	0.0027	0.00106	0.001	2016-06-10	2025-05-15	0.00134	1.26	More than 50% NDs	Non-Parametric	NA - Original Data	0.01	No	0.002	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)	Maximum Value (ND = RL, Non-discriminatory of detection status)	96

Note:

[a] Interwell background datasets are analyte specific and include data collected from background wells (CCR-AP-7 and WAP-1). Interwell background datasets were re-tested for outliers, secular trends, and data normality. No outliers were removed. Presented values are in original (untransformed) units.

[b] Parametric tolerance limit calculations were performed on normally distributed background data. If background data were not normally distributed, non-parametric tolerance limit calculations were performed.

[c] In some cases, the maximum value selected as the UTL is a non-detect result with an elevated reporting limit.

Units = mg/L, milligrams per liter. pCi/L = picocuries per liter.

Table A-6. Intrawell Upper Prediction Limit (UPL) Calculations

Location	Constituent	Units	Baseline Distribution [a]	Prediction Interval Calculation	Baseline Data Characterization [a]								Trend (Baseline Data)	degrees of freedom	future samples (M)	Prediction Limits		Parametric UPL Calculation Statistics			Non-Parametric UPL Calculation Statistics	
					min baseline sample date	max baseline sample	n	n, non-detects	max	mean	standard deviation	Prediction Limit Calculation Method				UPL	confidence level (%)	(percentile of student's t-test)	t quantile	actual confidence level (%)	false positive rate (%)	
CCR-AP-2	Arsenic, Total	mg/L	Normal	Parametric	2016-06-10	2025-05-14	25	0	0.048	0.0148	0.0127	Increasing	24	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.0549	99.96	0.9975	3.091	NA	NA	
CCR-AP-3	Arsenic, Total	mg/L	Normal	Parametric	2016-06-10	2024-05-07	22	0	0.095	0.0754	0.0101	Probably Increasing	21	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.108	99.95	0.9975	3.135	NA	NA	
CCR-AP-4R	Arsenic, Total	mg/L	Lognormal	Parametric (ln Transform)	2016-06-10	2025-05-13	24	0	0.55	0.129	0.119	Increasing	23	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.504	99.96	0.9975	3.104	NA	NA	
CCR-AP-5	Arsenic, Total	mg/L	Non-Parametric	Non-Parametric	2016-06-10	2025-05-15	23	2	0.024	0.00412	0.00688	Increasing	22	4	Non-Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.3.1)	0.024	NA	NA	NA	85.2	14.8	
CCR-AP-6	Arsenic, Total	mg/L	Normal	Parametric	2016-06-10	2024-05-07	22	0	0.12	0.0926	0.0225	Probably Increasing	21	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.165	99.95	0.9975	3.135	NA	NA	
CCR-AP-8	Arsenic, Total	mg/L	Normal	Parametric	2017-03-09	2025-05-15	24	0	0.12	0.0857	0.0257	Increasing	23	4	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)	0.167	99.96	0.9975	3.104	NA	NA	

Table A-6. Confidence Intervals & SSL Identification, Assessment Monitoring

Confidence Interval (CI) Dataset													CI Calculation [a]					SSL Confirmation		Non-Parametric CI Statistics	
Location	Constituent	Units	n	max (Rank n)	min (Rank 1)	median	mean	standard deviation	Overall Trend	Recent (8) Trend	Data handling	CI dataset distribution	CI calculation method	degrees of freedom	95% Confidence UCL	95% Confidence LCL	GWPS	LCL > GWPS?	bootstrap iterations	bootstrap median	
CCR-AP-4R	Arsenic, Total	mg/L	8	0.55	0.027	0.14	0.194	0.17	Increasing	Stable	Overall data trend, LCL calculation on recent (8) data	Normal	Calculation of the Confidence Interval Around the Normal Mean (Parametric)	7	0.336	0.0522	0.504	No	NA	NA	
CCR-AP-5	Molybdenum, Total	mg/L	8	0.34	0.046	0.18	0.187	0.0867	Decreasing	No Trend	Overall data trend, LCL calculation on recent (8) data	Normal	Calculation of the Confidence Interval Around the Normal Mean (Parametric)	7	0.26	0.114	0.1	Yes, SSL	NA	NA	

Note:
Confidence intervals are calculated for analyte/well pairs with GWPS exceedances in the event dataset.
[a] The 95% lower confidence level (LCL) is compared to the Groundwater Protection Standard (GWPS) to confirm a statistically significant level (SSL). The 95% upper confidence level (UCL) is also shown for purposes of comparison.

Table A-8. Groundwater Protection Standard (GWPS) Summary

Background Location	Constituent	Units	Background Threshold Value (BTV)	BTV Type	MCL/RL	GWPS	GWPS Source	BTV Calculation Method
Upgradient wells	Antimony, Total	mg/L	0.02	Interwell UTL	0.006	0.02	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
CCR-AP-2	Arsenic, Total	mg/L	0.0549	Intrawell UPL	0.01	0.0549	BTV	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)
CCR-AP-3	Arsenic, Total	mg/L	0.108	Intrawell UPL	0.01	0.108	BTV	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)
CCR-AP-4R	Arsenic, Total	mg/L	0.504	Intrawell UPL	0.01	0.504	BTV	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)
CCR-AP-5	Arsenic, Total	mg/L	0.024	Intrawell UPL	0.01	0.024	BTV	Non-Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.3.1)
CCR-AP-6	Arsenic, Total	mg/L	0.165	Intrawell UPL	0.01	0.165	BTV	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)
CCR-AP-8	Arsenic, Total	mg/L	0.167	Intrawell UPL	0.01	0.167	BTV	Parametric Prediction Limit for M Future Values (USEPA, 2009 - Chapter 18.2.1)
Upgradient wells	Barium, Total	mg/L	0.529	Interwell UTL	2	2	MCL/RL	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)
Upgradient wells	Beryllium, Total	mg/L	0.01	Interwell UTL	0.004	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
Upgradient wells	Cadmium, Total	mg/L	0.01	Interwell UTL	0.005	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
Upgradient wells	Chromium, Total	mg/L	0.184	Interwell UTL	0.1	0.184	BTV	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)
Upgradient wells	Cobalt, Total	mg/L	0.081	Interwell UTL	0.006	0.081	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
Upgradient wells	Fluoride	mg/L	0.718	Interwell UTL	4	4	MCL/RL	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)
Upgradient wells	Lead, Total	mg/L	0.094	Interwell UTL	0.015	0.094	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
Upgradient wells	Lithium, Total	mg/L	0.23	Interwell UTL	0.04	0.23	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
Upgradient wells	Mercury, Total	mg/L	0.002	Interwell UTL	0.002	0.002	BTV = MCL/RL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
Upgradient wells	Molybdenum, Total	mg/L	0.0223	Interwell UTL	0.1	0.1	MCL/RL	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)
Upgradient wells	Radium-226 & 228	pCi/L	14.8	Interwell UTL	5	14.8	BTV	Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.1)
Upgradient wells	Selenium, Total	mg/L	0.05	Interwell UTL	0.05	0.05	BTV = MCL/RL	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)
Upgradient wells	Thallium, Total	mg/L	0.01	Interwell UTL	0.002	0.01	BTV	Non-Parametric Tolerance Limits (USEPA, 2009 - Chapter 17.2.2)

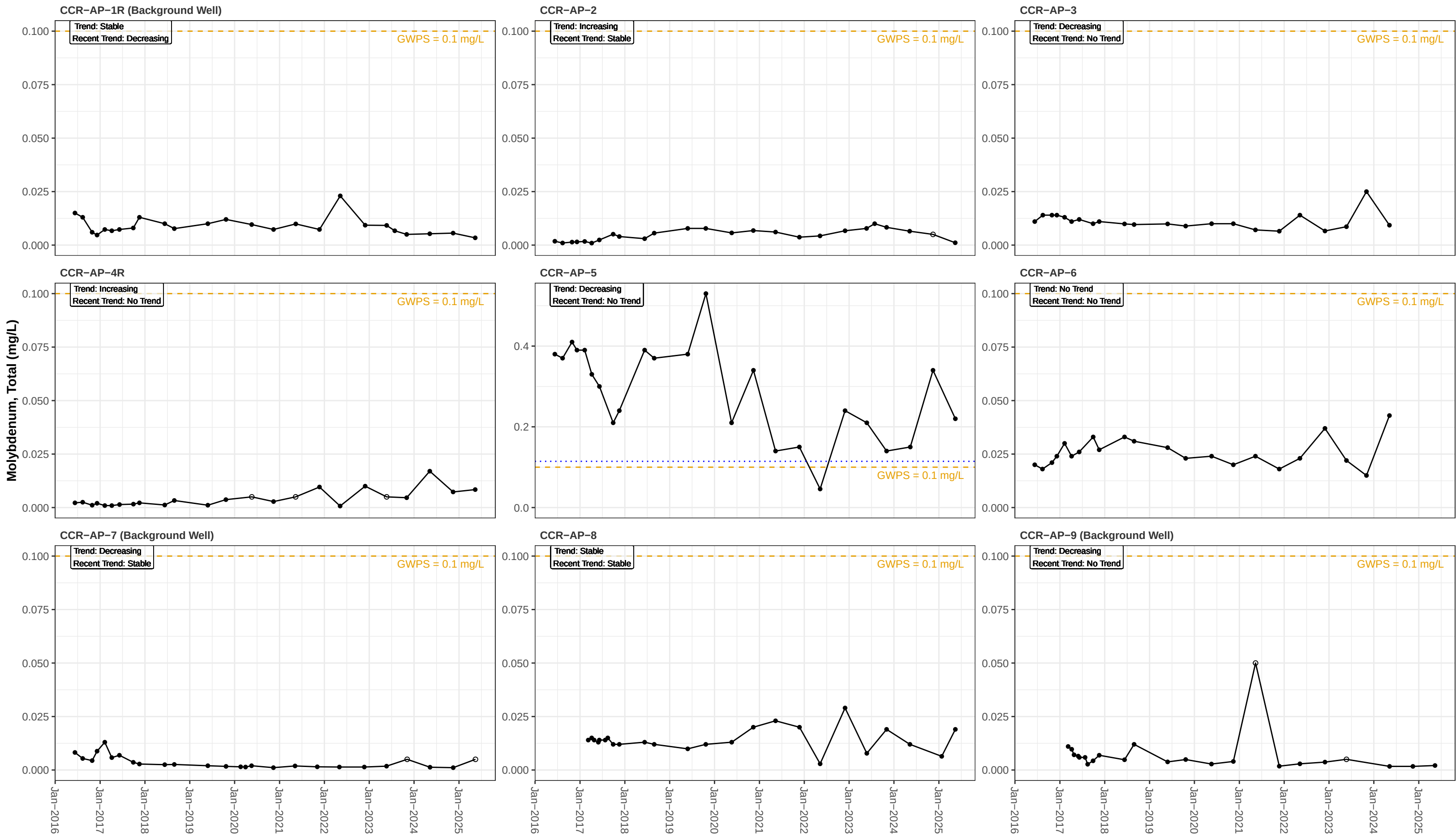
Table A-9. Groundwater Protection Standard (GWPS) Comparison Table

Location	Constituent	Units	Sample Date	Sample Result	Background Threshold Value (BTV)	BTV Type	GWPS	GWPS Exceedance	LCL	SSL Confirmed
CCR-AP-4R	Arsenic, Total	mg/L	2025-05-13	0.55	0.504	Intrawell UPL	0.504	Yes	0.0522	No
CCR-AP-5	Molybdenum, Total	mg/L	2025-05-15	0.22	0.0223	Interwell UTL	0.1	Yes	0.114	Yes
CCR-AP-2	Antimony, Total	mg/L	2025-05-14	0.002 U	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-4R	Antimony, Total	mg/L	2025-05-13	0.0014 J	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-5	Antimony, Total	mg/L	2025-05-15	0.002 U	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-8	Antimony, Total	mg/L	2025-05-15	0.0017 J	0.02	Interwell UTL	0.02	No	NA	No
CCR-AP-2	Arsenic, Total	mg/L	2025-05-14	0.0021 J	0.0549	Intrawell UPL	0.0549	No	NA	No
CCR-AP-5	Arsenic, Total	mg/L	2025-05-15	0.0011 J	0.024	Intrawell UPL	0.024	No	NA	No
CCR-AP-8	Arsenic, Total	mg/L	2025-05-15	0.083	0.167	Intrawell UPL	0.167	No	NA	No
CCR-AP-2	Barium, Total	mg/L	2025-05-14	0.068	0.529	Interwell UTL	2	No	NA	No
CCR-AP-4R	Barium, Total	mg/L	2025-05-13	1.7	0.529	Interwell UTL	2	No	NA	No
CCR-AP-5	Barium, Total	mg/L	2025-05-15	0.046	0.529	Interwell UTL	2	No	NA	No
CCR-AP-8	Barium, Total	mg/L	2025-05-15	0.34	0.529	Interwell UTL	2	No	NA	No
CCR-AP-2	Beryllium, Total	mg/L	2025-05-14	0.00028 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-4R	Beryllium, Total	mg/L	2025-05-13	0.0011	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-5	Beryllium, Total	mg/L	2025-05-15	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-8	Beryllium, Total	mg/L	2025-05-15	0.00061 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-2	Cadmium, Total	mg/L	2025-05-14	0.0002 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-4R	Cadmium, Total	mg/L	2025-05-13	0.00046 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-5	Cadmium, Total	mg/L	2025-05-15	0.00011 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-8	Cadmium, Total	mg/L	2025-05-15	0.00037 J	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-2	Chromium, Total	mg/L	2025-05-14	0.0076	0.184	Interwell UTL	0.184	No	NA	No
CCR-AP-4R	Chromium, Total	mg/L	2025-05-13	0.024	0.184	Interwell UTL	0.184	No	NA	No
CCR-AP-5	Chromium, Total	mg/L	2025-05-15	0.005 U	0.184	Interwell UTL	0.184	No	NA	No
CCR-AP-8	Chromium, Total	mg/L	2025-05-15	0.015	0.184	Interwell UTL	0.184	No	NA	No
CCR-AP-2	Cobalt, Total	mg/L	2025-05-14	0.01	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-4R	Cobalt, Total	mg/L	2025-05-13	0.013	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-5	Cobalt, Total	mg/L	2025-05-15	0.0029	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-8	Cobalt, Total	mg/L	2025-05-15	0.0045	0.081	Interwell UTL	0.081	No	NA	No
CCR-AP-2	Fluoride	mg/L	2025-05-14	0.2	0.718	Interwell UTL	4	No	NA	No
CCR-AP-4R	Fluoride	mg/L	2025-05-13	0.63	0.718	Interwell UTL	4	No	NA	No
CCR-AP-5	Fluoride	mg/L	2025-05-15	1.2	0.718	Interwell UTL	4	No	NA	No
CCR-AP-8	Fluoride	mg/L	2025-05-15	0.43	0.718	Interwell UTL	4	No	NA	No
CCR-AP-2	Lead, Total	mg/L	2025-05-14	0.0038	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-4R	Lead, Total	mg/L	2025-05-13	0.019	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-5	Lead, Total	mg/L	2025-05-15	0.001 U	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-8	Lead, Total	mg/L	2025-05-15	0.0058	0.094	Interwell UTL	0.094	No	NA	No
CCR-AP-2	Lithium, Total	mg/L	2025-05-14	0.006 J	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-4R	Lithium, Total	mg/L	2025-05-13	0.015	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-5	Lithium, Total	mg/L	2025-05-15	0.073	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-8	Lithium, Total	mg/L	2025-05-15	0.0054 J	0.23	Interwell UTL	0.23	No	NA	No
CCR-AP-2	Mercury, Total	mg/L	2025-05-14	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-4R	Mercury, Total	mg/L	2025-05-13	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-5	Mercury, Total	mg/L	2025-05-15	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-8	Mercury, Total	mg/L	2025-05-15	0.0002 U	0.002	Interwell UTL	0.002	No	NA	No
CCR-AP-2	Molybdenum, Total	mg/L	2025-05-14	0.0011 J	0.0223	Interwell UTL	0.1	No	NA	No
CCR-AP-4R	Molybdenum, Total	mg/L	2025-05-13	0.0084	0.0223	Interwell UTL	0.1	No	NA	No
CCR-AP-8	Molybdenum, Total	mg/L	2025-05-15	0.019	0.0223	Interwell UTL	0.1	No	NA	No
CCR-AP-2	Radium-226 & 228	pCi/L	2025-05-14	0.386 U	14.8	Interwell UTL	14.8	No	NA	No
CCR-AP-4R	Radium-226 & 228	pCi/L	2025-05-13	1.74	14.8	Interwell UTL	14.8	No	NA	No
CCR-AP-5	Radium-226 & 228	pCi/L	2025-05-15	1.24	14.8	Interwell UTL	14.8	No	NA	No
CCR-AP-8	Radium-226 & 228	pCi/L	2025-05-15	0.362 U	14.8	Interwell UTL	14.8	No	NA	No
CCR-AP-2	Selenium, Total	mg/L	2025-05-14	0.005 U	0.05	Interwell UTL	0.05	No	NA	No
CCR-AP-4R	Selenium, Total	mg/L	2025-05-13	0.0024 J	0.05	Interwell UTL	0.05	No	NA	No
CCR-AP-5	Selenium, Total	mg/L	2025-05-15	0.005 U	0.05	Interwell UTL	0.05	No	NA	No
CCR-AP-8	Selenium, Total	mg/L	2025-05-15	0.0029 J	0.05	Interwell UTL	0.05	No	NA	No
CCR-AP-2	Thallium, Total	mg/L	2025-05-14	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-4R	Thallium, Total	mg/L	2025-05-13	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-5	Thallium, Total	mg/L	2025-05-15	0.001 U	0.01	Interwell UTL	0.01	No	NA	No
CCR-AP-8	Thallium, Total	mg/L	2025-05-15	0.00057 J	0.01	Interwell UTL	0.01	No	NA	No

Note:

BTV = Background Threshold Value, which is either the Upper Threshold Limit (UTL) or Upper Prediction Limit (UPL). GWPS = Groundwater Protection Standard, which is the max value between the BTV and the Maximum Contaminant Level/Regional Screening Level. LCL = 95% Lower Confidence Level. SSL = Statistically significant level, which is identified when an event result exceeds the GWPS and the LCL is greater than the GWPS.

Assessment Monitoring Trend Analysis for Molybdenum, Total



GWPS LCL Detection Status: Detect Non-Detect

Notes: GWPS = Groundwater Protection Standard (max level between the MCL/RSI and Background Threshold Value). LCL = lower confidence limits. If the LCL > GWPS, a statistically significant exceedance is concluded.

*Recent data are considered the 8 most recent data points collected for each well/analyte.

Trend classifications are based on Aziz (2003) guidance for Mann Kendall trend test results. Datasets with less than 50% non-detect results could not be evaluated for trends.

APPENDIX B

Field Forms

**CENTERPOINT ENERGY - FB CULLEY STATION
EAST ASH POND**

CCR Groundwater Sampling Event

Gauging Date: May 12, 2025

Atlas Project No. 170LF01777

WELL ID	DATE	TIME	TOP OF CASING ELEVATION (FT-MSL)	DTW FROM TOC	STATIC WATER ELEVATION (FT-MSL)
East Ash Pond Wells					
CCR-AP-2	5/12/2025	9:36	394.02	30.95	363.07
CCR-AP-3R	Not gauged - dry per H&A		394.55	-	-
CCR-AP-4R	5/12/2025		394.98	23.94	371.04
CCR-AP-5	5/12/2025	10:12	394.38	22.48	371.90
CCR-AP-5I	5/12/2025	10:15	394.59	24.48	370.11
CCR-AP-6	5/12/2025	10:31	396.75	Dry to hydrasleeve (44.10)	<352.65
CCR-AP-6I	5/12/2025	10:27	396.88	49.17	347.71
CCR-AP-8	5/12/2025	9:47	393.68	35.30	358.38
CCR-AP-8I	5/12/2025	9:50	393.46	49.31	344.15
CCR-AP-11	5/12/2025	10:06	385.10	15.11	369.99
Background Wells					
CCR-AP-1R	5/12/2025	8:52	441.64	53.23	388.41
CCR-AP-7	5/12/2025	8:57	434.11	4.97	429.14
CCR-AP-9	5/12/2025	8:45	448.69	63.68	385.01

NOTES

DTW= Depth to Water

TOC= Top of Casing

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond
LOCATION	Newburgh, Indiana
CLIENT	Southern Indiana Gas and Electric Company
CONTRACTOR	N/A

H&A FILE NO.	0129420
PROJECT MGR.	Neal Kochis
FIELD REP.	M. Bretting
SAMPLING DATE	05/13/25

Sampling Data:		Well Depth as Built:	65.0	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-1R	Well Depth Measured:	-	ft	Initial Depth To Water:	53.17	ft	Field Parameter Device:	Aquatroll 600
Start time:	13:55	Depth To Top Of Screen:	55.0	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	14:15	Depth To Bottom Of Scree	65.0	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Hydrasleeve

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min) or (gal/min)	Cumulative Purge Vol. (liters) or (gal)	Temp-erature (°C)		Conduct-ivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
		[100 mL/min] to [500 mL/min]	-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]		
					20.39	7.70	1167.4	2.61	1166.8	-97.3	Collected field parameters before filling bottles
Sample ID:	CCR-AP-1R			Date:	5/13/2025	Time:	13:55	QAQC Samples: -			

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/13/2025 2:51:53 PM
Project: Culley May 2025 GWM (9)
Operator Name: M. Breting

Location Name: CCR-AP-1R Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 55.0 ft Total Depth: 65.0 ft Initial Depth to Water: 53.17 ft	Pump Type: Hydrasleeve Tubing Type: Hydrasleeve Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 0 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Weather Conditions:
Partly cloudy 75 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/13/2025 2:51 PM	00:00	7.70 pH	20.39 °C	1,167.4 µS/cm	2.61 mg/L	1,166.8 NTU	-97.3 mV	53.17 ft	0.00 ml/min
5/13/2025 2:54 PM	03:00	7.63 pH	22.48 °C	1,174.6 µS/cm	3.00 mg/L	2,088.6 NTU	-59.5 mV	53.17 ft	0.00 ml/min
5/13/2025 2:57 PM	06:00	7.72 pH	23.95 °C	1,152.5 µS/cm	1.45 mg/L	4,723.5 NTU	-34.7 mV	53.17 ft	0.00 ml/min
5/13/2025 3:00 PM	09:00	7.64 pH	25.30 °C	1,149.7 µS/cm	1.19 mg/L	3,258.0 NTU	-24.6 mV	53.17 ft	0.00 ml/min
5/13/2025 3:03 PM	12:00	7.65 pH	26.79 °C	1,163.5 µS/cm	1.13 mg/L	2,535.3 NTU	-19.6 mV	53.17 ft	0.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-1R	

LOW FLOW SAMPLING FORM

Page 1 of 1

PROJECT	F.B. Culley Generating Station - East Ash Pond
LOCATION	Newburgh, Indiana
CLIENT	Southern Indiana Gas and Electric Company
CONTRACTOR	N/A

H&A FILE NO.	0129420
PROJECT MGR.	Neal Kochis
FIELD REP.	M. Breting
SAMPLING DATE	05/14/25

Sampling Data:		Well Depth as Built:	46.0	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-2	Well Depth Measured:	-	ft	Initial Depth To Water:	31.98	ft	Field Parameter Device:	Aquatroll 600
Start time:	14:15	Depth To Top Of Screen:	36.0	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	14:20	Depth To Bottom Of Scree	46.0	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Hydrasleeve

[illegible]

well volume = $3.14 \text{ (PI)} \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/14/2025 3:21:40 PM
Project: Culley May 2025 GWM (14)
Operator Name: M. Breting

Location Name: CCR-AP-2 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 36.0 ft Total Depth: 46.0 ft Initial Depth to Water: 31.98 ft	Pump Type: Hydrasleeve Tubing Type: Hydrasleeve Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 0 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Weather Conditions:
Cloudy 82 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/14/2025 3:21 PM	00:00	6.77 pH	22.11 °C	1,865.2 µS/cm		979.01 NTU	21.0 mV	31.98 ft	0.00 ml/min
5/14/2025 3:24 PM	03:00	6.91 pH	23.33 °C	1,930.1 µS/cm		560.37 NTU	12.1 mV	31.98 ft	0.00 ml/min
5/14/2025 3:27 PM	06:00	6.78 pH	25.93 °C	1,945.8 µS/cm	1.99 mg/L	523.44 NTU	6.0 mV	31.98 ft	0.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-2	

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	M. Breting
CONTRACTOR	N/A	SAMPLING DATE	-

Sampling Data:		Well Depth as Built:	45.0	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-3	Well Depth Measured:	-	ft	Initial Depth To Water:	-	ft	Field Parameter Device:	Aquatroll 600
Start time:	-	Depth To Top Of Screen:	35.0	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☐ No
Finish Time:	-	Depth To Bottom Of Scree	45.0	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

[illegible]

Sample ID:	No Sample	Date:	5/12/2025	Time:		QAQC Samples:

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	M. Breting
CONTRACTOR	N/A	SAMPLING DATE	05/13/25

Sampling Data:		Well Depth as Built:	35.5	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-4	Well Depth Measured:	-	ft	Initial Depth To Water:	23.7	ft	Field Parameter Device:	Aquatroll 600
Start time:	10:46	Depth To Top Of Screen:	25.5	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	11:00	Depth To Bottom Of Scree	35.5	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Hydrasleeve

[illegible]

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/13/2025 11:46:11 AM
Project: Culley May 2025 GWM (7)
Operator Name: M. Breting

Location Name: CCR-AP-4 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 25.5 ft Total Depth: 35.5 ft Initial Depth to Water: 23.70 ft	Pump Type: Hydrasleeve Tubing Type: Hydrasleeve Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 0 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Weather Conditions:
Partly cloudy 70 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/13/2025 11:46 AM	00:00	7.39 pH	21.86 °C	1,200.5 µS/cm	3.92 mg/L	619.31 NTU	-101.2 mV	23.70 ft	0.00 ml/min
5/13/2025 11:49 AM	03:00	7.41 pH	24.87 °C	1,027.6 µS/cm	3.46 mg/L	224.48 NTU	-96.3 mV	23.70 ft	0.00 ml/min
5/13/2025 11:52 AM	06:00	7.38 pH	26.29 °C	1,025.7 µS/cm	2.52 mg/L	173.20 NTU	-94.0 mV	23.70 ft	0.00 ml/min
5/13/2025 11:55 AM	09:00	7.72 pH	27.03 °C	792.79 µS/cm	3.75 mg/L	407.39 NTU	-90.2 mV	23.70 ft	0.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-4	



LOW FLOW SAMPLING FORM

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PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. M. Breting
SAMPLING DATE 05/15/25

Sampling Data: Well Depth as Built: 44.0 ft Well Diameter: 2.0 in Sampling Device: ample Pro Portable Pump
Well ID: CCR-AP-5 Well Depth Measured: - ft Initial Depth To Water: 22.32 ft Field Parameter Device: Aquatroll 600
Start time: 18:13 Depth To Top Of Screen: 34.0 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☐ Yes ☒ No
Finish Time: 18:35 Depth To Bottom Of Scree 44.0 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters) or (gal)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
0			200		20.44	7.05	1617.1	4.28	416.19	53.2	
3	22.45		200		18.79	7.00	16.82.2	0.43	423.62	47.9	
6			200		18.42	7.02	1673.4	0.27	197.43	43.1	
9			200		18.43	7.01	1675.8	0.31	94.02	38.9	
12			200		18.37	7.01	1683.3	0.33	57.92	32.6	
15			200		18.23	7.00	1689	0.24	40.79	29.4	
18			200		18.25	7.02	1690	0.19	29.41	28	
21			200		18.14	7.00	1689.2	0.22	28.06	25.7	
24			200		18.17	7.00	1688.5	0.13	17.40	24.8	
27			200		18.08	7.00	1688.8	0.12	12.59	23.5	
30	22.80		200		18.16	7.00	1688.5	0.14	12.29	22.8	
33			200		18.19	6.99	1689.2	0.09	10.62	21.9	
36			200		18.14	6.98	1688.3	0.09	9.30	21.3	
39			200		18.06	6.99	1691.2	0.09	6.63	21.4	
Sample ID:	CCR-AP-5			Date:	5/15/2025	Time:	18:13	QAQC Samples: FieldBlank1-051525			

well volume = 3.14 (Pi) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/15/2025 6:32:16 PM
Project: Culley May 2025 GWM (22)
Operator Name: M. Breting

Location Name: CCR-AP-5 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 34.0 ft Total Depth: 44.0 ft Initial Depth to Water: 22.32 ft	Pump Type: Sample Pro port. pump Tubing Type: HDPE Pump Intake From TOC: 39.0 ft Estimated Total Volume Pumped: 7800 ml Flow Cell Volume: 130 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.48 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/15/2025 6:32 PM	00:00	7.05 pH	20.44 °C	1,617.1 μS/cm	4.29 mg/L	416.19 NTU	53.2 mV		200.00 ml/min
5/15/2025 6:35 PM	03:00	7.00 pH	18.79 °C	1,682.2 μS/cm	0.43 mg/L	423.62 NTU	47.9 mV	22.45 ft	200.00 ml/min
5/15/2025 6:38 PM	06:00	7.02 pH	18.42 °C	1,673.4 μS/cm	0.27 mg/L	197.43 NTU	43.1 mV		200.00 ml/min
5/15/2025 6:41 PM	09:00	7.01 pH	18.43 °C	1,675.8 μS/cm	0.31 mg/L	94.02 NTU	38.9 mV		200.00 ml/min
5/15/2025 6:44 PM	12:00	7.01 pH	18.37 °C	1,683.3 μS/cm	0.33 mg/L	57.92 NTU	32.6 mV		200.00 ml/min
5/15/2025 6:47 PM	15:00	7.00 pH	18.23 °C	1,689.0 μS/cm	0.24 mg/L	40.79 NTU	29.4 mV		200.00 ml/min
5/15/2025 6:50 PM	18:00	7.02 pH	18.25 °C	1,690.0 μS/cm	0.19 mg/L	29.41 NTU	28.0 mV		200.00 ml/min
5/15/2025 6:53 PM	21:00	7.00 pH	18.14 °C	1,689.2 μS/cm	0.22 mg/L	28.06 NTU	25.7 mV		200.00 ml/min
5/15/2025 6:56 PM	24:00	7.00 pH	18.17 °C	1,688.5 μS/cm	0.13 mg/L	17.40 NTU	24.8 mV		200.00 ml/min
5/15/2025 6:59 PM	27:00	7.00 pH	18.08 °C	1,688.8 μS/cm	0.12 mg/L	12.59 NTU	23.5 mV		200.00 ml/min
5/15/2025 7:02 PM	30:00	7.00 pH	18.16 °C	1,688.5 μS/cm	0.14 mg/L	12.29 NTU	22.8 mV	22.80 ft	200.00 ml/min
5/15/2025 7:05 PM	33:00	6.99 pH	18.19 °C	1,689.2 μS/cm	0.09 mg/L	10.62 NTU	21.9 mV		200.00 ml/min
5/15/2025 7:08 PM	36:00	6.98 pH	18.14 °C	1,688.3 μS/cm	0.09 mg/L	9.30 NTU	21.3 mV		200.00 ml/min
5/15/2025 7:11 PM	39:00	6.99 pH	18.06 °C	1,691.2 μS/cm	0.09 mg/L	6.63 NTU	21.4 mV		200.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-5, Field Blank 1_051525	



LOW FLOW SAMPLING FORM

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PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. M. Breting
SAMPLING DATE 05/14/25

Sampling Data: Well Depth as Built: 85.3 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-5I Well Depth Measured: - ft Initial Depth To Water: 24.37 ft Field Parameter Device: Aquatroll 600
Start time: 17:40 Depth To Top Of Screen: 75.3 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☐ Yes ☒ No
Finish Time: 18:10 Depth To Bottom Of Scree 85.3 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]	-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]		
0			175		19.47	7.06	2446	-	1116.7	42.2	
3			175		18.88	7.08	2512.4	2.85	3887.6	38	
6			175		18.71	7.06	2503.8	4.62	3037.4	45.3	
9			175		18.87	7.04	2492.7	5.94	2659.1	52.5	
12	25.62		175		18.8	7.01	2482.2	6.5	1959.9	57.1	
15			125		19.14	6.99	2483.7	7.22	1696.4	60.9	
18			125		20.31	6.95	2486.1	6.9	1393.8	65.6	
21			125		21.17	6.92	2489.5	6.77	1268.1	69.2	Emptied flow cell of turbid water
24			125		23.17	6.97	-	-	-	66.2	
27	25.17		125		23.33	6.92	2500.4	6.81	927.56	69.8	
30			125		21.96	6.91	2492.9	6.85	954.81	68.2	
33			125		22.37	6.9	2493.1	6.58	875.77	68.1	
36			125		22.4	6.89	2495.4	6.69	677.01	67	
39			125		21.85	6.91	2473	6.63	610.18	64.3	
42			125		21.49	6.91	2490.8	6.43	534.14	63.5	
45			125		21.28	6.91	2480.4	6.44	604.04	62.7	
48			125		21.32	6.9	2483.6	6.87	504.36	62.2	
51			125		21.10	6.9	2480.4	6.83	403.41	60.6	
Sample ID:	CCR-AP-5I			Date:	5/14/2025	Time:	17:40	QAQC Samples: -			

well volume = 3.14 (PI) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min



LOW FLOW SAMPLING FORM

Page 2 of 3

PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. M. Breting
SAMPLING DATE 05/14/25

Sampling Data: Well Depth as Built: 85.3 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-5I Well Depth Measured: - ft Initial Depth To Water: 24.37 ft Field Parameter Device: Aquatroll 600
Start time: 17:40 Depth To Top Of Screen: 75.3 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☐ Yes ☒ No
Finish Time: 18:10 Depth To Bottom Of Scree: 85.3 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
54	24.95				21.22	6.89	2484.0	6.61	373.01	60.1	
57					21.08	6.89	2479.1	6.74	412.08	58.9	
60					20.81	6.89	2478.4	6.92	263.99	58.1	
63					21.12	6.88	2473	6.59	318.29	57.7	
66					21.09	6.91	2472.5	6.9	275.83	56.9	
69					20.54	6.88	2466.3	7.05	301.67	53.6	
72	24.85				20.69	6.87	2459.1	6.85	278.1	55.5	
75					20.67	6.86	2464.1	6.8	238.34	55.8	
78					20.64	6.86	2458.6	6.54	203.49	55.2	
81					20.71	6.85	2462	6.7	257.93	55.4	
84					20.7	6.85	2458.1	6.31	192.89	54.3	
87	24.85				20.75	6.85	2455.4	6.41	164.02	54.5	
90					20.42	6.85	2450.8	6.43	164.88	53.4	
93					20.59	6.85	2450.5	5.98	189.83	53.2	
96					20.6	6.85	2445.3	6.33	157.92	52.5	
99					20.65	6.85	2445.8	6.05	296.34	51.9	
102					20.49	6.85	2439.4	5.85	148.44	51.3	
105	24.85				20.35	6.85	2427.2	5.82	126.2	50.1	
Sample ID:	CCR-AP-5I			Date:	5/14/2025	Time:	17:40	QAQC Samples: -			

well volume = 3.14 (PI) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	M. Breting
CONTRACTOR	N/A	SAMPLING DATE	05/14/25

Sampling Data:		Well Depth as Built:	85.3	ft	Well Diameter:	2.0	in	Sampling Device:	Bladder Pump
Well ID:	CCR-AP-5I	Well Depth Measured:	-	ft	Initial Depth To Water:	24.37	ft	Field Parameter Device:	Aquatroll 600
Start time:	17:40	Depth To Top Of Screen:	75.3	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	18:10	Depth To Bottom Of Scree	85.3	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

[illegible]

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/14/2025 4:47:04 PM
Project: Culley May 2025 GWM (15)
Operator Name: M. Breting

Location Name: CCR-AP-5I Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 75.3 ft Total Depth: 85.3 ft Initial Depth to Water: 24.37 ft	Pump Type: Sample Pro portable pump Tubing Type: HDPE Pump Intake From TOC: 49.4 ft Estimated Total Volume Pumped: 19475 ml Flow Cell Volume: 130 ml Final Flow Rate: 125 ml/min Final Draw Down: 0.48 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/14/2025 4:47 PM	00:00	7.06 pH	19.47 °C	2,446.0 µS/cm		1,116.7 NTU	42.2 mV		175 ml/min
5/14/2025 4:50 PM	03:00	7.08 pH	18.88 °C	2,512.4 µS/cm	2.85 mg/L	3,887.6 NTU	38.0 mV		175 ml/min
5/14/2025 4:53 PM	06:00	7.06 pH	18.71 °C	2,503.8 µS/cm	4.62 mg/L	3,037.4 NTU	45.3 mV		175 ml/min
5/14/2025 4:56 PM	09:00	7.04 pH	18.87 °C	2,492.7 µS/cm	5.94 mg/L	2,659.1 NTU	52.5 mV		175 ml/min
5/14/2025 4:59 PM	12:00	7.01 pH	18.80 °C	2,482.2 µS/cm	6.50 mg/L	1,959.9 NTU	57.1 mV	25.62 ft	175 ml/min
5/14/2025 5:02 PM	15:00	6.99 pH	19.14 °C	2,483.7 µS/cm	7.22 mg/L	1,696.4 NTU	60.9 mV		125 ml/min
5/14/2025 5:05 PM	18:00	6.95 pH	20.31 °C	2,486.1 µS/cm	6.90 mg/L	1,393.8 NTU	65.6 mV		125 ml/min
5/14/2025 5:08 PM	21:00	6.92 pH	21.17 °C	2,489.5 µS/cm	6.77 mg/L	1,268.1 NTU	69.2 mV		125 ml/min
5/14/2025 5:11 PM	24:31	6.97 pH	23.17 °C	4.12 µS/cm	8.08 mg/L	0.51 NTU	66.2 mV		125 ml/min
5/14/2025 5:14 PM	27:31	6.92 pH	22.33 °C	2,500.4 µS/cm	6.81 mg/L	927.56 NTU	69.8 mV	25.17 ft	125 ml/min
5/14/2025 5:17 PM	30:31	6.91 pH	21.96 °C	2,492.9 µS/cm	6.85 mg/L	954.81 NTU	68.2 mV		125 ml/min
5/14/2025 5:20 PM	33:31	6.90 pH	22.37 °C	2,493.1 µS/cm	6.58 mg/L	875.77 NTU	68.1 mV		125 ml/min
5/14/2025 5:23 PM	36:31	6.89 pH	22.40 °C	2,495.4 µS/cm	6.69 mg/L	677.01 NTU	67.0 mV		125 ml/min
5/14/2025 5:26 PM	39:31	6.91 pH	21.85 °C	2,473.0 µS/cm	6.63 mg/L	610.18 NTU	64.3 mV		125 ml/min
5/14/2025 5:29 PM	42:31	6.91 pH	21.49 °C	2,490.8 µS/cm	6.45 mg/L	534.14 NTU	63.5 mV		125 ml/min

5/14/2025 5:32 PM	45:31	6.91 pH	21.28 °C	2,480.4 µS/cm	6.44 mg/L	604.04 NTU	62.7 mV		125 ml/min
5/14/2025 5:35 PM	48:31	6.90 pH	21.32 °C	2,483.6 µS/cm	6.87 mg/L	504.36 NTU	62.2 mV		125 ml/min
5/14/2025 5:38 PM	51:31	6.90 pH	21.10 °C	2,480.4 µS/cm	6.83 mg/L	403.41 NTU	60.6 mV		125 ml/min
5/14/2025 5:41 PM	54:31	6.89 pH	21.22 °C	2,484.0 µS/cm	6.61 mg/L	373.01 NTU	60.1 mV	24.95 ft	125 ml/min
5/14/2025 5:44 PM	57:31	6.89 pH	21.08 °C	2,479.1 µS/cm	6.74 mg/L	412.08 NTU	58.9 mV		125 ml/min
5/14/2025 5:47 PM	01:00:31	6.89 pH	20.81 °C	2,478.4 µS/cm	6.92 mg/L	263.99 NTU	58.1 mV		125 ml/min
5/14/2025 5:50 PM	01:03:31	6.88 pH	21.12 °C	2,473.0 µS/cm	6.59 mg/L	318.29 NTU	57.7 mV		300.00 ml/min
5/14/2025 5:53 PM	01:06:31	6.88 pH	21.09 °C	2,472.5 µS/cm	6.90 mg/L	275.83 NTU	56.9 mV		300.00 ml/min
5/14/2025 5:56 PM	01:09:31	6.91 pH	20.54 °C	2,466.3 µS/cm	7.05 mg/L	301.67 NTU	53.6 mV		300.00 ml/min
5/14/2025 5:59 PM	01:12:31	6.88 pH	20.69 °C	2,459.1 µS/cm	6.85 mg/L	278.10 NTU	55.5 mV	24.85 ft	300.00 ml/min
5/14/2025 6:02 PM	01:15:31	6.87 pH	20.67 °C	2,464.1 µS/cm	6.80 mg/L	238.34 NTU	55.8 mV		300.00 ml/min
5/14/2025 6:05 PM	01:18:31	6.86 pH	20.64 °C	2,458.6 µS/cm	6.54 mg/L	203.49 NTU	55.2 mV		300.00 ml/min
5/14/2025 6:08 PM	01:21:31	6.86 pH	20.71 °C	2,462.0 µS/cm	6.70 mg/L	257.93 NTU	55.4 mV		300.00 ml/min
5/14/2025 6:11 PM	01:24:31	6.85 pH	20.70 °C	2,458.1 µS/cm	6.31 mg/L	192.89 NTU	54.3 mV		300.00 ml/min
5/14/2025 6:14 PM	01:27:31	6.85 pH	20.75 °C	2,455.4 µS/cm	6.41 mg/L	164.02 NTU	54.5 mV	24.85 ft	300.00 ml/min
5/14/2025 6:17 PM	01:30:31	6.85 pH	20.42 °C	2,450.8 µS/cm	6.43 mg/L	164.88 NTU	53.4 mV		300.00 ml/min
5/14/2025 6:20 PM	01:33:31	6.85 pH	20.59 °C	2,450.5 µS/cm	5.98 mg/L	189.83 NTU	53.2 mV		300.00 ml/min
5/14/2025 6:23 PM	01:36:31	6.85 pH	20.60 °C	2,445.3 µS/cm	6.33 mg/L	157.92 NTU	52.5 mV		300.00 ml/min
5/14/2025 6:26 PM	01:39:31	6.85 pH	20.65 °C	2,445.8 µS/cm	6.05 mg/L	206.34 NTU	51.9 mV		300.00 ml/min
5/14/2025 6:29 PM	01:42:31	6.85 pH	20.49 °C	2,439.4 µS/cm	5.85 mg/L	148.44 NTU	51.3 mV		300.00 ml/min
5/14/2025 6:32 PM	01:45:31	6.85 pH	20.35 °C	2,427.2 µS/cm	5.82 mg/L	126.20 NTU	50.1 mV	24.85 ft	300.00 ml/min
5/14/2025 6:35 PM	01:48:31	6.85 pH	20.10 °C	2,428.5 µS/cm	5.66 mg/L	103.13 NTU	49.4 mV		300.00 ml/min
5/14/2025 6:38 PM	01:51:31	6.85 pH	19.79 °C	2,414.9 µS/cm	5.43 mg/L	112.42 NTU	48.2 mV	24.85 ft	300.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-5I	

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	M Breting
CONTRACTOR	N/A	SAMPLING DATE	05/12/25

Sampling Data:		Well Depth as Built:	45.5	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-6	Well Depth Measured:	-	ft	Initial Depth To Water:	Dry to 44.1	ft	Field Parameter Device:	-
Start time:	-	Depth To Top Of Screen:	35.5	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	-	Depth To Bottom Of Scree	45.5	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

[illegible]



LOW FLOW SAMPLING FORM

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PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. M. Breting
SAMPLING DATE 05/13/25

Sampling Data: Well Depth as Built: 74.7 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-6I Well Depth Measured: - ft Initial Depth To Water: 49.32 ft Field Parameter Device: Aquatroll 600
Start time: 9:16 Depth To Top Of Screen: 64.7 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☒ Yes ☐ No
Finish Time: 9:35 Depth To Bottom Of Scree 74.7 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
0	50.07		300		21.07	7.56	0.06	5.09	0.11	-69.6	
3			300		15.09	7.43	412.54	0.06	7.4	-14.2	
6	50.12		300		14.11	7.52	414.28	0.0	0.12	-80.6	
9			300		13.77	7.55	415.2	0.0	0.0	-88.7	
12			300		13.89	7.52	414.43	0.02	0.0	-90.4	
15	50.07		300		13.73	7.59	414.6	0.01	0.0	-97.2	RDO effectively zero/ stable
											There has already been approximately 1 gallon purging
											from the well before these stability readings. I had to
											switch out MP-50 unit because it was losing power
											during use, so I started over with a new file
											0.8 ft drawdown but was stable
Sample ID:	CCR-AP-6I			Date:	5/13/2025	Time:	9:16	QAQC Samples: -			

well volume = 3.14 (Pi) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/13/2025 9:57:10 AM
Project: Culley May 2025 GWM (5)
Operator Name: M. Breting

Location Name: CCR-AP-6I Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 64.7 ft Total Depth: 74.7 ft Initial Depth to Water: 49.32 ft	Pump Type: Dedicated Tubing Type: HDPE Pump Intake From TOC: 69.4 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 300 ml/min Final Draw Down: 0.80 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes: Purging was initiated at 9:17am (eastern time) but during purging, compressor failed. I switched to a new compressor and started a new stability log with water depth at 50.07 ft.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/13/2025 9:57 AM	00:00	7.56 pH	21.70 °C	0.06 µS/cm	5.09 mg/L	7.40 NTU	-14.2 mV	50.07 ft	300.00 ml/min
5/13/2025 10:00 AM	03:00	7.43 pH	15.09 °C	412.54 µS/cm	0.06 mg/L	0.11 NTU	-69.6 mV		300.00 ml/min
5/13/2025 10:03 AM	06:00	7.52 pH	14.11 °C	414.28 µS/cm	0.00 mg/L	0.12 NTU	-80.6 mV	50.12 ft	300.00 ml/min
5/13/2025 10:06 AM	09:00	7.55 pH	13.77 °C	415.20 µS/cm	0.00 mg/L	0.00 NTU	-88.7 mV		300.00 ml/min
5/13/2025 10:09 AM	12:00	7.52 pH	13.89 °C	414.43 µS/cm	0.02 mg/L	0.00 NTU	-90.4 mV		300.00 ml/min
5/13/2025 10:12 AM	15:00	7.59 pH	13.73 °C	414.60 µS/cm	0.01 mg/L	0.00 NTU	-97.2 mV	50.12 ft	300.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-6I	



LOW FLOW SAMPLING FORM

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PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. M. Breting
SAMPLING DATE 05/15/25

Sampling Data: Well Depth as Built: 30.0 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-7 Well Depth Measured: - ft Initial Depth To Water: 4.52 ft Field Parameter Device: Aquatroll 600
Start time: 9:26 Depth To Top Of Screen: 20.0 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☐ Yes ☒ No
Finish Time: 12:20 Depth To Bottom Of Scree 30.0 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
0			350		17.4	6.93	1018.1	0.11	32.96	-39.8	
3			350		17.44	6.99	1016.7	0.06	42.41	-45.1	
6			75		18.9	6.98	1023.8	0.13	16.29	-38.2	
9	6.8		75		20.16	6.98	1023.3	0.25	16.96	-44.1	
12			75		20.68	6.99	1024.6	0.0	10.2	-50.8	
15			75		20.61	7.00	1024.9	0.28	6.94	-53.9	
18	6.75		75		21.13	6.99	1026	0.0	9.83	-56.5	
21			75		21.66	6.99	1027.9	0.0	11.29	-57.7	
24	6.74		75		21.99	7.00	1026.9	0.0	14.35	-61.3	
27			75		22.09	7.00	1026.1	0.0	14.27	-63	
30			75		22.25	7.00	1026.1	0.25	16.44	-65.6	
33			75		22.42	7.00	1027.1	0.35	6.64	-67.2	
36			75		22.45	7.01	1026.1	0.23	11.99	-67.3	
39			75		22.29	7.01	1024.8	0.0	1.74	-66.7	
42			75		20.46	7.04	1014.9	0.12	8.09	-66.8	
45			75		20.29	7.04	1019.3	0.08	5.29	-68.5	
48			75		20.86	7.04	1020.7	0.11	5.43	-70.5	
Sample ID:	CCR-AP-7			Date:	5/15/2025	Time:	9:26	QAQC Samples: MS/MSD 2			

well volume = 3.14 (PI) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft, 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/15/2025 9:35:23 AM
Project: Culley May 2025 GWM (16)
Operator Name: M. Breting

Location Name: CCR-AP-7 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 20.0 ft Total Depth: 30.0 ft Initial Depth to Water: 4.52 ft	Pump Type: Peristaltic Tubing Type: HDPE Pump Intake From TOC: 25.0 ft Estimated Total Volume Pumped: 3850 ml Flow Cell Volume: 130 ml Final Flow Rate: 75 ml/min Final Draw Down: 2.22 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Weather Conditions:
76 degrees cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/15/2025 9:35 AM	00:00	6.93 pH	17.40 °C	1,018.1 µS/cm	0.11 mg/L	32.96 NTU	-39.8 mV		350.00 ml/min
5/15/2025 9:38 AM	03:00	6.99 pH	17.44 °C	1,016.7 µS/cm	0.06 mg/L	42.41 NTU	-45.1 mV		350.00 ml/min
5/15/2025 9:41 AM	06:00	6.98 pH	18.90 °C	1,023.8 µS/cm	0.13 mg/L	16.29 NTU	-38.2 mV		75.00 ml/min
5/15/2025 9:44 AM	09:00	6.98 pH	20.16 °C	1,023.3 µS/cm	0.25 mg/L	16.96 NTU	-44.1 mV	6.80 ft	75.00 ml/min
5/15/2025 9:47 AM	12:00	6.99 pH	20.68 °C	1,024.6 µS/cm		10.20 NTU	-50.8 mV		75.00 ml/min
5/15/2025 9:50 AM	15:00	7.00 pH	20.61 °C	1,024.9 µS/cm	0.28 mg/L	6.94 NTU	-53.9 mV		75.00 ml/min
5/15/2025 9:53 AM	18:00	6.99 pH	21.13 °C	1,026.0 µS/cm		9.83 NTU	-56.5 mV	6.75 ft	75.00 ml/min
5/15/2025 9:56 AM	21:00	6.99 pH	21.66 °C	1,027.9 µS/cm		11.29 NTU	-57.7 mV		75.00 ml/min
5/15/2025 9:59 AM	24:00	7.00 pH	21.99 °C	1,026.9 µS/cm		14.35 NTU	-61.3 mV	6.74 ft	75.00 ml/min
5/15/2025 10:02 AM	27:00	7.00 pH	22.09 °C	1,026.1 µS/cm		14.27 NTU	-63.0 mV		75.00 ml/min
5/15/2025 10:05 AM	30:00	7.00 pH	22.25 °C	1,026.9 µS/cm	0.25 mg/L	16.44 NTU	-65.6 mV		75.00 ml/min
5/15/2025 10:08 AM	33:00	7.00 pH	22.42 °C	1,027.1 µS/cm	0.35 mg/L	6.64 NTU	-67.2 mV		75.00 ml/min
5/15/2025 10:11 AM	36:00	7.01 pH	22.45 °C	1,026.1 µS/cm	0.23 mg/L	11.99 NTU	-67.3 mV		75.00 ml/min

5/15/2025 10:14 AM	39:00	7.01 pH	22.29 °C	1,024.8 μS/cm		1.74 NTU	-66.7 mV		75.00 ml/min
5/15/2025 10:17 AM	42:00	7.04 pH	20.46 °C	1,014.9 μS/cm	0.12 mg/L	8.09 NTU	-66.8 mV		75.00 ml/min
5/15/2025 10:20 AM	45:00	7.04 pH	20.29 °C	1,019.3 μS/cm	0.08 mg/L	5.29 NTU	-68.5 mV		75.00 ml/min
5/15/2025 10:23 AM	48:00	7.04 pH	20.86 °C	1,020.7 μS/cm	0.11 mg/L	5.43 NTU	-70.5 mV		75.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-7\MS2_MSD2	

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond
LOCATION	Newburgh, Indiana
CLIENT	Southern Indiana Gas and Electric Company
CONTRACTOR	N/A

H&A FILE NO.	0129420
PROJECT MGR.	Neal Kochis
FIELD REP.	M. Breting
SAMPLING DATE	05/15/25

Sampling Data:	Well Depth as Built:	45.5	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve	
Well ID:	CCR-AP-8	Well Depth Measured:	-	ft	Initial Depth To Water:	35.26	ft	Field Parameter Device:	Aquatroll 600
Start time:	16:45	Depth To Top Of Screen:	35.5	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	16:55	Depth To Bottom Of Scree	45.5	ft	Measuring Point:	Top of Casing (TOC)	Tubing Type:	Hydrasleeve	

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temp-erature (°C)		Conduct-ivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
16:48					20.69	6.98	1684.9	2.63	143.13	-113	Hydrasleeve not replaced (ran out of sleeves) need to be installed as part of the next event
				</							

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/15/2025 5:48:46 PM
Project: Culley May 2025 GWM (21)
Operator Name: M. Breting

Location Name: CCR-AP-8 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 35.5 ft Total Depth: 45.5 ft Initial Depth to Water: 35.26 ft	Pump Type: Hydrasleeve Tubing Type: Hydrasleeve Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 0 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Weather Conditions:
Cloudy chance of rain 80 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/15/2025 5:48 PM	00:00	6.98 pH	20.69 °C	1,684.9 µS/cm	2.63 mg/L	143.13 NTU	-113.0 mV	35.26 ft	0.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-8	

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	M. Breting
CONTRACTOR	N/A	SAMPLING DATE	05/13/25

Sampling Data:		Well Depth as Built:	70.0	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-9	Well Depth Measured:	-	ft	Initial Depth To Water:	63.68	ft	Field Parameter Device:	Aquatroll 600
Start time:	12:35	Depth To Top Of Screen:	60.0	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	12:50	Depth To Bottom Of Scree	70.0	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Hydrasleeve

[illegible]

Sample ID:	CCR-AP-9	Date:	5/13/2025	Time:	12:35	QAQC Samples:	-

Low-Flow Test Report:

Test Date / Time: 5/13/2025 1:48:41 PM
Project: Culley May 2025 GWM (8)
Operator Name: M. Breting

Location Name: CCR-AP-9 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 60.0 ft Total Depth: 70.0 ft Initial Depth to Water: 63.68 ft	Pump Type: Hydrasleeve Tubing Type: Hydrasleeve Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 0 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes:

Weather Conditions:
Partly cloudy 75 degrees

Low-Flow Readings:

Date Time	Elapsed Time	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/13/2025 1:48 PM	00:00	19.68 °C	1,311.1 µS/cm		709.87 NTU	-49.2 mV	63.68 ft	0.00 ml/min
5/13/2025 1:51 PM	03:00	23.56 °C	1,248.9 µS/cm	2.71 mg/L	381.84 NTU	-40.1 mV	63.68 ft	0.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-9	



LOW FLOW SAMPLING FORM

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PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. M. Breting
SAMPLING DATE 05/14/25

Sampling Data: Well Depth as Built: 54.4 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-11 Well Depth Measured: - ft Initial Depth To Water: 15.52 (8:25 am) ft Field Parameter Device: Aquatroll 600
Start time: 11:25 Depth To Top Of Screen: 44.4 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☐ Yes ☒ No
Finish Time: 12:35 Depth To Bottom Of Scree: 54.4 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]	-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]		
0			100		25.43	7.29	6.91	8.26	0.69	189	Pump removed, not operating properly
3	15.8		75		18.17	6.28	1746.2	0.0	406.59	-55.1	
6	16.13		75		18.57	6.32	1817.5	0.0	312.15	-66.7	Samples were light brown, slightly turbid
9			50		19.62	6.33	1827.7	0.0	295.82	-70.8	
12	16.3		50		20.24	6.33	1830.0	0.46	293.62	-73	
15			50		20.47	6.34	1825.8	0.0	277.8	-74.5	
18			50		20.47	6.35	1825	0.43	255.65	-75.1	
21			50		20.6	6.36	1822.5	0.38	271.93	-75.1	
24	16.79		50		20.57	6.36	1820	0.40	248.59	-74.9	
27			50		20.93	6.36	1821.9	0.34	262.37	-75.2	
30	16.3		50		21.24	6.36	1821.3	0.29	263.71	-75.7	
33			50		21.58	6.36	1821.5	0.29	289.73	-75.8	
36			50		21.8	6.36	1819.1	0.25	247.7	-76.1	3.06 feet total drawdown
39			50		22.14	6.36	-	0.22	230.64	-76.2	
42	17.36		50		22.37	6.36	1820.3	0.21	205.76	-76.6	
45			50		22.4	6.36	1809.5	0.23	196.71	-76.3	
48	17.36		50		22.28	6.37	1822.1	0.24	185.11	-76.5	
51			50		22.35	6.37	1822.9	0.19	188.16	-76.5	
Sample ID:	CCR-AP-11			Date:	5/14/2025	Time:	11:25	QAQC Samples: -			

well volume = 3.14 (Pi) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min



LOW FLOW SAMPLING FORM

Page 2 of 3

PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. M. Breting
SAMPLING DATE 05/14/25

Sampling Data: Well Depth as Built: 54.4 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-11 Well Depth Measured: - ft Initial Depth To Water: 15.52 (8:25 am) ft Field Parameter Device: Aquatroll 600
Start time: 11:25 Depth To Top Of Screen: 44.4 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☐ Yes ☒ No
Finish Time: 12:35 Depth To Bottom Of Scree 54.4 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
54			50		22.13	6.38	1822.8	0.20	167.99	-76.6	
57			50		22.03	6.38	1826.6	0.18	160.09	-76.6	
60			50		22.28	6.37	1830.8	0.17	140.29	-76.6	
63			50		22.57	6.37	1833.5	0.15	147.15	-77.2	
66			50		22.57	6.38	1836.9	0.15	164.83	-76.9	
69			50		22.55	6.38	1834.6	0.14	140.61	-77.4	
72			50		22.84	6.38	1837.7	0.09	135.39	-77.6	
75	17.71		50		22.75	6.38	1837.6	0.17	130.3	-77.8	
78			50		23.16	6.38	1836.7	0.14	139.86	-78.4	
81			50		23.75	6.37	1845.4	0.0	121.87	-78.6	
10:35	-	-	-	-	-	-	-	-	-	-	Specific conductivity sensor stopped logging. Had to
											start a new log file. Kept the flow going as not to
											disturb the column.
98			50		24.14	6.36	1837.9	0.30	116.83	-71.5	
101			50		24.06	6.36	1841.1	0.14	109.08	-77	
104			50		24.10	6.37	1842.7	0.12	115.93	-79.7	
107	18		50		24.29	6.38	1842.2	0.13	107.62	-81.2	
Sample ID:	CCR-AP-11			Date:	5/14/2025	Time:	11:25	QAQC Samples: -			

well volume = 3.14 (Pi) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	M. Breting
CONTRACTOR	N/A	SAMPLING DATE	05/14/25

Sampling Data:		Well Depth as Built:	54.4	ft	Well Diameter:	2.0	in	Sampling Device:	Bladder Pump
Well ID:	CCR-AP-11	Well Depth Measured:	-	ft	Initial Depth To Water:	15.52 (8:25 am)	ft	Field Parameter Device:	Aquatroll 600
Start time:	11:25	Depth To Top Of Screen:	44.4	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	12:35	Depth To Bottom Of Scree	54.4	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temp-erature (°C)		Conduct-ivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
110			50		24.56	6.39	18443.6	0.10	107.81	-82.4	
113			50		24.82	6.39	1844.1	0.11	110.01	-82.9	
116			50		24.95	6.4	1843.5	0.09	100.73	-83.8	
119	18.02		50		25.00	6.41	1840.3	0.10	95.96	-84.1	
122			50		24.49	6.42	1840.7	0.07	96.65	-84.3	
125	18.05		50		24.79	6.42	1838.7	0.04	86.73	-84.4	
128			50		23.18	6.46	1826.3	0.07	85.12	-83.6	
131			50		22.66	6.46	1824.1	0.08	92.81	-82.9	
134			50		23.44	6.44	1828.8	0.06	83.93	-83.8	
137			50		23.09	6.44	1819.2	0.06	85.47	-83.7	
140	18.08		50		23.41	6.43	1826.5	0.06	81.76	-84.2	2.56 feet total drawdown
Sample ID:	CCR-AP-11			Date:	5/14/2025	Time:	11:25	QAQC Samples:	-		

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

Low-Flow Test Report:

Test Date / Time: 5/14/2025 10:00:39 AM
Project: Culley May 2025 GWM (10)
Operator Name: M. Breting

Location Name: CCR-AP-11 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 44.4 ft Total Depth: 54.4 ft Initial Depth to Water: 15.52 ft	Pump Type: Sample Pro portable pump Tubing Type: HDPE Pump Intake From TOC: 49.4 ft Estimated Total Volume Pumped: 4589.167 ml Flow Cell Volume: 130 ml Final Flow Rate: 50 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes: Ended log while purging continued, needed to readjust conductivity sensor and start a new stability file. No sample collected for this sequence. A new log was begun at 11:38 (eastern time).

Weather Conditions:
Clear 63 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/14/2025 10:00 AM	00:00	7.29 pH	25.43 °C	6.91 µS/cm	8.26 mg/L	0.69 NTU	189.0 mV		100.00 ml/min
5/14/2025 10:03 AM	03:00	6.28 pH	18.17 °C	1,746.2 µS/cm		406.59 NTU	-55.1 mV	15.80 ft	75.00 ml/min
5/14/2025 10:06 AM	06:00	6.32 pH	18.57 °C	1,817.5 µS/cm		312.15 NTU	-66.7 mV	16.13 ft	75.00 ml/min
5/14/2025 10:09 AM	09:00	6.33 pH	19.62 °C	1,827.7 µS/cm		295.82 NTU	-70.8 mV		50.00 ml/min
5/14/2025 10:12 AM	12:00	6.33 pH	20.24 °C	1,830.0 µS/cm	0.46 mg/L	293.62 NTU	-73.0 mV	16.30 ft	50.00 ml/min
5/14/2025 10:15 AM	15:00	6.34 pH	20.47 °C	1,825.8 µS/cm		277.80 NTU	-74.5 mV		50.00 ml/min
5/14/2025 10:18 AM	18:00	6.35 pH	20.47 °C	1,825.0 µS/cm	0.43 mg/L	255.65 NTU	-75.1 mV		50.00 ml/min
5/14/2025 10:21 AM	21:00	6.35 pH	20.60 °C	1,822.5 µS/cm	0.38 mg/L	271.93 NTU	-75.1 mV		50.00 ml/min
5/14/2025 10:24 AM	24:00	6.36 pH	20.56 °C	1,820.0 µS/cm	0.40 mg/L	248.59 NTU	-74.9 mV	16.79 ft	50.00 ml/min
5/14/2025 10:27 AM	27:00	6.36 pH	20.93 °C	1,821.9 µS/cm	0.34 mg/L	262.37 NTU	-75.2 mV		50.00 ml/min
5/14/2025 10:30 AM	30:00	6.36 pH	21.24 °C	1,821.3 µS/cm	0.29 mg/L	263.71 NTU	-75.7 mV	16.90 ft	50.00 ml/min
5/14/2025 10:33 AM	33:00	6.36 pH	21.58 °C	1,821.5 µS/cm	0.29 mg/L	289.33 NTU	-75.8 mV		50.00 ml/min
5/14/2025 10:36 AM	36:00	6.36 pH	21.80 °C	1,819.1 µS/cm	0.25 mg/L	247.70 NTU	-76.1 mV		50.00 ml/min

5/14/2025 10:39 AM	39:00	6.36 pH	22.14 °C	1,820.3 μS/cm	0.22 mg/L	230.64 NTU	-76.2 mV		50.00 ml/min
5/14/2025 10:42 AM	42:00	6.36 pH	22.37 °C	1,818.0 μS/cm	0.21 mg/L	205.76 NTU	-76.6 mV	17.21 ft	50.00 ml/min
5/14/2025 10:45 AM	45:00	6.36 pH	22.40 °C	1,809.5 μS/cm	0.23 mg/L	196.71 NTU	-76.3 mV		50.00 ml/min
5/14/2025 10:48 AM	48:00	6.37 pH	22.28 °C	1,822.1 μS/cm	0.24 mg/L	185.11 NTU	-76.5 mV	17.36 ft	50.00 ml/min
5/14/2025 10:51 AM	51:00	6.37 pH	22.35 °C	1,822.9 μS/cm	0.19 mg/L	188.16 NTU	-76.5 mV		50.00 ml/min
5/14/2025 10:54 AM	54:00	6.38 pH	22.13 °C	1,822.8 μS/cm	0.20 mg/L	167.99 NTU	-76.6 mV		50.00 ml/min
5/14/2025 10:57 AM	57:00	6.38 pH	22.03 °C	1,826.6 μS/cm	0.18 mg/L	160.09 NTU	-76.6 mV		50.00 ml/min
5/14/2025 11:00 AM	01:00:00	6.37 pH	22.28 °C	1,830.8 μS/cm	0.17 mg/L	140.29 NTU	-76.7 mV		50.00 ml/min
5/14/2025 11:03 AM	01:03:00	6.37 pH	22.57 °C	1,833.5 μS/cm	0.15 mg/L	147.15 NTU	-77.2 mV		50.00 ml/min
5/14/2025 11:06 AM	01:06:00	6.38 pH	22.57 °C	1,836.9 μS/cm	0.15 mg/L	164.83 NTU	-76.9 mV		50.00 ml/min
5/14/2025 11:09 AM	01:09:00	6.38 pH	22.55 °C	1,834.6 μS/cm	0.14 mg/L	140.61 NTU	-77.4 mV		50.00 ml/min
5/14/2025 11:12 AM	01:12:00	6.38 pH	22.84 °C	1,837.7 μS/cm	0.09 mg/L	135.39 NTU	-77.6 mV		50.00 ml/min
5/14/2025 11:15 AM	01:15:00	6.38 pH	22.75 °C	1,837.6 μS/cm	0.17 mg/L	130.30 NTU	-77.8 mV	17.71 ft	50.00 ml/min
5/14/2025 11:18 AM	01:18:00	6.38 pH	23.16 °C	1,836.7 μS/cm	0.14 mg/L	139.86 NTU	-78.4 mV		50.00 ml/min
5/14/2025 11:21 AM	01:21:03	6.37 pH	23.51 °C	1,845.4 μS/cm	0.00 mg/L	121.87 NTU	-78.6 mV		50.00 ml/min
5/14/2025 11:23 AM	01:23:19	6.41 pH	37.57 °C		0.00 mg/L	120.73 NTU	-79.5 mV		50.00 ml/min
5/14/2025 11:26 AM	01:25:47	6.83 pH	37.77 °C		5.10 mg/L	0.79 NTU	-67.1 mV		50.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 5/14/2025 11:38:25 AM
Project: Culley May 2025 GWM (12)
Operator Name: M. Breting

Location Name: CCR-AP-11 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 44.4 ft Total Depth: 54.4 ft Initial Depth to Water: 15.52 ft (prior to previous purging sequence)	Pump Type: Sample Pro port. pump Tubing Type: HDPE Estimated Total Volume Pumped: 2100 ml Flow Cell Volume: 130 ml Final Flow Rate: 50 ml/min Final Draw Down: 2.56 ft	Instrument Used: Aqua TROLL 600 Serial Number: 651965

Test Notes: Previous log had to be stopped due to Spec. Cond. sensor cutting off. Started new log file.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/14/2025 11:38 AM	00:00	6.36 pH	24.14 °C	1,837.9 µS/cm	0.30 mg/L	116.83 NTU	-71.5 mV		50.00 ml/min
5/14/2025 11:41 AM	03:00	6.36 pH	24.06 °C	1,841.1 µS/cm	0.14 mg/L	109.08 NTU	-77.0 mV		50.00 ml/min
5/14/2025 11:44 AM	06:00	6.37 pH	24.10 °C	1,842.7 µS/cm	0.12 mg/L	115.93 NTU	-79.7 mV		50.00 ml/min
5/14/2025 11:47 AM	09:00	6.38 pH	24.29 °C	1,842.2 µS/cm	0.13 mg/L	107.62 NTU	-81.2 mV	18.00 ft	50.00 ml/min
5/14/2025 11:50 AM	12:00	6.39 pH	24.56 °C	1,843.6 µS/cm	0.10 mg/L	107.81 NTU	-82.4 mV		50.00 ml/min
5/14/2025 11:53 AM	15:00	6.39 pH	24.82 °C	1,844.1 µS/cm	0.11 mg/L	110.01 NTU	-82.9 mV		50.00 ml/min
5/14/2025 11:56 AM	18:00	6.40 pH	24.95 °C	1,843.5 µS/cm	0.09 mg/L	100.73 NTU	-83.8 mV		50.00 ml/min
5/14/2025 11:59 AM	21:00	6.41 pH	25.00 °C	1,840.3 µS/cm	0.10 mg/L	95.96 NTU	-84.1 mV	18.02 ft	50.00 ml/min
5/14/2025 12:02 PM	24:00	6.42 pH	24.49 °C	1,840.7 µS/cm	0.07 mg/L	96.65 NTU	-84.3 mV		50.00 ml/min
5/14/2025 12:05 PM	27:00	6.42 pH	24.79 °C	1,838.7 µS/cm	0.04 mg/L	86.73 NTU	-84.4 mV	18.05 ft	50.00 ml/min
5/14/2025 12:08 PM	30:00	6.46 pH	23.18 °C	1,826.3 µS/cm	0.07 mg/L	85.12 NTU	-83.6 mV		50.00 ml/min
5/14/2025 12:11 PM	33:00	6.46 pH	22.66 °C	1,824.1 µS/cm	0.08 mg/L	92.81 NTU	-82.9 mV		50.00 ml/min
5/14/2025 12:14 PM	36:00	6.44 pH	23.44 °C	1,828.8 µS/cm	0.06 mg/L	83.93 NTU	-83.8 mV		50.00 ml/min
5/14/2025 12:17 PM	39:00	6.44 pH	23.09 °C	1,819.2 µS/cm	0.06 mg/L	85.47 NTU	-83.7 mV		50.00 ml/min
5/14/2025 12:20 PM	42:00	6.43 pH	23.41 °C	1,826.5 µS/cm	0.06 mg/L	81.76 NTU	-84.2 mV	18.08 ft	50.00 ml/min

Samples

Sample ID:	Description:
CCR-AP-11	

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond
LOCATION	Newburgh, Indiana
CLIENT	Southern Indiana Gas and Electric Company
CONTRACTOR	None

H&A FILE NO.	0129420
PROJECT MGR.	Neal Kochis
FIELD REP.	F. Reed
SAMPLING DATE	05/29/25

Sampling Data:		Well Depth as Built:	68.7	ft	Well Diameter:	2.0	in	Sampling Device:	Bladder Pump
Well ID:	CCR-AP-8I	Well Depth Measured:	-	ft	Initial Depth To Water:	52.44	ft	Field Parameter Device:	Horiba U-52
Start time:	12:09	Depth To Top Of Screen:	58.7	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☒ Yes ☐ No
Finish Time:	12:50	Depth To Bottom Of Scree	68.7	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min) or (gal/min)	Cumulative Purge Vol. (liters) or (gal)	Temp-erature (°F) or (°C)		Conduct-ivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
12:09	52.44	-	360	1.2	18.9	6.67	0.685	6.78	0	158	
12:14	52.44	-	360	3.6	18.93	6.75	0.704	1.71	0	49	
12:19	52.44	-	360	5.4	19.07	6.76	0.708	1.23	0	5	
12:24	52.44	-	360	7.2	18.96	6.77	0.708	1.1	0	-10	
12:29	52.44	-	360	9	19.1	6.77	0.708	0.98	0	-20	
12:34	52.44	-	400	11	18.91	6.79	0.707	0.93	0	-27	
12:39	52.44	-	400	13	18.98	6.79	0.707	0.85	0	-32	
12:44	52.44	-	400	15	18.82	6.78	0.706	0.82	0	-35	
12:49	52.44	-	400	17	18.52	6.77	0.707	0.81	0	-37	
											17.3 L purged total
Sample ID:	CCR-AP-8I			Date:	5/29/2025	Time:	12:50	QAQC Samples: DUP-1 at 12:00			

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min



GROUNDWATER LEVEL MONITORING REPORT

Form FMG 5.1-01

Rev (06-09-09)

Project: F.B. Culley Generating Station				Client: Southern Indiana Gas & Electric Company (SIGECO)				File Number: 0129420-040		
Location: Newburgh, IN.				Weather: cold, snow				Project Manager: Neal Kochis		
Reference: Top of Casing				Units: Decimal Feet				Field Representative: R. Elwer		
Method: Dip				Comments: --						
Monitoring Well ID	Area of Interest	Date	Time	Well Dry? (Y/N)	Depth to Water	Depth to Well Bottom (Measured)	Depth to Well Bottom (Table)	Top of Riser Elevation	Remarks	Measured By
CCR-AP-1R	Background	11/10/2025	15:38	N	53.91	--	65.0	441.64	--	RE
CCR-AP-9	Background	11/10/2025	15:43	Y	--	--	70.0	448.53	--	RE
CCR-AP-7	Background	11/10/2025	14:40	N	14.67	--	30.0	432.41	--	RE
WAP-1	Background	11/10/2025	15:54	N	13.34	--	36.0	403.42	--	RE
WAP-2RR	WAP Shallow	11/10/2025	13:31	N	37.05	--	56.0	390.85	--	RE
WAP-3S	WAP Shallow	11/10/2025	13:28	N	33.76	--	70.0	387.51	--	RE
WAP-3D	WAP Deep	11/10/2025	13:27	N	33.72	--	82.5	387.56	--	RE
WAP-4S	WAP Shallow	11/10/2025	13:11	N	29.4	--	45.0	384.19	--	RE
WAP-4I	WAP Intermediate	11/10/2025	13:12	N	29.41	--	75.0	384.11	--	RE
WAP-4D	WAP Deep	11/10/2025	13:13	N	31.05	--	116.0	384.13	--	RE
WAP-5S	WAP Shallow	11/10/2025	13:47	N	28.29	--	40.0	384.26	--	RE
WAP-5I	WAP Intermediate	11/10/2025	13:48	N	28.08	--	75.0	384.26	--	RE
WAP-5D	WAP Deep	11/10/2025	13:49	N	28.45	--	113.0	384.28	--	RE
WAP-6S	WAP Shallow	11/10/2025	12:58	N	32.77	--	50.0	385.44	--	RE
WAP-6I	WAP Intermediate	11/10/2025	13:02	N	33.08	--	80.0	385.43	--	RE
WAP-6D	WAP Deep	11/10/2025	13:00	N	37.35	--	115.5	385.37	--	RE
WAP-7S	WAP Shallow	11/10/2025	13:33	N	34.96	--	60.0	388.52	--	RE
WAP-7D	WAP Deep	11/10/2025	13:34	N	34.43	--	78.6	388.81	--	RE
WAP-8S	WAP Shallow	11/10/2025	13:20	N	29.84	--	50.0	384.16	--	RE



GROUNDWATER LEVEL MONITORING REPORT

Form FMG 5.1-01

Rev (06-09-09)

Project: F.B. Culley Generating Station				Client: Southern Indiana Gas & Electric Company (SIGECO)				File Number: 0129420-040		
Location: Newburgh, IN.				Weather: cold, snow				Project Manager: Neal Kochis		
Reference: Top of Casing				Units: Decimal Feet				Field Representative: R.Elwer		
Method: Dip				Comments: --						
Monitoring Well ID	Area of Interest	Date	Time	Well Dry? (Y/N)	Depth to Water	Depth to Well Bottom (Measured)	Depth to Well Bottom (Table)	Top of Riser Elevation	Remarks	Measured By
WAP-8I	WAP Intermediate	11/10/2025	13:19	N	29.93	--	80.0	384.29	--	RE
WAP-8D	WAP Deep	11/10/2025	13:18	N	31.48	--	107.0	384.12	--	RE
WAP-9S	WAP Shallow	11/10/2025	13:04	N	39.45	--	65.0	392.56	--	RE
WAP-9I	WAP Intermediate	11/10/2025	13:05	N	40.81	--	90.0	392.68	--	RE
WAP-9D	WAP Deep	11/10/2025	13:06	N	43.83	--	126.5	392.48	--	RE
PZ-2	WAP Shallow	--	--	--	--	--	12.0	388.40	Not on figure	--
PZ-3	WAP Shallow	11/10/2025	14:28	N	10.33	--	18.0	394.20	--	RE
PZ-4	WAP Shallow	--	--	--	--	--	20.0	401.60	Unable to locate	RE
PZ-5	WAP Shallow	11/10/2025	14:22	N	--	--	28.0	388.00	--	RE
PZ-6	WAP Shallow	11/10/2025	15:52	N	13.35	--	28.0	403.90	--	RE
PZ-7	WAP Shallow	11/10/2025	15:49	N	12.85	--	28.0	400.80	--	RE
CCR-AP-2	EAP Shallow	11/10/2025	15:21	N	38.47	--	46.0	394.02	--	RE
CCR-AP-3	EAP Shallow	--	--	--	Dry	--	45.0	394.55	--	RE
CCR-AP-4	EAP Shallow	11/10/2025	15:25	N	20.77	--	35.5	394.98	--	RE
CCR-AP-5	EAP Shallow	11/10/2025	15:33	N	28.70	--	44.0	394.38	--	RE
CCR-AP-5I	EAP Deep	11/10/2025	15:32	N	30.08	--	85.3	394.48	--	RE
CCR-AP-6	EAP Shallow	11/10/2025	16:05	Y	Dry	--	45.5	396.75	--	RE
CCR-AP-6I	EAP Deep	11/10/2025	16:06	N	50.96	--	74.7	396.88	--	RE
CCR-AP-8	EAP Shallow	11/10/2025	15:16	N	41.83	--	45.5	393.68	--	RE

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	R. Elwer
CONTRACTOR	N/A	SAMPLING DATE	11/12/25

Sampling Data:		Well Depth as Built:	65.0	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-1R	Well Depth Measured:	-	ft	Initial Depth To Water:	53.87	ft	Field Parameter Device:	Horiba U-52
Start time:	14:00	Depth To Top Of Screen:	55.0	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	14:20	Depth To Bottom Of Scree	65.0	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

[illegible]

Sample ID:	CCR-AP-1R-111225	Date:	11/12/25	Time:	14:10	QAQC Samples:	None

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond
LOCATION	Newburgh, Indiana
CLIENT	Southern Indiana Gas and Electric Company
CONTRACTOR	N/A

H&A FILE NO.	0129420
PROJECT MGR.	Neal Kochis
FIELD REP.	R. Elwer
SAMPLING DATE	11/12/25

Sampling Data:		Well Depth as Built:	46.0	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-2	Well Depth Measured:	-	ft	Initial Depth To Water:	38.51	ft	Field Parameter Device:	Horiba U-52
Start time:	12:00	Depth To Top Of Screen:	36.0	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	12:20	Depth To Bottom Of Screen:	46.0	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min) or (gal/min)	Purge Rate (ml/min) or (gal/min)	Cumulative Purge Vol. (liters) or (gal)	Temperature (°F) or (°C)	pH	Conduct-ivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
12:05	38.51	-	-	-	18.94	6.64	1.58	8.2	>1000	56	Hydrasleeve - leaks in sleeve, 350 mL for Radium, 5 total bottles
Sample ID:	CCR-AP-2-111225			Date:	11/12/25	Time:	12:05	QAQC Samples:	None		

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	R. Elwer
CONTRACTOR	N/A	SAMPLING DATE	11/13/25

Sampling Data:		Well Depth as Built:	35.5	ft	Well Diameter:	2.0	in	Sampling Device:	Hydrasleeve
Well ID:	CCR-AP-4	Well Depth Measured:	-	ft	Initial Depth To Water:	20.03	ft	Field Parameter Device:	Horiba U-52
Start time:	12:25	Depth To Top Of Screen:	25.5	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	12:45	Depth To Bottom Of Scree	35.5	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

[illegible]

Sample ID:	CCR-AP-4-111325	Date:	11/13/25	Time:	12:30	QAQC Samples: Field Blank: FB-1-111325 @ 12:45

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	R. Elwer
CONTRACTOR	N/A	SAMPLING DATE	11/12/25

Sampling Data:		Well Depth as Built:	44.0	ft	Well Diameter:	2.0	in	Sampling Device:	Bladder Pump
Well ID:	CCR-AP-5	Well Depth Measured:	-	ft	Initial Depth To Water:	29.11	ft	Field Parameter Device:	Horiba U-52
Start time:	16:40	Depth To Top Of Screen:	34.0	ft	Depth Of Pump Intake:	38	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	17:35	Depth To Bottom Of Scree	44.0	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temp-erature (°C)		Conduct-ivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
16:45	29.15	200	200	0.8	18.48	6.41	1.13	2.62	131	-33	
16:50	29.16	200	200	1.6	18.40	6.55	1.34	1.34	56.1	-45	
16:55	29.15	200	200	2.4	18.38	6.55	1.51	1.31	27.7	-43	
17:00	29.15	200	200	3.2	18.33	6.58	1.51	1.10	12.1	-42	
17:05	29.15	200	200	4	18.33	6.60	1.52	1.05	3.3	-40	
17:10	29.15	200	200	4.8	18.31	6.59	1.52	1.00	5.4	-38	
17:15	29.16	200	200	5.6	18.30	6.62	1.52	1.08	6.2	-38	Stable
Sample ID:	CCR-AP-5-111225			Date:	11/12/25	Time:	17:15	QAQC Samples:	None		

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min



LOW FLOW SAMPLING FORM

Page 1 of 2

PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. J. Klehr
SAMPLING DATE 11/12/25

Sampling Data: Well Depth as Built: 85.3 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-5I Well Depth Measured: - ft Initial Depth To Water: 30.24 ft Field Parameter Device: Horiba U-52
Start time: 15:30 Depth To Top Of Screen: 75.3 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☒ Yes ☐ No
Finish Time: 17:10 Depth To Bottom Of Scree: 85.3 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
15:30	31.18	140	140	0	20.45	6.63	2.27	1.90	64.4	-1	
15:35	31.35	140	140	0.7	19.66	6.63	2.34	0.98	90.0	-15	
15:40	31.49	140	140	1.4	19.41	6.61	2.36	0.70	78.7	-32	
15:45	31.54	140	140	2.1	19.31	6.61	2.36	0.51	87.7	-43	
15:50	31.58	140	140	2.8	19.25	6.61	2.34	0.48	90.9	-47	
15:55	31.61	140	140	3.5	19.17	6.62	2.32	0.41	90.0	-51	
16:00	31.64	140	140	4.2	19.14	6.62	2.28	0.40	91.0	-54	
16:05	31.67	140	140	4.9	19.09	6.62	2.24	0.39	95.4	-55	
16:10	31.68	140	140	5.6	19.05	6.63	2.20	0.38	109	-58	
16:15	31.68	140	140	6.3	19.02	6.63	2.17	0.37	106	-59	
16:20	31.70	140	140	7.0	18.98	6.64	2.14	0.38	103	-62	
16:25	31.70	140	140	7.7	18.93	6.64	2.10	0.38	106	-63	
16:30	31.72	140	140	8.4	18.93	6.63	2.08	0.39	104	-63	
16:35	31.73	140	140	9.1	18.88	6.64	2.07	0.36	101	-64	
16:40	31.75	140	140	9.8	18.87	6.64	2.05	0.34	103	-65	
16:45	31.76	140	140	10.5	18.84	6.64	2.04	0.33	103	-66	
16:50	31.77	140	140	11.2	18.82	6.64	2.03	0.33	96.3	-66	
16:55	31.78	140	140	11.9	18.80	6.64	2.02	0.33	98.8	-67	
Sample ID:	CCR-AP-5I-111225			Date:	11/12/25	Time:	17:10	QAQC Samples: None			

well volume = 3.14 (Pi) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	J. Klehr
CONTRACTOR	N/A	SAMPLING DATE	11/12/25

Sampling Data:		Well Depth as Built:	85.3	ft	Well Diameter:	2.0	in	Sampling Device:	Bladder Pump
Well ID:	CCR-AP-5I	Well Depth Measured:	-	ft	Initial Depth To Water:	30.24	ft	Field Parameter Device:	Horiba U-52
Start time:	15:30	Depth To Top Of Screen:	75.3	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☒ Yes ☐ No
Finish Time:	17:10	Depth To Bottom Of Scree	85.3	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

[illegible]

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min



LOW FLOW SAMPLING FORM

Page 1 of 1

PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. R. Elwer
SAMPLING DATE 11/19/25

Sampling Data: Well Depth as Built: 74.7 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-6I Well Depth Measured: - ft Initial Depth To Water: 50.87 ft Field Parameter Device: Horiba U-52
Start time: 14:45 Depth To Top Of Screen: 64.7 ft Depth Of Pump Intake: - ft Tubing Present In Well: ☒ Yes ☐ No
Finish Time: 16:30 Depth To Bottom Of Scree: 74.7 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temp-erature (°C)	pH	Conduct-ivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
14:50	50.91	240	240	1.2	17.48	6.67	0.457	4.91	3.2	8	
14:55	50.93	240	240	2.4	17.8	6.59	0.486	2.50	0	-42	
15:00	50.90	240	240	3.6	18.12	6.57	0.496	1.61	0	-61	
15:05	50.93	240	240	4.8	18.26	6.58	0.500	1.33	0	-67	
15:10	50.93	240	240	6.0	18.35	6.58	0.502	1.23	0	-74	
15:15	50.93	240	240	7.2	18.28	6.58	0.503	1.10	0	-75	
15:20	50.91	240	240	8.4	18.07	6.59	0.506	1.36	0	-77	
15:25	50.95	240	240	9.6	17.09	6.57	0.510	2.15	0	-76	
15:30	50.95	240	240	10.8	16.60	6.73	0.272	2.72	0	7	Battery died, run tubing to use car battery
15:45	50.95	120	120	12.0	16.65	6.63	0.495	1.90	0	-39	
15:50	50.94	120	120	12.6	17.61	6.61	0.498	1.54	0	-56	
15:55	50.94	120	120	13.2	17.87	6.60	0.497	1.36	0	-65	
16:00	50.94	120	120	14.8	17.75	6.59	0.497	1.33	0	-67	
16:05	50.94	120	120	15.4	17.66	6.60	0.497	1.37	0	-68	Stable
Sample ID:	CCR-AP-6I-111925			Date:	11/19/25	Time:	16:05	QAQC Samples: None			

well volume = 3.14 (Pi) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	R. Elwer
CONTRACTOR	N/A	SAMPLING DATE	11/12/25

Sampling Data:		Well Depth as Built:	68.7	ft	Well Diameter:	2.0	in	Sampling Device:	Bladder Pump
Well ID:	CCR-AP-8I	Well Depth Measured:	-	ft	Initial Depth To Water:	50.96	ft	Field Parameter Device:	Horiba U-52
Start time:	12:30	Depth To Top Of Screen:	58.7	ft	Depth Of Pump Intake:	-	ft	Tubing Present In Well:	☒ Yes ☐ No
Finish Time:	13:40	Depth To Bottom Of Scree	68.7	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

[illegible]

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min



LOW FLOW SAMPLING FORM

Page 1 of 1

PROJECT F.B. Culley Generating Station - East Ash Pond
LOCATION Newburgh, Indiana
CLIENT Southern Indiana Gas and Electric Company
CONTRACTOR N/A

H&A FILE NO. 0129420
PROJECT MGR. Neal Kochis
FIELD REP. R. Elwer
SAMPLING DATE 11/12/25

Sampling Data: Well Depth as Built: 54.4 ft Well Diameter: 2.0 in Sampling Device: Bladder Pump
Well ID: CCR-AP-11 Well Depth Measured: - ft Initial Depth To Water: 18.5 ft Field Parameter Device: Horiba U-52
Start time: 14:30 Depth To Top Of Screen: 44.4 ft Depth Of Pump Intake: 48 ft Tubing Present In Well: ☐ Yes ☒ No
Finish Time: 16:40 Depth To Bottom Of Scree: 54.4 ft Measuring Point: Top of Casing (TOC) Tubing Type: Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)	pH	Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
14:45	18.34	120	120	0.6	18.89	5.79	1.87	2.81	86.5	12	
14:50	20.05	120	120	1.2	18.72	5.73	2.14	1.58	115	-34	
14:55	20.85	120	120	1.8	19.1	5.72	2.14	1.41	113	-42	
15:00	21.31	120	120	2.4	18.75	5.75	2.16	1.38	125	-48	
15:05	21.81	120	120	3.0	18.73	5.73	2.15	1.27	82.9	-49	
15:10	22.06	120	120	3.6	18.70	5.72	2.15	1.27	62.9	-49	
15:15	22.28	120	120	4.2	18.73	5.71	2.15	1.23	47.4	-49	
15:20	22.46	120	120	4.8	18.69	5.72	2.15	1.21	37.1	-50	
15:25	22.61	120	120	5.4	18.69	5.71	2.16	1.15	26.5	-50	
15:30	22.81	120	120	6.0	18.63	5.70	2.16	1.14	21.1	-50	
15:35	23.01	120	120	6.6	18.51	5.70	2.16	1.15	17.8	-51	
15:40	23.32	120	120	7.2	18.50	5.72	2.17	1.14	9.8	-52	
15:45	23.49	120	120	7.8	18.36	5.73	2.17	1.16	8.7	-53	
15:50	23.61	120	120	8.4	18.31	5.73	2.18	1.16	9.2	-54	Stable
Sample ID:	CCR-AP-11-111225			Date:	11/12/25	Time:	15:50	QAQC Samples: None			

well volume = 3.14 (Pi) x radius² x height of water column.

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

LOW FLOW SAMPLING FORM

PROJECT	F.B. Culley Generating Station - East Ash Pond	H&A FILE NO.	0129420
LOCATION	Newburgh, Indiana	PROJECT MGR.	Neal Kochis
CLIENT	Southern Indiana Gas and Electric Company	FIELD REP.	R. Elwer
CONTRACTOR	N/A	SAMPLING DATE	11/14/25

Sampling Data:		Well Depth as Built:	65.5	ft	Well Diameter:	2.0	in	Sampling Device:	Bladder Pump
Well ID:	CCR-AP-12I	Well Depth Measured:	-	ft	Initial Depth To Water:	49.72	ft	Field Parameter Device:	Horiba U-52
Start time:	7:50	Depth To Top Of Screen:	55.5	ft	Depth Of Pump Intake:	58	ft	Tubing Present In Well:	☐ Yes ☒ No
Finish Time:	9:20	Depth To Bottom Of Scree	65.5	ft	Measuring Point:	Top of Casing (TOC)		Tubing Type:	Polyethylene

Elapsed Time (24 hour)	Depth To Water From Casing (ft)	Pump Setting (ml/min)	Purge Rate (ml/min)	Cumulative Purge Vol. (liters)	Temperature (°C)		Conductivity (ms/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments
Stabilized within →		[100 mL/min] to [500 mL/min]		-	NA	[+/- 0.1]	[+/- 3%]	[+/- 10%]	[+/- 10%]	[+/- 10]	
8:00	49.74	240	240	1.2	14.91	5.91	2.04	2.74	0	228	
8:05	49.76	240	240	2.4	16.69	6.09	2.08	1.45	0	60	
8:10	49.74	240	240	3.6	16.93	6.11	2.13	1.27	0	-33	
8:15	49.76	240	240	4.8	17.06	6.09	2.13	1.19	0	-54	
8:20	49.75	240	240	6.0	17.08	6.09	2.11	1.15	0	-61	
8:25	49.75	240	240	7.2	17.11	6.07	2.06	1.11	0	-64	
8:30	49.76	240	240	8.4	17.14	6.08	2.03	1.08	0	-66	
8:35	49.74	240	240	9.6	17.20	6.06	1.97	1.05	0	-68	
8:40	49.76	240	240	10.8	17.23	6.04	1.94	1.02	0	-70	
8:45	49.76	240	240	12.0	17.27	6.04	1.92	1.00	0	-70	Stable
Sample ID:	CCR-AP-12I-111425			Date:	11/14/25	Time:	8:45	QAQC Samples: DUP-1-111425 @ 9:00			

well volume = $3.14 (\text{PI}) \times \text{radius}^2 \times \text{height of water column.}$

2 in well = 0.163 gal/ft, 3 in = 0.367 gal/ft 4 in = 0.653 gal/ft, 6 in = 1.469 gal/ft, 1 cu. ft. = 7.48 gal, 1 gal = 3.785 L, 1L = 0.264 gal, 0.5L/min = 0.132 gal/min

APPENDIX C

Laboratory Analytical Reports

ANALYTICAL REPORT

PREPARED FOR

Attn: Todd Plating
Haley & Aldrich, Inc.
400 Augusta Street
Suite 100
Greenville, South Carolina 29601

Generated 1/26/2025 9:16:08 AM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-184625-1

Eurofins Pittsburgh

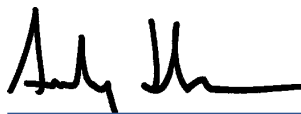
Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



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Authorized for release by
Andy Johnson, Senior Project Manager
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(615)818-9567

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1

Job ID: 180-184625-1

Eurofins Pittsburgh

Job Narrative 180-184625-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 12/21/2024 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C.

Gas Flow Proportional Counter

Method 9320_Ra228: Radium 228 Batch 695855 The Radium-228 laboratory control sample and (LCS) associated with the following samples recovered at 129%: (LCS 160-695855/2-A). The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (69-145%). The LCS is within criteria and no further action is required.

Method 9320_Ra228: Radium 228 Batch 695855 The detection goal was not met for the following sample due to a reduced sample volume used in prep attributed to the presence of matrix interferences. CCR-AP-5I-121924 (180-184625-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1

Job ID: 180-184625-2

Eurofins Pittsburgh

Job Narrative 180-184625-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 12/21/2024 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C.

HPLC/IC

Method 9056A_ORGFM_28D: The following samples were diluted due to the nature of the sample matrix: CCR-AP-8I-121924 (180-184625-1), CCR-AP-5I-121924 (180-184625-2), (180-184656-B-1), (180-184656-B-1 MS) and (180-184656-B-1 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method 2540C_Calcd: Due to conductivity and matrix, initial amount of sample used was reduced. CCR-AP-5I-121924 (180-184625-2), (180-184596-A-8) and (180-184596-A-8 DU)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-28-25
California	State	2891	04-30-24 *
Connecticut	State	PH-0688	09-30-24 *
Florida	NELAP	E871008	06-30-25
Georgia	State	PA 02-00416	04-30-25
Illinois	NELAP	004375	07-31-25
Kansas	NELAP	E-10350	01-31-25
Kentucky (UST)	State	162013	04-30-25
Kentucky (WW)	State	KY98043	12-31-24
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-25
Maine	State	PA00164	03-06-26
Minnesota	NELAP	042-999-482	12-31-24
New Hampshire	NELAP	2030	04-04-25
New Jersey	NELAP	PA005	06-30-25
New York	NELAP	11182	04-01-25
North Carolina (WW/SW)	State	434	12-31-24
North Dakota	State	R-227	04-30-24 *
Oregon	NELAP	PA-2151	02-06-25
Pennsylvania	NELAP	02-00416	04-30-25
Rhode Island	State	LAO00362	01-01-25
South Carolina	State	89014	04-30-25
Texas	NELAP	T104704528	03-31-25
US Fish & Wildlife	US Federal Programs	058448	04-30-25
USDA	US Federal Programs	P330-16-00211	04-11-26
Utah	NELAP	PA001462024-14	05-31-25
Virginia	NELAP	10043	07-14-24 *
West Virginia DEP	State	142	01-31-25
Wisconsin	State	998027800	08-31-25

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Laboratory: Eurofins Cleveland (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	06-30-24 *
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1

SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-184625-1	CCR-AP-8I-121924	Water	12/19/24 15:45	12/21/24 10:05
180-184625-2	CCR-AP-5I-121924	Water	12/19/24 18:15	12/21/24 10:05

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Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-121924

Lab Sample ID: 180-184625-1

Date Collected: 12/19/24 15:45

Matrix: Water

Date Received: 12/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5	1 mL	1 mL	487249	12/26/24 15:30	M1D	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	640090	12/27/24 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6010D		1			640299	12/30/24 19:28	RKT	EET CLE
		Instrument ID: I9								
Total Recoverable	Prep	3005A			50 mL	50 mL	640090	12/27/24 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			640438	12/31/24 11:30	AJC	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			50 mL	50 mL	640092	12/27/24 14:00	BN	EET CLE
Total/NA	Analysis	EPA 7470A		1			640343	12/30/24 12:46	GK	EET CLE
		Instrument ID: H10								
Total/NA	Analysis	EPA 9040C		1			487289	12/26/24 14:59	EBA	EET PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	487197	12/23/24 15:27	EBA	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1001.22 mL	1.0 g	695853	12/30/24 08:42	OGC	EET SL
Total/NA	Analysis	9315		1			699306	01/21/25 07:32	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1001.22 mL	1.0 g	695855	12/30/24 08:50	OGC	EET SL
Total/NA	Analysis	9320		1			698320	01/15/25 12:10	SWS	EET SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			699531	01/22/25 16:58	FLC	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-5I-121924

Lab Sample ID: 180-184625-2

Date Collected: 12/19/24 18:15

Matrix: Water

Date Received: 12/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	487249	12/26/24 14:53	M1D	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	487249	12/26/24 15:12	M1D	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	640090	12/27/24 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6010D		5			640423	12/31/24 21:06	RKT	EET CLE
		Instrument ID: I9								
Total Recoverable	Prep	3005A			50 mL	50 mL	640090	12/27/24 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			640438	12/31/24 11:38	AJC	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			50 mL	50 mL	640092	12/27/24 14:00	BN	EET CLE
Total/NA	Analysis	EPA 7470A		1			640343	12/30/24 12:51	GK	EET CLE
		Instrument ID: H10								
Total/NA	Analysis	EPA 9040C		1			487289	12/26/24 14:59	EBA	EET PIT
		Instrument ID: OZ								

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Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I-121924

Lab Sample ID: 180-184625-2

Date Collected: 12/19/24 18:15

Matrix: Water

Date Received: 12/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	487199	12/23/24 15:29	EBA	EET PIT
Total/NA	Prep	PrecSep-21			497.96 mL	1.0 g	695853	12/30/24 08:42	OGC	EET SL
Total/NA	Analysis	9315		1			699306	01/21/25 07:32	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			497.96 mL	1.0 g	695855	12/30/24 08:50	OGC	EET SL
Total/NA	Analysis	9320		1			698319	01/15/25 12:19	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			699531	01/22/25 16:58	FLC	EET SL
		Instrument ID: NOEQUIP								

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: EET CLE

Batch Type: Prep

BN = Benjamin Norman

Batch Type: Analysis

AJC = Alexander Colosi

GK = Grace Kessler

RKT = Roger Toth

Lab: EET PIT

Batch Type: Analysis

EBA = Elizabeth Arbster

M1D = Maureen Donlin

Lab: EET SL

Batch Type: Prep

OGC = Olivia Carr

Batch Type: Analysis

FLC = Fernando Cruz

SWS = Seth Stubblefield

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-121924

Lab Sample ID: 180-184625-1

Date Collected: 12/19/24 15:45

Matrix: Water

Date Received: 12/21/24 10:05

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		2.5	1.8	mg/L			12/26/24 15:30	2.5
Fluoride	0.21	J	0.25	0.065	mg/L			12/26/24 15:30	2.5
Sulfate	82		2.5	1.9	mg/L			12/26/24 15:30	2.5

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.38		0.10	0.057	mg/L		12/27/24 14:00	12/30/24 19:28	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/27/24 14:00	12/31/24 11:30	1
Arsenic	ND		0.0050	0.00075	mg/L		12/27/24 14:00	12/31/24 11:30	1
Barium	0.053		0.0050	0.00077	mg/L		12/27/24 14:00	12/31/24 11:30	1
Beryllium	ND		0.0010	0.00027	mg/L		12/27/24 14:00	12/31/24 11:30	1
Cadmium	ND		0.0010	0.000077	mg/L		12/27/24 14:00	12/31/24 11:30	1
Calcium	90		1.0	0.25	mg/L		12/27/24 14:00	12/31/24 11:30	1
Chromium	ND		0.0050	0.0012	mg/L		12/27/24 14:00	12/31/24 11:30	1
Cobalt	ND		0.0010	0.000086	mg/L		12/27/24 14:00	12/31/24 11:30	1
Lead	ND		0.0010	0.00045	mg/L		12/27/24 14:00	12/31/24 11:30	1
Lithium	ND		0.0080	0.0034	mg/L		12/27/24 14:00	12/31/24 11:30	1
Molybdenum	0.0074		0.0050	0.0011	mg/L		12/27/24 14:00	12/31/24 11:30	1
Selenium	ND		0.0050	0.00089	mg/L		12/27/24 14:00	12/31/24 11:30	1
Thallium	ND		0.0010	0.00051	mg/L		12/27/24 14:00	12/31/24 11:30	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/27/24 14:00	12/30/24 12:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	470		10	10	mg/L			12/23/24 15:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.8	HF	0.1	0.1	SU			12/26/24 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172		0.0952	0.0965	1.00	0.113	pCi/L	12/30/24 08:42	01/21/25 07:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		30 - 110					12/30/24 08:42	01/21/25 07:32	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.133	U	0.292	0.292	1.00	0.518	pCi/L	12/30/24 08:50	01/15/25 12:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		30 - 110					12/30/24 08:50	01/15/25 12:10	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-121924

Lab Sample ID: 180-184625-1

Date Collected: 12/19/24 15:45

Matrix: Water

Date Received: 12/21/24 10:05

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.1		30 - 110	12/30/24 08:50	01/15/25 12:10	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Combined Radium 226 + 228	0.305	U	0.307	0.308	5.00	0.518	pCi/L		01/22/25 16:58	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I-121924

Lab Sample ID: 180-184625-2

Date Collected: 12/19/24 18:15

Matrix: Water

Date Received: 12/21/24 10:05

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	240		10	7.1	mg/L			12/26/24 15:12	10
Fluoride	0.42		0.10	0.026	mg/L			12/26/24 14:53	1
Sulfate	710		10	7.6	mg/L			12/26/24 15:12	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	13		0.50	0.29	mg/L		12/27/24 14:00	12/31/24 21:06	5

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/27/24 14:00	12/31/24 11:38	1
Arsenic	0.00086	J	0.0050	0.00075	mg/L		12/27/24 14:00	12/31/24 11:38	1
Barium	0.038		0.0050	0.00077	mg/L		12/27/24 14:00	12/31/24 11:38	1
Beryllium	ND		0.0010	0.00027	mg/L		12/27/24 14:00	12/31/24 11:38	1
Cadmium	0.00097	J	0.0010	0.000077	mg/L		12/27/24 14:00	12/31/24 11:38	1
Calcium	240		1.0	0.25	mg/L		12/27/24 14:00	12/31/24 11:38	1
Chromium	0.0052		0.0050	0.0012	mg/L		12/27/24 14:00	12/31/24 11:38	1
Cobalt	0.0025		0.0010	0.000086	mg/L		12/27/24 14:00	12/31/24 11:38	1
Lead	0.0025		0.0010	0.00045	mg/L		12/27/24 14:00	12/31/24 11:38	1
Lithium	0.039		0.0080	0.0034	mg/L		12/27/24 14:00	12/31/24 11:38	1
Molybdenum	0.0034	J	0.0050	0.0011	mg/L		12/27/24 14:00	12/31/24 11:38	1
Selenium	ND		0.0050	0.00089	mg/L		12/27/24 14:00	12/31/24 11:38	1
Thallium	ND		0.0010	0.00051	mg/L		12/27/24 14:00	12/31/24 11:38	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/27/24 14:00	12/30/24 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1700		20	20	mg/L			12/23/24 15:29	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.0	HF	0.1	0.1	SU			12/26/24 14:59	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.308		0.196	0.198	1.00	0.257	pCi/L	12/30/24 08:42	01/21/25 07:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		30 - 110					12/30/24 08:42	01/21/25 07:32	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.603	U G	0.937	0.939	1.00	1.59	pCi/L	12/30/24 08:50	01/15/25 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		30 - 110					12/30/24 08:50	01/15/25 12:19	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I-121924

Lab Sample ID: 180-184625-2

Date Collected: 12/19/24 18:15

Matrix: Water

Date Received: 12/21/24 10:05

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	82.2		30 - 110	12/30/24 08:50	01/15/25 12:19	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Combined Radium 226 + 228	0.911	U	0.957	0.960	5.00	1.59	pCi/L		01/22/25 16:58	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-487249/6
Matrix: Water
Analysis Batch: 487249

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			12/26/24 12:36	1
Fluoride	ND		0.10	0.026	mg/L			12/26/24 12:36	1
Sulfate	ND		1.0	0.76	mg/L			12/26/24 12:36	1

Lab Sample ID: LCS 180-487249/7
Matrix: Water
Analysis Batch: 487249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.5		mg/L		99	80 - 120
Fluoride	2.50	2.51		mg/L		100	80 - 120
Sulfate	50.0	49.2		mg/L		98	80 - 120

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 240-640090/1-A
Matrix: Water
Analysis Batch: 640299

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 640090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		12/27/24 14:00	12/30/24 18:03	1

Lab Sample ID: LCS 240-640090/2-A
Matrix: Water
Analysis Batch: 640299

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 640090

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.961		mg/L		96	80 - 120

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-640090/1-A
Matrix: Water
Analysis Batch: 640438

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 640090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/27/24 14:00	12/31/24 11:06	1
Arsenic	ND		0.0050	0.00075	mg/L		12/27/24 14:00	12/31/24 11:06	1
Barium	ND		0.0050	0.00077	mg/L		12/27/24 14:00	12/31/24 11:06	1
Beryllium	ND		0.0010	0.00027	mg/L		12/27/24 14:00	12/31/24 11:06	1
Cadmium	ND		0.0010	0.000077	mg/L		12/27/24 14:00	12/31/24 11:06	1
Calcium	ND		1.0	0.25	mg/L		12/27/24 14:00	12/31/24 11:06	1
Chromium	ND		0.0050	0.0012	mg/L		12/27/24 14:00	12/31/24 11:06	1
Cobalt	ND		0.0010	0.000086	mg/L		12/27/24 14:00	12/31/24 11:06	1
Lead	ND		0.0010	0.00045	mg/L		12/27/24 14:00	12/31/24 11:06	1
Lithium	ND		0.0080	0.0034	mg/L		12/27/24 14:00	12/31/24 11:06	1
Molybdenum	ND		0.0050	0.0011	mg/L		12/27/24 14:00	12/31/24 11:06	1
Selenium	ND		0.0050	0.00089	mg/L		12/27/24 14:00	12/31/24 11:06	1
Thallium	ND		0.0010	0.00051	mg/L		12/27/24 14:00	12/31/24 11:06	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-640090/3-A
Matrix: Water
Analysis Batch: 640438

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 640090

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0982		mg/L		98	80 - 120
Arsenic	1.00	0.978		mg/L		98	80 - 120
Barium	1.00	0.969		mg/L		97	80 - 120
Beryllium	0.500	0.460		mg/L		92	80 - 120
Cadmium	0.500	0.476		mg/L		95	80 - 120
Calcium	25.0	24.7		mg/L		99	80 - 120
Chromium	0.500	0.506		mg/L		101	80 - 120
Cobalt	0.500	0.517		mg/L		103	80 - 120
Lead	0.500	0.525		mg/L		105	80 - 120
Lithium	0.500	0.524		mg/L		105	80 - 120
Molybdenum	0.500	0.484		mg/L		97	80 - 120
Selenium	1.00	0.973		mg/L		97	80 - 120
Thallium	1.00	1.04		mg/L		104	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-640092/1-A
Matrix: Water
Analysis Batch: 640343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 640092

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/27/24 14:00	12/30/24 12:11	1

Lab Sample ID: LCS 240-640092/2-A
Matrix: Water
Analysis Batch: 640343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 640092

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00454		mg/L		91	80 - 120

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-487289/1
Matrix: Water
Analysis Batch: 487289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-487197/1
Matrix: Water
Analysis Batch: 487197

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			12/23/24 15:27	1

Eurofins Pittsburgh

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 180-487197/2

Matrix: Water

Analysis Batch: 487197

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	417	404		mg/L		97	85 - 115

Lab Sample ID: MB 180-487199/1

Matrix: Water

Analysis Batch: 487199

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			12/23/24 15:29	1

Lab Sample ID: LCS 180-487199/2

Matrix: Water

Analysis Batch: 487199

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	417	404		mg/L		97	85 - 115

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-695853/1-A

Matrix: Water

Analysis Batch: 699243

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 695853

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03673	U	0.0685	0.0685	1.00	0.123	pCi/L	12/30/24 08:42	01/21/25 07:22	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	82.8		30 - 110	12/30/24 08:42	01/21/25 07:22	1

Lab Sample ID: LCS 160-695853/2-A

Matrix: Water

Analysis Batch: 699243

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 695853

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	9.872		1.07	1.00	0.133	pCi/L	103	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	83.3		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-695855/1-A

Matrix: Water

Analysis Batch: 698319

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 695855

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.3574	U	0.269	0.271	1.00	0.624	pCi/L	12/30/24 08:50	01/15/25 12:10	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-695855/1-A
Matrix: Water
Analysis Batch: 698319

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 695855

	MB	MB	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	82.8		30 - 110
Y Carrier	81.5		30 - 110

Prepared	Analyzed	Dil Fac
12/30/24 08:50	01/15/25 12:10	1
12/30/24 08:50	01/15/25 12:10	1

Lab Sample ID: LCS 160-695855/2-A
Matrix: Water
Analysis Batch: 698319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 695855

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.18	10.54		1.49	1.00	0.697	pCi/L	129	75 - 125

	LCS	LCS	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	83.3		30 - 110
Y Carrier	80.7		30 - 110

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

HPLC/IC

Analysis Batch: 487249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total/NA	Water	EPA 9056A	
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	EPA 9056A	
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	EPA 9056A	
MB 180-487249/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-487249/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 640090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total Recoverable	Water	3005A	
180-184625-2	CCR-AP-5I-121924	Total Recoverable	Water	3005A	
MB 240-640090/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-640090/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-640090/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 640092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total/NA	Water	7470A	
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	7470A	
MB 240-640092/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-640092/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 640299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total Recoverable	Water	EPA 6010D	640090
MB 240-640090/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	640090
LCS 240-640090/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	640090

Analysis Batch: 640343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total/NA	Water	EPA 7470A	640092
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	EPA 7470A	640092
MB 240-640092/1-A	Method Blank	Total/NA	Water	EPA 7470A	640092
LCS 240-640092/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	640092

Analysis Batch: 640423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-2	CCR-AP-5I-121924	Total Recoverable	Water	EPA 6010D	640090

Analysis Batch: 640438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total Recoverable	Water	EPA 6020B	640090
180-184625-2	CCR-AP-5I-121924	Total Recoverable	Water	EPA 6020B	640090
MB 240-640090/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	640090
LCS 240-640090/3-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	640090

General Chemistry

Analysis Batch: 487197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184625-1
SDG: FB Culley East

General Chemistry (Continued)

Analysis Batch: 487197 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-487197/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-487197/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 487199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	SM 2540C	
MB 180-487199/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-487199/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 487289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total/NA	Water	EPA 9040C	
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	EPA 9040C	
LCS 180-487289/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 695853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total/NA	Water	PrecSep-21	
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	PrecSep-21	
MB 160-695853/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-695853/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 695855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184625-1	CCR-AP-8I-121924	Total/NA	Water	PrecSep_0	
180-184625-2	CCR-AP-5I-121924	Total/NA	Water	PrecSep_0	
MB 160-695855/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-695855/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Chain of Custody Record

Client Information			Carrier Tracking No(s)	COC No
Client Contact:	Britton Hundley	Phone: 614-288-8619	State of Origin: IN	180-108241-14505 1
Company:	Haley & Aldrich, Inc	Address: 400 Augusta Street Suite 100 Greenville SC, 29601	E-Mail: Andy.Johnson@et.eurofinsus.com	Page 1 of 1
Sample: Francis Reed		Lab PM: Johnson, Andy	Job #: G12A 420-032	
Due Date Requested:		Analysis Requested		
TAT Requested (days): STD		Preservation Codes: N - None D - HNO3		
Compliance Project: Δ Yes Δ No		Other:		
PO #: 0129420-032-001-01		Total Number of containers		
WO #: See Chain		Special Instructions/Note:		
Project #: 18016014		12		
SSOW#: 18016014		12		
Sample Identification		12		
CCR - AP - 8I - 121924	Sample Date: 12/19/24	Sample Time: 15:45	Sample Type: G	Matrix: W
CCR - AP - 5I - 121924	Sample Date: 12/19/24	Sample Time: 18:15	Sample Type: G	Matrix: W
Sample Identification		12		
Sample Date: 12/19/24		12		
Sample Time: 15:45		12		
Sample Type: G		12		
Matrix: W		12		
Field Filtered Sample (Yes or No)		12		
Perform MS/MSD (Yes or No)		12		
9040C, 9056A, ORGFM, 28D		12		
2540C, Calcd - TDS by 2540C		12		
9315_Ra226, 9320_Ra228		12		
6020B - Metals by 6020B		12		
7470A - Hg by 7470A		12		
6010D - Boron by 6010D		12		
Special Instructions/Note:		12		
Total Number of containers		12		
Preservation Codes: N - None D - HNO3		12		
Other:		12		
Job #: G12A 420-032		12		
Page 1 of 1		12		
180-108241-14505 1		12		
Carrier Tracking No(s)		12		
COC No		12		

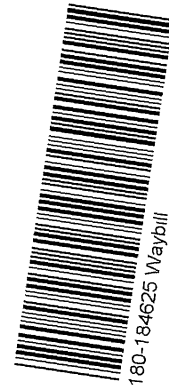
Possible Hazard Identification		Empty Kit Relinquished by:	
☐ Non-Hazard	☐ Flammable	☐ Skin Irritant	☐ Poison B
Deliverable Requested 1, II, III, IV, Other (specify)		Radiological	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months	
Special Instructions/QC Requirements		Method of Shipment	
Date/Time: 12/21/24 17:00		Date/Time: 12/21/24 17:00	
Company: Francis Reed		Company: H&A	
Relinquished by: Francis Reed		Received by: [Signature]	
Relinquished by:		Received by:	
Custody Seal No		Cooler Temperature(s) °C and Other Remarks	

ORIGIN ID:AGCA (864) 549-7656
LINDSEY GISH
F.B. CULLEY GENERATING STATION
3711 DARLINGTON ROAD

NEWBURGH, IN 47630
UNITED STATES US

SHIP DATE: 17DEC24
ACTWGT: 30.00 LB MAN
CAD: 0522321/CAFE3855

Part # 150409-404 MTH EXP 07/25

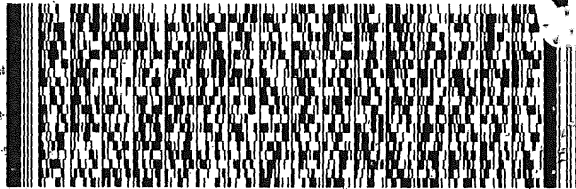


TO **SAMPLE RECEIVING DEPARTMENT**
EUROFINS ENVIRO. TESTING PITT N.E.
301 ALPHA DRIVE

PITTSBURGH PA 15238

(412) 963-7630
REF: RETURN

RMA: ||| ||| |||



Express



FedEx

TRK# 4059 5950 6571
0221

SATURDAY 1:
PRIORITY OVERNIGHT

XO AGCA

PA-I

Uncorrected temp _____ °C
Thermometer ID 3.7 17

CF -0.1 Initials SR

PT-WI-SR-001 effective 7/26/13

4653944 12/20 58CJ5/49B9/C6C4



Eurofins Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

[illegible]

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-184625-1

SDG Number: FB Culley East

Login Number: 184625

List Number: 1

Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-184625-1

SDG Number: FB Culley East

Login Number: 184625

List Number: 3

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 12/27/24 11:25 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

ANALYTICAL REPORT

PREPARED FOR

Attn: Todd Plating
Haley & Aldrich, Inc.
400 Augusta Street
Suite 100
Greenville, South Carolina 29601

Generated 1/22/2025 8:16:22 PM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-184624-1

Eurofins Pittsburgh

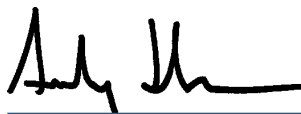
Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



Generated
1/22/2025 8:16:22 PM

Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1

Job ID: 180-184624-1

Eurofins Pittsburgh

Job Narrative 180-184624-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 12/21/2024 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.7°C.

Gas Flow Proportional Counter

Method 9320_Ra228: Radium 228 Batch 695855: The Radium-228 laboratory control sample and (LCS) associated with the following samples recovered at 129%: (LCS 160-695855/2-A). The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (69-145%). The LCS is within criteria and no further action is required.

Method 9320_Ra228: Radium 228 Batch 695855: The detection goal was not met for the following sample due to a reduced sample volume used in prep attributed to the presence of matrix interferences. CCR-AP-1R-121924 (180-184624-1), CCR-AP-4-121924 (180-184624-2) and CCR-AP-2-121924 (180-184624-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-08-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	06-30-24 *
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1

SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-184624-1	CCR-AP-1R-121924	Water	12/19/24 11:40	12/21/24 10:05
180-184624-2	CCR-AP-4-121924	Water	12/19/24 12:50	12/21/24 10:05
180-184624-3	CCR-AP-2-121924	Water	12/19/24 13:50	12/21/24 10:05

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R-121924

Lab Sample ID: 180-184624-1

Date Collected: 12/19/24 11:40

Matrix: Water

Date Received: 12/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.66 mL	1.0 g	695853	12/30/24 08:42	OGC	EET SL
Total/NA	Analysis	9315		1			699306	01/21/25 07:31	SWS	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			500.66 mL	1.0 g	695855	12/30/24 08:50	OGC	EET SL
Total/NA	Analysis	9320		1			698320	01/15/25 12:09	SWS	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			699402	01/22/25 16:48	FLC	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-4-121924

Lab Sample ID: 180-184624-2

Date Collected: 12/19/24 12:50

Matrix: Water

Date Received: 12/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.99 mL	1.0 g	695853	12/30/24 08:42	OGC	EET SL
Total/NA	Analysis	9315		1			699306	01/21/25 07:31	SWS	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			500.99 mL	1.0 g	695855	12/30/24 08:50	OGC	EET SL
Total/NA	Analysis	9320		1			698320	01/15/25 12:09	SWS	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			699402	01/22/25 16:48	FLC	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-2-121924

Lab Sample ID: 180-184624-3

Date Collected: 12/19/24 13:50

Matrix: Water

Date Received: 12/21/24 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			501.90 mL	1.0 g	695853	12/30/24 08:42	OGC	EET SL
Total/NA	Analysis	9315		1			699306	01/21/25 07:31	SWS	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			501.90 mL	1.0 g	695855	12/30/24 08:50	OGC	EET SL
Total/NA	Analysis	9320		1			698320	01/15/25 12:09	SWS	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			699402	01/22/25 16:48	FLC	EET SL
Instrument ID: NOEQUIP										

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: EET SL

Batch Type: Prep

OGC = Olivia Carr

Batch Type: Analysis

FLC = Fernando Cruz

SWS = Seth Stubblefield

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R-121924

Lab Sample ID: 180-184624-1

Date Collected: 12/19/24 11:40

Matrix: Water

Date Received: 12/21/24 10:05

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.815		0.286	0.296	1.00	0.294	pCi/L	12/30/24 08:42	01/21/25 07:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		30 - 110					12/30/24 08:42	01/21/25 07:31	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.853	U G	0.798	0.801	1.00	1.27	pCi/L	12/30/24 08:50	01/15/25 12:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		30 - 110					12/30/24 08:50	01/15/25 12:09	1
Y Carrier	80.4		30 - 110					12/30/24 08:50	01/15/25 12:09	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.67		0.848	0.854	5.00	1.27	pCi/L		01/22/25 16:48	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Client Sample ID: CCR-AP-4-121924

Lab Sample ID: 180-184624-2

Date Collected: 12/19/24 12:50

Matrix: Water

Date Received: 12/21/24 10:05

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.221	U	0.314	0.315	1.00	0.533	pCi/L	12/30/24 08:42	01/21/25 07:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	42.1		30 - 110					12/30/24 08:42	01/21/25 07:31	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.777	U G	1.14	1.14	1.00	2.38	pCi/L	12/30/24 08:50	01/15/25 12:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	42.1		30 - 110					12/30/24 08:50	01/15/25 12:09	1
Y Carrier	83.4		30 - 110					12/30/24 08:50	01/15/25 12:09	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.556	U	1.18	1.18	5.00	2.38	pCi/L		01/22/25 16:48	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Client Sample ID: CCR-AP-2-121924

Lab Sample ID: 180-184624-3

Date Collected: 12/19/24 13:50

Matrix: Water

Date Received: 12/21/24 10:05

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.920		0.359	0.369	1.00	0.414	pCi/L	12/30/24 08:42	01/21/25 07:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.8		30 - 110					12/30/24 08:42	01/21/25 07:31	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.05	U G	0.931	0.936	1.00	1.46	pCi/L	12/30/24 08:50	01/15/25 12:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.8		30 - 110					12/30/24 08:50	01/15/25 12:09	1
Y Carrier	84.1		30 - 110					12/30/24 08:50	01/15/25 12:09	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.97		0.998	1.01	5.00	1.46	pCi/L		01/22/25 16:48	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-695853/1-A

Matrix: Water

Analysis Batch: 699243

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 695853

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03673	U	0.0685	0.0685	1.00	0.123	pCi/L	12/30/24 08:42	01/21/25 07:22	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.8		30 - 110					12/30/24 08:42	01/21/25 07:22	1

Lab Sample ID: LCS 160-695853/2-A

Matrix: Water

Analysis Batch: 699243

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 695853

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.58	9.872		1.07	1.00	0.133	pCi/L	103	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	83.3		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-695855/1-A

Matrix: Water

Analysis Batch: 698319

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 695855

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.3574	U	0.269	0.271	1.00	0.624	pCi/L	12/30/24 08:50	01/15/25 12:10	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.8		30 - 110					12/30/24 08:50	01/15/25 12:10	1
Y Carrier	81.5		30 - 110					12/30/24 08:50	01/15/25 12:10	1

Lab Sample ID: LCS 160-695855/2-A

Matrix: Water

Analysis Batch: 698319

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 695855

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		8.18	10.54		1.49	1.00	0.697	pCi/L	129	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	83.3		30 - 110							
Y Carrier	80.7		30 - 110							

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-184624-1
SDG: FB Culley East

Rad

Prep Batch: 695853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184624-1	CCR-AP-1R-121924	Total/NA	Water	PrecSep-21	
180-184624-2	CCR-AP-4-121924	Total/NA	Water	PrecSep-21	
180-184624-3	CCR-AP-2-121924	Total/NA	Water	PrecSep-21	
MB 160-695853/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-695853/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 695855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-184624-1	CCR-AP-1R-121924	Total/NA	Water	PrecSep_0	
180-184624-2	CCR-AP-4-121924	Total/NA	Water	PrecSep_0	
180-184624-3	CCR-AP-2-121924	Total/NA	Water	PrecSep_0	
MB 160-695855/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-695855/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

ORIGIN ID:AGCA (864) 549-7656
LINDSEY GISH
F.B. CULLEY GENERATING STATION
3711 DARLINGTON ROAD

NEWBURGH, IN 47630
UNITED STATES US

SHIP DATE: 17DEC24
ACTWGT: 30.00 LB MAN
CAD: 0522321/CAFE3855

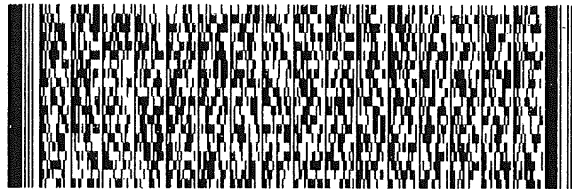
TO **SAMPLE RECEIVING DEPARTMENT**
EUROFINS ENVIRO. TESTING PITT N.E.
301 ALPHA DRIVE

PITTSBURGH PA 15238

(412) 983-7630

REF: RETURN

RMA: ||| ||| |||



FedEx
Express



180-184624 Waybill

FedEx

TRK#
0221

4059 5950 6593

SATURDAY 1:30PMT
PRIORITY OVERNIGHT

XO AGCA

15238 8

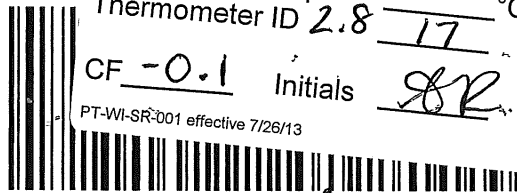
PA-US

PIT

Uncorrected temp
Thermometer ID 2.8 17 °C

CF -0.1 Initials SR

PT-WI-SR-001 effective 7/26/13



W4653944 12/20 59CJ5/49B9/C6C4

RT **198**
FZ **197**

6593
12.21

[illegible]

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-184624-1

SDG Number: FB Culley East

Login Number: 184624

List Number: 1

Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-184624-1

SDG Number: FB Culley East

Login Number: 184624

List Number: 2

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 12/27/24 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Todd Plating
Haley & Aldrich, Inc.
400 Augusta Street
Suite 100
Greenville, South Carolina 29601

Generated 2/28/2025 3:48:27 PM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-185675-1

Eurofins Pittsburgh

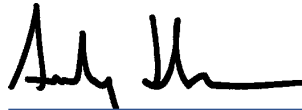
Job Notes

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PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



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2/28/2025 3:48:27 PM

Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1

Job ID: 180-185675-1

Eurofins Pittsburgh

Job Narrative 180-185675-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The sample was received on 1/28/2025 11:20 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.5°C.

Gas Flow Proportional Counter

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1

Job ID: 180-185675-2

Eurofins Pittsburgh

Job Narrative 180-185675-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The sample was received on 1/28/2025 11:20 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.5°C.

HPLC/IC

Method 9056A_ORGFM_28D: The following sample was diluted to bring the concentration of target analytes within the calibration range: CCR-AP-8-012425 (180-185675-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00690	06-28-25
California	State	2891	04-30-24 *
Connecticut	State	PH-0820	09-30-24 *
Florida	NELAP	E871008	06-30-25
Georgia	State	PA 02-00416	04-30-25
Illinois	NELAP	200005	07-31-25
Kansas	NELAP	E-10350	01-31-25
Kentucky (UST)	State	162013	04-30-25
Kentucky (WW)	State	KY98043	12-31-25
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-25
Maine	State	PA00164	03-06-26
Minnesota	NELAP	042-999-482	12-31-24 *
New Hampshire	NELAP	2030	04-04-25
New Jersey	NELAP	PA005	06-30-25
New York	NELAP	11182	04-01-25
North Carolina (WW/SW)	State	434	12-31-25
North Dakota	State	R-227	04-30-24 *
Oregon	NELAP	PA-2151	02-06-25
Pennsylvania	NELAP	02-00416	04-30-25
Rhode Island	State	LAO00375	01-01-25 *
South Carolina	State	89014	04-30-25
Texas	NELAP	T104704528	03-31-25
US Fish & Wildlife	US Federal Programs	A21930	04-30-25
USDA	US Federal Programs	P330-16-00211	04-11-26
Utah	NELAP	PA001462024-14	05-31-25
Virginia	NELAP	460189	07-14-24 *
West Virginia DEP	State	142	01-31-26
Wisconsin	State	998027800	08-31-25

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Laboratory: Eurofins Cleveland (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-08-25
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	06-30-25
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-185675-1	CCR-AP-8-012425	Water	01/24/25 15:00	01/28/25 11:20

- 1
- 2
- 3
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Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8-012425

Lab Sample ID: 180-185675-1

Date Collected: 01/24/25 15:00

Matrix: Water

Date Received: 01/28/25 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	489188	01/29/25 16:51	M1D	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	489188	01/29/25 17:10	M1D	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	643183	01/31/25 14:00	XWS6	EET CLE
Total Recoverable	Analysis	EPA 6010D		1			643457	02/03/25 20:08	AJC	EET CLE
		Instrument ID: I12								
Total Recoverable	Prep	3005A			50 mL	50 mL	643535	02/04/25 14:00	XWS6	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			643743	02/05/25 14:19	RKT	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			50 mL	50 mL	643186	01/31/25 14:00	XWS6	EET CLE
Total/NA	Analysis	EPA 7470A		1			643422	02/03/25 12:46	TQ6W	EET CLE
		Instrument ID: H11								
Total/NA	Analysis	EPA 9040C		1			489244	01/29/25 15:43	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	489215	01/29/25 15:31	EBA	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			750.62 mL	1.0 g	700827	01/31/25 07:20	OGC	EET SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	704549	02/24/25 14:32	FLC	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			750.62 mL	1.0 g	700828	01/31/25 07:25	OGC	EET SL
Total/NA	Analysis	9320		1			703819	02/19/25 12:01	FLC	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			703871	02/25/25 10:16	SCB	EET SL
		Instrument ID: NOEQUIP								

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Analyst References:

Lab: EET CLE
Batch Type: Prep
XWS6 = Maxwell Purses
Batch Type: Analysis
AJC = Alexander Colosi
RKT = Roger Toth
TQ6W = Bryan Perelka

Lab: EET PIT
Batch Type: Analysis
BAB = Brooke Batyi
EBA = Elizabeth Arbster
M1D = Maureen Donlin

Lab: EET SL
Batch Type: Prep
OGC = Olivia Carr
Batch Type: Analysis
FLC = Fernando Cruz
SCB = Sarah Bernsen

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8-012425

Lab Sample ID: 180-185675-1

Date Collected: 01/24/25 15:00

Matrix: Water

Date Received: 01/28/25 11:20

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		1.0	0.71	mg/L			01/29/25 16:51	1
Fluoride	0.52		0.10	0.026	mg/L			01/29/25 16:51	1
Sulfate	300		10	7.6	mg/L			01/29/25 17:10	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.10	0.057	mg/L		01/31/25 14:00	02/03/25 20:08	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/04/25 14:00	02/05/25 14:19	1
Arsenic	0.076		0.0050	0.00075	mg/L		02/04/25 14:00	02/05/25 14:19	1
Barium	0.37		0.0050	0.00077	mg/L		02/04/25 14:00	02/05/25 14:19	1
Beryllium	ND		0.0010	0.00027	mg/L		02/04/25 14:00	02/05/25 14:19	1
Cadmium	0.00012	J	0.0010	0.000077	mg/L		02/04/25 14:00	02/05/25 14:19	1
Calcium	210		1.0	0.25	mg/L		02/04/25 14:00	02/05/25 14:19	1
Chromium	0.0041	J	0.0050	0.0012	mg/L		02/04/25 14:00	02/05/25 14:19	1
Cobalt	0.0023		0.0010	0.000086	mg/L		02/04/25 14:00	02/05/25 14:19	1
Lead	0.0023		0.0010	0.00045	mg/L		02/04/25 14:00	02/05/25 14:19	1
Lithium	ND		0.0080	0.0034	mg/L		02/04/25 14:00	02/05/25 14:19	1
Molybdenum	0.0064		0.0050	0.0011	mg/L		02/04/25 14:00	02/05/25 14:19	1
Selenium	0.0013	J	0.0050	0.00089	mg/L		02/04/25 14:00	02/05/25 14:19	1
Thallium	ND		0.0010	0.00051	mg/L		02/04/25 14:00	02/05/25 14:19	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/31/25 14:00	02/03/25 12:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1100		10	10	mg/L			01/29/25 15:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.8	HF	0.1	0.1	SU			01/29/25 15:43	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.419		0.159	0.163	1.00	0.151	pCi/L	01/31/25 07:20	02/24/25 14:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					01/31/25 07:20	02/24/25 14:32	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0226	U	0.389	0.389	1.00	0.743	pCi/L	01/31/25 07:25	02/19/25 12:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.8		30 - 110					01/31/25 07:25	02/19/25 12:01	1

Eurofins Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8-012425

Lab Sample ID: 180-185675-1

Date Collected: 01/24/25 15:00

Matrix: Water

Date Received: 01/28/25 11:20

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.5		30 - 110	01/31/25 07:25	02/19/25 12:01	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.397	U	0.420	0.422	5.00	0.743	pCi/L		02/25/25 10:16	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-489188/6
Matrix: Water
Analysis Batch: 489188

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			01/29/25 09:25	1
Fluoride	ND		0.10	0.026	mg/L			01/29/25 09:25	1
Sulfate	ND		1.0	0.76	mg/L			01/29/25 09:25	1

Lab Sample ID: LCS 180-489188/7
Matrix: Water
Analysis Batch: 489188

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.6		mg/L		99	80 - 120
Fluoride	2.50	2.68		mg/L		107	80 - 120
Sulfate	50.0	49.9		mg/L		100	80 - 120

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 240-643183/1-A
Matrix: Water
Analysis Batch: 643457

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 643183

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		01/31/25 14:00	02/03/25 19:30	1

Lab Sample ID: LCS 240-643183/2-A
Matrix: Water
Analysis Batch: 643457

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 643183

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.07		mg/L		107	80 - 120

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-643535/1-A
Matrix: Water
Analysis Batch: 643743

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 643535

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/04/25 14:00	02/05/25 10:43	1
Arsenic	ND		0.0050	0.00075	mg/L		02/04/25 14:00	02/05/25 10:43	1
Barium	ND		0.0050	0.00077	mg/L		02/04/25 14:00	02/05/25 10:43	1
Beryllium	ND		0.0010	0.00027	mg/L		02/04/25 14:00	02/05/25 10:43	1
Cadmium	ND		0.0010	0.000077	mg/L		02/04/25 14:00	02/05/25 10:43	1
Calcium	ND		1.0	0.25	mg/L		02/04/25 14:00	02/05/25 10:43	1
Chromium	ND		0.0050	0.0012	mg/L		02/04/25 14:00	02/05/25 10:43	1
Cobalt	ND		0.0010	0.000086	mg/L		02/04/25 14:00	02/05/25 10:43	1
Lead	ND		0.0010	0.00045	mg/L		02/04/25 14:00	02/05/25 10:43	1
Lithium	ND		0.0080	0.0034	mg/L		02/04/25 14:00	02/05/25 10:43	1
Molybdenum	ND		0.0050	0.0011	mg/L		02/04/25 14:00	02/05/25 10:43	1
Selenium	ND		0.0050	0.00089	mg/L		02/04/25 14:00	02/05/25 10:43	1
Thallium	ND		0.0010	0.00051	mg/L		02/04/25 14:00	02/05/25 10:43	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-643535/2-A
Matrix: Water
Analysis Batch: 643743

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 643535

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0929		mg/L		93	80 - 120
Arsenic	1.00	0.961		mg/L		96	80 - 120
Barium	1.00	0.930		mg/L		93	80 - 120
Beryllium	0.500	0.472		mg/L		94	80 - 120
Cadmium	0.500	0.453		mg/L		91	80 - 120
Calcium	25.0	23.8		mg/L		95	80 - 120
Chromium	0.500	0.474		mg/L		95	80 - 120
Cobalt	0.500	0.492		mg/L		98	80 - 120
Lead	0.500	0.496		mg/L		99	80 - 120
Lithium	0.500	0.484		mg/L		97	80 - 120
Molybdenum	0.500	0.464		mg/L		93	80 - 120
Selenium	1.00	0.927		mg/L		93	80 - 120
Thallium	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: 180-185675-1 MS
Matrix: Water
Analysis Batch: 643743

Client Sample ID: CCR-AP-8-012425
Prep Type: Total Recoverable
Prep Batch: 643535

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.0918		mg/L		92	80 - 120
Arsenic	0.076		1.00	1.04		mg/L		96	80 - 120
Barium	0.37		1.00	1.29		mg/L		93	80 - 120
Beryllium	ND		0.500	0.452		mg/L		90	80 - 120
Cadmium	0.00012	J	0.500	0.444		mg/L		89	80 - 120
Calcium	210		25.0	221	4	mg/L		62	80 - 120
Chromium	0.0041	J	0.500	0.476		mg/L		94	80 - 120
Cobalt	0.0023		0.500	0.484		mg/L		96	80 - 120
Lead	0.0023		0.500	0.509		mg/L		101	80 - 120
Lithium	ND		0.500	0.480		mg/L		96	80 - 120
Molybdenum	0.0064		0.500	0.474		mg/L		93	80 - 120
Selenium	0.0013	J	1.00	0.905		mg/L		90	80 - 120
Thallium	ND		1.00	1.07		mg/L		107	80 - 120

Lab Sample ID: 180-185675-1 MSD
Matrix: Water
Analysis Batch: 643743

Client Sample ID: CCR-AP-8-012425
Prep Type: Total Recoverable
Prep Batch: 643535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	ND		0.100	0.0934		mg/L		93	80 - 120	2	20
Arsenic	0.076		1.00	1.07		mg/L		99	80 - 120	2	20
Barium	0.37		1.00	1.33		mg/L		96	80 - 120	2	20
Beryllium	ND		0.500	0.468		mg/L		94	80 - 120	3	20
Cadmium	0.00012	J	0.500	0.452		mg/L		90	80 - 120	2	20
Calcium	210		25.0	227	4	mg/L		84	80 - 120	2	20
Chromium	0.0041	J	0.500	0.486		mg/L		96	80 - 120	2	20
Cobalt	0.0023		0.500	0.499		mg/L		99	80 - 120	3	20
Lead	0.0023		0.500	0.526		mg/L		105	80 - 120	3	20
Lithium	ND		0.500	0.496		mg/L		99	80 - 120	3	20
Molybdenum	0.0064		0.500	0.481		mg/L		95	80 - 120	1	20

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-185675-1 MSD
Matrix: Water
Analysis Batch: 643743

Client Sample ID: CCR-AP-8-012425
Prep Type: Total Recoverable
Prep Batch: 643535

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.0013	J	1.00	0.927		mg/L		93	80 - 120	2	20
Thallium	ND		1.00	1.09		mg/L		109	80 - 120	2	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-643186/1-A
Matrix: Water
Analysis Batch: 643422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 643186

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/31/25 14:00	02/03/25 12:32	1

Lab Sample ID: LCS 240-643186/2-A
Matrix: Water
Analysis Batch: 643422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 643186

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00483		mg/L		97	80 - 120

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-489244/1
Matrix: Water
Analysis Batch: 489244

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-489215/1
Matrix: Water
Analysis Batch: 489215

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			01/29/25 15:31	1

Lab Sample ID: LCS 180-489215/2
Matrix: Water
Analysis Batch: 489215

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	239	234		mg/L		98	85 - 115

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-700827/1-A

Matrix: Water

Analysis Batch: 704549

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 700827

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07669	U	0.0806	0.0809	1.00	0.127	pCi/L	01/31/25 07:20	02/24/25 12:08	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		30 - 110					01/31/25 07:20	02/24/25 12:08	1

Lab Sample ID: LCS 160-700827/2-A

Matrix: Water

Analysis Batch: 704549

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 700827

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.58	8.912		0.994	1.00	0.145	pCi/L	93	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	86.2		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-700828/1-A

Matrix: Water

Analysis Batch: 703818

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 700828

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.06078	U	0.309	0.309	1.00	0.566	pCi/L	01/31/25 07:25	02/19/25 11:49	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		30 - 110					01/31/25 07:25	02/19/25 11:49	1
Y Carrier	84.9		30 - 110					01/31/25 07:25	02/19/25 11:49	1

Lab Sample ID: LCS 160-700828/2-A

Matrix: Water

Analysis Batch: 703818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 700828

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		8.08	9.224		1.29	1.00	0.507	pCi/L	114	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	86.2		30 - 110							
Y Carrier	83.0		30 - 110							

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

HPLC/IC

Analysis Batch: 489188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total/NA	Water	EPA 9056A	
180-185675-1	CCR-AP-8-012425	Total/NA	Water	EPA 9056A	
MB 180-489188/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-489188/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 643183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total Recoverable	Water	3005A	
MB 240-643183/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-643183/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 643186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total/NA	Water	7470A	
MB 240-643186/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-643186/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 643422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total/NA	Water	EPA 7470A	643186
MB 240-643186/1-A	Method Blank	Total/NA	Water	EPA 7470A	643186
LCS 240-643186/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	643186

Analysis Batch: 643457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total Recoverable	Water	EPA 6010D	643183
MB 240-643183/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	643183
LCS 240-643183/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	643183

Prep Batch: 643535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total Recoverable	Water	3005A	
MB 240-643535/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-643535/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-185675-1 MS	CCR-AP-8-012425	Total Recoverable	Water	3005A	
180-185675-1 MSD	CCR-AP-8-012425	Total Recoverable	Water	3005A	

Analysis Batch: 643743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total Recoverable	Water	EPA 6020B	643535
MB 240-643535/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	643535
LCS 240-643535/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	643535
180-185675-1 MS	CCR-AP-8-012425	Total Recoverable	Water	EPA 6020B	643535
180-185675-1 MSD	CCR-AP-8-012425	Total Recoverable	Water	EPA 6020B	643535

General Chemistry

Analysis Batch: 489215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-185675-1
SDG: FB Culley East

General Chemistry (Continued)

Analysis Batch: 489215 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-489215/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-489215/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 489244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total/NA	Water	EPA 9040C	
LCS 180-489244/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 700827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total/NA	Water	PrecSep-21	
MB 160-700827/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-700827/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

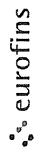
Prep Batch: 700828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-185675-1	CCR-AP-8-012425	Total/NA	Water	PrecSep_0	
MB 160-700828/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-700828/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

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301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone 412-963-7058 Fax 412-963-2468

Chain of Custody Record



CIV online at testlog

Client Information		Sampler: Francis Reed		Lab PM: Johnson, Andy		Carrier Tracking No(s):		COC No: 180-109844-14505 1	
Client Contact: Britton Hundley		Phone: 614-288-8619		E-Mail: Andy.Johnson@eurofins.com		State of Origin: IN		Page: Page 1 of 1	
Company: Haley & Aldrich, Inc		PWSID:		Analysis Requested		Job #: 0129420-032		Preservation Codes: N - None D - HNO3	
Address: 400 Augusta Street Suite 100		Due Date Requested:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers	
City: Greenville		TAT Requested (days): Standard TAT		Sample Date		Sample Type (C=Comp, G=grab)		Sample Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	
State, Zip: SC, 29601		Compliance Project: Δ Yes Δ No		Sample Time		Sample Preservation Code		Special Instructions/Note:	
Phone:		PO #: 0129420-032-001-01		15:00		G W		Other:	
Email: BHundley@haleyaldrich.com		WO #: See Chain						Special Instructions/Note:	
Project Name: CCR GW Monitoring FB Culley East		Project #: 18016014						Special Instructions/Note:	
Site:		SSOW#:						Special Instructions/Note:	
Sample Identification		Sample Date		Sample Time		Sample Matrix		Special Instructions/Note:	
CCR-AP-8 - 012425		01/24/25		15:00		G W		Special Instructions/Note:	
Barcode: 180-185675 Chain of Custody								Special Instructions/Note:	
Possible Hazard Identification		Poison B		Unknown		Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Deliverable Requested I, II, III, IV, Other (specify)		Non-Hazard		Flammable		Skin Irritant		Return To Client	
Empty Kit Relinquished by		Date		Time		Method of Shipment		Archive For	
Relinquished by Francis Reed		01/27/25		10:30		FedEx		Months	
Relinquished by		Date/Time		Date/Time		Date/Time		Company	
Relinquished by		Date/Time		Date/Time		Date/Time		Company	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks					

Ver: 10/10/2024

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

SHIP DATE: 21JAN25
ACTWGT: 10.00 LB MAN
CAD: 0522321/CAFE3855

589C3/EC17/FE2D

PITTSBURGH PA 15238

REF: S180 - 109844

RMA: ||| |||| |||||

3.4 °C
26

CF 9,9 Initials

-PT-WI-SR-001 effective 7/26/13

1000

TRK# 4059 5952 5842
0221

TUE - 28 JAN 10:30A
PRIORITY OVERNIGHT

65 AGCA

15238
PA-US PIT

58CJ3/EC17/C6C4

[illegible]

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-185675-1

SDG Number: FB Culley East

Login Number: 185675

List Number: 1

Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-185675-1

SDG Number: FB Culley East

Login Number: 185675

List Number: 3

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 01/30/25 12:45 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

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ANALYTICAL REPORT

PREPARED FOR

Attn: Todd Plating
Haley & Aldrich, Inc.
400 Augusta Street
Suite 100
Greenville, South Carolina 29601

Generated 6/23/2025 6:08:46 PM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-190599-1

Eurofins Pittsburgh

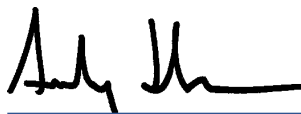
Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



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6/23/2025 6:08:46 PM

Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1

Job ID: 180-190599-1

Eurofins Pittsburgh

Job Narrative 180-190599-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 5/16/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.0°C and 3.5°C.

Receipt Exceptions

Time of relinquishment by the client is missing on the chain. CCR-AP-6I (180-190599-1), CCR-AP-4 (180-190599-2), CCR-AP-9 (180-190599-3), CCR-AP-1R (180-190599-4), CCR-AP-11 (180-190599-5), CCR-AP-2 (180-190599-6) and CCR-AP-5I (180-190599-7)

Each of these samples had one 1L plastic preserved with nitric returned empty. The one 1L nitric preserved plastic container returned for each sample is filled less than 1 liter of sample volume. CCR-AP-9 (180-190599-3), CCR-AP-1R (180-190599-4) and CCR-AP-2 (180-190599-6)

The plastic 500mL containers for both samples are not filled to 500mLs. CCR-AP-1R (180-190599-4) and CCR-AP-2 (180-190599-6)

Gas Flow Proportional Counter

Method 9320_Ra228: Radium-228 prep batch 160-719396: The detection goal was not met for the following samples due to the reduced sample volume attributed to the presence of matrix interferences: CCR-AP-4 (180-190599-2), CCR-AP-9 (180-190599-3) and CCR-AP-2 (180-190599-6). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1

Job ID: 180-190599-2

Eurofins Pittsburgh

Job Narrative 180-190599-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 5/16/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.0°C and 3.5°C.

Receipt Exceptions

Each of these samples had one 1L plastic preserved with nitric returned empty. The one 1L nitric preserved plastic container returned for each sample is filled less than 1 liter of sample volume. CCR-AP-9 (180-190599-3), CCR-AP-1R (180-190599-4) and CCR-AP-2 (180-190599-6)

The plastic 500mL containers for both samples are not filled to 500mLs. CCR-AP-1R (180-190599-4) and CCR-AP-2 (180-190599-6)

Time of relinquishment by the client is missing on the chain. CCR-AP-6I (180-190599-1), CCR-AP-4 (180-190599-2), CCR-AP-9 (180-190599-3), CCR-AP-1R (180-190599-4), CCR-AP-11 (180-190599-5), CCR-AP-2 (180-190599-6) and CCR-AP-5I (180-190599-7)

HPLC/IC

Method 9056A_ORGFM_28D: The following samples were diluted due to the nature of the sample matrix: CCR-AP-4 (180-190599-2), CCR-AP-9 (180-190599-3), CCR-AP-1R (180-190599-4), CCR-AP-11 (180-190599-5), CCR-AP-2 (180-190599-6) and CCR-AP-5I (180-190599-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Qualifiers

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00690	06-28-25
California	State	3122	05-30-26
Connecticut	State	PH-0820	09-30-26
Florida	NELAP	E871008	06-30-25
Georgia	State	PA 02-00416	04-30-26
Illinois	NELAP	200005	07-31-25
Kansas	NELAP	E-10350	01-31-26
Kentucky (UST)	State	162013	04-30-26
Kentucky (WW)	State	KY98043	12-31-25
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-25
Maine	State	PA00164	03-06-26
Minnesota	NELAP	042-999-482	12-31-25
New Hampshire	NELAP	2030	04-04-26
New Jersey	NELAP	PA005	06-30-25
New York	NELAP	11182	03-31-26
North Carolina (WW/SW)	State	434	12-31-25
North Dakota	State	R-227	04-30-24 *
Oregon	NELAP	PA-2151	02-06-26
Pennsylvania	NELAP	02-00416	04-30-26
Rhode Island	State	LAO00375	12-30-25
South Carolina	State	89014	04-30-25 *
Texas	NELAP	T104704528	03-31-26
US Fish & Wildlife	US Federal Programs	A21930	04-30-26
USDA	US Federal Programs	P330-16-00211	04-11-26
Utah	NELAP	PA001462024-14	05-31-25
Virginia	NELAP	460189	09-14-25
West Virginia DEP	State	142	01-31-26
Wisconsin	State	998027800	08-31-25

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-26
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-28-26
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	05-26-25
North Dakota	State	R-244	02-27-26
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-28-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	08-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Laboratory: Eurofins Cleveland (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704517-22-19	08-31-25
US Fish & Wildlife	US Federal Programs	A26406	02-28-26
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-26
A2LA	Dept. of Energy	0001.01	11-30-26
A2LA	ISO/IEC 17025	0001.01	11-30-26
Alabama	State	43200	01-31-26
Alaska	State	PA00009	06-30-25
Alaska (UST)	State	17-027	12-30-26
Arizona	State	AZ0780	03-12-26
Arkansas DEQ	State	88-00660	08-09-25
California	State	2792	01-31-26
Colorado	State	PA00009	06-30-25
Connecticut	State	PH-0746	06-30-25
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-26
Delaware (DW)	State	N/A	01-31-26
Florida	NELAP	E87997	06-30-25
Georgia (DW)	State	C048	01-31-26
Illinois	NELAP	200027	01-31-26
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-25
Kentucky (DW)	State	KY90088	12-31-25
Kentucky (UST)	State	0001.01	11-30-26
Kentucky (WW)	State	KY90088	12-31-25
Louisiana (All)	NELAP	02055	06-30-25
Maine	State	2019012	03-12-27
Maryland	State	100	06-30-25
Massachusetts	State	M-PA009	06-30-26
Michigan	State	9930	01-31-26
Minnesota	NELAP	042-999-487	12-31-25
Mississippi	State	023	01-31-26
Missouri	State	450	01-31-28
Montana (DW)	State	0098	01-01-26
Nebraska	State	NE-OS-32-17	01-31-26
New Hampshire	NELAP	2730	01-10-26
New Jersey	NELAP	PA011	06-30-25
New York	NELAP	10670	04-01-26
North Carolina (DW)	State	42705	07-31-25
North Carolina (WW/SW)	State	521	12-31-25
North Dakota	State	R-205	01-31-24 *
Oklahoma	NELAP	9804	08-31-25
Oregon	NELAP	PA200001	09-11-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-26
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-29
Rhode Island	State	LAO00338	12-30-25
South Carolina	State	89002	01-31-26
Tennessee	State	02838	01-31-26
Texas	NELAP	T104704194-23-46	06-10-25
USDA	US Federal Programs	525-22-298-19481	10-25-25
Vermont	State	VT - 36037	10-28-25
Virginia	NELAP	460182	06-14-26
Washington	State	C457	04-11-26
West Virginia (DW)	State	9906 C	03-31-26
West Virginia DEP	State	055	07-31-25
Wyoming	State	8TMS-L	01-31-26
Wyoming (UST)	A2LA	0001.01	11-30-26

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (VW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	08-02-25
North Dakota	State	R-207	06-30-25
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1

SDG: FB Culley East

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1

SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-190599-1	CCR-AP-6I	Water	05/13/25 09:16	05/16/25 09:00
180-190599-2	CCR-AP-4	Water	05/13/25 10:28	05/16/25 09:00
180-190599-3	CCR-AP-9	Water	05/13/25 12:15	05/16/25 09:00
180-190599-4	CCR-AP-1R	Water	05/13/25 13:55	05/16/25 09:00
180-190599-5	CCR-AP-11	Water	05/14/25 11:25	05/16/25 09:00
180-190599-6	CCR-AP-2	Water	05/14/25 14:15	05/16/25 09:00
180-190599-7	CCR-AP-5I	Water	05/14/25 17:40	05/16/25 09:00

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-6I

Lab Sample ID: 180-190599-1

Date Collected: 05/13/25 09:16

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496625	05/27/25 12:01	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	647072	05/27/25 22:00	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			650016	05/28/25 13:28	MT26	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	656926	05/21/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657192	05/22/25 21:38	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20 mL	647168	05/28/25 09:20	X3ZX	ELLE
Total/NA	Analysis	EPA 7470A		1			649992	05/28/25 20:02	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			496326	05/21/25 13:58	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496195	05/19/25 16:40	SNR	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1003.45 mL	1.0 g	719394	05/27/25 08:21	OGC	EET SL
Total/NA	Analysis	9315		1			723622	06/20/25 16:10	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1003.45 mL	1.0 g	719396	05/27/25 08:27	OGC	EET SL
Total/NA	Analysis	9320		1			723622	06/20/25 11:55	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			723865	06/23/25 10:17	SCB	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-4

Lab Sample ID: 180-190599-2

Date Collected: 05/13/25 10:28

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496625	05/27/25 17:05	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	647613	05/22/25 21:00	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			648357	05/23/25 10:20	MT26	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	656926	05/21/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657192	05/22/25 21:40	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20 mL	647643	05/24/25 21:45	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			649427	05/28/25 01:06	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			496326	05/21/25 12:51	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496195	05/19/25 16:40	SNR	EET PIT
		Instrument ID: NOEQUIP								

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-4

Lab Sample ID: 180-190599-2

Date Collected: 05/13/25 10:28

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.97 mL	1.0 g	719394	05/27/25 08:21	OGC	EET SL
Total/NA	Analysis	9315		1			723622	06/20/25 18:30	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			500.97 mL	1.0 g	719396	05/27/25 08:27	OGC	EET SL
Total/NA	Analysis	9320		1			723622	06/20/25 11:56	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			723865	06/23/25 10:17	SCB	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-9

Lab Sample ID: 180-190599-3

Date Collected: 05/13/25 12:15

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496625	05/27/25 17:42	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	496625	05/27/25 18:00	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	647072	05/27/25 22:00	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			650016	05/28/25 13:31	MT26	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	656926	05/21/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657192	05/22/25 21:43	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20.0 mL	651650	06/03/25 08:35	X3ZX	ELLE
Total/NA	Analysis	EPA 7470A		1			652526	06/03/25 15:26	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			496326	05/21/25 12:54	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496199	05/19/25 17:19	SNR	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			505.14 mL	1.0 g	719394	05/27/25 08:21	OGC	EET SL
Total/NA	Analysis	9315		1			723622	06/20/25 18:30	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			505.14 mL	1.0 g	719396	05/27/25 08:27	OGC	EET SL
Total/NA	Analysis	9320		1			723605	06/20/25 11:57	SWS	EET SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			723865	06/23/25 10:17	SCB	EET SL
		Instrument ID: NOEQUIP								

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R

Lab Sample ID: 180-190599-4

Date Collected: 05/13/25 13:55

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496625	05/27/25 18:56	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	647066	05/27/25 08:45	X3ZX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			650016	05/28/25 16:41	MT26	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	656926	05/21/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657192	05/22/25 21:46	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20 mL	651139	05/31/25 01:40	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			651956	06/02/25 21:05	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			496326	05/21/25 12:57	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	496199	05/19/25 17:19	SNR	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			509.83 mL	1.0 g	719394	05/27/25 08:21	OGC	EET SL
Total/NA	Analysis	9315		1			723622	06/20/25 18:30	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			509.83 mL	1.0 g	719396	05/27/25 08:27	OGC	EET SL
Total/NA	Analysis	9320		1			723605	06/20/25 11:57	SWS	EET SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			723865	06/23/25 10:17	SCB	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-11

Lab Sample ID: 180-190599-5

Date Collected: 05/14/25 11:25

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496625	05/27/25 19:33	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	496625	05/27/25 19:51	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	647072	05/27/25 22:00	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			650016	05/28/25 13:35	MT26	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	656926	05/21/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657192	05/22/25 21:48	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20.0 mL	651643	06/04/25 10:05	X3ZX	ELLE
Total/NA	Analysis	EPA 7470A		1			653084	06/04/25 17:54	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			496326	05/21/25 13:01	BAB	EET PIT
		Instrument ID: NOEQUIP								

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Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-11

Lab Sample ID: 180-190599-5

Date Collected: 05/14/25 11:25

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496199	05/19/25 17:19	SNR	EET PIT
Total/NA	Prep	PrecSep-21			1009.33 mL	1.0 g	719394	05/27/25 08:21	OGC	EET SL
Total/NA	Analysis	9315		1			723622	06/20/25 18:30	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1009.33 mL	1.0 g	719396	05/27/25 08:27	OGC	EET SL
Total/NA	Analysis	9320		1			723605	06/20/25 11:57	SWS	EET SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			723865	06/23/25 10:17	SCB	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-2

Lab Sample ID: 180-190599-6

Date Collected: 05/14/25 14:15

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496625	05/27/25 20:10	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	496625	05/27/25 20:28	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	647066	05/27/25 08:45	X3ZX	ELLE
Total Recoverable	Analysis	EPA 6010D		5			650329	05/29/25 10:03	MT26	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	656926	05/21/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657192	05/22/25 21:51	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20 mL	648625	05/24/25 21:45	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			649427	05/28/25 00:09	IJ3I	ELLE
		Instrument ID: M10 - 31820								
Total/NA	Analysis	EPA 9040C		1			496326	05/21/25 13:39	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496199	05/19/25 17:19	SNR	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			500.20 mL	1.0 g	719394	05/27/25 08:21	OGC	EET SL
Total/NA	Analysis	9315		1			723622	06/20/25 18:30	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			500.20 mL	1.0 g	719396	05/27/25 08:27	OGC	EET SL
Total/NA	Analysis	9320		1			723605	06/20/25 11:57	SWS	EET SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			723865	06/23/25 10:17	SCB	EET SL
		Instrument ID: NOEQUIP								

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Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I

Lab Sample ID: 180-190599-7

Date Collected: 05/14/25 17:40

Matrix: Water

Date Received: 05/16/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496625	05/27/25 20:47	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	496625	05/27/25 21:05	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	655169	06/09/25 22:00	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		10			655548	06/10/25 12:19	MT26	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	656926	05/21/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657192	05/22/25 21:54	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20 mL	648625	05/24/25 21:45	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			649427	05/28/25 00:07	IJ3I	ELLE
		Instrument ID: M10 - 31820								
Total/NA	Analysis	EPA 9040C		1			496326	05/21/25 13:45	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	496199	05/19/25 17:19	SNR	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			752.76 mL	1.0 g	719394	05/27/25 08:21	OGC	EET SL
Total/NA	Analysis	9315		1			723622	06/20/25 18:30	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			752.76 mL	1.0 g	719396	05/27/25 08:27	OGC	EET SL
Total/NA	Analysis	9320		1			723605	06/20/25 11:58	SWS	EET SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			723865	06/23/25 10:17	SCB	EET SL
		Instrument ID: NOEQUIP								

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1

SDG: FB Culley East

Analyst References:

Lab: EET CLE

Batch Type: Prep

BN = Benjamin Norman

Batch Type: Analysis

S4FJ = Katherine Wise

Lab: EET PIT

Batch Type: Analysis

BAB = Brooke Batyi

ERP = Evan Papak

SNR = Sabra Richart

Lab: EET SL

Batch Type: Prep

OGC = Olivia Carr

Batch Type: Analysis

SCB = Sarah Bernsen

SWS = Seth Stubblefield

Lab: ELLE

Batch Type: Prep

UAMX = Annamaria Kuhns

X3ZX = Skyler Ruf

Batch Type: Analysis

IJ3I = Elizabeth Brittingham

MT26 = Jason Knight

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-6I

Lab Sample ID: 180-190599-1

Date Collected: 05/13/25 09:16

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22		1.0	0.71	mg/L			05/27/25 12:01	1
Fluoride	0.11		0.10	0.026	mg/L			05/27/25 12:01	1
Sulfate	65		1.0	0.76	mg/L			05/27/25 12:01	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.42		0.050	0.012	mg/L		05/27/25 22:00	05/28/25 13:28	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:38	1
Arsenic	0.0038	J	0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:38	1
Barium	0.072		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:38	1
Beryllium	ND		0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:38	1
Cadmium	0.00011	J	0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:38	1
Calcium	45		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:38	1
Chromium	ND		0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:38	1
Cobalt	0.00016	J	0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:38	1
Lead	ND		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:38	1
Lithium	0.0092		0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:38	1
Molybdenum	0.013		0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:38	1
Selenium	ND		0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:38	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:38	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/28/25 09:20	05/28/25 20:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	230		10	10	mg/L			05/19/25 16:40	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.3	HF	0.1	0.1	SU			05/21/25 13:58	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0303	U	0.169	0.169	1.00	0.386	pCi/L	05/27/25 08:21	06/20/25 16:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.4		30 - 110					05/27/25 08:21	06/20/25 16:10	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0311	U	0.415	0.415	1.00	0.778	pCi/L	05/27/25 08:27	06/20/25 11:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.4		30 - 110					05/27/25 08:27	06/20/25 11:55	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-6I

Lab Sample ID: 180-190599-1

Date Collected: 05/13/25 09:16

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

<u>Carrier</u>	<u>%Yield</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Y Carrier	74.8		30 - 110	05/27/25 08:27	06/20/25 11:55	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>Count Uncert. (2σ+/-)</u>	<u>Total Uncert. (2σ+/-)</u>	<u>RL</u>	<u>MDC</u>	<u>Unit</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Combined Radium 226 + 228	0.000788	U	0.448	0.448	5.00	0.778	pCi/L		06/23/25 10:17	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-4

Lab Sample ID: 180-190599-2

Date Collected: 05/13/25 10:28

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22		1.0	0.71	mg/L			05/27/25 17:05	1
Fluoride	0.63		0.10	0.026	mg/L			05/27/25 17:05	1
Sulfate	12		1.0	0.76	mg/L			05/27/25 17:05	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050	0.012	mg/L		05/22/25 21:00	05/23/25 10:20	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0014	J	0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:40	1
Arsenic	0.55		0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:40	1
Barium	1.7		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:40	1
Beryllium	0.0011		0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:40	1
Cadmium	0.00046	J	0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:40	1
Calcium	170		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:40	1
Chromium	0.024		0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:40	1
Cobalt	0.013		0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:40	1
Lead	0.019		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:40	1
Lithium	0.015		0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:40	1
Molybdenum	0.0084		0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:40	1
Selenium	0.0024	J	0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:40	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:40	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/24/25 21:45	05/28/25 01:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	900		10	10	mg/L			05/19/25 16:40	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.1	HF	0.1	0.1	SU			05/21/25 12:51	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.483	U	0.398	0.400	1.00	0.578	pCi/L	05/27/25 08:21	06/20/25 18:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		30 - 110					05/27/25 08:21	06/20/25 18:30	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.25	U G	0.854	0.862	1.00	1.29	pCi/L	05/27/25 08:27	06/20/25 11:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		30 - 110					05/27/25 08:27	06/20/25 11:56	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-4

Lab Sample ID: 180-190599-2

Date Collected: 05/13/25 10:28

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	71.0		30 - 110	05/27/25 08:27	06/20/25 11:56	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.74		0.942	0.950	5.00	1.29	pCi/L		06/23/25 10:17	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-9

Lab Sample ID: 180-190599-3

Date Collected: 05/13/25 12:15

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.4		1.0	0.71	mg/L			05/27/25 17:42	1
Fluoride	0.27		0.10	0.026	mg/L			05/27/25 17:42	1
Sulfate	250		10	7.6	mg/L			05/27/25 18:00	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.47		0.050	0.012	mg/L		05/27/25 22:00	05/28/25 13:31	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00078	J	0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:43	1
Arsenic	0.011		0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:43	1
Barium	0.34		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:43	1
Beryllium	0.0014		0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:43	1
Cadmium	0.00017	J	0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:43	1
Calcium	180		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:43	1
Chromium	0.030		0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:43	1
Cobalt	0.014		0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:43	1
Lead	0.016		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:43	1
Lithium	0.053		0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:43	1
Molybdenum	0.0021	J	0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:43	1
Selenium	ND		0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:43	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:43	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	*+	0.00020	0.000087	mg/L		06/03/25 08:35	06/03/25 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	880		10	10	mg/L			05/19/25 17:19	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.1	HF	0.1	0.1	SU			05/21/25 12:54	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.36		0.535	0.549	1.00	0.568	pCi/L	05/27/25 08:21	06/20/25 18:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		30 - 110					05/27/25 08:21	06/20/25 18:30	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.28	G	0.757	0.766	1.00	1.11	pCi/L	05/27/25 08:27	06/20/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		30 - 110					05/27/25 08:27	06/20/25 11:57	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-9

Lab Sample ID: 180-190599-3

Date Collected: 05/13/25 12:15

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	73.3		30 - 110	05/27/25 08:27	06/20/25 11:57	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.65		0.927	0.942	5.00	1.11	pCi/L		06/23/25 10:17	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R

Lab Sample ID: 180-190599-4

Date Collected: 05/13/25 13:55

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		1.0	0.71	mg/L			05/27/25 18:56	1
Fluoride	0.30		0.10	0.026	mg/L			05/27/25 18:56	1
Sulfate	200		1.0	0.76	mg/L			05/27/25 18:56	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.66		0.050	0.012	mg/L		05/27/25 08:45	05/28/25 16:41	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:46	1
Arsenic	0.0076		0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:46	1
Barium	0.12		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:46	1
Beryllium	0.0014		0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:46	1
Cadmium	0.000097	J	0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:46	1
Calcium	57		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:46	1
Chromium	0.028		0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:46	1
Cobalt	0.015		0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:46	1
Lead	0.019		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:46	1
Lithium	0.060		0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:46	1
Molybdenum	0.0034	J	0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:46	1
Selenium	ND		0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:46	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:46	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/31/25 01:40	06/02/25 21:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	630		20	20	mg/L			05/19/25 17:19	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.3	HF	0.1	0.1	SU			05/21/25 12:57	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.06		0.679	0.704	1.00	0.716	pCi/L	05/27/25 08:21	06/20/25 18:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		30 - 110					05/27/25 08:21	06/20/25 18:30	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.57		0.709	0.723	1.00	0.936	pCi/L	05/27/25 08:27	06/20/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		30 - 110					05/27/25 08:27	06/20/25 11:57	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R

Lab Sample ID: 180-190599-4

Date Collected: 05/13/25 13:55

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.1		30 - 110	05/27/25 08:27	06/20/25 11:57	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.63		0.982	1.01	5.00	0.936	pCi/L		06/23/25 10:17	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-11

Lab Sample ID: 180-190599-5

Date Collected: 05/14/25 11:25

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		1.0	0.71	mg/L			05/27/25 19:33	1
Fluoride	0.30		0.10	0.026	mg/L			05/27/25 19:33	1
Sulfate	750		10	7.6	mg/L			05/27/25 19:51	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.50		0.050	0.012	mg/L		05/27/25 22:00	05/28/25 13:35	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:48	1
Arsenic	0.050		0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:48	1
Barium	0.12		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:48	1
Beryllium	ND		0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:48	1
Cadmium	ND		0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:48	1
Calcium	150		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:48	1
Chromium	ND		0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:48	1
Cobalt	0.10		0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:48	1
Lead	ND		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:48	1
Lithium	0.0046	J	0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:48	1
Molybdenum	ND		0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:48	1
Selenium	ND		0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:48	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:48	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/04/25 10:05	06/04/25 17:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1300		10	10	mg/L			05/19/25 17:19	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.1	HF	0.1	0.1	SU			05/21/25 13:01	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.148	U	0.268	0.269	1.00	0.472	pCi/L	05/27/25 08:21	06/20/25 18:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.9		30 - 110					05/27/25 08:21	06/20/25 18:30	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.27		0.570	0.582	1.00	0.755	pCi/L	05/27/25 08:27	06/20/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.9		30 - 110					05/27/25 08:27	06/20/25 11:57	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-11
Date Collected: 05/14/25 11:25
Date Received: 05/16/25 09:00

Lab Sample ID: 180-190599-5
Matrix: Water

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	78.5		30 - 110	05/27/25 08:27	06/20/25 11:57	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.42		0.630	0.641	5.00	0.755	pCi/L		06/23/25 10:17	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-2

Lab Sample ID: 180-190599-6

Date Collected: 05/14/25 14:15

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		1.0	0.71	mg/L			05/27/25 20:10	1
Fluoride	0.20		0.10	0.026	mg/L			05/27/25 20:10	1
Sulfate	330		10	7.6	mg/L			05/27/25 20:28	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.5		0.25	0.060	mg/L		05/27/25 08:45	05/29/25 10:03	5

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:51	1
Arsenic	0.0021	J	0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:51	1
Barium	0.068		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:51	1
Beryllium	0.00028	J	0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:51	1
Cadmium	0.00020	J	0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:51	1
Calcium	220		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:51	1
Chromium	0.0076		0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:51	1
Cobalt	0.010		0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:51	1
Lead	0.0038		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:51	1
Lithium	0.0060	J	0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:51	1
Molybdenum	0.0011	J	0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:51	1
Selenium	ND		0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:51	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:51	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/24/25 21:45	05/28/25 00:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1300		10	10	mg/L			05/19/25 17:19	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.7	HF	0.1	0.1	SU			05/21/25 13:39	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0332	U	0.397	0.397	1.00	0.783	pCi/L	05/27/25 08:21	06/20/25 18:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.3		30 - 110					05/27/25 08:21	06/20/25 18:30	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.353	U G	0.751	0.751	1.00	1.31	pCi/L	05/27/25 08:27	06/20/25 11:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.3		30 - 110					05/27/25 08:27	06/20/25 11:57	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-2

Lab Sample ID: 180-190599-6

Date Collected: 05/14/25 14:15

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	80.0		30 - 110	05/27/25 08:27	06/20/25 11:57	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.386	U	0.849	0.849	5.00	1.31	pCi/L		06/23/25 10:17	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I

Lab Sample ID: 180-190599-7

Date Collected: 05/14/25 17:40

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	220		10	7.1	mg/L			05/27/25 21:05	10
Fluoride	0.22		0.10	0.026	mg/L			05/27/25 20:47	1
Sulfate	780		10	7.6	mg/L			05/27/25 21:05	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	21		0.50	0.12	mg/L		06/09/25 22:00	06/10/25 12:19	10

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:54	1
Arsenic	0.0011	J	0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:54	1
Barium	0.037		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:54	1
Beryllium	ND		0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:54	1
Cadmium	0.0022		0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:54	1
Calcium	280		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:54	1
Chromium	0.0031	J	0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:54	1
Cobalt	0.0044		0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:54	1
Lead	0.0015		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:54	1
Lithium	0.037		0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:54	1
Molybdenum	0.0066		0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:54	1
Selenium	ND		0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:54	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:54	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/24/25 21:45	05/28/25 00:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1800		20	20	mg/L			05/19/25 17:19	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.7	HF	0.1	0.1	SU			05/21/25 13:45	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0971	U	0.291	0.291	1.00	0.554	pCi/L	05/27/25 08:21	06/20/25 18:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	61.9		30 - 110					05/27/25 08:21	06/20/25 18:30	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.709	U	0.630	0.634	1.00	0.993	pCi/L	05/27/25 08:27	06/20/25 11:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	61.9		30 - 110					05/27/25 08:27	06/20/25 11:58	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I

Lab Sample ID: 180-190599-7

Date Collected: 05/14/25 17:40

Matrix: Water

Date Received: 05/16/25 09:00

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	83.7		30 - 110	05/27/25 08:27	06/20/25 11:58	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.806	U	0.694	0.698	5.00	0.993	pCi/L		06/23/25 10:17	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-496625/6
Matrix: Water
Analysis Batch: 496625

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			05/27/25 10:38	1
Fluoride	ND		0.10	0.026	mg/L			05/27/25 10:38	1
Sulfate	ND		1.0	0.76	mg/L			05/27/25 10:38	1

Lab Sample ID: LCS 180-496625/7
Matrix: Water
Analysis Batch: 496625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.5		mg/L		99	80 - 120
Fluoride	2.50	2.53		mg/L		101	80 - 120
Sulfate	50.0	49.7		mg/L		99	80 - 120

Lab Sample ID: 180-190599-1 MS
Matrix: Water
Analysis Batch: 496625

Client Sample ID: CCR-AP-6I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	22		50.0	69.8		mg/L		96	80 - 120
Fluoride	0.11		2.50	2.66		mg/L		102	80 - 120
Sulfate	65		50.0	110		mg/L		89	80 - 120

Lab Sample ID: 180-190599-1 MSD
Matrix: Water
Analysis Batch: 496625

Client Sample ID: CCR-AP-6I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	22		50.0	69.8		mg/L		96	80 - 120	0	15
Fluoride	0.11		2.50	2.60		mg/L		100	80 - 120	2	15
Sulfate	65		50.0	110		mg/L		90	80 - 120	0	15

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 410-647066/1-A
Matrix: Water
Analysis Batch: 650016

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 647066

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		05/27/25 08:45	05/28/25 15:17	1

Lab Sample ID: LCS 410-647066/2-A
Matrix: Water
Analysis Batch: 650016

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 647066

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.494		mg/L		99	83 - 119

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method: EPA 6010D - Metals (ICP) (Continued)

Lab Sample ID: MB 410-647072/1-A

Matrix: Water

Analysis Batch: 650016

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 647072

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		05/27/25 22:00	05/28/25 12:52	1

Lab Sample ID: LCS 410-647072/2-A

Matrix: Water

Analysis Batch: 650016

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 647072

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.488		mg/L		98	83 - 119

Lab Sample ID: MB 410-647613/1-A

Matrix: Water

Analysis Batch: 648357

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 647613

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		05/22/25 21:00	05/23/25 09:50	1

Lab Sample ID: LCS 410-647613/2-A

Matrix: Water

Analysis Batch: 648357

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 647613

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.491		mg/L		98	83 - 119

Lab Sample ID: MB 410-655169/1-A

Matrix: Water

Analysis Batch: 655491

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 655169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		06/09/25 22:00	06/10/25 06:34	1

Lab Sample ID: LCS 410-655169/2-A

Matrix: Water

Analysis Batch: 655491

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 655169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.494		mg/L		99	83 - 119

Lab Sample ID: LCSD 410-655169/3-A

Matrix: Water

Analysis Batch: 655548

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 655169

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.500	0.566		mg/L		113	83 - 119	14	20

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-656926/1-A
Matrix: Water
Analysis Batch: 657192

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 656926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/21/25 14:00	05/22/25 21:15	1
Arsenic	ND		0.0050	0.00075	mg/L		05/21/25 14:00	05/22/25 21:15	1
Barium	ND		0.0050	0.00077	mg/L		05/21/25 14:00	05/22/25 21:15	1
Beryllium	ND		0.0010	0.00027	mg/L		05/21/25 14:00	05/22/25 21:15	1
Cadmium	ND		0.0010	0.000077	mg/L		05/21/25 14:00	05/22/25 21:15	1
Calcium	ND		1.0	0.25	mg/L		05/21/25 14:00	05/22/25 21:15	1
Chromium	ND		0.0050	0.0012	mg/L		05/21/25 14:00	05/22/25 21:15	1
Cobalt	ND		0.0010	0.000086	mg/L		05/21/25 14:00	05/22/25 21:15	1
Lead	ND		0.0010	0.00045	mg/L		05/21/25 14:00	05/22/25 21:15	1
Lithium	ND		0.0080	0.0034	mg/L		05/21/25 14:00	05/22/25 21:15	1
Molybdenum	ND		0.0050	0.0011	mg/L		05/21/25 14:00	05/22/25 21:15	1
Selenium	ND		0.0050	0.00089	mg/L		05/21/25 14:00	05/22/25 21:15	1
Thallium	ND		0.0010	0.00051	mg/L		05/21/25 14:00	05/22/25 21:15	1

Lab Sample ID: LCS 240-656926/2-A
Matrix: Water
Analysis Batch: 657192

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 656926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0962		mg/L		96	80 - 120
Arsenic	1.00	0.995		mg/L		99	80 - 120
Barium	1.00	0.979		mg/L		98	80 - 120
Beryllium	0.500	0.484		mg/L		97	80 - 120
Cadmium	0.500	0.474		mg/L		95	80 - 120
Calcium	25.0	24.2		mg/L		97	80 - 120
Chromium	0.500	0.493		mg/L		99	80 - 120
Cobalt	0.500	0.476		mg/L		95	80 - 120
Lead	0.500	0.537		mg/L		107	80 - 120
Lithium	0.500	0.535		mg/L		107	80 - 120
Molybdenum	0.500	0.493		mg/L		99	80 - 120
Selenium	1.00	0.967		mg/L		97	80 - 120
Thallium	1.00	1.15		mg/L		115	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-647168/1-A
Matrix: Water
Analysis Batch: 649992

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 647168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/28/25 09:20	05/28/25 19:15	1

Lab Sample ID: LCS 410-647168/2-A
Matrix: Water
Analysis Batch: 649992

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 647168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.00112		mg/L		112	80 - 118

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method: EPA 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 410-647643/1-A
Matrix: Water
Analysis Batch: 649427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 647643

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/24/25 21:45	05/28/25 00:31	1

Lab Sample ID: LCS 410-647643/2-A
Matrix: Water
Analysis Batch: 649427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 647643

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.000847		mg/L		85	80 - 118

Lab Sample ID: MB 410-648625/1-A
Matrix: Water
Analysis Batch: 649427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 648625

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/24/25 21:45	05/27/25 23:29	1

Lab Sample ID: LCS 410-648625/2-A
Matrix: Water
Analysis Batch: 649427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 648625

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.000870		mg/L		87	80 - 118

Lab Sample ID: LCSD 410-648625/3-A
Matrix: Water
Analysis Batch: 649427

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 648625

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00100	0.000843		mg/L		84	80 - 118	3	20

Lab Sample ID: MB 410-651139/1-A
Matrix: Water
Analysis Batch: 651956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 651139

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		05/31/25 01:40	06/02/25 20:27	1

Lab Sample ID: LCS 410-651139/2-A
Matrix: Water
Analysis Batch: 651956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 651139

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.00112		mg/L		112	80 - 118

Lab Sample ID: MB 410-651643/1-A
Matrix: Water
Analysis Batch: 653084

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 651643

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/04/25 10:05	06/04/25 17:24	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: LCS 410-651643/2-A
Matrix: Water
Analysis Batch: 653084

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 651643

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.00116		mg/L		116	80 - 118

Lab Sample ID: LCSD 410-651643/3-A
Matrix: Water
Analysis Batch: 653084

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 651643

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00100	0.00109		mg/L		109	80 - 118	6	20

Lab Sample ID: MB 410-651650/1-A
Matrix: Water
Analysis Batch: 652526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 651650

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/03/25 08:35	06/03/25 14:37	1

Lab Sample ID: LCS 410-651650/2-A
Matrix: Water
Analysis Batch: 652526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 651650

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.00115		mg/L		115	80 - 118

Lab Sample ID: LCSD 410-651650/3-A
Matrix: Water
Analysis Batch: 652526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 651650

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00100	0.00121	*+	mg/L		121	80 - 118	5	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-496326/47
Matrix: Water
Analysis Batch: 496326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-496326/70
Matrix: Water
Analysis Batch: 496326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method: EPA 9040C - pH (Continued)

Lab Sample ID: 180-190599-7 DU

Matrix: Water

Analysis Batch: 496326

Client Sample ID: CCR-AP-5I

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.7	HF	6.8		SU		0.6	2

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-496195/1

Matrix: Water

Analysis Batch: 496195

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			05/19/25 16:40	1

Lab Sample ID: LCS 180-496195/2

Matrix: Water

Analysis Batch: 496195

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	420	360		mg/L		86	85 - 115

Lab Sample ID: MB 180-496199/1

Matrix: Water

Analysis Batch: 496199

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			05/19/25 17:19	1

Lab Sample ID: LCS 180-496199/2

Matrix: Water

Analysis Batch: 496199

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	420	390		mg/L		93	85 - 115

Lab Sample ID: 180-190599-3 DU

Matrix: Water

Analysis Batch: 496199

Client Sample ID: CCR-AP-9

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	880		867		mg/L		1	10

Lab Sample ID: 180-190599-7 DU

Matrix: Water

Analysis Batch: 496199

Client Sample ID: CCR-AP-5I

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1800		1820		mg/L		2	10

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-719394/1-A
Matrix: Water
Analysis Batch: 723605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 719394

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01851	U	0.195	0.195	1.00	0.397	pCi/L	05/27/25 08:21	06/20/25 16:05	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110					05/27/25 08:21	06/20/25 16:05	1

Lab Sample ID: LCS 160-719394/2-A
Matrix: Water
Analysis Batch: 723605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719394

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.58	8.033		1.12	1.00	0.362	pCi/L	84	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	93.3		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-719396/1-A
Matrix: Water
Analysis Batch: 723611

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 719396

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2750	U	0.354	0.355	1.00	0.589	pCi/L	05/27/25 08:27	06/20/25 11:44	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.8		30 - 110					05/27/25 08:27	06/20/25 11:44	1
Y Carrier	80.7		30 - 110					05/27/25 08:27	06/20/25 11:44	1

Lab Sample ID: LCS 160-719396/2-A
Matrix: Water
Analysis Batch: 723611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719396

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		9.33	10.60		1.40	1.00	0.492	pCi/L	114	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	93.3		30 - 110							
Y Carrier	81.5		30 - 110							

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

HPLC/IC

Analysis Batch: 496625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total/NA	Water	EPA 9056A	
180-190599-2	CCR-AP-4	Total/NA	Water	EPA 9056A	
180-190599-3	CCR-AP-9	Total/NA	Water	EPA 9056A	
180-190599-3	CCR-AP-9	Total/NA	Water	EPA 9056A	
180-190599-4	CCR-AP-1R	Total/NA	Water	EPA 9056A	
180-190599-5	CCR-AP-11	Total/NA	Water	EPA 9056A	
180-190599-5	CCR-AP-11	Total/NA	Water	EPA 9056A	
180-190599-6	CCR-AP-2	Total/NA	Water	EPA 9056A	
180-190599-6	CCR-AP-2	Total/NA	Water	EPA 9056A	
180-190599-7	CCR-AP-5I	Total/NA	Water	EPA 9056A	
180-190599-7	CCR-AP-5I	Total/NA	Water	EPA 9056A	
MB 180-496625/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-496625/7	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-190599-1 MS	CCR-AP-6I	Total/NA	Water	EPA 9056A	
180-190599-1 MSD	CCR-AP-6I	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 647066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-4	CCR-AP-1R	Total Recoverable	Water	3005A	
180-190599-6	CCR-AP-2	Total Recoverable	Water	3005A	
MB 410-647066/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-647066/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 647072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total Recoverable	Water	3005A	
180-190599-3	CCR-AP-9	Total Recoverable	Water	3005A	
180-190599-5	CCR-AP-11	Total Recoverable	Water	3005A	
MB 410-647072/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-647072/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 647168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total/NA	Water	7470A	
MB 410-647168/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-647168/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 647613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-2	CCR-AP-4	Total Recoverable	Water	3005A	
MB 410-647613/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-647613/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 647643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-2	CCR-AP-4	Total/NA	Water	7470A	
MB 410-647643/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-647643/2-A	Lab Control Sample	Total/NA	Water	7470A	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Metals

Analysis Batch: 648357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-2	CCR-AP-4	Total Recoverable	Water	EPA 6010D	647613
MB 410-647613/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	647613
LCS 410-647613/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	647613

Prep Batch: 648625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-6	CCR-AP-2	Total/NA	Water	7470A	
180-190599-7	CCR-AP-5I	Total/NA	Water	7470A	
MB 410-648625/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-648625/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 410-648625/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	

Analysis Batch: 649427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-2	CCR-AP-4	Total/NA	Water	EPA 7470A	647643
180-190599-6	CCR-AP-2	Total/NA	Water	EPA 7470A	648625
180-190599-7	CCR-AP-5I	Total/NA	Water	EPA 7470A	648625
MB 410-647643/1-A	Method Blank	Total/NA	Water	EPA 7470A	647643
MB 410-648625/1-A	Method Blank	Total/NA	Water	EPA 7470A	648625
LCS 410-647643/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	647643
LCS 410-648625/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	648625
LCSD 410-648625/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 7470A	648625

Analysis Batch: 649992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total/NA	Water	EPA 7470A	647168
MB 410-647168/1-A	Method Blank	Total/NA	Water	EPA 7470A	647168
LCS 410-647168/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	647168

Analysis Batch: 650016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total Recoverable	Water	EPA 6010D	647072
180-190599-3	CCR-AP-9	Total Recoverable	Water	EPA 6010D	647072
180-190599-4	CCR-AP-1R	Total Recoverable	Water	EPA 6010D	647066
180-190599-5	CCR-AP-11	Total Recoverable	Water	EPA 6010D	647072
MB 410-647066/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	647066
MB 410-647072/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	647072
LCS 410-647066/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	647066
LCS 410-647072/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	647072

Analysis Batch: 650329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-6	CCR-AP-2	Total Recoverable	Water	EPA 6010D	647066

Prep Batch: 651139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-4	CCR-AP-1R	Total/NA	Water	7470A	
MB 410-651139/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-651139/2-A	Lab Control Sample	Total/NA	Water	7470A	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Metals

Prep Batch: 651643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-5	CCR-AP-11	Total/NA	Water	7470A	
MB 410-651643/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-651643/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 410-651643/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	

Prep Batch: 651650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-3	CCR-AP-9	Total/NA	Water	7470A	
MB 410-651650/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-651650/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 410-651650/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	

Analysis Batch: 651956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-4	CCR-AP-1R	Total/NA	Water	EPA 7470A	651139
MB 410-651139/1-A	Method Blank	Total/NA	Water	EPA 7470A	651139
LCS 410-651139/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	651139

Analysis Batch: 652526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-3	CCR-AP-9	Total/NA	Water	EPA 7470A	651650
MB 410-651650/1-A	Method Blank	Total/NA	Water	EPA 7470A	651650
LCS 410-651650/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	651650
LCSD 410-651650/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 7470A	651650

Analysis Batch: 653084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-5	CCR-AP-11	Total/NA	Water	EPA 7470A	651643
MB 410-651643/1-A	Method Blank	Total/NA	Water	EPA 7470A	651643
LCS 410-651643/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	651643
LCSD 410-651643/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 7470A	651643

Prep Batch: 655169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-7	CCR-AP-5I	Total Recoverable	Water	3005A	
MB 410-655169/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-655169/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 410-655169/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Analysis Batch: 655491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-655169/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	655169
LCS 410-655169/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	655169

Analysis Batch: 655548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-7	CCR-AP-5I	Total Recoverable	Water	EPA 6010D	655169
LCSD 410-655169/3-A	Lab Control Sample Dup	Total Recoverable	Water	EPA 6010D	655169

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

Metals

Prep Batch: 656926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total Recoverable	Water	3005A	
180-190599-2	CCR-AP-4	Total Recoverable	Water	3005A	
180-190599-3	CCR-AP-9	Total Recoverable	Water	3005A	
180-190599-4	CCR-AP-1R	Total Recoverable	Water	3005A	
180-190599-5	CCR-AP-11	Total Recoverable	Water	3005A	
180-190599-6	CCR-AP-2	Total Recoverable	Water	3005A	
180-190599-7	CCR-AP-5I	Total Recoverable	Water	3005A	
MB 240-656926/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-656926/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 657192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total Recoverable	Water	EPA 6020B	656926
180-190599-2	CCR-AP-4	Total Recoverable	Water	EPA 6020B	656926
180-190599-3	CCR-AP-9	Total Recoverable	Water	EPA 6020B	656926
180-190599-4	CCR-AP-1R	Total Recoverable	Water	EPA 6020B	656926
180-190599-5	CCR-AP-11	Total Recoverable	Water	EPA 6020B	656926
180-190599-6	CCR-AP-2	Total Recoverable	Water	EPA 6020B	656926
180-190599-7	CCR-AP-5I	Total Recoverable	Water	EPA 6020B	656926
MB 240-656926/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	656926
LCS 240-656926/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	656926

General Chemistry

Analysis Batch: 496195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total/NA	Water	SM 2540C	
180-190599-2	CCR-AP-4	Total/NA	Water	SM 2540C	
MB 180-496195/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-496195/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 496199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-3	CCR-AP-9	Total/NA	Water	SM 2540C	
180-190599-4	CCR-AP-1R	Total/NA	Water	SM 2540C	
180-190599-5	CCR-AP-11	Total/NA	Water	SM 2540C	
180-190599-6	CCR-AP-2	Total/NA	Water	SM 2540C	
180-190599-7	CCR-AP-5I	Total/NA	Water	SM 2540C	
MB 180-496199/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-496199/2	Lab Control Sample	Total/NA	Water	SM 2540C	
180-190599-3 DU	CCR-AP-9	Total/NA	Water	SM 2540C	
180-190599-7 DU	CCR-AP-5I	Total/NA	Water	SM 2540C	

Analysis Batch: 496326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total/NA	Water	EPA 9040C	
180-190599-2	CCR-AP-4	Total/NA	Water	EPA 9040C	
180-190599-3	CCR-AP-9	Total/NA	Water	EPA 9040C	
180-190599-4	CCR-AP-1R	Total/NA	Water	EPA 9040C	
180-190599-5	CCR-AP-11	Total/NA	Water	EPA 9040C	
180-190599-6	CCR-AP-2	Total/NA	Water	EPA 9040C	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190599-1
SDG: FB Culley East

General Chemistry (Continued)

Analysis Batch: 496326 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-7	CCR-AP-5I	Total/NA	Water	EPA 9040C	
LCS 180-496326/47	Lab Control Sample	Total/NA	Water	EPA 9040C	
LCS 180-496326/70	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-190599-7 DU	CCR-AP-5I	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 719394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total/NA	Water	PrecSep-21	
180-190599-2	CCR-AP-4	Total/NA	Water	PrecSep-21	
180-190599-3	CCR-AP-9	Total/NA	Water	PrecSep-21	
180-190599-4	CCR-AP-1R	Total/NA	Water	PrecSep-21	
180-190599-5	CCR-AP-11	Total/NA	Water	PrecSep-21	
180-190599-6	CCR-AP-2	Total/NA	Water	PrecSep-21	
180-190599-7	CCR-AP-5I	Total/NA	Water	PrecSep-21	
MB 160-719394/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-719394/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 719396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190599-1	CCR-AP-6I	Total/NA	Water	PrecSep_0	
180-190599-2	CCR-AP-4	Total/NA	Water	PrecSep_0	
180-190599-3	CCR-AP-9	Total/NA	Water	PrecSep_0	
180-190599-4	CCR-AP-1R	Total/NA	Water	PrecSep_0	
180-190599-5	CCR-AP-11	Total/NA	Water	PrecSep_0	
180-190599-6	CCR-AP-2	Total/NA	Water	PrecSep_0	
180-190599-7	CCR-AP-5I	Total/NA	Water	PrecSep_0	
MB 160-719396/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-719396/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Chain of Custody Record

Client Information		Sampler: MARK BRETHER		Lab PM: Johnson, Andy		Carrier Tracking No(s)		COC No: 180-112839-14505 2	
Client Contact: Britton Hundley		Phone: 312 313 8306		E-Mail: Andy.Johnson@et.eurofins.com		State of Origin: IN		Page: Page 2 of 2	
Company: Haley & Aldrich, Inc		PWSID		Analysis Requested		Job #		Preservation Codes: N - None D - HNO3	
Address: 400 Augusta Street Suite 100		Due Date Requested: 5/13/25		TAT Requested (days): 7		Total Number of Containers		Special Instructions/Note:	
City: Greenville		Sample Date: 5/13/25		Sample Time: 09:16		Sample Type: G		Matrix: W	
State Zip: SC, 29601		Sample Date: 5/13/25		Sample Time: 10:28		Sample Type: G		Matrix: W	
Phone: 0129420-032-001-01		Sample Date: 5/13/25		Sample Time: 12:15		Sample Type: G		Matrix: W	
Email: BHundley@haleyaldrich.com		Sample Date: 5/13/25		Sample Time: 13:55		Sample Type: G		Matrix: W	
Project Name: CCR GW Monitoring FB Culley East		Sample Date: 5/14/25		Sample Time: 11:25		Sample Type: G		Matrix: W	
Site: 18016014		Sample Date: 5/14/25		Sample Time: 14:15		Sample Type: G		Matrix: W	
SSOW#		Sample Date: 5/14/25		Sample Time: 17:40		Sample Type: G		Matrix: W	
Sample Identification		Sample Date		Sample Time		Sample Type		Matrix	
CCR-AP-6-I		5/13/25		09:16		G		W	
CCR-AP-4		5/13/25		10:28		G		W	
CCR-AP-9		5/13/25		12:15		G		W	
CCR-AP-1R		5/13/25		13:55		G		W	
CCR-AP-11		5/14/25		11:25		G		W	
CCR-AP-2		5/14/25		14:15		G		W	
CCR-AP-5-I		5/14/25		17:40		G		W	
Possible Hazard Identification		Non-Hazard		Flammable		Skin Irritant		Poison B	
Deliverable Requested I, II, III, IV, Other (specify)		Unknown		Radiological		Return To Client		Disposal By Lab	
Empty Kit Relinquished by		Date		Time		Special Instructions/QC Requirements		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Relinquished by: Mark Bretther/Mark Bretther		Date: 5/15/25		Time: 14:15		Received by: [Signature]		Date/Time: 5/16/25 9:00	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact		Custody Seal No		Cooler Temperature(s) °C and Other Remarks		Company: KAP-IT NE		Company:	
Δ Yes Δ No									

ORIGIN ID:AGCA (317) 579-4082
LINDSEY GISH
FB CULLEY WEST VECTREN CORPORATION
3711 DARLINGTON RD

SHIP DATE: 24APR25
ACTWGT: 40.00 LB MAN
CAD: 0522321/CAFE3905

NEWBURGH, IN 47630
UNITED STATES US

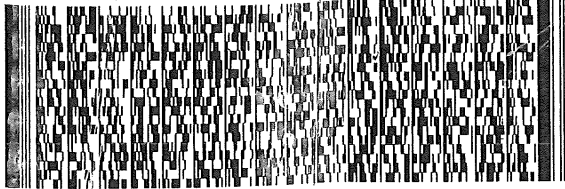
TO **SAMPLE RECEIVING DEPARTMENT**
EUROFINS ENVIRO. TESTING PITT N.E.
301 ALPHA DRIVE

PITTSBURGH PA 15238

(412) 963-7530

REF: RETURN

RMA: ||| ||| |||



FedEx

TRK# 4359 6082 3969
0221

FRI - 16 MAY 10:30
PRIORITY OVERNIGHT

NX AGCA

*PA-US

Uncorrected temp
Thermometer ID

CF -0.9 Initials B

PT-WI-SR-001 effective 11/8/18

#3941278 05/15 58GJ4/EA36/59F2

ORIGIN ID:AGCA (317) 579-4082
LINDSEY GISH
FB CULLEY WEST VECTREN CORPORATION
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SHIP DATE: 24APR25
ACTWGT: 40.00 LB MAN
CAD: 0522321/CAFE3905

NEWBURGH, IN 47630
UNITED STATES US

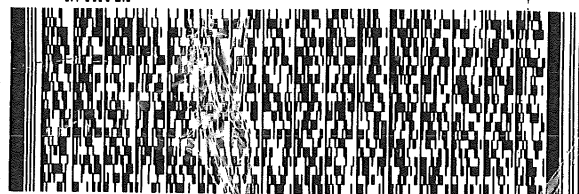
TO **SAMPLE RECEIVING DEPARTMENT**
EUROFINS ENVIRO. TESTING PITT N.E.
301 ALPHA DRIVE

PITTSBURGH PA 15238

(412) 963-7530

REF: RETURN

RMA: ||| ||| |||



FedEx

TRK# 4359 6082 3958
0221

FRI - 16 MAY 10:30
PRIORITY OVERNIGHT

NX AGCA

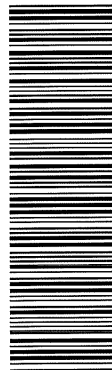
*PA-US

Uncorrected temp
Thermometer ID

CF -0.9 Initials B

PT-WI-SR-001 effective 11/8/18

#3941278 05/15 58GJ4/EA36/59F2



180-190599 Waybill

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-190599-1

SDG Number: FB Culley East

Login Number: 190599

List Number: 1

Creator: Ryan, Shannon G

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-190599-1

SDG Number: FB Culley East

Login Number: 190599

List Number: 4

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 05/22/25 03:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

ANALYTICAL REPORT

PREPARED FOR

Attn: Todd Plating
Haley & Aldrich, Inc.
400 Augusta Street
Suite 100
Greenville, South Carolina 29601

Generated 6/23/2025 7:32:42 PM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-190648-1

Eurofins Pittsburgh

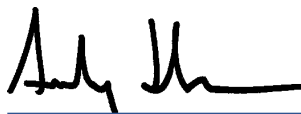
Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



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6/23/2025 7:32:42 PM

Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1

Job ID: 180-190648-1

Eurofins Pittsburgh

Job Narrative 180-190648-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 5/17/2025 11:20 AM and 5/19/2025 9:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.4°C, 1.6°C, 1.8°C, 2.4°C, 3.6°C and 14.1°C.

Receipt Exceptions

The following sample was listed on the Chain of Custody (COC); however, no sample was received: DUP-1-051525 (180-190648-5).

The missing cooler for the following sample was received at the laboratory outside the required temperature criteria of 14.1°C. DUP-1-051525 (180-190648-5). This does not meet regulatory requirements. The client was contacted regarding this issue and the laboratory was instructed to cancel the analyses for the duplicate sample DUP-1-051525 (180-190648-5) and the parent sample CCR-AP-8I (180-190648-1).

Gas Flow Proportional Counter

Method 9315_Ra226: Radium 226 Batch 719392 The detection goal was not met for the following sample due to a reduced sample volume used in prep attributed to the presence of matrix interferences. CCR-AP-8 (180-190648-2)

Method 9320_Ra228: Radium-228 batch 719393 The detection goal was not met for the following sample due to the reduced sample volume attributed to the presence of matrix interferences: CCR-AP-8 (180-190648-2). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1

Job ID: 180-190648-2

Eurofins Pittsburgh

Job Narrative 180-190648-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 5/17/2025 11:20 AM and 5/19/2025 9:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.4°C, 1.6°C, 1.8°C, 2.4°C, 3.6°C and 14.1°C.

Receipt Exceptions

The following sample was listed on the Chain of Custody (COC); however, no sample was received: DUP-1-051525 (180-190648-5).

The missing cooler for the following sample was received at the laboratory outside the required temperature criteria of 14.1°C. DUP-1-051525 (180-190648-5). This does not meet regulatory requirements. The client was contacted regarding this issue and the laboratory was instructed to cancel the analyses for the duplicate sample DUP-1-051525 (180-190648-5) and the parent sample CCR-AP-8I (180-190648-1).

HPLC/IC

Method 9056A_ORGFM_28D: The following samples were diluted due to the nature of the sample matrix: CCR-AP-8 (180-190648-2), CCR-AP-5 (180-190648-3), (180-190649-D-5), (180-190649-D-5 MS) and (180-190649-D-5 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00690	06-28-25
California	State	2891	04-30-24 *
Connecticut	State	PH-0820	09-30-26
Florida	NELAP	E871008	06-30-25
Georgia	State	PA 02-00416	04-30-26
Illinois	NELAP	200005	07-31-25
Kansas	NELAP	E-10350	01-31-26
Kentucky (UST)	State	162013	04-30-26
Kentucky (WW)	State	KY98043	12-31-25
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-25
Maine	State	PA00164	03-06-26
Minnesota	NELAP	042-999-482	12-31-25
New Hampshire	NELAP	2030	04-04-26
New Jersey	NELAP	PA005	06-30-25
New York	NELAP	11182	03-31-26
North Carolina (WW/SW)	State	434	12-31-25
North Dakota	State	R-227	04-30-24 *
Oregon	NELAP	PA-2151	02-06-26
Pennsylvania	NELAP	02-00416	04-30-26
Rhode Island	State	LAO00375	12-30-25
South Carolina	State	89014	04-30-25 *
Texas	NELAP	T104704528	03-31-26
US Fish & Wildlife	US Federal Programs	A21930	04-30-26
USDA	US Federal Programs	P330-16-00211	04-11-26
Utah	NELAP	PA001462024-14	05-31-25
Virginia	NELAP	460189	09-14-25
West Virginia DEP	State	142	01-31-26
Wisconsin	State	998027800	08-31-25

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-26
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-28-26
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	05-26-25
North Dakota	State	R-244	02-27-26
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-28-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	08-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Laboratory: Eurofins Cleveland (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704517-22-19	08-31-25
US Fish & Wildlife	US Federal Programs	A26406	02-28-26
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-26
A2LA	Dept. of Energy	0001.01	11-30-26
A2LA	ISO/IEC 17025	0001.01	11-30-26
Alabama	State	43200	01-31-26
Alaska	State	PA00009	06-30-25
Alaska (UST)	State	17-027	12-30-26
Arizona	State	AZ0780	03-12-26
Arkansas DEQ	State	88-00660	08-09-25
California	State	2792	01-31-26
Colorado	State	PA00009	06-30-25
Connecticut	State	PH-0746	06-30-25
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-26
Delaware (DW)	State	N/A	01-31-26
Florida	NELAP	E87997	06-30-25
Georgia (DW)	State	C048	01-31-26
Illinois	NELAP	200027	01-31-26
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-25
Kentucky (DW)	State	KY90088	12-31-25
Kentucky (UST)	State	0001.01	11-30-26
Kentucky (WW)	State	KY90088	12-31-25
Louisiana (All)	NELAP	02055	06-30-25
Maine	State	2019012	03-12-27
Maryland	State	100	06-30-25
Massachusetts	State	M-PA009	06-30-26
Michigan	State	9930	01-31-26
Minnesota	NELAP	042-999-487	12-31-25
Mississippi	State	023	01-31-26
Missouri	State	450	01-31-28
Montana (DW)	State	0098	01-01-26
Nebraska	State	NE-OS-32-17	01-31-26
New Hampshire	NELAP	2730	01-10-26
New Jersey	NELAP	PA011	06-30-25
New York	NELAP	10670	04-01-26
North Carolina (DW)	State	42705	07-31-25
North Carolina (WW/SW)	State	521	12-31-25
North Dakota	State	R-205	01-31-24 *
Oklahoma	NELAP	9804	08-31-25
Oregon	NELAP	PA200001	09-11-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-26
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-29
Rhode Island	State	LAO00338	12-30-25
South Carolina	State	89002	01-31-26
Tennessee	State	02838	01-31-26
Texas	NELAP	T104704194-23-46	08-31-25
USDA	US Federal Programs	525-22-298-19481	10-25-25
Vermont	State	VT - 36037	10-28-25
Virginia	NELAP	460182	06-14-26
Washington	State	C457	04-11-26
West Virginia (DW)	State	9906 C	03-31-26
West Virginia DEP	State	055	07-31-25
Wyoming	State	8TMS-L	01-31-26
Wyoming (UST)	A2LA	0001.01	11-30-26

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (VW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	08-02-25
North Dakota	State	R-207	06-30-25
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1

SDG: FB Culley East

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1

SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-190648-2	CCR-AP-8	Water	05/15/25 16:45	05/17/25 11:20
180-190648-3	CCR-AP-5	Water	05/15/25 18:13	05/17/25 11:20
180-190648-4	FIELD BLANK-1-051525	Water	05/15/25 17:50	05/17/25 11:20

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-190648-2

Date Collected: 05/15/25 16:45

Matrix: Water

Date Received: 05/17/25 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496689	05/29/25 00:01	ERP	EET PIT
	Instrument ID: INUVION									
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	496689	05/29/25 00:16	ERP	EET PIT
	Instrument ID: INUVION									
Total Recoverable	Prep	3005A			50 mL	50 mL	651908	06/02/25 21:30	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			652188	06/03/25 07:49	MT26	ELLE
	Instrument ID: T73 - 18255									
Total Recoverable	Prep	3005A			50 mL	50 mL	657091	05/22/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657404	05/23/25 18:18	S4FJ	EET CLE
	Instrument ID: I15									
Total/NA	Prep	7470A			20 mL	20 mL	651938	06/03/25 02:20	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			652526	06/03/25 15:51	IJ3I	ELLE
	Instrument ID: M10 – 31820									
Total/NA	Analysis	EPA 9040C		1			496436	05/22/25 11:37	BAB	EET PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496367	05/21/25 15:35	SNR	EET PIT
	Instrument ID: NOEQUIP									
Total/NA	Prep	PrecSep-21			506.63 mL	1.0 g	719392	05/27/25 08:14	OGC	EET SL
Total/NA	Analysis	9315		1			723120	06/18/25 21:12	SWS	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			506.63 mL	1.0 g	719393	05/27/25 08:19	OGC	EET SL
Total/NA	Analysis	9320		1			723120	06/18/25 13:45	SWS	EET SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			722908	06/19/25 17:08	FLC	EET SL
	Instrument ID: NOEQUIP									

Client Sample ID: CCR-AP-5

Lab Sample ID: 180-190648-3

Date Collected: 05/15/25 18:13

Matrix: Water

Date Received: 05/17/25 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496689	05/29/25 00:32	ERP	EET PIT
	Instrument ID: INUVION									
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	496689	05/29/25 00:48	ERP	EET PIT
	Instrument ID: INUVION									
Total Recoverable	Prep	3005A			50 mL	50 mL	651908	06/02/25 21:30	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		10			652214	06/03/25 11:12	MT26	ELLE
	Instrument ID: T75 - 27278									
Total Recoverable	Prep	3005A			50 mL	50 mL	657091	05/22/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657404	05/23/25 18:21	S4FJ	EET CLE
	Instrument ID: I15									
Total/NA	Prep	7470A			20 mL	20 mL	651938	06/03/25 02:20	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			652526	06/03/25 15:53	IJ3I	ELLE
	Instrument ID: M10 – 31820									

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5

Lab Sample ID: 180-190648-3

Date Collected: 05/15/25 18:13

Matrix: Water

Date Received: 05/17/25 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9040C		1			496436	05/22/25 11:32	BAB	EET PIT
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496367	05/21/25 15:35	SNR	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			975.15 mL	1.0 g	719392	05/27/25 08:14	OGC	EET SL
Total/NA	Analysis	9315		1			723120	06/18/25 21:12	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			975.15 mL	1.0 g	719393	05/27/25 08:19	OGC	EET SL
Total/NA	Analysis	9320		1			723120	06/18/25 13:45	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			722908	06/19/25 17:08	FLC	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: FIELD BLANK-1-051525

Lab Sample ID: 180-190648-4

Date Collected: 05/15/25 17:50

Matrix: Water

Date Received: 05/17/25 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	496689	05/28/25 23:14	ERP	EET PIT
		Instrument ID: INUVION								
Total Recoverable	Prep	3005A			50 mL	50 mL	651908	06/02/25 21:30	UAMX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			652188	06/03/25 07:45	MT26	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	657091	05/22/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			657404	05/23/25 18:24	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20 mL	651938	06/03/25 02:20	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			652526	06/03/25 15:47	IJ3I	ELLE
		Instrument ID: M10 - 31820								
Total/NA	Analysis	EPA 9040C		1			496436	05/22/25 11:21	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	496367	05/21/25 15:35	SNR	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1002.24 mL	1.0 g	719392	05/27/25 08:14	OGC	EET SL
Total/NA	Analysis	9315		1			723120	06/18/25 21:12	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1002.24 mL	1.0 g	719393	05/27/25 08:19	OGC	EET SL
Total/NA	Analysis	9320		1			723120	06/18/25 13:45	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			722908	06/19/25 17:08	FLC	EET SL
		Instrument ID: NOEQUIP								

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1

SDG: FB Culley East

Analyst References:

Lab: EET CLE

Batch Type: Prep

BN = Benjamin Norman

Batch Type: Analysis

S4FJ = Katherine Wise

Lab: EET PIT

Batch Type: Analysis

BAB = Brooke Batyi

ERP = Evan Papak

SNR = Sabra Richart

Lab: EET SL

Batch Type: Prep

OGC = Olivia Carr

Batch Type: Analysis

FLC = Fernando Cruz

SWS = Seth Stubblefield

Lab: ELLE

Batch Type: Prep

UAMX = Annamaria Kuhns

Batch Type: Analysis

IJ3I = Elizabeth Brittingham

MT26 = Jason Knight

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-190648-2

Date Collected: 05/15/25 16:45

Matrix: Water

Date Received: 05/17/25 11:20

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		1.0	0.71	mg/L			05/29/25 00:01	1
Fluoride	0.43		0.10	0.026	mg/L			05/29/25 00:01	1
Sulfate	68		10	7.6	mg/L			05/29/25 00:16	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.050	0.012	mg/L		06/02/25 21:30	06/03/25 07:49	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0017	J	0.0020	0.00057	mg/L		05/22/25 14:00	05/23/25 18:18	1
Arsenic	0.083		0.0050	0.00075	mg/L		05/22/25 14:00	05/23/25 18:18	1
Barium	0.34		0.0050	0.00077	mg/L		05/22/25 14:00	05/23/25 18:18	1
Beryllium	0.00061	J	0.0010	0.00027	mg/L		05/22/25 14:00	05/23/25 18:18	1
Cadmium	0.00037	J	0.0010	0.000077	mg/L		05/22/25 14:00	05/23/25 18:18	1
Calcium	190		1.0	0.25	mg/L		05/22/25 14:00	05/23/25 18:18	1
Chromium	0.015		0.0050	0.0012	mg/L		05/22/25 14:00	05/23/25 18:18	1
Cobalt	0.0045		0.0010	0.000086	mg/L		05/22/25 14:00	05/23/25 18:18	1
Lead	0.0058		0.0010	0.00045	mg/L		05/22/25 14:00	05/23/25 18:18	1
Lithium	0.0054	J	0.0080	0.0034	mg/L		05/22/25 14:00	05/23/25 18:18	1
Molybdenum	0.019		0.0050	0.0011	mg/L		05/22/25 14:00	05/23/25 18:18	1
Selenium	0.0029	J	0.0050	0.00089	mg/L		05/22/25 14:00	05/23/25 18:18	1
Thallium	0.00057	J	0.0010	0.00051	mg/L		05/22/25 14:00	05/23/25 18:18	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/03/25 02:20	06/03/25 15:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	980		10	10	mg/L			05/21/25 15:35	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.2		0.1	0.1	SU			05/22/25 11:37	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.631	U G	0.674	0.677	1.00	1.09	pCi/L	05/27/25 08:14	06/18/25 21:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.7		30 - 110					05/27/25 08:14	06/18/25 21:12	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.270	U G	0.998	0.999	1.00	1.91	pCi/L	05/27/25 08:19	06/18/25 13:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	60.7		30 - 110					05/27/25 08:19	06/18/25 13:45	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-190648-2

Date Collected: 05/15/25 16:45

Matrix: Water

Date Received: 05/17/25 11:20

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.1		30 - 110	05/27/25 08:19	06/18/25 13:45	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.362	U	1.20	1.21	5.00	1.91	pCi/L		06/19/25 17:08	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5

Lab Sample ID: 180-190648-3

Date Collected: 05/15/25 18:13

Matrix: Water

Date Received: 05/17/25 11:20

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58		1.0	0.71	mg/L			05/29/25 00:32	1
Fluoride	1.2		0.10	0.026	mg/L			05/29/25 00:32	1
Sulfate	440		10	7.6	mg/L			05/29/25 00:48	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	13		0.50	0.12	mg/L		06/02/25 21:30	06/03/25 11:12	10

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/22/25 14:00	05/23/25 18:21	1
Arsenic	0.0011	J	0.0050	0.00075	mg/L		05/22/25 14:00	05/23/25 18:21	1
Barium	0.046		0.0050	0.00077	mg/L		05/22/25 14:00	05/23/25 18:21	1
Beryllium	ND		0.0010	0.00027	mg/L		05/22/25 14:00	05/23/25 18:21	1
Cadmium	0.00011	J	0.0010	0.000077	mg/L		05/22/25 14:00	05/23/25 18:21	1
Calcium	200		1.0	0.25	mg/L		05/22/25 14:00	05/23/25 18:21	1
Chromium	ND		0.0050	0.0012	mg/L		05/22/25 14:00	05/23/25 18:21	1
Cobalt	0.0029		0.0010	0.000086	mg/L		05/22/25 14:00	05/23/25 18:21	1
Lead	ND		0.0010	0.00045	mg/L		05/22/25 14:00	05/23/25 18:21	1
Lithium	0.073		0.0080	0.0034	mg/L		05/22/25 14:00	05/23/25 18:21	1
Molybdenum	0.22		0.0050	0.0011	mg/L		05/22/25 14:00	05/23/25 18:21	1
Selenium	ND		0.0050	0.00089	mg/L		05/22/25 14:00	05/23/25 18:21	1
Thallium	ND		0.0010	0.00051	mg/L		05/22/25 14:00	05/23/25 18:21	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/03/25 02:20	06/03/25 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1200		10	10	mg/L			05/21/25 15:35	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.1		0.1	0.1	SU			05/22/25 11:32	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.267	U	0.236	0.237	1.00	0.361	pCi/L	05/27/25 08:14	06/18/25 21:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					05/27/25 08:14	06/18/25 21:12	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.969		0.424	0.433	1.00	0.568	pCi/L	05/27/25 08:19	06/18/25 13:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		30 - 110					05/27/25 08:19	06/18/25 13:45	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5

Lab Sample ID: 180-190648-3

Date Collected: 05/15/25 18:13

Matrix: Water

Date Received: 05/17/25 11:20

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	83.4		30 - 110	05/27/25 08:19	06/18/25 13:45	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.24		0.485	0.494	5.00	0.568	pCi/L		06/19/25 17:08	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: FIELD BLANK-1-051525

Lab Sample ID: 180-190648-4

Date Collected: 05/15/25 17:50

Matrix: Water

Date Received: 05/17/25 11:20

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			05/28/25 23:14	1
Fluoride	ND		0.10	0.026	mg/L			05/28/25 23:14	1
Sulfate	ND		1.0	0.76	mg/L			05/28/25 23:14	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.020	J	0.050	0.012	mg/L		06/02/25 21:30	06/03/25 07:45	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/22/25 14:00	05/23/25 18:24	1
Arsenic	ND		0.0050	0.00075	mg/L		05/22/25 14:00	05/23/25 18:24	1
Barium	ND		0.0050	0.00077	mg/L		05/22/25 14:00	05/23/25 18:24	1
Beryllium	ND		0.0010	0.00027	mg/L		05/22/25 14:00	05/23/25 18:24	1
Cadmium	ND		0.0010	0.000077	mg/L		05/22/25 14:00	05/23/25 18:24	1
Calcium	ND		1.0	0.25	mg/L		05/22/25 14:00	05/23/25 18:24	1
Chromium	0.0014	J	0.0050	0.0012	mg/L		05/22/25 14:00	05/23/25 18:24	1
Cobalt	ND		0.0010	0.000086	mg/L		05/22/25 14:00	05/23/25 18:24	1
Lead	ND		0.0010	0.00045	mg/L		05/22/25 14:00	05/23/25 18:24	1
Lithium	ND		0.0080	0.0034	mg/L		05/22/25 14:00	05/23/25 18:24	1
Molybdenum	ND		0.0050	0.0011	mg/L		05/22/25 14:00	05/23/25 18:24	1
Selenium	ND		0.0050	0.00089	mg/L		05/22/25 14:00	05/23/25 18:24	1
Thallium	ND		0.0010	0.00051	mg/L		05/22/25 14:00	05/23/25 18:24	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/03/25 02:20	06/03/25 15:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	ND		10	10	mg/L			05/21/25 15:35	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	8.5		0.1	0.1	SU			05/22/25 11:21	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.123	U	0.204	0.204	1.00	0.355	pCi/L	05/27/25 08:14	06/18/25 21:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110					05/27/25 08:14	06/18/25 21:12	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.204	U	0.343	0.343	1.00	0.587	pCi/L	05/27/25 08:19	06/18/25 13:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110					05/27/25 08:19	06/18/25 13:45	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Client Sample ID: FIELD BLANK-1-051525

Lab Sample ID: 180-190648-4

Date Collected: 05/15/25 17:50

Matrix: Water

Date Received: 05/17/25 11:20

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	78.5		30 - 110	05/27/25 08:19	06/18/25 13:45	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.326	U	0.399	0.399	5.00	0.587	pCi/L		06/19/25 17:08	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-496689/6
Matrix: Water
Analysis Batch: 496689

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			05/28/25 11:28	1
Fluoride	ND		0.10	0.026	mg/L			05/28/25 11:28	1
Sulfate	ND		1.0	0.76	mg/L			05/28/25 11:28	1

Lab Sample ID: LCS 180-496689/7
Matrix: Water
Analysis Batch: 496689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	52.4		mg/L		105	80 - 120
Fluoride	2.50	2.34		mg/L		94	80 - 120
Sulfate	50.0	46.5		mg/L		93	80 - 120

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 410-651908/1-A
Matrix: Water
Analysis Batch: 652188

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 651908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		06/02/25 21:30	06/03/25 07:02	1

Lab Sample ID: LCS 410-651908/2-A
Matrix: Water
Analysis Batch: 652188

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 651908

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.510		mg/L		102	83 - 119

Lab Sample ID: LCSD 410-651908/3-A
Matrix: Water
Analysis Batch: 652188

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 651908

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.500	0.508		mg/L		102	83 - 119	0	20

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-657091/1-A
Matrix: Water
Analysis Batch: 657404

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 657091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/22/25 14:00	05/23/25 18:00	1
Arsenic	ND		0.0050	0.00075	mg/L		05/22/25 14:00	05/23/25 18:00	1
Barium	ND		0.0050	0.00077	mg/L		05/22/25 14:00	05/23/25 18:00	1
Beryllium	ND		0.0010	0.00027	mg/L		05/22/25 14:00	05/23/25 18:00	1
Cadmium	ND		0.0010	0.000077	mg/L		05/22/25 14:00	05/23/25 18:00	1
Calcium	ND		1.0	0.25	mg/L		05/22/25 14:00	05/23/25 18:00	1
Chromium	ND		0.0050	0.0012	mg/L		05/22/25 14:00	05/23/25 18:00	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-657091/1-A
Matrix: Water
Analysis Batch: 657404

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 657091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.0010	0.000086	mg/L		05/22/25 14:00	05/23/25 18:00	1
Lead	ND		0.0010	0.00045	mg/L		05/22/25 14:00	05/23/25 18:00	1
Lithium	ND		0.0080	0.0034	mg/L		05/22/25 14:00	05/23/25 18:00	1
Molybdenum	ND		0.0050	0.0011	mg/L		05/22/25 14:00	05/23/25 18:00	1
Selenium	ND		0.0050	0.00089	mg/L		05/22/25 14:00	05/23/25 18:00	1
Thallium	ND		0.0010	0.00051	mg/L		05/22/25 14:00	05/23/25 18:00	1

Lab Sample ID: LCS 240-657091/2-A
Matrix: Water
Analysis Batch: 657404

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 657091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0922		mg/L		92	80 - 120
Arsenic	1.00	0.921		mg/L		92	80 - 120
Barium	1.00	0.927		mg/L		93	80 - 120
Beryllium	0.500	0.457		mg/L		91	80 - 120
Cadmium	0.500	0.451		mg/L		90	80 - 120
Calcium	25.0	23.2		mg/L		93	80 - 120
Chromium	0.500	0.462		mg/L		92	80 - 120
Cobalt	0.500	0.453		mg/L		91	80 - 120
Lead	0.500	0.504		mg/L		101	80 - 120
Lithium	0.500	0.500		mg/L		100	80 - 120
Molybdenum	0.500	0.461		mg/L		92	80 - 120
Selenium	1.00	0.915		mg/L		91	80 - 120
Thallium	1.00	1.07		mg/L		107	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-651938/1-A
Matrix: Water
Analysis Batch: 652526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 651938

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/03/25 02:20	06/03/25 15:32	1

Lab Sample ID: LCS 410-651938/2-A
Matrix: Water
Analysis Batch: 652526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 651938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.000936		mg/L		94	80 - 118

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-496436/1
Matrix: Water
Analysis Batch: 496436

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-496367/1
Matrix: Water
Analysis Batch: 496367

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			05/21/25 15:35	1

Lab Sample ID: LCS 180-496367/2
Matrix: Water
Analysis Batch: 496367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	420	402		mg/L		96	85 - 115

Lab Sample ID: 180-190648-2 DU
Matrix: Water
Analysis Batch: 496367

Client Sample ID: CCR-AP-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	980		988		mg/L		1	10

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-719392/1-A
Matrix: Water
Analysis Batch: 723120

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 719392

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1135	U	0.172	0.172	1.00	0.296	pCi/L	05/27/25 08:14	06/18/25 21:12	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110	05/27/25 08:14	06/18/25 21:12	1

Lab Sample ID: LCS 160-719392/2-A
Matrix: Water
Analysis Batch: 723120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719392

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	9.58	9.790		1.27	1.00	0.311	pCi/L	102	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	92.5		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-719393/1-A
Matrix: Water
Analysis Batch: 723120

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 719393

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3722	U	0.323	0.325	1.00	0.502	pCi/L	05/27/25 08:19	06/18/25 13:45	1

Eurofins Pittsburgh

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-719393/1-A
Matrix: Water
Analysis Batch: 723120

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 719393

	MB	MB	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	86.8		30 - 110
Y Carrier	77.8		30 - 110

Prepared	Analyzed	Dil Fac
05/27/25 08:19	06/18/25 13:45	1
05/27/25 08:19	06/18/25 13:45	1

Lab Sample ID: LCS 160-719393/2-A
Matrix: Water
Analysis Batch: 723120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719393

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.34	10.47		1.40	1.00	0.566	pCi/L	112	75 - 125

	LCS	LCS	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	92.5		30 - 110
Y Carrier	80.0		30 - 110

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

HPLC/IC

Analysis Batch: 496689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total/NA	Water	EPA 9056A	
180-190648-2	CCR-AP-8	Total/NA	Water	EPA 9056A	
180-190648-3	CCR-AP-5	Total/NA	Water	EPA 9056A	
180-190648-3	CCR-AP-5	Total/NA	Water	EPA 9056A	
180-190648-4	FIELD BLANK-1-051525	Total/NA	Water	EPA 9056A	
MB 180-496689/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-496689/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 651908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total Recoverable	Water	3005A	
180-190648-3	CCR-AP-5	Total Recoverable	Water	3005A	
180-190648-4	FIELD BLANK-1-051525	Total Recoverable	Water	3005A	
MB 410-651908/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-651908/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 410-651908/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 651938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total/NA	Water	7470A	
180-190648-3	CCR-AP-5	Total/NA	Water	7470A	
180-190648-4	FIELD BLANK-1-051525	Total/NA	Water	7470A	
MB 410-651938/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-651938/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 652188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total Recoverable	Water	EPA 6010D	651908
180-190648-4	FIELD BLANK-1-051525	Total Recoverable	Water	EPA 6010D	651908
MB 410-651908/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	651908
LCS 410-651908/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	651908
LCSD 410-651908/3-A	Lab Control Sample Dup	Total Recoverable	Water	EPA 6010D	651908

Analysis Batch: 652214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-3	CCR-AP-5	Total Recoverable	Water	EPA 6010D	651908

Analysis Batch: 652526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total/NA	Water	EPA 7470A	651938
180-190648-3	CCR-AP-5	Total/NA	Water	EPA 7470A	651938
180-190648-4	FIELD BLANK-1-051525	Total/NA	Water	EPA 7470A	651938
MB 410-651938/1-A	Method Blank	Total/NA	Water	EPA 7470A	651938
LCS 410-651938/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	651938

Prep Batch: 657091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total Recoverable	Water	3005A	
180-190648-3	CCR-AP-5	Total Recoverable	Water	3005A	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-190648-1
SDG: FB Culley East

Metals (Continued)

Prep Batch: 657091 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-4	FIELD BLANK-1-051525	Total Recoverable	Water	3005A	
MB 240-657091/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-657091/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 657404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total Recoverable	Water	EPA 6020B	657091
180-190648-3	CCR-AP-5	Total Recoverable	Water	EPA 6020B	657091
180-190648-4	FIELD BLANK-1-051525	Total Recoverable	Water	EPA 6020B	657091
MB 240-657091/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	657091
LCS 240-657091/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	657091

General Chemistry

Analysis Batch: 496367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total/NA	Water	SM 2540C	
180-190648-3	CCR-AP-5	Total/NA	Water	SM 2540C	
180-190648-4	FIELD BLANK-1-051525	Total/NA	Water	SM 2540C	
MB 180-496367/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-496367/2	Lab Control Sample	Total/NA	Water	SM 2540C	
180-190648-2 DU	CCR-AP-8	Total/NA	Water	SM 2540C	

Analysis Batch: 496436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total/NA	Water	EPA 9040C	
180-190648-3	CCR-AP-5	Total/NA	Water	EPA 9040C	
180-190648-4	FIELD BLANK-1-051525	Total/NA	Water	EPA 9040C	
LCS 180-496436/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 719392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total/NA	Water	PrecSep-21	
180-190648-3	CCR-AP-5	Total/NA	Water	PrecSep-21	
180-190648-4	FIELD BLANK-1-051525	Total/NA	Water	PrecSep-21	
MB 160-719392/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-719392/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 719393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-190648-2	CCR-AP-8	Total/NA	Water	PrecSep_0	
180-190648-3	CCR-AP-5	Total/NA	Water	PrecSep_0	
180-190648-4	FIELD BLANK-1-051525	Total/NA	Water	PrecSep_0	
MB 160-719393/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-719393/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Eurofins Pittsburgh

301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

Eurofins | Environment Testing

Client Information		Sampler MARK BEETINGS		Lab PM Johnson, Andy	
Client Contact: Britton Hundley		Phone 412 313 8306		E-Mail Andy.Johnson@eurofins.com	
Company Haley & Aldrich, Inc.		PWSID		Job #	
Address 400 Augusta Street Suite 100		Due Date Requested:		Analysis Requested	
City Greenville		TAT Requested (days):		Preservation Codes: N - None D - HNO3	
State, Zip SC, 29601		Compliance Project: ☐ Yes ☒ No		Other:	
Phone		PO # 0129420-032-001-02		Total Number of containers	
Email BHundley@haleyaldrich.com		WO #		Special Instructions/Note:	
Project Name CCR GW Monitoring FB Culley West		Project # 18016014		To: <i>Inefficient Volume in 11/11</i>	
Site East		SSOW#		To: <i>7.11 1L bottles</i>	
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)	
WAP-1 CCR-AP-8-I	5/15/25	16:14	G	Water	
WAP-2 CCR-AP-8		16:45	G	Water	
WAP-3 CCR-AP-5		18:13	G	Water	
WAP-4 FIELD BLANK-1-051525		17:50	G	Water	
WAP-5 DUP-1-051525		00:00	G	Water	
WAP-6				Water	
WAP-7				Water	
WAP-8				Water	
WAP-9				Water	
WAP-10				Water	
WAP-11				Water	
WAP-12				Water	
WAP-13				Water	
WAP-14				Water	
WAP-15				Water	
WAP-16				Water	
WAP-17				Water	
WAP-18				Water	
WAP-19				Water	
WAP-20				Water	
WAP-21				Water	
WAP-22				Water	
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WAP-24				Water	
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WAP-212				Water	
WAP-213				Water	
WAP-214				Water	
WAP-215				Water	
WAP-216				Water	
WAP-217				Water	
WAP-218				Water	
WAP-219				Water	
WAP-220				Water	
WAP-221				Water	
WAP-222				Water	
WAP-223				Water	
WAP-224				Water	
WAP-225				Water	
WAP-226				Water	
WAP-227				Water	
WAP-228				Water	
WAP-229				Water	
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WAP-232				Water	
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WAP-235				Water	
WAP-236				Water	
WAP-237				Water	
WAP-238				Water	
WAP-239				Water	
WAP-240				Water	
WAP-241				Water	
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WAP-244				Water	
WAP-245				Water	
WAP-246				Water	
WAP-247				Water	
WAP-248				Water	
WAP-249				Water	
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WAP-255				Water	
WAP-256				Water	
WAP-257				Water	
WAP-258				Water	
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WAP-272				Water	
WAP-273				Water	
WAP-274				Water	
WAP-275				Water	
WAP-276				Water	
WAP-277				Water	
WAP-278				Water	
WAP-279				Water	
WAP-280				Water	
WAP-281				Water	
WAP-282				Water	
WAP-283				Water	
WAP-284				Water	
WAP-285				Water	
WAP-286				Water	
WAP-287				Water	
WAP-288				Water	
WAP-289				Water	
WAP-290				Water	
WAP-291				Water	
WAP-292				Water	
WAP-293				Water	
WAP-294				Water	
WAP-295				Water	
WAP-296				Water	
WAP-297				Water	
WAP-298				Water	
WAP-299				Water	
WAP-300				Water	
WAP-301				Water	
WAP-302				Water	
WAP-303				Water	
WAP-304				Water	
WAP-305				Water	
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WAP-312				Water	
WAP-313					

59 6082 3925 SATURDAY 12:00P
PRIORITY OVERNIGHT

AGCA

15238
PA-US PIT

Uncorrected temp 2.5 °C
Thermometer ID 25
Initials JLR

F -0.7 Initials

PT-WI-SR-001 effective 11/8/18

15 58GJ4/EA36/59F2

FedEx
TRK# 4359 6082 7931
0221

XO AGCA

SATURDAY 12:00P
PRIORITY OVERNIGHT

PA

Uncorrected temp 2.3 °C
Thermometer ID 25
Initials JLR

CF -0.7 Initials

PT-WI-SR-001 effective 11/8/18

15 58GJ4/EA36/59F2

4359 6082 7931

TRK# 0221

FedEx
TRK# 4359 6082 4152
0221

XO AGCA

PA-US

Uncorrected temp 4.3 °C
Thermometer ID 25
Initials JLR

CF -0.7 Initials

PT-WI-SR-001 effective 11/8/18

15 58GJ4/EA36/59F2

FedEx
TRK# 4359 6082 4141
0221

XO AGCA

SATURDAY 12:00P
PRIORITY OVERNIGHT

PA-US

XO AGCA

Uncorrected temp 2.1 °C
Thermometer ID 25
Initials JLR

CF -0.7 Initials

PT-WI-SR-001 effective 11/8/18

15 58GJ4/EA36/59F2

15238-2907-01
PTTTSBUHQH,PA
05/17-05/18
USED - 600
AT 05/17 08:11
15238-2907-01
PTTTSBUHQH,PA
05/17-05/18
USED - 600

15238-2907-01
PTTTSBUHQH,PA
05/17-05/18
USED - 600
AT 05/17 08:11
15238-2907-01
PTTTSBUHQH,PA
05/17-05/18
USED - 600

Dap-1

WAP8-2

WAP-8I

Metals-Radd
Do Not Med ICE

(TDS - 9056 :
pH
out of Temp)



180-190648 Waybill

ORIGIN ID: AGCA (317) 579-4082
LINDSEY GISH
FB CULLEY WEST VECTREN CORPORATION
3711 DARLINGTON RD

NEWBURGH, IN 47630
UNITED STATES US

TO **SAMPLE RECEIVING DEPARTMENT**
EUROFINS ENVIRO. TESTING PITT N.E.
301 ALPHA DRIVE

PITTSBURGH PA 15238

(412) 963-7530
REF: RETURN

RMA: ||| ||| |||



FedEx
TRK# 4359 6082 3970
0221

NX AGCA

DELIVERY MON - SAT
FRI - 16 MAY 10:30A
PRIORITY OVERNIGHT

15238
PA-US PIT

Uncorrected temp 14.9 °C
Thermometer ID 20
CF -0.8 Initials JM
PT-WI-SR-001 effective 11/8/18

W3941278 05/15 58GJ4/EA36/59F2

TRK# 4359 6082 3970

4150 MON 05/1
EUROFINS ENVIRO.
301 ALPHA DR
PITTSBURGH PA
PRIORITY 0
198-20
ETP: 3
10022843422600C

190648
JMH #5/18/25 9:15

SHIP DATE: 24APR25
ACTWGT: 40.00 LB MAN
CAD: 0522321/CAFE3905

Part # 159469-424 HHD2 EXP 02/26



Phone: 412-963-7058 Fax: 412-963-2400		Carrier Tracking No(s): 180-538896-1	
Client Information (Sub Contract Lab)		Lab PM: Johnson, Andy	
Client Contact: Shipping/Receiving		E-Mail: Andy.Johnson@et.eurofinsus.com	
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): N/A	
Address: 13715 Rider Trail North,		Due Date Requested: 6/23/2025	
City: Earth City		TAT Requested (days): N/A	
State, Zip: MO, 63045		PO #: N/A	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		WG #: N/A	
Email: N/A		Project #: 18016014	
Project Name: CCR Groundwater Monitoring FB Culley East		SSOW#: N/A	
Site: N/A		Site: N/A	
Sample Identification - Client ID (Lab ID)		Sample Date	
CCR-AP-8 (180-190648-1)		5/15/25	
CCR-AP-8 (180-190648-2)		5/15/25	
CCR-AP-5 (180-190648-3)		5/15/25	
FIELD BLANK-1-051525 (180-190648-4)		5/15/25	
DUP-1-051525 (180-190648-5)		5/15/25	
Sample Date		Sample Time	
5/15/25		16:14 Eastern	
5/15/25		16:45 Eastern	
5/15/25		18:13 Eastern	
5/15/25		17:50 Eastern	
5/15/25		Eastern	
Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=soil, A=air)	
G		Water	
G		Water	
G		Water	
G		Water	
G		Water	
Field Filtered Sample (Yes or No)		Preservation Code:	
X		16:14 Eastern	
X		16:45 Eastern	
X		18:13 Eastern	
X		17:50 Eastern	
X		Eastern	
Perform MS/MSD (Yes or No)		9315_Ra226/PrecSep_21 Radium-226 (GFP) by 9315	
X		9320_Ra228/PrecSep_0 Radium-228 (GFP) by 9320	
X		Ra226Ra228 GFP/ Combined Radium-226 and	
Total Number of containers		Special Instructions/Note:	
2		2	
1		1	
2		2	
2		2	
2		2	
Other: N/A		Special Instructions/Note:	
N/A		Special Instructions/Note:	
COC No: 180-538896-1		Page: Page 1 of 1	
Job #: 180-190648-1		Preservation Codes:	
N/A		N/A	
Analysis Requested		Analysis Requested	
Due Date Requested: 6/23/2025		Due Date Requested: 6/23/2025	
TAT Requested (days): N/A		TAT Requested (days): N/A	
PO #: N/A		PO #: N/A	
WG #: N/A		WG #: N/A	
Project #: 18016014		Project #: 18016014	
SSOW#: N/A		SSOW#: N/A	
Sample Date		Sample Time	
5/15/25		16:14 Eastern	
5/15/25		16:45 Eastern	
5/15/25		18:13 Eastern	
5/15/25		17:50 Eastern	
5/15/25		Eastern	
Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=soil, A=air)	
G		Water	
G		Water	
G		Water	
G		Water	
G		Water	
Field Filtered Sample (Yes or No)		Preservation Code:	
X		16:14 Eastern	
X		16:45 Eastern	
X		18:13 Eastern	
X		17:50 Eastern	
X		Eastern	
Perform MS/MSD (Yes or No)		9315_Ra226/PrecSep_21 Radium-226 (GFP) by 9315	
X		9320_Ra228/PrecSep_0 Radium-228 (GFP) by 9320	
X		Ra226Ra228 GFP/ Combined Radium-226 and	
Total Number of containers		Special Instructions/Note:	
2		2	
1		1	
2		2	
2		2	
2		2	
Other: N/A		Special Instructions/Note:	
N/A		Special Instructions/Note:	
COC No: 180-538896-1		Page: Page 1 of 1	
Job #: 180-190648-1		Preservation Codes:	
N/A		N/A	
Analysis Requested		Analysis Requested	
Due Date Requested: 6/23/2025		Due Date Requested: 6/23/2025	
TAT Requested (days): N/A		TAT Requested (days): N/A	
PO #: N/A		PO #: N/A	
WG #: N/A		WG #: N/A	
Project #: 18016014		Project #: 18016014	
SSOW#: N/A		SSOW#: N/A	
Sample Date		Sample Time	
5/15/25		16:14 Eastern	
5/15/25		16:45 Eastern	
5/15/25		18:13 Eastern	
5/15/25		17:50 Eastern	
5/15/25		Eastern	
Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=soil, A=air)	
G		Water	
G		Water	
G		Water	
G		Water	
G		Water	
Field Filtered Sample (Yes or No)		Preservation Code:	
X		16:14 Eastern	
X		16:45 Eastern	
X		18:13 Eastern	
X		17:50 Eastern	
X		Eastern	
Perform MS/MSD (Yes or No)		9315_Ra226/PrecSep_21 Radium-226 (GFP) by 9315	
X		9320_Ra228/PrecSep_0 Radium-228 (GFP) by 9320	
X		Ra226Ra228 GFP/ Combined Radium-226 and	
Total Number of containers		Special Instructions/Note:	
2		2	
1		1	
2		2	
2		2	
2		2	
Other: N/A		Special Instructions/Note:	
N/A		Special Instructions/Note:	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-190648-1

SDG Number: FB Culley East

Login Number: 190648

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-190648-1

SDG Number: FB Culley East

Login Number: 190648

List Number: 2

Creator: Kovitch, Christina M

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	MELTED ICE
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-190648-1

SDG Number: FB Culley East

Login Number: 190648

List Number: 5

Creator: Pinette, Meadow L

List Source: Eurofins St. Louis

List Creation: 05/22/25 03:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

ANALYTICAL REPORT

PREPARED FOR

Attn: Todd Plating
Haley & Aldrich, Inc.
400 Augusta Street
Suite 100
Greenville, South Carolina 29601

Generated 7/9/2025 1:07:05 PM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-191167-1

Eurofins Pittsburgh

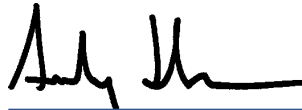
Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



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Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1

Job ID: 180-191167-1

Eurofins Pittsburgh

Job Narrative 180-191167-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/3/2025 9:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.9°C.

Gas Flow Proportional Counter

Method 9320_Ra228: Radium-228 prep batch 160-721982: The Ra-228 laboratory control sample (LCS) associated with the following samples recovered at 135% (LCS 160-721982/2-A). The limits in our LIMS system at (125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (68-154%). The LCS is within criteria and no further action is required.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Case Narrative

Client: Haley & Aldrich, Inc.
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1

Job ID: 180-191167-2

Eurofins Pittsburgh

Job Narrative 180-191167-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/3/2025 9:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.9°C.

HPLC/IC

Method 9056A_ORGFM_28D: The following samples were diluted due to the nature of the sample matrix: CCR-AP-8I-052925 (180-191167-1), DUP-1-052925 (180-191167-2), (180-191456-F-1), (180-191456-F-1 MS) and (180-191456-F-1 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00690	06-28-25
California	State	3122	05-30-26
Connecticut	State	PH-0820	09-30-26
Florida	NELAP	E871008	06-30-25
Georgia	State	PA 02-00416	04-30-26
Illinois	NELAP	200005	07-31-25
Kansas	NELAP	E-10350	01-31-26
Kentucky (UST)	State	162013	04-30-26
Kentucky (WW)	State	KY98043	12-31-25
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-25
Maine	State	PA00164	03-06-26
Minnesota	NELAP	042-999-482	12-31-25
New Hampshire	NELAP	2030	04-04-26
New Jersey	NELAP	PA005	06-30-25
New York	NELAP	11182	03-31-26
North Carolina (WW/SW)	State	434	12-31-25
North Dakota	State	R-227	04-30-24 *
Oregon	NELAP	PA-2151	02-06-26
Pennsylvania	NELAP	02-00416	04-30-26
Rhode Island	State	LAO00375	12-30-25
South Carolina	State	89014	04-30-25 *
Texas	NELAP	T104704528	03-31-26
US Fish & Wildlife	US Federal Programs	A21930	04-30-26
USDA	US Federal Programs	P330-16-00211	04-11-26
Utah	NELAP	PA001462024-14	03-31-24 *
Virginia	NELAP	460189	09-14-25
West Virginia DEP	State	142	01-31-26
Wisconsin	State	998027800	08-31-25

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0806	12-31-26
Georgia	State	4062	02-27-26
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25 *
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-28-26
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	225024	09-30-25
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-01-26
North Dakota	State	R-244	02-27-26
Ohio	State	8303	11-04-25
Ohio VAP	State	ORELAP 4062	02-28-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	08-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Laboratory: Eurofins Cleveland (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704517-22-19	08-31-25
US Fish & Wildlife	US Federal Programs	A26406	02-28-26
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-25
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-25

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-26
A2LA	Dept. of Energy	0001.01	11-30-26
A2LA	ISO/IEC 17025	0001.01	11-30-26
Alabama	State	43200	01-31-26
Alaska	State	PA00009	06-30-25
Alaska (UST)	State	17-027	12-30-26
Arizona	State	AZ0780	03-12-26
Arkansas DEQ	State	88-00660	08-09-25
California	State	2792	01-31-26
Colorado	State	PA00009	06-30-25
Connecticut	State	PH-0746	06-30-25
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-26
Delaware (DW)	State	N/A	01-31-26
Florida	NELAP	E87997	06-30-25
Georgia (DW)	State	C048	01-31-26
Illinois	NELAP	200027	01-31-26
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-25
Kentucky (DW)	State	KY90088	12-31-25
Kentucky (UST)	State	0001.01	11-30-26
Kentucky (WW)	State	KY90088	12-31-25
Louisiana (All)	NELAP	02055	06-30-25
Maine	State	2019012	03-12-27
Maryland	State	100	06-30-25
Massachusetts	State	M-PA009	06-30-26
Michigan	State	9930	01-31-26
Minnesota	NELAP	042-999-487	12-31-25
Mississippi	State	023	01-31-26
Missouri	State	450	01-31-28
Montana (DW)	State	0098	01-01-26
Nebraska	State	NE-OS-32-17	01-31-26
New Hampshire	NELAP	2730	01-10-26
New Jersey	NELAP	PA011	06-30-25
New York	NELAP	10670	04-01-26
North Carolina (DW)	State	42705	07-31-25
North Carolina (WW/SW)	State	521	12-31-25
North Dakota	State	R-205	01-31-24 *
Oklahoma	NELAP	9804	08-31-25
Oregon	NELAP	PA200001	09-11-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-26
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-29
Rhode Island	State	LAO00338	12-30-25
South Carolina	State	89002	01-31-26
Tennessee	State	02838	01-31-26
Texas	NELAP	T104704194-23-46	08-31-25
USDA	US Federal Programs	525-22-298-19481	10-25-25
Vermont	State	VT - 36037	10-28-25
Virginia	NELAP	460182	06-14-26
Washington	State	C457	04-11-26
West Virginia (DW)	State	9906 C	03-31-26
West Virginia DEP	State	055	07-31-25
Wyoming	State	8TMS-L	01-31-26
Wyoming (UST)	A2LA	0001.01	11-30-26

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25 *
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-26
HI - RadChem Recognition	State	n/a	06-30-25 *
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-26
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-26
MI - RadChem Recognition	State	9005	06-30-25 *
Missouri	State	780	06-30-25 *
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-26
New Mexico	State	MO00054	06-30-25 *
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	08-02-25
North Dakota	State	R-207	06-30-25 *
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1

SDG: FB Culley East

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-25 *
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Sample Summary

Client: Haley & Aldrich, Inc.

Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1

SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-191167-1	CCR-AP-8I-052925	Water	05/29/25 12:50	06/03/25 09:05
180-191167-2	DUP-1-052925	Water	05/29/25 12:00	06/03/25 09:05

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Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-052925

Lab Sample ID: 180-191167-1

Date Collected: 05/29/25 12:50

Matrix: Water

Date Received: 06/03/25 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2	1 mL	1 mL	497223	06/05/25 17:42	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	655166	06/16/25 08:23	X3ZX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			658450	06/16/25 16:48	T8CQ	ELLE
		Instrument ID: T75 - 27278								
Total Recoverable	Prep	3005A			50 mL	50 mL	659210	06/10/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			659511	06/11/25 15:27	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20 mL	20.0 mL	656666	06/16/25 23:55	UAMX	ELLE
Total/NA	Analysis	EPA 7470A		1			659095	06/17/25 16:34	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			497222	06/05/25 10:51	BAB	EET PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	497226	06/05/25 13:20	LWM	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1002.17 mL	1.0 g	721981	06/12/25 07:27	JTR	EET SL
Total/NA	Analysis	9315		1			726071	07/07/25 09:57	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1002.17 mL	1.0 g	721982	06/12/25 07:33	JTR	EET SL
Total/NA	Analysis	9320		1			725551	07/02/25 10:04	SCB	EET SL
		Instrument ID: GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228		1			725932	07/07/25 06:57	FLC	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: DUP-1-052925

Lab Sample ID: 180-191167-2

Date Collected: 05/29/25 12:00

Matrix: Water

Date Received: 06/03/25 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2	1 mL	1 mL	497223	06/05/25 18:25	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50.0 mL	50.0 mL	659208	06/18/25 07:35	X3ZX	ELLE
Total Recoverable	Analysis	EPA 6010D		1			659724	06/18/25 19:03	T8CQ	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	659210	06/10/25 14:00	BN	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			659511	06/11/25 15:25	S4FJ	EET CLE
		Instrument ID: I15								
Total/NA	Prep	7470A			20.0 mL	20.0 mL	659263	06/18/25 09:45	X3ZX	ELLE
Total/NA	Analysis	EPA 7470A		1			659755	06/18/25 20:35	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			497222	06/05/25 11:24	BAB	EET PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	497226	06/05/25 13:20	LWM	EET PIT
		Instrument ID: NOEQUIP								

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Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Client Sample ID: DUP-1-052925

Lab Sample ID: 180-191167-2

Date Collected: 05/29/25 12:00

Matrix: Water

Date Received: 06/03/25 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1005.75 mL	1.0 g	721981	06/12/25 07:27	JTR	EET SL
Total/NA	Analysis	9315		1			726071	07/07/25 09:57	SWS	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1005.75 mL	1.0 g	721982	06/12/25 07:33	JTR	EET SL
Total/NA	Analysis	9320		1			725551	07/02/25 10:04	SCB	EET SL
		Instrument ID: GFPCPROTEAN								
Total/NA	Analysis	Ra226_Ra228		1			725932	07/07/25 06:57	FLC	EET SL
		Instrument ID: NOEQUIP								

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: EET CLE

Batch Type: Prep

BN = Benjamin Norman

Batch Type: Analysis

S4FJ = Katherine Wise

Lab: EET PIT

Batch Type: Analysis

BAB = Brooke Batyi

ERP = Evan Papak

LWM = Leslie McIntire

Lab: EET SL

Batch Type: Prep

JTR = Josh Roglon

Batch Type: Analysis

FLC = Fernando Cruz

SCB = Sarah Bernsen

SWS = Seth Stubblefield

Lab: ELLE

Batch Type: Prep

UAMX = Annamaria Kuhns

X3ZX = Skyler Ruf

Batch Type: Analysis

IJ3I = Elizabeth Brittingham

T8CQ = Sera Bargo

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-052925

Lab Sample ID: 180-191167-1

Date Collected: 05/29/25 12:50

Matrix: Water

Date Received: 06/03/25 09:05

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		2.0	1.4	mg/L			06/05/25 17:42	2
Fluoride	0.18	J	0.20	0.052	mg/L			06/05/25 17:42	2
Sulfate	63		2.0	1.5	mg/L			06/05/25 17:42	2

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.21	B	0.050	0.012	mg/L		06/16/25 08:23	06/16/25 16:48	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/10/25 14:00	06/11/25 15:27	1
Arsenic	ND		0.0050	0.00075	mg/L		06/10/25 14:00	06/11/25 15:27	1
Barium	0.089		0.0050	0.00077	mg/L		06/10/25 14:00	06/11/25 15:27	1
Beryllium	ND		0.0010	0.00027	mg/L		06/10/25 14:00	06/11/25 15:27	1
Cadmium	ND		0.0010	0.000077	mg/L		06/10/25 14:00	06/11/25 15:27	1
Calcium	79		1.0	0.25	mg/L		06/10/25 14:00	06/11/25 15:27	1
Chromium	ND		0.0050	0.0012	mg/L		06/10/25 14:00	06/11/25 15:27	1
Cobalt	ND		0.0010	0.000086	mg/L		06/10/25 14:00	06/11/25 15:27	1
Lead	ND		0.0010	0.00045	mg/L		06/10/25 14:00	06/11/25 15:27	1
Lithium	ND		0.0080	0.0034	mg/L		06/10/25 14:00	06/11/25 15:27	1
Molybdenum	0.0043	J	0.0050	0.0011	mg/L		06/10/25 14:00	06/11/25 15:27	1
Selenium	ND		0.0050	0.00089	mg/L		06/10/25 14:00	06/11/25 15:27	1
Thallium	ND		0.0010	0.00051	mg/L		06/10/25 14:00	06/11/25 15:27	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/16/25 23:55	06/17/25 16:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	420		10	10	mg/L			06/05/25 13:20	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.6	HF	0.1	0.1	SU			06/05/25 10:51	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.180		0.103	0.104	1.00	0.129	pCi/L	06/12/25 07:27	07/07/25 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					06/12/25 07:27	07/07/25 09:57	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.36		0.551	0.565	1.00	0.734	pCi/L	06/12/25 07:33	07/02/25 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					06/12/25 07:33	07/02/25 10:04	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-052925

Lab Sample ID: 180-191167-1

Date Collected: 05/29/25 12:50

Matrix: Water

Date Received: 06/03/25 09:05

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	80.0		30 - 110	06/12/25 07:33	07/02/25 10:04	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.54		0.561	0.574	5.00	0.734	pCi/L		07/07/25 06:57	1

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Client Sample ID: DUP-1-052925

Lab Sample ID: 180-191167-2

Date Collected: 05/29/25 12:00

Matrix: Water

Date Received: 06/03/25 09:05

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		2.0	1.4	mg/L			06/05/25 18:25	2
Fluoride	0.20		0.20	0.052	mg/L			06/05/25 18:25	2
Sulfate	62		2.0	1.5	mg/L			06/05/25 18:25	2

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.22	B	0.050	0.012	mg/L		06/18/25 07:35	06/18/25 19:03	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/10/25 14:00	06/11/25 15:25	1
Arsenic	ND		0.0050	0.00075	mg/L		06/10/25 14:00	06/11/25 15:25	1
Barium	0.091		0.0050	0.00077	mg/L		06/10/25 14:00	06/11/25 15:25	1
Beryllium	ND		0.0010	0.00027	mg/L		06/10/25 14:00	06/11/25 15:25	1
Cadmium	ND		0.0010	0.000077	mg/L		06/10/25 14:00	06/11/25 15:25	1
Calcium	81		1.0	0.25	mg/L		06/10/25 14:00	06/11/25 15:25	1
Chromium	ND		0.0050	0.0012	mg/L		06/10/25 14:00	06/11/25 15:25	1
Cobalt	ND		0.0010	0.000086	mg/L		06/10/25 14:00	06/11/25 15:25	1
Lead	ND		0.0010	0.00045	mg/L		06/10/25 14:00	06/11/25 15:25	1
Lithium	ND		0.0080	0.0034	mg/L		06/10/25 14:00	06/11/25 15:25	1
Molybdenum	0.0044	J	0.0050	0.0011	mg/L		06/10/25 14:00	06/11/25 15:25	1
Selenium	ND		0.0050	0.00089	mg/L		06/10/25 14:00	06/11/25 15:25	1
Thallium	ND		0.0010	0.00051	mg/L		06/10/25 14:00	06/11/25 15:25	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/18/25 09:45	06/18/25 20:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	420		10	10	mg/L			06/05/25 13:20	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.6	HF	0.1	0.1	SU			06/05/25 11:24	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.231		0.114	0.116	1.00	0.136	pCi/L	06/12/25 07:27	07/07/25 09:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110					06/12/25 07:27	07/07/25 09:57	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.454	U	0.390	0.392	1.00	0.612	pCi/L	06/12/25 07:33	07/02/25 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110					06/12/25 07:33	07/02/25 10:04	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Client Sample ID: DUP-1-052925

Lab Sample ID: 180-191167-2

Date Collected: 05/29/25 12:00

Matrix: Water

Date Received: 06/03/25 09:05

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	80.4		30 - 110	06/12/25 07:33	07/02/25 10:04	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.686		0.406	0.409	5.00	0.612	pCi/L		07/07/25 06:57	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-497223/6

Matrix: Water

Analysis Batch: 497223

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			06/05/25 10:33	1
Fluoride	ND		0.10	0.026	mg/L			06/05/25 10:33	1
Sulfate	ND		1.0	0.76	mg/L			06/05/25 10:33	1

Lab Sample ID: LCS 180-497223/7

Matrix: Water

Analysis Batch: 497223

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.4		mg/L		99	80 - 120
Fluoride	2.50	2.51		mg/L		101	80 - 120
Sulfate	50.0	49.6		mg/L		99	80 - 120

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 410-655166/1-A

Matrix: Water

Analysis Batch: 658450

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 655166

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0172	J	0.050	0.012	mg/L		06/16/25 08:23	06/16/25 16:10	1

Lab Sample ID: LCS 410-655166/2-A

Matrix: Water

Analysis Batch: 658450

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 655166

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.535		mg/L		107	83 - 119

Lab Sample ID: MB 410-659208/1-A

Matrix: Water

Analysis Batch: 659724

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 659208

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0222	J	0.050	0.012	mg/L		06/18/25 07:35	06/18/25 18:26	1

Lab Sample ID: LCS 410-659208/2-A

Matrix: Water

Analysis Batch: 659724

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 659208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.526		mg/L		105	83 - 119

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-659210/1-A

Matrix: Water

Analysis Batch: 659511

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 659210

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/10/25 14:00	06/11/25 14:43	1
Arsenic	ND		0.0050	0.00075	mg/L		06/10/25 14:00	06/11/25 14:43	1
Barium	ND		0.0050	0.00077	mg/L		06/10/25 14:00	06/11/25 14:43	1
Beryllium	ND		0.0010	0.00027	mg/L		06/10/25 14:00	06/11/25 14:43	1
Cadmium	ND		0.0010	0.000077	mg/L		06/10/25 14:00	06/11/25 14:43	1
Calcium	ND		1.0	0.25	mg/L		06/10/25 14:00	06/11/25 14:43	1
Chromium	ND		0.0050	0.0012	mg/L		06/10/25 14:00	06/11/25 14:43	1
Cobalt	ND		0.0010	0.000086	mg/L		06/10/25 14:00	06/11/25 14:43	1
Lead	ND		0.0010	0.00045	mg/L		06/10/25 14:00	06/11/25 14:43	1
Lithium	ND		0.0080	0.0034	mg/L		06/10/25 14:00	06/11/25 14:43	1
Molybdenum	ND		0.0050	0.0011	mg/L		06/10/25 14:00	06/11/25 14:43	1
Selenium	ND		0.0050	0.00089	mg/L		06/10/25 14:00	06/11/25 14:43	1
Thallium	ND		0.0010	0.00051	mg/L		06/10/25 14:00	06/11/25 14:43	1

Lab Sample ID: LCS 240-659210/2-A

Matrix: Water

Analysis Batch: 659511

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 659210

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.100		mg/L		100	80 - 120
Arsenic	1.00	0.991		mg/L		99	80 - 120
Barium	1.00	0.989		mg/L		99	80 - 120
Beryllium	0.500	0.504		mg/L		101	80 - 120
Cadmium	0.500	0.496		mg/L		99	80 - 120
Calcium	25.0	25.5		mg/L		102	80 - 120
Chromium	0.500	0.508		mg/L		102	80 - 120
Cobalt	0.500	0.488		mg/L		98	80 - 120
Lead	0.500	0.537		mg/L		107	80 - 120
Lithium	0.500	0.532		mg/L		106	80 - 120
Molybdenum	0.500	0.501		mg/L		100	80 - 120
Selenium	1.00	0.976		mg/L		98	80 - 120
Thallium	1.00	1.15		mg/L		115	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-656666/1-A

Matrix: Water

Analysis Batch: 659095

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 656666

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/16/25 23:55	06/17/25 15:57	1

Lab Sample ID: LCS 410-656666/2-A

Matrix: Water

Analysis Batch: 659095

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 656666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.000949		mg/L		95	80 - 118

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Method: EPA 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 410-659263/1-A
Matrix: Water
Analysis Batch: 659755

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 659263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		06/18/25 09:45	06/18/25 20:24	1

Lab Sample ID: LCS 410-659263/2-A
Matrix: Water
Analysis Batch: 659755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 659263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.00104		mg/L		104	80 - 118

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-497222/1
Matrix: Water
Analysis Batch: 497222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-497226/1
Matrix: Water
Analysis Batch: 497226

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			06/05/25 13:19	1

Lab Sample ID: LCS 180-497226/2
Matrix: Water
Analysis Batch: 497226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	176	158		mg/L		90	85 - 115

Lab Sample ID: 180-191167-1 DU
Matrix: Water
Analysis Batch: 497226

Client Sample ID: CCR-AP-8I-052925
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	420		409		mg/L		2	10

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-721981/1-A
Matrix: Water
Analysis Batch: 725812

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 721981

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05087	U	0.0798	0.0799	1.00	0.138	pCi/L	06/12/25 07:27	07/07/25 07:47	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-721981/1-A

Matrix: Water

Analysis Batch: 725812

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 721981

	MB	MB									
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac					
Ba Carrier	81.6		30 - 110	06/12/25 07:27	07/07/25 07:47	1					

Lab Sample ID: LCS 160-721981/2-A

Matrix: Water

Analysis Batch: 725812

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 721981

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-226	9.58	9.208		1.03	1.00	0.157	pCi/L	96	75 - 125		
Carrier	LCS %Yield	LCS Qualifier	Limits								
Ba Carrier	82.6		30 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-721982/1-A

Matrix: Water

Analysis Batch: 725542

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 721982

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5078	U	0.418	0.421	1.00	0.653	pCi/L	06/12/25 07:33	07/02/25 10:02	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.6		30 - 110					06/12/25 07:33	07/02/25 10:02	1
Y Carrier	81.1		30 - 110					06/12/25 07:33	07/02/25 10:02	1

Lab Sample ID: LCS 160-721982/2-A

Matrix: Water

Analysis Batch: 725542

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 721982

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Radium-228	9.30	12.58		1.64	1.00	0.582	pCi/L	135	75 - 125		
Carrier	LCS %Yield	LCS Qualifier	Limits								
Ba Carrier	82.6		30 - 110								
Y Carrier	82.2		30 - 110								

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

HPLC/IC

Analysis Batch: 497223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total/NA	Water	EPA 9056A	
180-191167-2	DUP-1-052925	Total/NA	Water	EPA 9056A	
MB 180-497223/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-497223/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 655166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total Recoverable	Water	3005A	
MB 410-655166/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-655166/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 656666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total/NA	Water	7470A	
MB 410-656666/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-656666/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 658450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total Recoverable	Water	EPA 6010D	655166
MB 410-655166/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	655166
LCS 410-655166/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	655166

Analysis Batch: 659095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total/NA	Water	EPA 7470A	656666
MB 410-656666/1-A	Method Blank	Total/NA	Water	EPA 7470A	656666
LCS 410-656666/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	656666

Prep Batch: 659208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-2	DUP-1-052925	Total Recoverable	Water	3005A	
MB 410-659208/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-659208/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 659210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total Recoverable	Water	3005A	
180-191167-2	DUP-1-052925	Total Recoverable	Water	3005A	
MB 240-659210/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-659210/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 659263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-2	DUP-1-052925	Total/NA	Water	7470A	
MB 410-659263/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-659263/2-A	Lab Control Sample	Total/NA	Water	7470A	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-191167-1
SDG: FB Culley East

Metals

Analysis Batch: 659511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total Recoverable	Water	EPA 6020B	659210
180-191167-2	DUP-1-052925	Total Recoverable	Water	EPA 6020B	659210
MB 240-659210/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	659210
LCS 240-659210/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	659210

Analysis Batch: 659724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-2	DUP-1-052925	Total Recoverable	Water	EPA 6010D	659208
MB 410-659208/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	659208
LCS 410-659208/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	659208

Analysis Batch: 659755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-2	DUP-1-052925	Total/NA	Water	EPA 7470A	659263
MB 410-659263/1-A	Method Blank	Total/NA	Water	EPA 7470A	659263
LCS 410-659263/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	659263

General Chemistry

Analysis Batch: 497222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total/NA	Water	EPA 9040C	
180-191167-2	DUP-1-052925	Total/NA	Water	EPA 9040C	
LCS 180-497222/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Analysis Batch: 497226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total/NA	Water	SM 2540C	
180-191167-2	DUP-1-052925	Total/NA	Water	SM 2540C	
MB 180-497226/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-497226/2	Lab Control Sample	Total/NA	Water	SM 2540C	
180-191167-1 DU	CCR-AP-8I-052925	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 721981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total/NA	Water	PrecSep-21	
180-191167-2	DUP-1-052925	Total/NA	Water	PrecSep-21	
MB 160-721981/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-721981/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 721982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-191167-1	CCR-AP-8I-052925	Total/NA	Water	PrecSep_0	
180-191167-2	DUP-1-052925	Total/NA	Water	PrecSep_0	
MB 160-721982/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-721982/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Phone 412-963-7058 Fax. 412-963-2468

Ver: 10/10/2024

ORIGIN ID:AGCA (317) 579-4082
LINDSEY GISH
FB CULLEY WEST VECTREN CORPORATION
3711 DARLINGTON RD

NEWBURGH, IN 47630
UNITED STATES US

SHIP DATE: 29MAY25
ACTWGT: 30.00 LB MAN
CAD: 0522321/CAFE3907

Part # 159469-424 RIDE2 EXP 04/26
SBC4/EA36/FE2D

TO **SAMPLE RECEIVING DEPARTMENT**
EUROFINS ENVIRO. TESTING PITT N.E.
301 ALPHA DRIVE

PITTSBURGH PA 15238

(412) 963-7530

REF: RETURN

RMA: ||| |||||

Thermometer ID

CF -0.9 Initials Yh

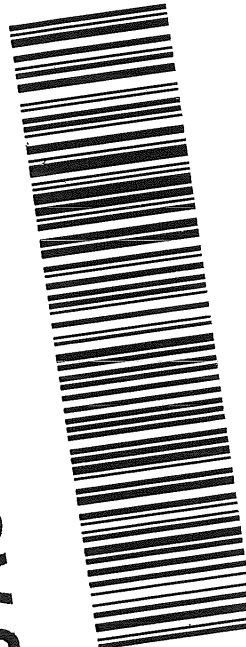
PT-WI-SR-001 effective 7/26/13

4.8
#26
Yh



180-191167 Waybill

15238
PIT
PA-US



redEx
TRK# 4359 6084 567
0221
65 AGCA

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Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-191167-1

SDG Number: FB Culley East

Login Number: 191167

List Number: 1

Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-191167-1

SDG Number: FB Culley East

Login Number: 191167

List Number: 4

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 06/11/25 11:54 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh



ANALYTICAL REPORT

PREPARED FOR

Attn: Britton Hundley
Haley & Aldrich Inc
400 Augusta Street
Suite 100

Greenville, South Carolina 29601

Generated 1/27/2026 4:41:02 PM Revision 1

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-198559-1

Eurofins Pittsburgh

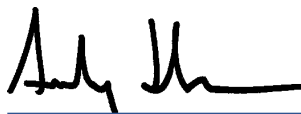
Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

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Revision 1

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Case Narrative

Client: Haley & Aldrich Inc
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1

Job ID: 180-198559-1

Eurofins Pittsburgh

Job Narrative 180-198559-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 11/15/2025 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.4°C, 1.8°C and 2.7°C.

Receipt Exceptions

Containers were received with low volume. No leakage was found nor are the containers broken.

A-3 received with 450mL remaining

A-2 received with 350mL remaining

A-1 received with 500mL remaining.

CCR-AP-1R-111225 (180-198559-1), CCR-AP-2-111225 (180-198559-2) and CCR-AP-4-111325 (180-198559-3)

Insufficient sample volume was provided for the following samples for the RAD analysis: CCR-AP-1R-111225 (180-198559-1), CCR-AP-2-111225 (180-198559-2) and CCR-AP-4-111325 (180-198559-3).

Client provided about 400mL for sample 1, about 350mL for sample 2, and about 475mL for sample 3 for RAD analysis in the one liter nitric container.

Gas Flow Proportional Counter

Method 9315_Ra226: Radium 226 Batch 746734

The detection goal was not met for the following sample due to a reduced sample volume used in prep attributed to the presence of matrix interferences. CCR-AP-2-111225 (180-198559-2) and CCR-AP-5I-111225 (180-198559-5)

Method 9320_Ra228: Radium-228 batch 746737

The LCS recovered at (139%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (68%-154%) per method requirements. The LCS passes, no further action is required. (LCS 160-746735/2-A)

Method 9320_Ra228: Radium-228 batch 746737

The detection goal was not met for the following samples due to the reduced sample volume used for prep attributed to the presence of matrix interferences: CCR-AP-1R-111225 (180-198559-1), CCR-AP-2-111225 (180-198559-2), CCR-AP-4-111325 (180-198559-3), CCR-AP-5-111225 (180-198559-4) and CCR-AP-5I-111225 (180-198559-5). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Case Narrative

Client: Haley & Aldrich Inc
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1

Job ID: 180-198559-2

Eurofins Pittsburgh

Job Narrative 180-198559-2

REVISION

The report being provided is a revision of the original report sent on 12/3/2025. The report (revision 1) is being revised to correct the sulfate result for sample CCR-AP-12I-111425 (180-198559-8) and to correct results due to sample containers incorrectly labeled in the field.

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 11/15/2025 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.4°C, 1.8°C and 2.7°C.

Receipt Exceptions

Containers were received with low volume. No leakage was found nor are the containers broken.

A-3 received with 450mL remaining

A-2 received with 350mL remaining

A-1 received with 500mL remaining.

CCR-AP-1R-111225 (180-198559-1), CCR-AP-2-111225 (180-198559-2) and CCR-AP-4-111325 (180-198559-3)

Insufficient sample volume was provided for the following samples for the RAD analysis: CCR-AP-1R-111225 (180-198559-1), CCR-AP-2-111225 (180-198559-2) and CCR-AP-4-111325 (180-198559-3).

Client provided about 400mL for sample 1, about 350mL for sample 2, and about 475mL for sample 3 for RAD analysis in the one liter nitric container.

HPLC/IC

Method EPA 9056A: The following samples were diluted due to the nature of the sample matrix: CCR-AP-1R-111225 (180-198559-1), CCR-AP-2-111225 (180-198559-2), CCR-AP-5-111225 (180-198559-4), CCR-AP-5I-111225 (180-198559-5), CCR-AP-11-111225 (180-198559-7), CCR-AP-12I-111425 (180-198559-8) and DUP-1-111425 (180-198559-10). Elevated reporting limits (RLs) are provided.

Method EPA 9056A: Sample results have been updated due to incorrect labeling of the sample bottles in the field. CCR-AP-4-111325 (180-198559-3) and FB-1-111325 (180-198559-9)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00690	06-27-26
California	State	3122	01-07-26
Connecticut	State	PH-0820	01-11-26
Florida	NELAP	E871008	06-30-26
Georgia	State	PA 02-00416	04-30-26
Illinois	NELAP	200005	07-31-26
Kansas	NELAP	E-10350	01-31-26
Kentucky (UST)	State	162013	04-30-26
Kentucky (WW)	State	KY98043	12-31-25
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-25 *
Maine	State	PA00164	03-06-26
Minnesota	NELAP	042-999-482	12-31-25
New Hampshire	NELAP	2030	01-11-26
New Jersey	NELAP	PA005	06-30-26
New York	NELAP	11182	01-11-26
North Carolina (WW/SW)	State	434	12-31-25
North Dakota	State	R-227	04-30-24 *
Oregon	NELAP	PA-2151	02-06-26
Pennsylvania	NELAP	02-00416	04-30-26
Rhode Island	State	LAO00375	12-30-25
South Carolina	State	89014	04-30-26
Texas	NELAP	T104704528	01-11-26
US Fish & Wildlife	US Federal Programs	A21930	04-30-26
USDA	US Federal Programs	525-23-230-11560	08-18-26
Utah	NELAP	PA00146	05-31-26
Virginia	NELAP	460189	09-30-26
West Virginia DEP	State	142	12-21-25
Wisconsin	State	998027800	08-31-26

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0806	09-30-26
Georgia	State	4062	02-27-26
Illinois	NELAP	200004	08-31-26
Iowa	State	421	06-01-27
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-27-26
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-11-25
New Hampshire	NELAP	2250	09-30-26
New Jersey	NELAP	OH001	06-30-26
New York	NELAP	10975	12-11-25
North Dakota	State	R-244	12-11-25
Ohio	State	8303	02-27-26
Ohio VAP	State	ORELAP 4062	02-27-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	08-31-26

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Laboratory: Eurofins Cleveland (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704517	08-31-26
US Fish & Wildlife	US Federal Programs	A26406	02-28-26
USDA	US Federal Programs	525-24-5-34740	01-13-26
Virginia	NELAP	460175	09-30-26
West Virginia DEP	State	210	12-11-25
Wisconsin	State	399167560	08-31-26

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-26
A2LA	Dept. of Energy	0001.01	11-30-26
A2LA	ISO/IEC 17025	0001.01	11-30-26
Alabama	State	43200	01-31-26
Alaska	State	PA00009	06-30-26
Alaska (UST)	State	17-027	12-30-26
Arizona	State	AZ0780	03-11-26
Arkansas DEQ	State	88-00660	08-09-26
California	State	2792	01-07-26
Colorado	State	PA00009	06-30-26
Connecticut	State	PH-0746	06-30-27
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-26
Delaware (DW)	State	N/A	01-31-26
Florida	NELAP	E87997	06-30-26
Georgia (DW)	State	C048	01-31-26
Illinois	NELAP	200027	01-31-26
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-26
Kentucky (DW)	State	KY90088	12-31-25
Kentucky (UST)	State	0001.01	11-30-26
Kentucky (WW)	State	KY90088	12-31-25
Louisiana (All)	NELAP	02055	06-30-26
Maine	State	2019012	03-12-27
Maryland	State	100	06-30-26
Massachusetts	State	M-PA009	06-30-26
Michigan	State	9930	01-31-26
Minnesota	NELAP	042-999-487	12-31-26
Mississippi	State	023	01-31-26
Missouri	State	450	01-31-28
Montana (DW)	State	0098	12-31-25
Nebraska	State	NE-OS-32-17	01-31-26
New Hampshire	NELAP	2730	01-10-26
New Jersey	NELAP	PA011	06-30-26
New York	NELAP	10670	01-12-26
North Carolina (DW)	State	42705	07-31-26
North Carolina (WW/SW)	State	521	12-31-25
North Dakota	State	R-205	01-31-24 *
Ohio	State	87787	01-31-26
Oklahoma	NELAP	9804	12-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	PA200001	09-11-26
Pennsylvania	NELAP	36-00037	01-31-26
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-29
Rhode Island	State	LAO00338	12-30-25
South Carolina	State	89002	01-31-26
Tennessee	State	02838	01-31-26
Texas	NELAP	T104704194-23-46	08-31-26
USDA	US Federal Programs	525-22-298-19481	01-23-26
Vermont	State	VT - 36037	10-28-26
Virginia	NELAP	460182	06-14-26
Washington	State	C457	04-11-26
West Virginia (DW)	State	9906 C	01-11-26
West Virginia DEP	State	055	07-31-26
Wyoming	State	8TMS-L	01-31-26
Wyoming (UST)	A2LA	0001.01	11-30-26

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-26
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	07-01-26
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-26
HI - RadChem Recognition	State	n/a	06-30-26
Illinois	NELAP	200023	11-30-26
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-26
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (VW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-26
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	10-01-26
Massachusetts	State	M-MO054	06-30-26
MI - RadChem Recognition	State	9005	06-30-26
Missouri	State	780	06-30-28
Nevada	State	MO00054	07-31-26
New Jersey	NELAP	MO002	06-30-26
New Mexico	State	MO00054	06-30-26
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	06-30-26
North Dakota	State	R-207	06-30-26
Oklahoma	NELAP	9997	12-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-26
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-26
Texas	NELAP	T104704193	07-31-26
US Fish & Wildlife	US Federal Programs	058448	07-31-26
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-26
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-31-26
West Virginia DEP	State	381	11-30-26

Sample Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
180-198559-1	CCR-AP-1R-111225	Water	11/12/25 14:10	11/15/25 10:30	Indiana
180-198559-2	CCR-AP-2-111225	Water	11/12/25 12:05	11/15/25 10:30	Indiana
180-198559-3	CCR-AP-4-111325	Water	11/13/25 12:30	11/15/25 10:30	Indiana
180-198559-4	CCR-AP-5-111225	Water	11/12/25 17:15	11/15/25 10:30	Indiana
180-198559-5	CCR-AP-5I-111225	Water	11/12/25 17:10	11/15/25 10:30	Indiana
180-198559-6	CCR-AP-8I-111225	Water	11/12/25 13:05	11/15/25 10:30	Indiana
180-198559-7	CCR-AP-11-111225	Water	11/12/25 15:50	11/15/25 10:30	Indiana
180-198559-8	CCR-AP-12I-111425	Water	11/14/25 08:45	11/15/25 10:30	Indiana
180-198559-9	FB-1-111325	Water	11/13/25 12:45	11/15/25 10:30	Indiana
180-198559-10	DUP-1-111425	Water	11/14/25 09:00	11/15/25 10:30	Indiana

Method Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R-111225

Lab Sample ID: 180-198559-1

Date Collected: 11/12/25 14:10

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 00:21	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		5	1 mL	1 mL	506577	11/19/25 00:36	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734116	11/17/25 02:55	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		1			735018	11/24/25 19:33	T8CQ	ELLE
		Instrument ID: T75 - 27278								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:38	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 18:50	IJ3I	ELLE
		Instrument ID: M16								
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:13	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			496.44 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 16:36	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			496.44 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749961	12/17/25 11:53	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/17/25 18:19	CMM	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-2-111225

Lab Sample ID: 180-198559-2

Date Collected: 11/12/25 12:05

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 00:50	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		5	1 mL	1 mL	506577	11/19/25 01:05	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734116	11/17/25 02:55	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		5			735018	11/24/25 20:59	T8CQ	ELLE
		Instrument ID: T75 - 27278								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:46	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 19:03	IJ3I	ELLE
		Instrument ID: M16								

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-2-111225

Lab Sample ID: 180-198559-2

Date Collected: 11/12/25 12:05

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:21	BAB	EET PIT
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			345.92 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 16:36	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			345.92 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749961	12/17/25 11:53	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/17/25 18:19	CMM	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-4-111325

Lab Sample ID: 180-198559-3

Date Collected: 11/13/25 12:30

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 04:28	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		1			735026	11/24/25 17:39	T8CQ	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:48	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 19:05	IJ3I	ELLE
		Instrument ID: M16								
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:16	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			443.97 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:26	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			443.97 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749961	12/17/25 11:53	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/17/25 18:19	CMM	EET SL
		Instrument ID: NOEQUIP								

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5-111225

Lab Sample ID: 180-198559-4

Date Collected: 11/12/25 17:15

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 01:19	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		5	1 mL	1 mL	506577	11/19/25 01:34	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		5			735026	11/24/25 18:04	T8CQ	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:51	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 19:07	IJ3I	ELLE
		Instrument ID: M16								
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:10	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			756.04 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:26	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			756.04 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749961	12/17/25 11:53	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/17/25 18:19	CMM	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-5I-111225

Lab Sample ID: 180-198559-5

Date Collected: 11/12/25 17:10

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 01:48	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	506577	11/19/25 02:03	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		5			735735	11/25/25 18:34	T8CQ	ELLE
		Instrument ID: T75 - 27278								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:54	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 19:09	IJ3I	ELLE
		Instrument ID: M16								

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I-111225

Lab Sample ID: 180-198559-5

Date Collected: 11/12/25 17:10

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:26	BAB	EET PIT
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			509.92 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:26	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			509.92 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749961	12/17/25 11:53	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/17/25 18:19	CMM	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-8I-111225

Lab Sample ID: 180-198559-6

Date Collected: 11/12/25 13:05

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 02:17	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		1			735026	11/24/25 16:57	T8CQ	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:19	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 19:11	IJ3I	ELLE
		Instrument ID: M16								
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:32	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			984.08 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:26	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			984.08 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749961	12/17/25 11:53	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/18/25 11:49	CMM	EET SL
		Instrument ID: NOEQUIP								

Eurofins Pittsburgh

Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-11-111225

Lab Sample ID: 180-198559-7

Date Collected: 11/12/25 15:50

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 03:30	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1 mL	506577	11/19/25 03:44	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		1			735026	11/24/25 18:19	T8CQ	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:56	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 18:52	IJ3I	ELLE
		Instrument ID: M16								
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:12	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1009.28 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:26	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1009.28 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749961	12/17/25 11:53	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/18/25 11:49	CMM	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-12I-111425

Lab Sample ID: 180-198559-8

Date Collected: 11/14/25 08:45

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 03:59	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		5	1 mL	1 mL	506577	11/19/25 04:14	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		5			735735	11/25/25 18:37	T8CQ	ELLE
		Instrument ID: T75 - 27278								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 15:59	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 18:54	IJ3I	ELLE
		Instrument ID: M16								

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Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-12I-111425

Lab Sample ID: 180-198559-8

Date Collected: 11/14/25 08:45

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:34	BAB	EET PIT
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1008.90 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:27	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1008.90 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749898	12/17/25 11:55	SWS	EET SL
		Instrument ID: GFPCRED								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/18/25 11:49	CMM	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: FB-1-111325

Lab Sample ID: 180-198559-9

Date Collected: 11/13/25 12:45

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/18/25 21:12	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		1			735026	11/24/25 17:51	T8CQ	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 16:02	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 18:56	IJ3I	ELLE
		Instrument ID: M16								
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:50	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1001.97 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:27	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1001.97 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749898	12/17/25 11:55	SWS	EET SL
		Instrument ID: GFPCRED								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/18/25 11:49	CMM	EET SL
		Instrument ID: NOEQUIP								

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Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: DUP-1-111425

Lab Sample ID: 180-198559-10

Date Collected: 11/14/25 09:00

Matrix: Water

Date Received: 11/15/25 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506577	11/19/25 04:57	ERP	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		5	1 mL	1 mL	506577	11/19/25 05:12	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	734251	11/24/25 02:46	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		5			735026	11/24/25 18:41	T8CQ	ELLE
		Instrument ID: T73 - 18255								
Total Recoverable	Prep	3005A			50 mL	50 mL	681408	11/20/25 14:00	TQ6W	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			681609	11/21/25 16:05	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20.0 mL	735831	12/01/25 10:38	RFN5	ELLE
Total/NA	Analysis	EPA 7470A		1			737343	12/01/25 18:58	IJ3I	ELLE
		Instrument ID: M16								
Total/NA	Analysis	EPA 9040C		1			506685	11/19/25 16:18	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	506586	11/18/25 12:31	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			756.35 mL	1.0 g	746734	11/24/25 08:09	AMS	EET SL
Total/NA	Analysis	9315		1			749904	12/17/25 21:27	MLK	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			756.35 mL	1.0 g	746735	11/24/25 08:17	AMS	EET SL
Total/NA	Analysis	9320		1			749898	12/17/25 11:55	SWS	EET SL
		Instrument ID: GFPCRED								
Total/NA	Analysis	Ra226_Ra228		1			749987	12/18/25 11:49	CMM	EET SL
		Instrument ID: NOEQUIP								

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Analyst References:

Lab: EET CLE

Batch Type: Prep

TQ6W = Bryan Perelka

Batch Type: Analysis

S4FJ = Katherine Conway

Lab: EET PIT

Batch Type: Analysis

A1K = Agnes Komlos

BAB = Brooke Batyi

ERP = Evan Papak

Lab: EET SL

Batch Type: Prep

AMS = Ashley Stone

Batch Type: Analysis

CMM = Chelsea Mazariegos

FLC = Fernando Cruz

MLK = Micha Korrinhizer

SWS = Seth Stubblefield

Lab: ELLE

Batch Type: Prep

RFN5 = Aniyah Oxendine

UJL8 = James Mertz

Batch Type: Analysis

IJ3I = Elizabeth Brittingham

T8CQ = Sera Bargo

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R-111225

Lab Sample ID: 180-198559-1

Date Collected: 11/12/25 14:10

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		1.0	0.71	mg/L			11/19/25 00:21	1
Fluoride	0.29		0.10	0.026	mg/L			11/19/25 00:21	1
Sulfate	210		5.0	3.8	mg/L			11/19/25 00:36	5

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.69		0.050	0.012	mg/L		11/17/25 02:55	11/24/25 19:33	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:38	1
Arsenic	0.0046	J	0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:38	1
Barium	0.056		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:38	1
Beryllium	0.0010		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:38	1
Cadmium	0.000082	J	0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:38	1
Calcium	68		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:38	1
Chromium	0.0085		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:38	1
Cobalt	0.0075		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:38	1
Lead	0.016		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:38	1
Lithium	0.034		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:38	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:38	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:38	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:38	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 18:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	890		40	40	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.3	HF	0.1	0.1	SU			11/19/25 16:13	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.11		0.841	0.862	1.00	0.933	pCi/L	11/24/25 08:09	12/17/25 16:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.7		30 - 110					11/24/25 08:09	12/17/25 16:36	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.59	G	1.38	1.45	1.00	1.62	pCi/L	11/24/25 08:17	12/17/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.7		30 - 110					11/24/25 08:17	12/17/25 11:53	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-1R-111225

Lab Sample ID: 180-198559-1

Date Collected: 11/12/25 14:10

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.5		30 - 110	11/24/25 08:17	12/17/25 11:53	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.70		1.62	1.69	5.00	1.62	pCi/L		12/17/25 18:19	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-2-111225

Lab Sample ID: 180-198559-2

Date Collected: 11/12/25 12:05

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		1.0	0.71	mg/L			11/19/25 00:50	1
Fluoride	0.24		0.10	0.026	mg/L			11/19/25 00:50	1
Sulfate	360		5.0	3.8	mg/L			11/19/25 01:05	5

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6.3		0.25	0.060	mg/L		11/17/25 02:55	11/24/25 20:59	5

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:46	1
Arsenic	0.0035	J	0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:46	1
Barium	0.094		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:46	1
Beryllium	0.00055	J	0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:46	1
Cadmium	0.00021	J	0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:46	1
Calcium	220		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:46	1
Chromium	0.015		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:46	1
Cobalt	0.0079		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:46	1
Lead	0.0065		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:46	1
Lithium	0.010		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:46	1
Molybdenum	0.0011	J	0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:46	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:46	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:46	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00014	J	0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 19:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1400		40	40	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.7	HF	0.1	0.1	SU			11/19/25 16:21	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.263	U G	0.615	0.615	1.00	1.14	pCi/L	11/24/25 08:09	12/17/25 16:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.2		30 - 110					11/24/25 08:09	12/17/25 16:36	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0807	U G	1.44	1.44	1.00	2.68	pCi/L	11/24/25 08:17	12/17/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.2		30 - 110					11/24/25 08:17	12/17/25 11:53	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-2-111225

Lab Sample ID: 180-198559-2

Date Collected: 11/12/25 12:05

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	76.3		30 - 110	11/24/25 08:17	12/17/25 11:53	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.183	U	1.57	1.57	5.00	2.68	pCi/L		12/17/25 18:19	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-4-111325

Lab Sample ID: 180-198559-3

Date Collected: 11/13/25 12:30

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		1.0	0.71	mg/L			11/19/25 04:28	1
Fluoride	0.35		0.10	0.026	mg/L			11/19/25 04:28	1
Sulfate	4.8		1.0	0.76	mg/L			11/19/25 04:28	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.28		0.050	0.012	mg/L		11/24/25 02:46	11/24/25 17:39	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:48	1
Arsenic	0.067		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:48	1
Barium	0.41		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:48	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:48	1
Cadmium	ND		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:48	1
Calcium	140		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:48	1
Chromium	0.0054		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:48	1
Cobalt	0.0030		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:48	1
Lead	0.0035		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:48	1
Lithium	ND		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:48	1
Molybdenum	0.0020	J	0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:48	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:48	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:48	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 19:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	800		20	20	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	9.4	HF	0.1	0.1	SU			11/19/25 16:16	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.559	U	0.596	0.598	1.00	0.948	pCi/L	11/24/25 08:09	12/17/25 21:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	58.0		30 - 110					11/24/25 08:09	12/17/25 21:26	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.21	G	1.84	1.87	1.00	2.72	pCi/L	11/24/25 08:17	12/17/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	58.0		30 - 110					11/24/25 08:17	12/17/25 11:53	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-4-111325

Lab Sample ID: 180-198559-3

Date Collected: 11/13/25 12:30

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	77.4		30 - 110	11/24/25 08:17	12/17/25 11:53	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.77		1.93	1.96	5.00	2.72	pCi/L		12/17/25 18:19	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5-111225

Lab Sample ID: 180-198559-4

Date Collected: 11/12/25 17:15

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	57		1.0	0.71	mg/L			11/19/25 01:19	1
Fluoride	1.3		0.10	0.026	mg/L			11/19/25 01:19	1
Sulfate	420		5.0	3.8	mg/L			11/19/25 01:34	5

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.2		0.25	0.060	mg/L		11/24/25 02:46	11/24/25 18:04	5

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:51	1
Arsenic	0.0095		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:51	1
Barium	0.058		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:51	1
Beryllium	0.00041	J	0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:51	1
Cadmium	0.00014	J	0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:51	1
Calcium	220		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:51	1
Chromium	0.0030	J	0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:51	1
Cobalt	0.0038		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:51	1
Lead	0.0043		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:51	1
Lithium	0.078		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:51	1
Molybdenum	0.23		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:51	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:51	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:51	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 19:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1200		10	10	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.1	HF	0.1	0.1	SU			11/19/25 16:10	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.440	U	0.331	0.334	1.00	0.473	pCi/L	11/24/25 08:09	12/17/25 21:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.4		30 - 110					11/24/25 08:09	12/17/25 21:26	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.696	U G	0.679	0.682	1.00	1.09	pCi/L	11/24/25 08:17	12/17/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.4		30 - 110					11/24/25 08:17	12/17/25 11:53	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5-111225
Date Collected: 11/12/25 17:15
Date Received: 11/15/25 10:30

Lab Sample ID: 180-198559-4
Matrix: Water

Method: SW846 9320 - Radium-228 (GFPC) (Continued)										
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Y Carrier	80.4		30 - 110					11/24/25 08:17	12/17/25 11:53	1
Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.14		0.755	0.759	5.00	1.09	pCi/L		12/17/25 18:19	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I-111225

Lab Sample ID: 180-198559-5

Date Collected: 11/12/25 17:10

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		1.0	0.71	mg/L			11/19/25 01:48	1
Fluoride	0.31		0.10	0.026	mg/L			11/19/25 01:48	1
Sulfate	630		10	7.6	mg/L			11/19/25 02:03	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	12		0.25	0.060	mg/L		11/24/25 02:46	11/25/25 18:34	5

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:54	1
Arsenic	0.0017	J	0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:54	1
Barium	0.040		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:54	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:54	1
Cadmium	0.0021		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:54	1
Calcium	250		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:54	1
Chromium	0.0041	J	0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:54	1
Cobalt	0.0022		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:54	1
Lead	0.0021		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:54	1
Lithium	0.037		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:54	1
Molybdenum	0.0042	J	0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:54	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:54	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:54	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 19:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1600		20	20	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.9	HF	0.1	0.1	SU			11/19/25 16:26	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.351	U G	0.639	0.639	1.00	1.13	pCi/L	11/24/25 08:09	12/17/25 21:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	41.2		30 - 110					11/24/25 08:09	12/17/25 21:26	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.29	G	2.14	2.18	1.00	3.00	pCi/L	11/24/25 08:17	12/17/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	41.2		30 - 110					11/24/25 08:17	12/17/25 11:53	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-5I-111225
Date Collected: 11/12/25 17:10
Date Received: 11/15/25 10:30

Lab Sample ID: 180-198559-5
Matrix: Water

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	75.9		30 - 110	11/24/25 08:17	12/17/25 11:53	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.64		2.23	2.27	5.00	3.00	pCi/L		12/17/25 18:19	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-111225

Lab Sample ID: 180-198559-6

Date Collected: 11/12/25 13:05

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22		1.0	0.71	mg/L			11/19/25 02:17	1
Fluoride	0.18		0.10	0.026	mg/L			11/19/25 02:17	1
Sulfate	55		1.0	0.76	mg/L			11/19/25 02:17	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.16		0.050	0.012	mg/L		11/24/25 02:46	11/24/25 16:57	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:19	1
Arsenic	ND		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:19	1
Barium	0.12		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:19	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:19	1
Cadmium	ND		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:19	1
Calcium	88		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:19	1
Chromium	ND		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:19	1
Cobalt	0.00013	J	0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:19	1
Lead	ND		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:19	1
Lithium	ND		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:19	1
Molybdenum	0.0065		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:19	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:19	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:19	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 19:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	410		10	10	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.6	HF	0.1	0.1	SU			11/19/25 16:32	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.365	U	0.263	0.265	1.00	0.380	pCi/L	11/24/25 08:09	12/17/25 21:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		30 - 110					11/24/25 08:09	12/17/25 21:26	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.522	U	0.438	0.440	1.00	0.684	pCi/L	11/24/25 08:17	12/17/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		30 - 110					11/24/25 08:17	12/17/25 11:53	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-8I-111225

Lab Sample ID: 180-198559-6

Date Collected: 11/12/25 13:05

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	77.0		30 - 110	11/24/25 08:17	12/17/25 11:53	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.887		0.511	0.514	5.00	0.684	pCi/L		12/18/25 11:49	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-11-111225

Lab Sample ID: 180-198559-7

Date Collected: 11/12/25 15:50

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26		1.0	0.71	mg/L			11/19/25 03:30	1
Fluoride	0.22		0.10	0.026	mg/L			11/19/25 03:30	1
Sulfate	1100		10	7.6	mg/L			11/19/25 03:44	10

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.76		0.050	0.012	mg/L		11/24/25 02:46	11/24/25 18:19	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:56	1
Arsenic	0.046		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:56	1
Barium	0.059		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:56	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:56	1
Cadmium	ND		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:56	1
Calcium	210		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:56	1
Chromium	ND		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:56	1
Cobalt	0.17		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:56	1
Lead	ND		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:56	1
Lithium	0.0041	J	0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:56	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:56	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:56	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:56	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1900		20	20	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.1	HF	0.1	0.1	SU			11/19/25 16:12	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131	U	0.194	0.195	1.00	0.332	pCi/L	11/24/25 08:09	12/17/25 21:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		30 - 110					11/24/25 08:09	12/17/25 21:26	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.164	U	0.392	0.392	1.00	0.685	pCi/L	11/24/25 08:17	12/17/25 11:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		30 - 110					11/24/25 08:17	12/17/25 11:53	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-11-111225

Lab Sample ID: 180-198559-7

Date Collected: 11/12/25 15:50

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	77.8		30 - 110	11/24/25 08:17	12/17/25 11:53	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.295	U	0.437	0.438	5.00	0.685	pCi/L		12/18/25 11:49	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-12I-111425

Lab Sample ID: 180-198559-8

Date Collected: 11/14/25 08:45

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99		1.0	0.71	mg/L			11/19/25 03:59	1
Fluoride	0.20		0.10	0.026	mg/L			11/19/25 03:59	1
Sulfate	610		5.0	3.8	mg/L			11/19/25 04:14	5

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.6		0.25	0.060	mg/L		11/24/25 02:46	11/25/25 18:37	5

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:59	1
Arsenic	ND		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:59	1
Barium	0.11		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:59	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:59	1
Cadmium	ND		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:59	1
Calcium	230		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:59	1
Chromium	ND		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:59	1
Cobalt	0.00014	J	0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:59	1
Lead	ND		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:59	1
Lithium	ND		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:59	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:59	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:59	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:59	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1500		10	10	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.6	HF	0.1	0.1	SU			11/19/25 16:34	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.280	U	0.206	0.207	1.00	0.289	pCi/L	11/24/25 08:09	12/17/25 21:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					11/24/25 08:09	12/17/25 21:27	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.418	U	0.398	0.400	1.00	0.637	pCi/L	11/24/25 08:17	12/17/25 11:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.8		30 - 110					11/24/25 08:17	12/17/25 11:55	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: CCR-AP-12I-111425

Lab Sample ID: 180-198559-8

Date Collected: 11/14/25 08:45

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	79.6		30 - 110	11/24/25 08:17	12/17/25 11:55	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.698		0.448	0.450	5.00	0.637	pCi/L		12/18/25 11:49	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: FB-1-111325

Lab Sample ID: 180-198559-9

Date Collected: 11/13/25 12:45

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			11/18/25 21:12	1
Fluoride	ND		0.10	0.026	mg/L			11/18/25 21:12	1
Sulfate	ND		1.0	0.76	mg/L			11/18/25 21:12	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.013	J	0.050	0.012	mg/L		11/24/25 02:46	11/24/25 17:51	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 16:02	1
Arsenic	ND		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 16:02	1
Barium	0.0033	J	0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 16:02	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 16:02	1
Cadmium	ND		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 16:02	1
Calcium	0.71	J	1.0	0.25	mg/L		11/20/25 14:00	11/21/25 16:02	1
Chromium	ND		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 16:02	1
Cobalt	ND		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 16:02	1
Lead	ND		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 16:02	1
Lithium	ND		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 16:02	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 16:02	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 16:02	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 16:02	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	ND		10	10	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.9	HF	0.1	0.1	SU			11/19/25 16:50	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0945	U	0.174	0.174	1.00	0.310	pCi/L	11/24/25 08:09	12/17/25 21:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.8		30 - 110					11/24/25 08:09	12/17/25 21:27	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.551	U	0.391	0.395	1.00	0.587	pCi/L	11/24/25 08:17	12/17/25 11:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.8		30 - 110					11/24/25 08:17	12/17/25 11:55	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: FB-1-111325

Lab Sample ID: 180-198559-9

Date Collected: 11/13/25 12:45

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	77.4		30 - 110	11/24/25 08:17	12/17/25 11:55	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.645		0.428	0.432	5.00	0.587	pCi/L		12/18/25 11:49	1

Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: DUP-1-111425

Lab Sample ID: 180-198559-10

Date Collected: 11/14/25 09:00

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		1.0	0.71	mg/L			11/19/25 04:57	1
Fluoride	0.20		0.10	0.026	mg/L			11/19/25 04:57	1
Sulfate	620		5.0	3.8	mg/L			11/19/25 05:12	5

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.0		0.25	0.060	mg/L		11/24/25 02:46	11/24/25 18:41	5

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 16:05	1
Arsenic	ND		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 16:05	1
Barium	0.11		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 16:05	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 16:05	1
Cadmium	ND		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 16:05	1
Calcium	220		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 16:05	1
Chromium	ND		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 16:05	1
Cobalt	0.00013	J	0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 16:05	1
Lead	ND		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 16:05	1
Lithium	ND		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 16:05	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 16:05	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 16:05	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 16:05	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1500		10	10	mg/L			11/18/25 12:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.6	HF	0.1	0.1	SU			11/19/25 16:18	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.324	U	0.266	0.267	1.00	0.390	pCi/L	11/24/25 08:09	12/17/25 21:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		30 - 110					11/24/25 08:09	12/17/25 21:27	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.924		0.515	0.522	1.00	0.727	pCi/L	11/24/25 08:17	12/17/25 11:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		30 - 110					11/24/25 08:17	12/17/25 11:55	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Client Sample ID: DUP-1-111425

Lab Sample ID: 180-198559-10

Date Collected: 11/14/25 09:00

Matrix: Water

Date Received: 11/15/25 10:30

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	78.9		30 - 110	11/24/25 08:17	12/17/25 11:55	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.25		0.580	0.586	5.00	0.727	pCi/L		12/18/25 11:49	1

QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-506577/38

Matrix: Water

Analysis Batch: 506577

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			11/18/25 20:14	1
Fluoride	ND		0.10	0.026	mg/L			11/18/25 20:14	1
Sulfate	ND		1.0	0.76	mg/L			11/18/25 20:14	1

Lab Sample ID: LCS 180-506577/39

Matrix: Water

Analysis Batch: 506577

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.7		mg/L		99	80 - 120
Fluoride	2.50	2.68		mg/L		107	80 - 120
Sulfate	50.0	51.1		mg/L		102	80 - 120

Lab Sample ID: 180-198559-6 MS

Matrix: Water

Analysis Batch: 506577

Client Sample ID: CCR-AP-8I-111225

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	22		50.0	70.5		mg/L		97	80 - 120
Fluoride	0.18		2.50	2.63		mg/L		98	80 - 120
Sulfate	55		50.0	103		mg/L		96	80 - 120

Lab Sample ID: 180-198559-6 MSD

Matrix: Water

Analysis Batch: 506577

Client Sample ID: CCR-AP-8I-111225

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	22		50.0	70.4		mg/L		97	80 - 120	0	15
Fluoride	0.18		2.50	2.62		mg/L		98	80 - 120	0	15
Sulfate	55		50.0	103		mg/L		96	80 - 120	0	15

Lab Sample ID: 180-198559-9 MS

Matrix: Water

Analysis Batch: 506577

Client Sample ID: FB-1-111325

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	ND		50.0	49.3		mg/L		99	80 - 120
Fluoride	ND		2.50	2.61		mg/L		104	80 - 120
Sulfate	ND		50.0	51.0		mg/L		102	80 - 120

Lab Sample ID: 180-198559-9 MSD

Matrix: Water

Analysis Batch: 506577

Client Sample ID: FB-1-111325

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND		50.0	49.3		mg/L		99	80 - 120	0	15
Fluoride	ND		2.50	2.62		mg/L		105	80 - 120	1	15
Sulfate	ND		50.0	51.1		mg/L		102	80 - 120	0	15

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 410-734116/1-A
Matrix: Water
Analysis Batch: 735018

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 734116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		11/17/25 02:55	11/24/25 18:02	1

Lab Sample ID: LCS 410-734116/2-A
Matrix: Water
Analysis Batch: 735018

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 734116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.459		mg/L		92	83 - 119

Lab Sample ID: MB 410-734251/1-A
Matrix: Water
Analysis Batch: 735026

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 734251

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		11/24/25 02:46	11/24/25 16:51	1

Lab Sample ID: LCS 410-734251/2-A
Matrix: Water
Analysis Batch: 735026

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 734251

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.521		mg/L		104	83 - 119

Lab Sample ID: 180-198559-6 MS
Matrix: Water
Analysis Batch: 735026

Client Sample ID: CCR-AP-8I-111225
Prep Type: Total Recoverable
Prep Batch: 734251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.16		0.500	0.680		mg/L		104	75 - 125

Lab Sample ID: 180-198559-6 MSD
Matrix: Water
Analysis Batch: 735026

Client Sample ID: CCR-AP-8I-111225
Prep Type: Total Recoverable
Prep Batch: 734251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.16		0.500	0.679		mg/L		104	75 - 125	0	20

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-681408/1-A
Matrix: Water
Analysis Batch: 681609

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 681408

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/20/25 14:00	11/21/25 15:09	1
Arsenic	ND		0.0050	0.00075	mg/L		11/20/25 14:00	11/21/25 15:09	1
Barium	ND		0.0050	0.00077	mg/L		11/20/25 14:00	11/21/25 15:09	1
Beryllium	ND		0.0010	0.00027	mg/L		11/20/25 14:00	11/21/25 15:09	1
Cadmium	ND		0.0010	0.000077	mg/L		11/20/25 14:00	11/21/25 15:09	1
Calcium	ND		1.0	0.25	mg/L		11/20/25 14:00	11/21/25 15:09	1

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-681408/1-A
Matrix: Water
Analysis Batch: 681609

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 681408

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.0050	0.0012	mg/L		11/20/25 14:00	11/21/25 15:09	1
Cobalt	ND		0.0010	0.000086	mg/L		11/20/25 14:00	11/21/25 15:09	1
Lead	ND		0.0010	0.00045	mg/L		11/20/25 14:00	11/21/25 15:09	1
Lithium	ND		0.0080	0.0034	mg/L		11/20/25 14:00	11/21/25 15:09	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/20/25 14:00	11/21/25 15:09	1
Selenium	ND		0.0050	0.00089	mg/L		11/20/25 14:00	11/21/25 15:09	1
Thallium	ND		0.0010	0.00051	mg/L		11/20/25 14:00	11/21/25 15:09	1

Lab Sample ID: LCS 240-681408/2-A
Matrix: Water
Analysis Batch: 681609

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 681408

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0986		mg/L		99	80 - 120
Arsenic	1.00	0.961		mg/L		96	80 - 120
Barium	1.00	0.975		mg/L		97	80 - 120
Beryllium	0.500	0.473		mg/L		95	80 - 120
Cadmium	0.500	0.474		mg/L		95	80 - 120
Calcium	25.0	25.0		mg/L		100	80 - 120
Chromium	0.500	0.502		mg/L		100	80 - 120
Cobalt	0.500	0.503		mg/L		101	80 - 120
Lead	0.500	0.501		mg/L		100	80 - 120
Lithium	0.500	0.514		mg/L		103	80 - 120
Molybdenum	0.500	0.472		mg/L		94	80 - 120
Selenium	1.00	0.957		mg/L		96	80 - 120
Thallium	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: 180-198559-6 MS
Matrix: Water
Analysis Batch: 681609

Client Sample ID: CCR-AP-8I-111225
Prep Type: Total Recoverable
Prep Batch: 681408

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.105		mg/L		105	80 - 120
Arsenic	ND		1.00	0.963		mg/L		96	80 - 120
Barium	0.12		1.00	1.11		mg/L		99	80 - 120
Beryllium	ND		0.500	0.489		mg/L		98	80 - 120
Cadmium	ND		0.500	0.481		mg/L		96	80 - 120
Calcium	88		25.0	111		mg/L		93	80 - 120
Chromium	ND		0.500	0.507		mg/L		101	80 - 120
Cobalt	0.00013	J	0.500	0.463		mg/L		93	80 - 120
Lead	ND		0.500	0.509		mg/L		102	80 - 120
Lithium	ND		0.500	0.526		mg/L		105	80 - 120
Molybdenum	0.0065		0.500	0.493		mg/L		97	80 - 120
Selenium	ND		1.00	0.961		mg/L		96	80 - 120
Thallium	ND		1.00	1.07		mg/L		107	80 - 120

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-198559-6 MSD

Matrix: Water

Analysis Batch: 681609

Client Sample ID: CCR-AP-8I-111225

Prep Type: Total Recoverable

Prep Batch: 681408

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0994		mg/L		99	80 - 120	6	20
Arsenic	ND		1.00	0.937		mg/L		94	80 - 120	3	20
Barium	0.12		1.00	1.08		mg/L		96	80 - 120	3	20
Beryllium	ND		0.500	0.472		mg/L		94	80 - 120	4	20
Cadmium	ND		0.500	0.469		mg/L		94	80 - 120	3	20
Calcium	88		25.0	110		mg/L		87	80 - 120	1	20
Chromium	ND		0.500	0.496		mg/L		99	80 - 120	2	20
Cobalt	0.00013	J	0.500	0.454		mg/L		91	80 - 120	2	20
Lead	ND		0.500	0.496		mg/L		99	80 - 120	3	20
Lithium	ND		0.500	0.506		mg/L		101	80 - 120	4	20
Molybdenum	0.0065		0.500	0.481		mg/L		95	80 - 120	3	20
Selenium	ND		1.00	0.948		mg/L		95	80 - 120	1	20
Thallium	ND		1.00	1.04		mg/L		104	80 - 120	3	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-735831/1-A

Matrix: Water

Analysis Batch: 737343

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 735831

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/01/25 10:38	12/01/25 18:27	1

Lab Sample ID: LCS 410-735831/2-A

Matrix: Water

Analysis Batch: 737343

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 735831

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.000961		mg/L		96	80 - 120

Lab Sample ID: 180-198559-6 MS

Matrix: Water

Analysis Batch: 737343

Client Sample ID: CCR-AP-8I-111225

Prep Type: Total/NA

Prep Batch: 735831

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00100	0.000938		mg/L		94	80 - 120

Lab Sample ID: 180-198559-6 MSD

Matrix: Water

Analysis Batch: 737343

Client Sample ID: CCR-AP-8I-111225

Prep Type: Total/NA

Prep Batch: 735831

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.000966		mg/L		97	80 - 120	3	20

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-506685/1
Matrix: Water
Analysis Batch: 506685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-506685/24
Matrix: Water
Analysis Batch: 506685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 180-198559-3 DU
Matrix: Water
Analysis Batch: 506685

Client Sample ID: CCR-AP-4-111325
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.4	HF	9.5		SU		0.3	2

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-506586/1
Matrix: Water
Analysis Batch: 506586

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			11/18/25 12:31	1

Lab Sample ID: LCS 180-506586/2
Matrix: Water
Analysis Batch: 506586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	285	250		mg/L		88	85 - 115

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-746734/1-A
Matrix: Water
Analysis Batch: 749898

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 746734

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1459	U	0.186	0.186	1.00	0.426	pCi/L	11/24/25 08:09	12/17/25 16:31	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		30 - 110					11/24/25 08:09	12/17/25 16:31	1

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-746734/2-A
Matrix: Water
Analysis Batch: 749904

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 746734

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.57	8.235		1.16	1.00	0.376	pCi/L	86	75 - 125
	LCS	LCS								
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	86.6		30 - 110							

Lab Sample ID: 180-198559-6 DU
Matrix: Water
Analysis Batch: 749904

Client Sample ID: CCR-AP-8I-111225
Prep Type: Total/NA
Prep Batch: 746734

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.365	U	0.1402	U	0.208	1.00	0.354	pCi/L	0.48	1
	DU	DU								
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	89.1		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-746735/1-A
Matrix: Water
Analysis Batch: 749961

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 746735

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3927	U	0.409	0.411	1.00	0.664	pCi/L	11/24/25 08:17	12/17/25 11:51	1
	MB	MB								
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		30 - 110					11/24/25 08:17	12/17/25 11:51	1
Y Carrier	81.1		30 - 110					11/24/25 08:17	12/17/25 11:51	1

Lab Sample ID: LCS 160-746735/2-A
Matrix: Water
Analysis Batch: 749961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 746735

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228		7.85	10.91		1.50	1.00	0.701	pCi/L	139	75 - 125
	LCS	LCS								
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	86.6		30 - 110							
Y Carrier	82.2		30 - 110							

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 180-198559-6 DU
Matrix: Water
Analysis Batch: 749961

Client Sample ID: CCR-AP-8I-111225
Prep Type: Total/NA
Prep Batch: 746735

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.522	U	0.5409	U	0.432	1.00	0.667	pCi/L	0.02	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	89.1		30 - 110
Y Carrier	78.5		30 - 110

QC Association Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

HPLC/IC

Analysis Batch: 506577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	EPA 9056A	
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	EPA 9056A	
180-198559-2	CCR-AP-2-111225	Total/NA	Water	EPA 9056A	
180-198559-2	CCR-AP-2-111225	Total/NA	Water	EPA 9056A	
180-198559-3	CCR-AP-4-111325	Total/NA	Water	EPA 9056A	
180-198559-4	CCR-AP-5-111225	Total/NA	Water	EPA 9056A	
180-198559-4	CCR-AP-5-111225	Total/NA	Water	EPA 9056A	
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	EPA 9056A	
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	EPA 9056A	
180-198559-6	CCR-AP-8I-111225	Total/NA	Water	EPA 9056A	
180-198559-7	CCR-AP-11-111225	Total/NA	Water	EPA 9056A	
180-198559-7	CCR-AP-11-111225	Total/NA	Water	EPA 9056A	
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	EPA 9056A	
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	EPA 9056A	
180-198559-9	FB-1-111325	Total/NA	Water	EPA 9056A	
180-198559-10	DUP-1-111425	Total/NA	Water	EPA 9056A	
180-198559-10	DUP-1-111425	Total/NA	Water	EPA 9056A	
MB 180-506577/38	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-506577/39	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-198559-6 MS	CCR-AP-8I-111225	Total/NA	Water	EPA 9056A	
180-198559-6 MSD	CCR-AP-8I-111225	Total/NA	Water	EPA 9056A	
180-198559-9 MS	FB-1-111325	Total/NA	Water	EPA 9056A	
180-198559-9 MSD	FB-1-111325	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 681408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total Recoverable	Water	3005A	
180-198559-2	CCR-AP-2-111225	Total Recoverable	Water	3005A	
180-198559-3	CCR-AP-4-111325	Total Recoverable	Water	3005A	
180-198559-4	CCR-AP-5-111225	Total Recoverable	Water	3005A	
180-198559-5	CCR-AP-5I-111225	Total Recoverable	Water	3005A	
180-198559-6	CCR-AP-8I-111225	Total Recoverable	Water	3005A	
180-198559-7	CCR-AP-11-111225	Total Recoverable	Water	3005A	
180-198559-8	CCR-AP-12I-111425	Total Recoverable	Water	3005A	
180-198559-9	FB-1-111325	Total Recoverable	Water	3005A	
180-198559-10	DUP-1-111425	Total Recoverable	Water	3005A	
MB 240-681408/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-681408/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-198559-6 MS	CCR-AP-8I-111225	Total Recoverable	Water	3005A	
180-198559-6 MSD	CCR-AP-8I-111225	Total Recoverable	Water	3005A	

Analysis Batch: 681609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total Recoverable	Water	EPA 6020B	681408
180-198559-2	CCR-AP-2-111225	Total Recoverable	Water	EPA 6020B	681408
180-198559-3	CCR-AP-4-111325	Total Recoverable	Water	EPA 6020B	681408
180-198559-4	CCR-AP-5-111225	Total Recoverable	Water	EPA 6020B	681408
180-198559-5	CCR-AP-5I-111225	Total Recoverable	Water	EPA 6020B	681408
180-198559-6	CCR-AP-8I-111225	Total Recoverable	Water	EPA 6020B	681408

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QC Association Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Metals (Continued)

Analysis Batch: 681609 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-7	CCR-AP-11-111225	Total Recoverable	Water	EPA 6020B	681408
180-198559-8	CCR-AP-12I-111425	Total Recoverable	Water	EPA 6020B	681408
180-198559-9	FB-1-111325	Total Recoverable	Water	EPA 6020B	681408
180-198559-10	DUP-1-111425	Total Recoverable	Water	EPA 6020B	681408
MB 240-681408/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	681408
LCS 240-681408/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	681408
180-198559-6 MS	CCR-AP-8I-111225	Total Recoverable	Water	EPA 6020B	681408
180-198559-6 MSD	CCR-AP-8I-111225	Total Recoverable	Water	EPA 6020B	681408

Prep Batch: 734116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total Recoverable	Water	3005A	
180-198559-2	CCR-AP-2-111225	Total Recoverable	Water	3005A	
MB 410-734116/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-734116/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 734251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-3	CCR-AP-4-111325	Total Recoverable	Water	3005A	
180-198559-4	CCR-AP-5-111225	Total Recoverable	Water	3005A	
180-198559-5	CCR-AP-5I-111225	Total Recoverable	Water	3005A	
180-198559-6	CCR-AP-8I-111225	Total Recoverable	Water	3005A	
180-198559-7	CCR-AP-11-111225	Total Recoverable	Water	3005A	
180-198559-8	CCR-AP-12I-111425	Total Recoverable	Water	3005A	
180-198559-9	FB-1-111325	Total Recoverable	Water	3005A	
180-198559-10	DUP-1-111425	Total Recoverable	Water	3005A	
MB 410-734251/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-734251/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-198559-6 MS	CCR-AP-8I-111225	Total Recoverable	Water	3005A	
180-198559-6 MSD	CCR-AP-8I-111225	Total Recoverable	Water	3005A	

Analysis Batch: 735018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total Recoverable	Water	EPA 6010D	734116
180-198559-2	CCR-AP-2-111225	Total Recoverable	Water	EPA 6010D	734116
MB 410-734116/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	734116
LCS 410-734116/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	734116

Analysis Batch: 735026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-3	CCR-AP-4-111325	Total Recoverable	Water	EPA 6010D	734251
180-198559-4	CCR-AP-5-111225	Total Recoverable	Water	EPA 6010D	734251
180-198559-6	CCR-AP-8I-111225	Total Recoverable	Water	EPA 6010D	734251
180-198559-7	CCR-AP-11-111225	Total Recoverable	Water	EPA 6010D	734251
180-198559-9	FB-1-111325	Total Recoverable	Water	EPA 6010D	734251
180-198559-10	DUP-1-111425	Total Recoverable	Water	EPA 6010D	734251
MB 410-734251/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	734251
LCS 410-734251/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	734251
180-198559-6 MS	CCR-AP-8I-111225	Total Recoverable	Water	EPA 6010D	734251
180-198559-6 MSD	CCR-AP-8I-111225	Total Recoverable	Water	EPA 6010D	734251

Eurofins Pittsburgh

QC Association Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Metals

Analysis Batch: 735735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-5	CCR-AP-5I-111225	Total Recoverable	Water	EPA 6010D	734251
180-198559-8	CCR-AP-12I-111425	Total Recoverable	Water	EPA 6010D	734251

Prep Batch: 735831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	7470A	
180-198559-2	CCR-AP-2-111225	Total/NA	Water	7470A	
180-198559-3	CCR-AP-4-111325	Total/NA	Water	7470A	
180-198559-4	CCR-AP-5-111225	Total/NA	Water	7470A	
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	7470A	
180-198559-6	CCR-AP-8I-111225	Total/NA	Water	7470A	
180-198559-7	CCR-AP-11-111225	Total/NA	Water	7470A	
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	7470A	
180-198559-9	FB-1-111325	Total/NA	Water	7470A	
180-198559-10	DUP-1-111425	Total/NA	Water	7470A	
MB 410-735831/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-735831/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-198559-6 MS	CCR-AP-8I-111225	Total/NA	Water	7470A	
180-198559-6 MSD	CCR-AP-8I-111225	Total/NA	Water	7470A	

Analysis Batch: 737343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	EPA 7470A	735831
180-198559-2	CCR-AP-2-111225	Total/NA	Water	EPA 7470A	735831
180-198559-3	CCR-AP-4-111325	Total/NA	Water	EPA 7470A	735831
180-198559-4	CCR-AP-5-111225	Total/NA	Water	EPA 7470A	735831
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	EPA 7470A	735831
180-198559-6	CCR-AP-8I-111225	Total/NA	Water	EPA 7470A	735831
180-198559-7	CCR-AP-11-111225	Total/NA	Water	EPA 7470A	735831
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	EPA 7470A	735831
180-198559-9	FB-1-111325	Total/NA	Water	EPA 7470A	735831
180-198559-10	DUP-1-111425	Total/NA	Water	EPA 7470A	735831
MB 410-735831/1-A	Method Blank	Total/NA	Water	EPA 7470A	735831
LCS 410-735831/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	735831
180-198559-6 MS	CCR-AP-8I-111225	Total/NA	Water	EPA 7470A	735831
180-198559-6 MSD	CCR-AP-8I-111225	Total/NA	Water	EPA 7470A	735831

General Chemistry

Analysis Batch: 506586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	SM 2540C	
180-198559-2	CCR-AP-2-111225	Total/NA	Water	SM 2540C	
180-198559-3	CCR-AP-4-111325	Total/NA	Water	SM 2540C	
180-198559-4	CCR-AP-5-111225	Total/NA	Water	SM 2540C	
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	SM 2540C	
180-198559-6	CCR-AP-8I-111225	Total/NA	Water	SM 2540C	
180-198559-7	CCR-AP-11-111225	Total/NA	Water	SM 2540C	
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	SM 2540C	
180-198559-9	FB-1-111325	Total/NA	Water	SM 2540C	
180-198559-10	DUP-1-111425	Total/NA	Water	SM 2540C	

Eurofins Pittsburgh

QC Association Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

General Chemistry (Continued)

Analysis Batch: 506586 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-506586/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-506586/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 506685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	EPA 9040C	
180-198559-2	CCR-AP-2-111225	Total/NA	Water	EPA 9040C	
180-198559-3	CCR-AP-4-111325	Total/NA	Water	EPA 9040C	
180-198559-4	CCR-AP-5-111225	Total/NA	Water	EPA 9040C	
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	EPA 9040C	
180-198559-6	CCR-AP-8I-111225	Total/NA	Water	EPA 9040C	
180-198559-7	CCR-AP-11-111225	Total/NA	Water	EPA 9040C	
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	EPA 9040C	
180-198559-9	FB-1-111325	Total/NA	Water	EPA 9040C	
180-198559-10	DUP-1-111425	Total/NA	Water	EPA 9040C	
LCS 180-506685/1	Lab Control Sample	Total/NA	Water	EPA 9040C	
LCS 180-506685/24	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-198559-3 DU	CCR-AP-4-111325	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 746734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	PrecSep-21	
180-198559-2	CCR-AP-2-111225	Total/NA	Water	PrecSep-21	
180-198559-3	CCR-AP-4-111325	Total/NA	Water	PrecSep-21	
180-198559-4	CCR-AP-5-111225	Total/NA	Water	PrecSep-21	
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	PrecSep-21	
180-198559-6	CCR-AP-8I-111225	Total/NA	Water	PrecSep-21	
180-198559-7	CCR-AP-11-111225	Total/NA	Water	PrecSep-21	
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	PrecSep-21	
180-198559-9	FB-1-111325	Total/NA	Water	PrecSep-21	
180-198559-10	DUP-1-111425	Total/NA	Water	PrecSep-21	
MB 160-746734/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-746734/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-198559-6 DU	CCR-AP-8I-111225	Total/NA	Water	PrecSep-21	

Prep Batch: 746735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-1	CCR-AP-1R-111225	Total/NA	Water	PrecSep_0	
180-198559-2	CCR-AP-2-111225	Total/NA	Water	PrecSep_0	
180-198559-3	CCR-AP-4-111325	Total/NA	Water	PrecSep_0	
180-198559-4	CCR-AP-5-111225	Total/NA	Water	PrecSep_0	
180-198559-5	CCR-AP-5I-111225	Total/NA	Water	PrecSep_0	
180-198559-6	CCR-AP-8I-111225	Total/NA	Water	PrecSep_0	
180-198559-7	CCR-AP-11-111225	Total/NA	Water	PrecSep_0	
180-198559-8	CCR-AP-12I-111425	Total/NA	Water	PrecSep_0	
180-198559-9	FB-1-111325	Total/NA	Water	PrecSep_0	
180-198559-10	DUP-1-111425	Total/NA	Water	PrecSep_0	
MB 160-746735/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-746735/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Eurofins Pittsburgh

QC Association Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198559-1
SDG: FB Culley East

Rad (Continued)

Prep Batch: 746735 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198559-6 DU	CCR-AP-8I-111225	Total/NA	Water	PrecSep_0	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Eurofins Pittsburgh

301 Alpha Drive RIDC Park
Pittsburgh, PA 15238

Phone 412-963-7058 Fax 412-963-2468

Chain of Custody Record



Environment Testing

Client Information		Sampler: <u>Rae Ann Elmer</u>		Lab PM: <u>Johnson, Andy</u>		Carrier Tracking No(s):		COC No: <u>180-118800-14505 1</u>	
Client Contact: <u>Britton Hundley</u>		Phone: <u>614-353-8403</u>		E-Mail: <u>Andy.Johnson@et.eurofins.com</u>		State of Origin:		Page: <u>Page 1 of 4</u>	
Company: <u>Haley & Aldrich Inc</u>		PWSID:		Analysis Requested:		Job #:		Preservation Codes: N - None D - HNO3	
Address: <u>400 Augusta Street Suite 100</u>		Due Date Requested:		Field Filtered Sample (Yes or No)		6010D - Boron by 6010D		Total Number of containers	
City: <u>Greenville</u>		TAT Requested (days): <u>STD</u>		Sample Date		7470A - Hg by 7470A		Special Instructions/Note:	
State, Zip: <u>SC, 29601</u>		Compliance Project: ☐ Yes ☒ No		Sample Time		6020B - Metals by 6020B		Other:	
Phone: <u></u>		PO #: <u>0129420-032-001-01</u>		Sample Type (C=comp, G=grab)		9315_Ra226, 9320_Ra228		Preservation Codes: N - None D - HNO3	
Email: <u>BHundley@haleyaldrich.com</u>		WO #: <u></u>		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air, DW=Drinking water)		2540C - Calcd - TDS by 2540C			
Project Name: <u>CCR GW Monitoring FB Culley East</u>		See Chain		Preservation Code		9040C, 9056A_ORGFM, 28D			
Project #: <u>18016014</u>		Sample Date		Sample Time		Perform MS/MSD (Yes or No)			
Site: <u></u>		Sample Date		Sample Time		Field Filtered Sample (Yes or No)			
Sample Identification		Sample Date		Sample Time		Field Filtered Sample (Yes or No)			
<u>CCR-AP-1R-11225</u>		<u>11/12/25</u>		<u>1410</u>		<u>N</u>		<u>MS/MSD</u>	
<u>CCR-AP-2-11225</u>		<u>11/12/25</u>		<u>1205</u>		<u>N</u>		<u>Field Blank</u>	
<u>CCR-AP-4-11325</u>		<u>11/13/25</u>		<u>1230</u>		<u>N</u>		<u>Field Dup</u>	
<u>CCR-AP-5-11225</u>		<u>11/12/25</u>		<u>1715</u>		<u>N</u>			
<u>CCR-AP-55-11225</u>		<u>11/12/25</u>		<u>1710</u>		<u>N</u>			
<u>CCR-AP-85-11225</u>		<u>11/12/25</u>		<u>1305</u>		<u>N</u>			
<u>CCR-AP-11-11225</u>		<u>11/12/25</u>		<u>1550</u>		<u>N</u>			
<u>CCR-AP-17J-11425</u>		<u>11/14/25</u>		<u>8:45</u>		<u>N</u>			
<u>FB-1-11225</u>		<u>11/13/25</u>		<u>1245</u>		<u>N</u>			
<u>DUP-1-11425</u>		<u>11/14/25</u>		<u>9:00</u>		<u>N</u>			
Possible Hazard Identification		Sample Date		Sample Time		Field Filtered Sample (Yes or No)			
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Sample Date		Sample Time		Field Filtered Sample (Yes or No)			
Deliverable Requested I, II, III, IV, Other (specify)		Sample Date		Sample Time		Field Filtered Sample (Yes or No)			
Empty Kit Relinquished by		Sample Date		Sample Time		Field Filtered Sample (Yes or No)			
Relinquished by: <u>Rae Ann Elmer</u>		Date: <u>11/14/25</u>		Time: <u>11:00</u>		Field Filtered Sample (Yes or No)			
Relinquished by:		Date/Time		Company		Field Filtered Sample (Yes or No)			
Relinquished by:		Date/Time		Company		Field Filtered Sample (Yes or No)			
Relinquished by:		Date/Time		Company		Field Filtered Sample (Yes or No)			
Custody Seals Intact ☐ Yes ☒ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks		Field Filtered Sample (Yes or No)			

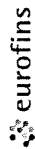
450 SAT 11/15 07 58
301 ALPHA DR
PRIORITY OVER
639-1071
TP 3
SP PD 100 Y

Eurofins Pittsburgh

301 Alpha Drive RIDC Park
Pittsburgh, PA 15238

Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record



Environment Testing

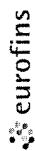
Client Information (Sub Contract Lab)		Sampler: N/A	Lab PVI: Johnson, Andy	Carrier Tracking No(s): N/A	CCC No: 180-549009-1					
Client Contact:		Phone: N/A	E-Mail: Andy.Johnson@et.eurofins.com	State of Origin: Indiana	Page: Page 1 of 2					
Shipping/Receiving		Company: TestAmerica Laboratories, Inc.	Accreditations Required (See note): N/A							
Address: 13715 Rider Trail North,		Preservation Codes: 180-198559-1								
City: Earth City		Analysis Requested								
State, Zip: MO, 63045		Due Date Requested: 11/27/2025								
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		TAT Requested (days): N/A								
Email: N/A		Matrix (W=water, S=solid, O=wastewater, A=air)								
Project Name: CCR Groundwater Monitoring FB Culley East		Sample Type (C=comp, G=grab)								
Site: N/A		Sample Date								
		Sample Time								
		Preservation Code								
Sample Identification - Client ID (Lab ID)		Field Filtered Sample (Yes or No)								
		Perform MS/MSD (Yes or No)								
		9315 Ra226/PrecSep_21Ra226-228 (GFC) by 9315								
		9320 Ra228/PrecSep_Radium-228 (GFC) by 9320								
		Ra226Ra228 GFC Combined Radium-226 and Radium-228								
		Total Number of containers								
CCR-AP-1R-111225 (180-198559-1)		11/12/25	14:10 Eastern	G	Water	X	X	X	1	
CCR-AP-2-111225 (180-198559-2)		11/12/25	12:05 Eastern	G	Water	X	X	X	1	
CCR-AP-4-111325 (180-198559-3)		11/13/25	12:30 Eastern	G	Water	X	X	X	1	
CCR-AP-5-111225 (180-198559-4)		11/12/25	17:15 Eastern	G	Water	X	X	X	2	
CCR-AP-5L-111225 (180-198559-5)		11/12/25	17:10 Eastern	G	Water	X	X	X	2	
CCR-AP-8L-111225 (180-198559-6)		11/12/25	13:05 Eastern	G	Water	X	X	X	2	
CCR-AP-8L-111225 (180-198559-6DU)		11/12/25	13:05 Eastern	G	Water	X	X	X	4	
CCR-AP-11-111225 (180-198559-7)		11/12/25	15:50 Eastern	G	Water	X	X	X	2	
CCR-AP-12L-111425 (180-198559-8)		11/14/25	08:45 Eastern	G	Water	X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Pittsburgh places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Pittsburgh laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Pittsburgh attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Pittsburgh.

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Primary Deliverable Rank: 2		Method of Shipment:	
Empty Kit Relinquished by:		Date:	
Relinquished by:		Received by: <i>Chyenne Forrest</i>	
Relinquished by:		Date/Time: 10:45 NOV 18 2025	
Relinquished by:		Company: Cheyenne Forrest	
Relinquished by:		Date/Time:	
Relinquished by:		Company:	
Custody Seals Intact: ☐ Yes ☐ No		Cooler Temperature(s) °C and Other Remarks:	

Ver: 10/10/2024

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: N/A	Lab PM: Johnson, Andy	Carrier Tracking No(s): N/A	COC No: 180-549009.2
Client Contact Shipping/Receiving		Phone: N/A	E-Mail: Andy.Johnson@et.eurofins.com	State of Origin: Indiana	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Job #: 180-198559-1			
Address: 13715 Rider Trail North,		Preservation Codes:			
City: Earth City	State Zip: MO, 63045	Analysis Requested			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A	Due Date Requested: 11/27/2025			
Email: N/A	WO #: N/A	TAT Requested (days): N/A			
Project Name: CCR Groundwater Monitoring FB Culley East	Project #: 18016014	Matrix (W=water, S=solid, O=other, A=air)			
Site: N/A	SSOW #: N/A	Sample Type (C=Comp, G=grab)			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Preservation Code	Field Filtered Sample (Yes or No)
FB-1-111325 (180-198559-9)	11/13/25	12:45 Eastern	G	Water	Perform MS/MSD (Yes or No)
DUP-1-111425 (180-198559-10)	11/14/25	09:00 Eastern	G	Water	9315_Ra226/PreSep_21Ra226-226 (GFP) by 9315 (21-day decay)
					9320_Ra228/PreSep_0Ra228-228 (GFP) by 9320
					Ra226Ra228_GFPCCCombined Radium-226 and Radium-228
					Total Number of containers
					Special Instructions/Note:
					Other: N/A

Note: Since laboratory accreditations are subject to change, Eurofins Pittsburgh places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Pittsburgh laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Pittsburgh attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Pittsburgh.

Possible Hazard Identification	
Unconfirmed	
Deliverable Requested: I, II, III, IV, Other (specify)	
Primary Deliverable Rank: 2	
Empty Kit Relinquished by:	
Relinquished by:	Date: 11/17/25 17:00
Relinquished by:	Date: 11/17/25 17:00
Relinquished by:	Date: 11/17/25 17:00
Relinquished by:	Date: 11/17/25 17:00
Custody Seals Intact:	Custody Seal No.:
Δ Yes Δ No	

Received by: *Chyenne Forrest* Date: 16 45 NOV 18 2025
Received by: *Chyenne Forrest* Date: 16 45 NOV 18 2025
Received by: *Chyenne Forrest* Date: 16 45 NOV 18 2025
Cooler Temperature(s) °C and Other Remarks:

Ver: 10/10/2024

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: N/A		Lab PM: Johnson, Andy		Carrier Tracking No(s): N/A		COC No: 180-549009.1	
Client Contact: Shipping/Receiving		Phone: N/A		E-Mail: Andy.Johnson@et.eurofinsus.com		State of Origin: Indiana		Page: Page 1 of 2	
Company: TestAmerica Laboratories, Inc.		N/A		Accreditations Required (See note): N/A		Job #: 180-198559-1		Preservation Codes:	
Address: 13715 Rider Trail North,		Due Date Requested: 11/27/2025		Analysis Requested		Total Number of containers		Special Instructions/Note:	
City: Earth City		TAT Requested (days): N/A		Field Filtered Sample (Yes or No)		9315 Ra226/PreSep_21Radium-226 (GFP) by 9315		Other: N/A	
State, Zip: MO, 63045		PO #: N/A		Sample Type (C=Comp, G=grab)		9320 Ra228/PreSep_0Radium-228 (GFP) by 9320			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		WO #: N/A		Sample Time		Ra226/PreSep_228 GFFC Combined Radium-226 and			
Email: N/A		Project #: 18016014		Sample Date		9315 Ra226/PreSep_21Radium-226 (GFP) by 9315			
CCR Groundwater Monitoring FB Culey East		SSOW#: N/A		Preservation Code:		9320 Ra228/PreSep_0Radium-228 (GFP) by 9320			
Site: N/A				Matrix (W=water, S=solid, O=soil, A=air)		9315 Ra226/PreSep_21Radium-226 (GFP) by 9315			
Sample Identification - Client ID (Lab ID)						9320 Ra228/PreSep_0Radium-228 (GFP) by 9320			
CCR-AP-1R-111225 (180-198559-1)		11/12/25		14:10 Eastern		X		1	
CCR-AP-2-111225 (180-198559-2)		11/12/25		12:05 Eastern		X		1	
CCR-AP-4-111325 (180-198559-3)		11/13/25		12:30 Eastern		X		1	
CCR-AP-5-111225 (180-198559-4)		11/12/25		17:15 Eastern		X		2	
CCR-AP-5I-111225 (180-198559-5)		11/12/25		17:10 Eastern		X		2	
CCR-AP-8I-111225 (180-198559-6)		11/12/25		13:05 Eastern		X		2	
CCR-AP-8I-111225 (180-198559-6DU)		11/12/25		13:05 Eastern		X		4	
CCR-AP-11-111225 (180-198559-7)		11/12/25		15:50 Eastern		X		2	
CCR-AP-12I-111425 (180-198559-8)		11/14/25		08:45 Eastern		X		2	
Note: Since laboratory accreditations are subject to change, Eurofins Pittsburgh places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Pittsburgh laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Pittsburgh attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Pittsburgh.									
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Primary Deliverable Rank: 2									
Special Instructions/QC Requirements:									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months									
Empty Kit Relinquished by:									
Relinquished by:									
Relinquished by:									
Relinquished by:									
Relinquished by:									
Custody Seal No.:									
Custody Seals Intact: ☐ Yes ☐ No									
Cooler Temperature(s) °C and Other Remarks:									

Phone: 412-963-7058 Fax: 412-963-2468

Login Sample Receipt Checklist

Client: Haley & Aldrich Inc

Job Number: 180-198559-1

SDG Number: FB Culley East

Login Number: 198559

List Number: 1

Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh



Login Sample Receipt Checklist

Client: Haley & Aldrich Inc

Job Number: 180-198559-1

SDG Number: FB Culley East

Login Number: 198559

List Number: 3

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 11/18/25 12:58 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

ANALYTICAL REPORT

PREPARED FOR

Attn: Britton Hundley
Haley & Aldrich Inc
400 Augusta Street
Suite 100

Greenville, South Carolina 29601

Generated 12/30/2025 6:12:00 PM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley East
FB Culley East

JOB NUMBER

180-198826-1

Eurofins Pittsburgh

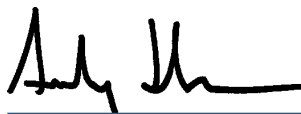
Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

PA Lab ID: 02-00416

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Pittsburgh Project Manager.

Authorization



Generated
12/30/2025 6:12:00 PM

Authorized for release by
Andy Johnson, Senior Project Manager
Andy.Johnson@et.eurofinsus.com
(615)818-9567

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Case Narrative

Client: Haley & Aldrich Inc
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1

Job ID: 180-198826-1

Eurofins Pittsburgh

Job Narrative 180-198826-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The sample was received on 11/21/2025 9:15 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C.

Gas Flow Proportional Counter

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Rad

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Case Narrative

Client: Haley & Aldrich Inc
Project: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1

Job ID: 180-198826-2

Eurofins Pittsburgh

Job Narrative 180-198826-2

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The sample was received on 11/21/2025 9:15 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pittsburgh

Definitions/Glossary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Laboratory: Eurofins Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00690	06-28-25 *
California	State	2891	04-30-26
Connecticut	State	PH-0820	09-30-26
Florida	NELAP	E871008	06-30-25 *
Georgia	State	PA 02-00416	04-30-26
Illinois	NELAP	200005	07-31-25 *
Kansas	NELAP	E-10350	01-31-26
Kentucky (UST)	State	162013	04-30-26
Kentucky (WW)	State	KY98043	12-31-25
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-25 *
Maine	State	PA00164	03-06-26
Minnesota	NELAP	042-999-482	12-31-25
New Hampshire	NELAP	2030	04-04-26
New Jersey	NELAP	PA005	06-30-25 *
New York	NELAP	11182	03-31-26
North Carolina (WW/SW)	State	434	12-31-25
North Dakota	State	R-227	04-30-24 *
Oregon	NELAP	PA-2151	02-06-26
Pennsylvania	NELAP	02-00416	04-30-26
Rhode Island	State	LAO00375	12-30-25
South Carolina	State	89014	04-30-25 *
Texas	NELAP	T104704528	03-31-26
US Fish & Wildlife	US Federal Programs	A21930	04-30-26
USDA	US Federal Programs	P330-16-00211	04-11-26
Utah	NELAP	PA001462024-14	03-31-24 *
Virginia	NELAP	460189	09-30-26
West Virginia DEP	State	142	01-31-26
Wisconsin	State	998027800	08-31-26

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0806	09-30-26
Georgia	State	4062	02-27-26
Illinois	NELAP	200004	08-31-26
Iowa	State	421	06-01-27
Kansas	NELAP	E-10336	01-31-26
Kentucky (UST)	State	112225	02-28-26
Kentucky (WW)	State	KY98016	12-31-25
Minnesota	NELAP	039-999-348	12-31-25
New Hampshire	NELAP	2250	09-30-26
New Jersey	NELAP	OH001	06-30-26
New York	NELAP	10975	04-01-26
North Dakota	State	R-244	02-27-26
Ohio	State	8303	02-27-26
Ohio VAP	State	ORELAP 4062	02-28-26
Oregon	NELAP	4062	02-27-26
Pennsylvania	NELAP	68-00340	08-31-26

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Laboratory: Eurofins Cleveland (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704517	08-31-26
US Fish & Wildlife	US Federal Programs	A26406	02-28-26
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-30-26
West Virginia DEP	State	210	12-31-25
Wisconsin	State	399167560	08-31-26

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-26
A2LA	Dept. of Energy	0001.01	11-30-26
A2LA	ISO/IEC 17025	0001.01	11-30-26
Alabama	State	43200	01-31-26
Alaska	State	PA00009	06-30-26
Alaska (UST)	State	17-027	12-30-26
Arizona	State	AZ0780	03-12-26
Arkansas DEQ	State	88-00660	08-09-26
California	State	2792	01-31-26
Colorado	State	PA00009	06-30-26
Connecticut	State	PH-0746	06-30-27
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-26
Delaware (DW)	State	N/A	01-31-26
Florida	NELAP	E87997	06-30-26
Georgia (DW)	State	C048	01-31-26
Illinois	NELAP	200027	01-31-26
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-26
Kentucky (DW)	State	KY90088	12-31-25
Kentucky (UST)	State	0001.01	11-30-26
Kentucky (WW)	State	KY90088	12-31-25
Louisiana (All)	NELAP	02055	06-30-26
Maine	State	2019012	03-12-27
Maryland	State	100	06-30-26
Massachusetts	State	M-PA009	06-30-26
Michigan	State	9930	01-31-26
Minnesota	NELAP	042-999-487	12-31-26
Mississippi	State	023	01-31-26
Missouri	State	450	01-31-28
Montana (DW)	State	0098	01-01-26
Nebraska	State	NE-OS-32-17	01-31-26
New Hampshire	NELAP	2730	01-10-26
New Jersey	NELAP	PA011	06-30-26
New York	NELAP	10670	04-01-26
North Carolina (DW)	State	42705	07-31-26
North Carolina (WW/SW)	State	521	12-31-25
North Dakota	State	R-205	01-31-24 *
Ohio	State	87787	01-31-26
Oklahoma	NELAP	9804	12-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	PA200001	09-11-26
Pennsylvania	NELAP	36-00037	01-31-26
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-29
Rhode Island	State	LAO00338	12-30-25
South Carolina	State	89002	01-31-26
Tennessee	State	02838	01-31-26
Texas	NELAP	T104704194-23-46	08-31-26
USDA	US Federal Programs	525-22-298-19481	01-23-26
Vermont	State	VT - 36037	10-28-26
Virginia	NELAP	460182	06-14-26
Washington	State	C457	04-11-26
West Virginia (DW)	State	9906 C	03-31-26
West Virginia DEP	State	055	07-31-26
Wyoming	State	8TMS-L	01-31-26
Wyoming (UST)	A2LA	0001.01	11-30-26

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-27
ANAB	Dept. of Defense ELAP	L2305	04-06-27
ANAB	Dept. of Energy	L2305.01	04-06-27
ANAB	ISO/IEC 17025	L2305	04-06-27
Arizona	State	AZ0813	12-08-26
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	07-01-26
Connecticut	State	PH-0241	03-31-27
Florida	NELAP	E87689	06-30-26
HI - RadChem Recognition	State	n/a	06-30-26
Illinois	NELAP	200023	11-30-26
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-26
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (VW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana (All)	NELAP	106151	06-30-26
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	10-01-26
Massachusetts	State	M-MO054	06-30-26
MI - RadChem Recognition	State	9005	06-30-26
Missouri	State	780	06-30-28
Nevada	State	MO00054	07-31-26
New Jersey	NELAP	MO002	06-30-26
New Mexico	State	MO00054	06-30-26
New York	NELAP	11616	03-31-26
North Carolina (DW)	State	29700	06-30-26
North Dakota	State	R-207	06-30-26
Oklahoma	NELAP	9997	12-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4157	09-01-26
Pennsylvania	NELAP	68-00540	02-28-26
South Carolina	State	85002	06-30-26
Texas	NELAP	T104704193	07-31-26
US Fish & Wildlife	US Federal Programs	058448	07-31-26
USDA	US Federal Programs	525-23-138-94730	05-18-26
Utah	NELAP	MO00054	07-31-26
Virginia	NELAP	460230	06-14-26
Washington	State	C592	08-31-26
West Virginia DEP	State	381	10-31-26

Sample Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
180-198826-1	CCR-AP-6I-111925	Water	11/19/25 16:05	11/21/25 09:15	Indiana

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Method Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	EET SL
9320	Radium-228 (GFPC)	SW846	EET SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Client Sample ID: CCR-AP-6I-111925

Lab Sample ID: 180-198826-1

Date Collected: 11/19/25 16:05

Matrix: Water

Date Received: 11/21/25 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	506896	11/25/25 01:32	ERP	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	738369	12/08/25 06:56	UJL8	ELLE
Total Recoverable	Analysis	EPA 6010D		1			741005	12/08/25 19:09	T8CQ	ELLE
		Instrument ID: T74 - 23745								
Total Recoverable	Prep	3005A			50 mL	50 mL	682459	12/01/25 14:00	F3PF	EET CLE
Total Recoverable	Analysis	EPA 6020B		1			682708	12/02/25 21:29	S4FJ	EET CLE
		Instrument ID: I16								
Total/NA	Prep	7470A			20 mL	20 mL	739098	12/05/25 07:30	UJL8	ELLE
Total/NA	Analysis	EPA 7470A		1			740044	12/05/25 20:09	IJ3I	ELLE
		Instrument ID: M10 – 31820								
Total/NA	Analysis	EPA 9040C		1			506905	11/24/25 13:25	BAB	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	506919	11/24/25 14:10	A1K	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1000.16 mL	1.0 g	747221	12/01/25 08:49	AMS	EET SL
Total/NA	Analysis	9315		1			751243	12/28/25 15:40	SWS	EET SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			1000.16 mL	1.0 g	747222	12/01/25 08:53	AMS	EET SL
Total/NA	Analysis	9320		1			751243	12/28/25 13:17	SWS	EET SL
		Instrument ID: GFPCRED								
Total/NA	Analysis	Ra226_Ra228		1			751557	12/29/25 14:17	FLC	EET SL
		Instrument ID: NOEQUIP								

Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Analyst References:

- Lab: EET CLE
 - Batch Type: Prep
 - F3PF = Brooke Lauer
 - Batch Type: Analysis
 - S4FJ = Katherine Wise
- Lab: EET PIT
 - Batch Type: Analysis
 - A1K = Agnes Komlos
 - BAB = Brooke Batyi
 - ERP = Evan Papak
- Lab: EET SL
 - Batch Type: Prep
 - AMS = Ashley Stone
 - Batch Type: Analysis
 - FLC = Fernando Cruz
 - SWS = Seth Stubblefield
- Lab: ELLE
 - Batch Type: Prep
 - UJL8 = James Mertz
 - Batch Type: Analysis
 - IJ3I = Elizabeth Brittingham
 - T8CQ = Sera Bargo

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Client Sample ID: CCR-AP-6I-111925

Lab Sample ID: 180-198826-1

Date Collected: 11/19/25 16:05

Matrix: Water

Date Received: 11/21/25 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25		1.0	0.71	mg/L			11/25/25 01:32	1
Fluoride	0.13		0.10	0.026	mg/L			11/25/25 01:32	1
Sulfate	81		1.0	0.76	mg/L			11/25/25 01:32	1

Method: SW846 EPA 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.25		0.050	0.012	mg/L		12/08/25 06:56	12/08/25 19:09	1

Method: SW846 EPA 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/01/25 14:00	12/02/25 21:29	1
Arsenic	0.0059		0.0050	0.00075	mg/L		12/01/25 14:00	12/02/25 21:29	1
Barium	0.10		0.0050	0.00077	mg/L		12/01/25 14:00	12/02/25 21:29	1
Beryllium	ND		0.0010	0.00027	mg/L		12/01/25 14:00	12/02/25 21:29	1
Cadmium	0.000087	J	0.0010	0.000077	mg/L		12/01/25 14:00	12/02/25 21:29	1
Calcium	52		1.0	0.25	mg/L		12/01/25 14:00	12/02/25 21:29	1
Chromium	ND		0.0050	0.0012	mg/L		12/01/25 14:00	12/02/25 21:29	1
Cobalt	0.00015	J	0.0010	0.000086	mg/L		12/01/25 14:00	12/02/25 21:29	1
Lead	ND		0.0010	0.00045	mg/L		12/01/25 14:00	12/02/25 21:29	1
Lithium	0.0064	J	0.0080	0.0034	mg/L		12/01/25 14:00	12/02/25 21:29	1
Molybdenum	0.023		0.0050	0.0011	mg/L		12/01/25 14:00	12/02/25 21:29	1
Selenium	ND		0.0050	0.00089	mg/L		12/01/25 14:00	12/02/25 21:29	1
Thallium	0.00097	J	0.0010	0.00051	mg/L		12/01/25 14:00	12/02/25 21:29	1

Method: SW846 EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/05/25 07:30	12/05/25 20:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	290		10	10	mg/L			11/24/25 14:10	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.3	HF	0.1	0.1	SU			11/24/25 13:25	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.306	U	0.270	0.272	1.00	0.412	pCi/L	12/01/25 08:49	12/28/25 15:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.0		30 - 110					12/01/25 08:49	12/28/25 15:40	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.701		0.426	0.431	1.00	0.624	pCi/L	12/01/25 08:53	12/28/25 13:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.0		30 - 110					12/01/25 08:53	12/28/25 13:17	1

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Client Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Client Sample ID: CCR-AP-6I-111925

Lab Sample ID: 180-198826-1

Date Collected: 11/19/25 16:05

Matrix: Water

Date Received: 11/21/25 09:15

Method: SW846 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	85.6		30 - 110	12/01/25 08:53	12/28/25 13:17	1

Method: TAL-STL Ra226_Ra228 - Combined Radium-226 and Radium-228										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.01		0.504	0.510	5.00	0.624	pCi/L		12/29/25 14:17	1

QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-506896/6
Matrix: Water
Analysis Batch: 506896

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			11/24/25 12:20	1
Fluoride	ND		0.10	0.026	mg/L			11/24/25 12:20	1
Sulfate	ND		1.0	0.76	mg/L			11/24/25 12:20	1

Lab Sample ID: LCS 180-506896/7
Matrix: Water
Analysis Batch: 506896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.6		mg/L		97	80 - 120
Fluoride	2.50	2.62		mg/L		105	80 - 120
Sulfate	50.0	50.1		mg/L		100	80 - 120

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 410-738369/1-A
Matrix: Water
Analysis Batch: 741005

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 738369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.012	mg/L		12/08/25 06:56	12/08/25 17:49	1

Lab Sample ID: LCS 410-738369/2-A
Matrix: Water
Analysis Batch: 741005

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 738369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.500	0.502		mg/L		100	83 - 119

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-682459/1-A
Matrix: Water
Analysis Batch: 682708

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 682459

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/01/25 14:00	12/02/25 21:23	1
Arsenic	ND		0.0050	0.00075	mg/L		12/01/25 14:00	12/02/25 21:23	1
Barium	ND		0.0050	0.00077	mg/L		12/01/25 14:00	12/02/25 21:23	1
Beryllium	ND		0.0010	0.00027	mg/L		12/01/25 14:00	12/02/25 21:23	1
Cadmium	ND		0.0010	0.000077	mg/L		12/01/25 14:00	12/02/25 21:23	1
Calcium	ND		1.0	0.25	mg/L		12/01/25 14:00	12/02/25 21:23	1
Chromium	ND		0.0050	0.0012	mg/L		12/01/25 14:00	12/02/25 21:23	1
Cobalt	ND		0.0010	0.000086	mg/L		12/01/25 14:00	12/02/25 21:23	1
Lead	ND		0.0010	0.00045	mg/L		12/01/25 14:00	12/02/25 21:23	1
Lithium	ND		0.0080	0.0034	mg/L		12/01/25 14:00	12/02/25 21:23	1
Molybdenum	ND		0.0050	0.0011	mg/L		12/01/25 14:00	12/02/25 21:23	1
Selenium	ND		0.0050	0.00089	mg/L		12/01/25 14:00	12/02/25 21:23	1
Thallium	ND		0.0010	0.00051	mg/L		12/01/25 14:00	12/02/25 21:23	1

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-682459/2-A
Matrix: Water
Analysis Batch: 682708

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 682459

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.194		mg/L		97	80 - 120
Arsenic	1.00	0.963		mg/L		96	80 - 120
Barium	1.00	0.931		mg/L		93	80 - 120
Beryllium	0.500	0.482		mg/L		96	80 - 120
Cadmium	0.500	0.456		mg/L		91	80 - 120
Calcium	25.0	23.7		mg/L		95	80 - 120
Chromium	0.500	0.475		mg/L		95	80 - 120
Cobalt	0.500	0.467		mg/L		93	80 - 120
Lead	0.500	0.475		mg/L		95	80 - 120
Lithium	0.500	0.502		mg/L		100	80 - 120
Molybdenum	0.500	0.460		mg/L		92	80 - 120
Selenium	1.00	0.926		mg/L		93	80 - 120
Thallium	1.00	1.01		mg/L		101	80 - 120

Lab Sample ID: 180-198826-1 MS
Matrix: Water
Analysis Batch: 682708

Client Sample ID: CCR-AP-6I-111925
Prep Type: Total Recoverable
Prep Batch: 682459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.103		mg/L		103	80 - 120
Arsenic	0.0059		1.00	0.986		mg/L		98	80 - 120
Barium	0.10		1.00	1.05		mg/L		95	80 - 120
Beryllium	ND		0.500	0.478		mg/L		96	80 - 120
Cadmium	0.000087	J	0.500	0.462		mg/L		92	80 - 120
Calcium	52		25.0	76.8		mg/L		99	80 - 120
Chromium	ND		0.500	0.483		mg/L		97	80 - 120
Cobalt	0.00015	J	0.500	0.467		mg/L		93	80 - 120
Lead	ND		0.500	0.490		mg/L		98	80 - 120
Lithium	0.0064	J	0.500	0.500		mg/L		99	80 - 120
Molybdenum	0.023		0.500	0.495		mg/L		94	80 - 120
Selenium	ND		1.00	0.941		mg/L		94	80 - 120
Thallium	0.00097	J	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: 180-198826-1 MSD
Matrix: Water
Analysis Batch: 682708

Client Sample ID: CCR-AP-6I-111925
Prep Type: Total Recoverable
Prep Batch: 682459

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	ND		0.100	0.102		mg/L		102	80 - 120	1	20
Arsenic	0.0059		1.00	0.998		mg/L		99	80 - 120	1	20
Barium	0.10		1.00	1.06		mg/L		96	80 - 120	1	20
Beryllium	ND		0.500	0.482		mg/L		96	80 - 120	1	20
Cadmium	0.000087	J	0.500	0.468		mg/L		94	80 - 120	1	20
Calcium	52		25.0	77.7		mg/L		103	80 - 120	1	20
Chromium	ND		0.500	0.489		mg/L		98	80 - 120	1	20
Cobalt	0.00015	J	0.500	0.477		mg/L		95	80 - 120	2	20
Lead	ND		0.500	0.491		mg/L		98	80 - 120	0	20
Lithium	0.0064	J	0.500	0.502		mg/L		99	80 - 120	0	20
Molybdenum	0.023		0.500	0.505		mg/L		96	80 - 120	2	20

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-198826-1 MSD

Matrix: Water

Analysis Batch: 682708

Client Sample ID: CCR-AP-6I-111925

Prep Type: Total Recoverable

Prep Batch: 682459

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	ND		1.00	0.935		mg/L		93	80 - 120	1	20
Thallium	0.00097	J	1.00	1.04		mg/L		104	80 - 120	1	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-739098/1-A

Matrix: Water

Analysis Batch: 740044

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 739098

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000087	mg/L		12/05/25 07:30	12/05/25 19:38	1

Lab Sample ID: LCS 410-739098/2-A

Matrix: Water

Analysis Batch: 740044

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 739098

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00100	0.000827		mg/L		83	80 - 120

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-506905/24

Matrix: Water

Analysis Batch: 506905

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-506919/1

Matrix: Water

Analysis Batch: 506919

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			11/24/25 14:10	1

Lab Sample ID: LCS 180-506919/2

Matrix: Water

Analysis Batch: 506919

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	285	248		mg/L		87	85 - 115

QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-747221/1-A

Matrix: Water

Analysis Batch: 751243

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 747221

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1073	U	0.213	0.214	1.00	0.382	pCi/L	12/01/25 08:49	12/28/25 15:38	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		30 - 110					12/01/25 08:49	12/28/25 15:38	1

Lab Sample ID: LCS 160-747221/2-A

Matrix: Water

Analysis Batch: 751243

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 747221

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226		9.57	8.693		1.25	1.00	0.488	pCi/L	91	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	80.4		30 - 110							

Lab Sample ID: 180-198826-1 DU

Matrix: Water

Analysis Batch: 751243

Client Sample ID: CCR-AP-6I-111925

Prep Type: Total/NA

Prep Batch: 747221

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.306	U	0.3004	U	0.270	1.00	0.412	pCi/L	0.01	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	79.3		30 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-747222/1-A

Matrix: Water

Analysis Batch: 751243

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 747222

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3165	U	0.372	0.373	1.00	0.613	pCi/L	12/01/25 08:53	12/28/25 13:16	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		30 - 110					12/01/25 08:53	12/28/25 13:16	1
Y Carrier	83.7		30 - 110					12/01/25 08:53	12/28/25 13:16	1

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QC Sample Results

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-747222/2-A
Matrix: Water
Analysis Batch: 751243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 747222

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	7.82	8.839		1.27	1.00	0.593	pCi/L	113	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.4		30 - 110
Y Carrier	83.7		30 - 110

Lab Sample ID: 180-198826-1 DU
Matrix: Water
Analysis Batch: 751243

Client Sample ID: CCR-AP-6I-111925
Prep Type: Total/NA
Prep Batch: 747222

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.701		0.9231		0.485	1.00	0.680	pCi/L	0.24	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	79.3		30 - 110
Y Carrier	83.4		30 - 110

QC Association Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

HPLC/IC

Analysis Batch: 506896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total/NA	Water	EPA 9056A	
MB 180-506896/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-506896/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 682459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total Recoverable	Water	3005A	
MB 240-682459/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-682459/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-198826-1 MS	CCR-AP-6I-111925	Total Recoverable	Water	3005A	
180-198826-1 MSD	CCR-AP-6I-111925	Total Recoverable	Water	3005A	

Analysis Batch: 682708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total Recoverable	Water	EPA 6020B	682459
MB 240-682459/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	682459
LCS 240-682459/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	682459
180-198826-1 MS	CCR-AP-6I-111925	Total Recoverable	Water	EPA 6020B	682459
180-198826-1 MSD	CCR-AP-6I-111925	Total Recoverable	Water	EPA 6020B	682459

Prep Batch: 738369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total Recoverable	Water	3005A	
MB 410-738369/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-738369/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 739098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total/NA	Water	7470A	
MB 410-739098/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-739098/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 740044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total/NA	Water	EPA 7470A	739098
MB 410-739098/1-A	Method Blank	Total/NA	Water	EPA 7470A	739098
LCS 410-739098/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	739098

Analysis Batch: 741005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total Recoverable	Water	EPA 6010D	738369
MB 410-738369/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	738369
LCS 410-738369/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	738369

General Chemistry

Analysis Batch: 506905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total/NA	Water	EPA 9040C	
LCS 180-506905/24	Lab Control Sample	Total/NA	Water	EPA 9040C	

Eurofins Pittsburgh

QC Association Summary

Client: Haley & Aldrich Inc
Project/Site: CCR Groundwater Monitoring FB Culley East

Job ID: 180-198826-1
SDG: FB Culley East

General Chemistry

Analysis Batch: 506919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total/NA	Water	SM 2540C	
MB 180-506919/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-506919/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Rad

Prep Batch: 747221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total/NA	Water	PrecSep-21	
MB 160-747221/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-747221/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-198826-1 DU	CCR-AP-6I-111925	Total/NA	Water	PrecSep-21	

Prep Batch: 747222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-198826-1	CCR-AP-6I-111925	Total/NA	Water	PrecSep_0	
MB 160-747222/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-747222/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-198826-1 DU	CCR-AP-6I-111925	Total/NA	Water	PrecSep_0	

Environment Testing

[illegible]



ORIGIN ID:AGCA (864) 549-7656
LINDSEY GISH
CENTERPOINT ENERGY
F.B. CULLEY GENERATING STATION
3711 DARLINGTON ROAD.
NEWBURGH, IN 47630
UNITED STATES US

SHIP DATE: 04NOV25
ACTWGT: 38.00 LB MAN
CAD: 0522321/CAFE3953

Pat # 159470-434 MTW EXP 09/25 ***

2365/105/22095

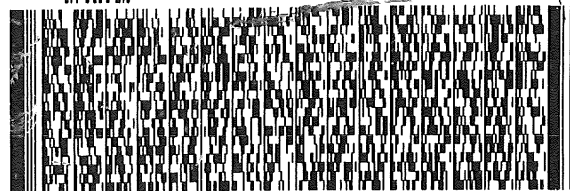
TO **SAMPLE RECEIVING DEPARTMENT**
EUROFINS ENVIRO. TESTING PITT N.E.
301 ALPHA DRIVE

PITTSBURGH PA 15238

(412) 963-7630

REF: RETURN

RMA:



FedEx
Express



AL1062405206527

FedEx

TRK#
0221

4642 5784 4615

FRI - 21 NOV 10:30A
PRIORITY OVERNIGHT

NP AGCA

15238
PA-US PIT



Uncorrected temp
Thermometer ID

3.3 °C
20

CF 0.7 Initials TS

PT-WI-SR-001 effective 11/8/18



#3778627 11/20 58HJ4/D239/59F2

15238-2001-01
PITTSBURGH, PA
4150 FRI 11/21 07:43
301 ALPHA DR
PRIORITY OVERNIGHT
198-1034FL
ETP 10 SP-PO 100 Y

Chain of Custody Record



Carrier Tracking No(s):										COC No:									
N/A										180-549502.1									
State of Origin:										Page:									
Indiana										Page 1 of 1									
Accreditations Required (See note):										Job #:									
N/A										180-198826-1									
Preservation Codes:																			
Analysis Requested										Total Number of containers									
Field Filtered Sample (Yes or No)										X									
Perform MS/MSD (Yes or No)										X									
9315_Ra226/PrecSep_21Radium-226 (GFC) by 9315										X									
9320_Ra228/PrecSep_0Radium-228 (GFC) by 9320										X									
Ra226Ra228_GFPCCcombined Radium-226 and Radium-228										X									
Sample Date										11/19/25									
Sample Time										16:05 Eastern									
Sample Type (C=comp, G=grab)										G									
Matrix (W=water, S=solid, O=soil, B=biomass, A=air)										Water									
Preservation Code																			
Sample Identification - Client ID (Lab ID)										CCR-AP-61-111925 (180-198826-1)									
Due Date Requested:										12/30/2025									
TAT Requested (days):										N/A									
City:										Earth City									
State, Zip:										MO, 63045									
Phone:										314-298-8566(Tel) 314-298-8757(Fax)									
Email:										N/A									
Project #:										18016014									
CCR Groundwater Monitoring FB Culley East																			
Site:										N/A									
SOW#:										N/A									
Other:										N/A									
Special Instructions/Note:																			
Note: Since laboratory accreditations are subject to change, Eurofins Pittsburgh places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Pittsburgh laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Pittsburgh attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Pittsburgh.																			
Possible Hazard Identification																			
Unconfirmed																			
Deliverable Requested: I, II, III, IV, Other (specify)										Primary Deliverable Rank: 2									
Empty Kit Relinquished by:										Date:									
Relinquished by:										Date/Time:									
Relinquished by:										Date/Time:									
Relinquished by:										Date/Time:									
Custody Seals Intact:										Custody Seal No.:									
A Yes A No																			
Cooler Temperature(s) °C and Other Remarks:																			

Login Sample Receipt Checklist

Client: Haley & Aldrich Inc

Job Number: 180-198826-1

SDG Number: FB Culley East

Login Number: 198826

List Number: 1

Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

Login Sample Receipt Checklist

Client: Haley & Aldrich Inc

Job Number: 180-198826-1

SDG Number: FB Culley East

Login Number: 198826

List Number: 4

Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis

List Creation: 11/26/25 01:39 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Pittsburgh

APPENDIX D

Abandonment Logs

**RECORD OF WATER WELL**

State Form 35680 (R5 / 9-04)

Driller--Mail complete record in 30 days to:
INDIANA DEPT. OF NATURAL RESOURCES
Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969027.17	
			UTM Easting 2883701.02	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 5/1/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☐ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: SONIC	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____	Pump depth setting (feet)	FORMATIONS: Type of material	From (feet)	To (feet)
				CCR-OW-1		
Abandon well by over-drilling to remove well						
materials, pressure tremie bentonite slurry from						
bottom of borehole to surface.						
Removed surface pad and cover, capped with						
bentonite chips at surface.						
Concrete surface plug not installed due to plan						
to excavate area as part of ash pond closure.						

WELL CAPACITY TEST

Test method ☐ Air ☐ Bailing ☐ Pumping	Static level below surface feet	Gallons per min.	Hours tested	Drawdown (change in level) feet

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used 0 to 50 ft

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

**RECORD OF WATER WELL**

State Form 35680 (R5 / 9-04)

Driller--Mail complete record in 30 days to:
INDIANA DEPT. OF NATURAL RESOURCES
Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969027.17	
			UTM Easting 2883704.95	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 5/1/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☐ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: SONIC	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____	Pump depth setting (feet)	FORMATIONS: Type of material	From (feet)	To (feet)
				CCR-OW-11		
Total depth of well (feet) 70.0				Abandon well by over-drilling to remove well materials, pressure tremie bentonite slurry from bottom of borehole to surface.		
Casing length (feet) 60.0						
Screen length (feet) 10.0						
Screen slot size 0.01						
Water quality (clear, odor, etc.)						
Total depth of well (feet) 70.0				Removed surface pad and cover, capped with bentonite chips at surface.		
Casing length (feet) 60.0				Concrete surface plug not installed due to plan to excavate area as part of ash pond closure.		
Screen length (feet) 10.0						
Screen slot size 0.01						
Water quality (clear, odor, etc.)						

WELL CAPACITY TEST

Test method ☐ Air ☐ Bailing ☐ Pumping	Static level below surface feet	Gallons per min.	Hours tested	Drawdown (change in level) feet

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to 0 to 70 ft
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

**RECORD OF WATER WELL**

State Form 35680 (R5 / 9-04)

Driller--Mail complete record in 30 days to:
INDIANA DEPT. OF NATURAL RESOURCES
Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969041.30	
			UTM Easting 2883773.63	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 5/3/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☐ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: SONIC	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____ Pump depth setting (feet)	FORMATIONS: Type of material	From (feet)	To (feet)
			CCR-OW-2		
Total depth of well (feet) 44.0			Abandon well in place by pressure tremie of		
Borehole diameter (in.) 8			bentonite slurry from bottom of well to surface.		
Casing length (feet) 34.0			Concrete surface plug not installed due to plan		
Casing diameter (in.) 2			to excavate area as part of ash pond closure.		
Screen length (feet) 10.0					
Screen diameter (in.) 2					
Screen slot size 0.01					
Water quality (clear, odor, etc.)					

WELL CAPACITY TEST

Test method ☐ Air ☐ Bailing ☐ Pumping	Static level below surface feet	Gallons per min.	Hours tested	Drawdown (change in level) feet

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to 0 to 45 ft
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

**RECORD OF WATER WELL**

State Form 35680 (R5 / 9-04)

Driller--Mail complete record in 30 days to:
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Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969042.58	
			UTM Easting 2883777.40	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 5/3/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☐ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: SONIC	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____	FORMATIONS: Type of material	From (feet)	To (feet)
			CCR-OW-21		
Total depth of well (feet) 66.0			Abandon well in place by pressure tremie of		
Borehole diameter (in.) 8			bentonite slurry from bottom of well to surface.		
Casing length (feet) 56.0			Concrete surface pug not installed due to plan		
Casing diameter (in.) 2			to excavate area as part of ash pond closure.		
Screen length (feet) 10.0					
Screen diameter (in.) 2					
Screen slot size 0.01					
Water quality (clear, odor, etc.)					

WELL CAPACITY TEST

Test method ☐ Air ☐ Bailing ☐ Pumping	Static level below surface feet	Gallons per min.	Hours tested	Drawdown (change in level) feet

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to 0 to 70 ft
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

**RECORD OF WATER WELL**

State Form 35680 (R5 / 9-04)

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Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969047.93	
			UTM Easting 2883807.86	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 5/3/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☐ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: SONIC	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____	FORMATIONS: Type of material	From (feet)	To (feet)
			CCR-OW-3		
Total depth of well (feet) 45.0			Abandon well by over-drilling to remove well		
Borehole diameter (in.) 8			materials, pressure tremie bentonite slurry from		
Casing length (feet) 35.0			bottom of borehole to surface.		
Casing diameter (in.) 2			Removed surface pad and cover, capped with		
Screen length (feet) 10.0			bentonite chips at surface.		
Screen diameter (in.) 2			Concrete surface plug not installed due to plan		
Screen slot size 0.01			to excavate area as part of ash pond closure.		
Water quality (clear, odor, etc.)					

WELL CAPACITY TEST

Test method ☐ Air ☐ Bailing ☐ Pumping	Static level below surface feet	Gallons per min.	Hours tested	Drawdown (change in level) feet

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to 0 to 45 ft
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

**RECORD OF WATER WELL**

State Form 35680 (R5 / 9-04)

Driller--Mail complete record in 30 days to:
INDIANA DEPT. OF NATURAL RESOURCES
Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969048.75	
			UTM Easting 2883811.66	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 5/3/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☐ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: SONIC	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____	FORMATIONS: Type of material	From (feet)	To (feet)
			CCR-OW-31		
Total depth of well (feet) 68.0			Borehole diameter (in.) 8		
Casing length (feet) 58.0			Casing diameter (in.) 2		
Screen length (feet) 10.0			Screen diameter (in.) 2		
Screen slot size 0.01			Water quality (clear, odor, etc.)		
Gravel pack inserted ☒ Yes ☐ No			Casing material ☒ PVC ☐ Steel		
Casing material ☒ PVC ☐ Steel			Screen material ☒ PVC ☐ Steel		
Pump depth setting (feet)			to excavate area as part of ash pond closure.		

WELL CAPACITY TEST

Test method ☐ Air ☐ Bailing ☐ Pumping	Static level below surface feet	Gallons per min.	Hours tested	Drawdown (change in level) feet

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to 0 to 70 ft
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

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Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969110.80	
			UTM Easting 2883799.69	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 5/2/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☐ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: SONIC	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____	FORMATIONS: Type of material	From (feet)	To (feet)
			CCR-OW-51		
Total depth of well (feet) 63.0			Abandon well by over-drilling to remove well		
Casing length (feet) 58.0			materials, pressure tremie bentonite slurry from		
Screen length (feet) 10.0			bottom of borehole to surface.		
Screen slot size 0.01			Removed surface pad and cover, capped with		
Water quality (clear, odor, etc.)			bentonite chips at surface.		
WELL CAPACITY TEST			Concrete surface plug not installed due to plan		
Test method ☐ Air ☐ Bailing ☐ Pumping			to excavate area as part of ash pond closure.		
Static level below surface					
Gallons per min.					
Hours tested					
Drawdown (change in level)					

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to 0 to 65 ft
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

**RECORD OF WATER WELL**

State Form 35680 (R5 / 9-04)

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INDIANA DEPT. OF NATURAL RESOURCES
Division of Water
402 W. Washington St., Rm. W264
Indianapolis, IN 46204-2641
(877) 928-3755 toll-free or (317) 232-4160

County Permit
Number
DNR Variance
Number

Include if applicable

Fill in completely

WELL LOCATION

County where drilled WARRICK	Civil township name ANDERSON	Township number (N-S) 7S	Range number (E-W) 8W	Section 17
Driving directions to the well location (include trip origin, street & road names, intersecting roads, and compass directions). Show well address below and subdivision in box at lower right. There is space for a map on the reverse side.			UTM Northing 969046.55	
			UTM Easting 2883797.21	
			Datum ☐ NAD 27 ☒ NAD 83	
			GPS used	
Well address:			Subdivision name & lot number (if applicable)	

If drilled for water supply, this well is: ☐ First well on property ☐ Replacement well ☐ Additional well on property ☐ Dry hole**OWNER - CONTRACTOR**

Well owner--name SOUTHERN INDIANA GAS AND ELECTRIC CO.		Telephone number (812)464-4793
Address (number and street, city, state, ZIP code) P.O. BOX 209, EVANSVILLE, IN 47702		
Building contractor--name HALEY & ALDRICH, INC.	Address (number and street, city, state, ZIP code) 400 AUGUSTA STREET, SUITE 100, GREENVILLE, SC. 29601	Telephone number (864)214-8780
Drilling contractor--name CASCADE ENVIRONMENTAL DRILLING	Address (number and street, city, state, ZIP code) 6215 LEHMAN DRIVE, FLINT, MI. 48507	Telephone number (810)577-2665
Equipment operator--name Christopher Bond	License number of operator 4483 WD	Date of well completion 4/30/2025

CONSTRUCTION DETAILS**WELL LOG**

Use of well ☐ Home ☐ Public supply ☐ Industrial / commercial ☐ Livestock ☐ Irrigation ☒ Monitoring / environ. ☐ Test hole Other: _____	Drilling method ☐ Rotary ☐ Reverse rotary ☐ Cable tool ☐ Jet ☒ Bucket / bore ☐ Auger (including HSA) ☐ Direct push Other: _____	Type of pump ☐ Submersible ☐ Shallow-well jet ☐ Deep-well jet ☒ No pump installed Other: _____	Pump depth setting (feet)	FORMATIONS: Type of material	From (feet)	To (feet)
				CCR-PW-1		
Total depth of well (feet) 70.0				Abandon well by pressure tremie 5% bentonite		
Borehole diameter (in.) 32				grout mixture from 19 to 70 ft below ground		
Casing length (feet) 50.0				surface. Sealed with bentonite chips to surface.		
Casing diameter (in.) 16				Surface cover will be removed with excavation		
Screen length (feet) 20.0				as part of ash pond closure.		
Screen diameter (in.) 16						
Screen slot size 0.02						
Water quality (clear, odor, etc.)						

WELL CAPACITY TEST

Test method ☐ Air ☐ Bailing ☐ Pumping	Static level below surface feet	Gallons per min.	Hours tested	Drawdown (change in level) feet

GROUTING**WELL ABANDONMENT**

Grout material	Grout depth from to	Sealing material BENTONITE	Depth filled from to 0 to 70 ft
Installation method	No. of bags used	Installation method TREMIE & POUR	No. of bags used

Additional space for well log and comments on reverse side

I hereby swear or affirm, under the penalties for perjury, that the information submitted herewith is, to the best of my knowledge and belief, true, accurate, and complete.	Signature of drilling contractor or authorized representative 	MUST BE SIGNED OR STAMPED	Date 5/20/25

APPENDIX E

Well Installation Logs

TEST BORING REPORT

Boring No. CCR-AP-12I

Project PRE-DESIGN INVESTIGATION, FB CULLEY EAST ASH POND
Client SIGECO
Contractor CASCADE

File No. 0219420-039
Sheet No. 1 of 3
Start 9 August 2025
Finish 9 August 2025
Driller C. Bond (Cascade)
H&A Rep. B. Hundley (H&A)

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S	--	Rig Make & Model:
Inside Diameter (in.)		1 3/8	--	Bit Type:
Hammer Weight (lb)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing: Sonic
				Hoist/Hammer: / Automatic Hammer
				PID Make & Model:

Elevation
Datum

Location See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size [†] , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel		Sand		Field Test			
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness
0				GM		1.0	Gray Silty GRAVEL with sand (GM)	30	10	10	10	10	30		
				CH			-ROAD FILL- Medium dense yellow-brown Fat CLAY with gravel (CH), mps 5 cm, blocky, no odor, dry	10	5		5	10	70		
							-FILL-								
5				GM		6.0	Gray Silty GRAVEL with sand (GM)	30	20	10	15	10	15		
				CH			-ROUND FILL- Medium stiff yellow-brown Fat CLAY (CH), mps 2.5 cm, blocky, no odor, dry	5			10	5	80		
							-FILL- Becomes stiff at 9.0 ft								
10						10.0	No Recovery								
				CH		14.0	SAA but soft and slightly wet Wood inclusions from 15.0 to 16.0 ft	5			10	5	80		
15							-FILL-								
				CL		16.0	Soft red-gray Lean CLAY (CL), mps <0.5 mm, intermixed with occasional lenses of sandy lean clay, no odor, slightly wet					15	85		
20															

Water Level Data						Sample ID		Well Diagram		Summary	
Date	Time	Elapsed Time (hr.)	Depth (ft) to:			G - Geoprobe O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Split Spoon Sample				Overburden (ft) 66 Rock Cored (ft) Samples	Boring No. CCR-AP-12I
			Bottom of Casing	Bottom of Hole	Water						

Field Tests: Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High
Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

[†]Note: Maximum particle size is determined by direct observation within the limitations of sampler size.

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

TEST BORING REPORT

Boring No. CCR-AP-12I

File No. 0219420-039

Sheet No. 2 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size [†] , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel		Sand		Fines		Field Test			
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
20				CL			Becomes stiff at 21 ft, moist Wood inclusions from 20.5 to 22.0 ft Becomes soft at 22.7 ft, slightly wet Wood inclusions around 26.0 ft -HISTORICAL FILL-										
25																	
28.0																	
				CH		28.0	Abrupt change in material Stiff olive-brown Fat CLAY, mps 3 mm, layered with lighter tan clay, periodic inclusions, of organic material, no odor, moist			5		5	90				
30																	
35																	
40						40.0	No Recovery										
45				CH		44.0	Medium stiff red-brown Fat CLAY (CH), mps <0.5 mm, no odor, slightly wet Becomes soft and layered with gray						100				

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. CCR-AP-12I

TEST BORING REPORT

Boring No. CCR-AP-12I

File No. 0219420-039

Sheet No. 3 of 3

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	USCS Symbol	Well Diagram	Stratum Change Elev/Depth (ft)	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size [†] , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	Gravel		Sand			Field Test				
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
50																	
				ML		52.0	Transition zone from 52.0 to 53.0 ft Very soft red-gray Sandy SILT (ML), mps <0.5 mm, homogeneous, no odor, wet				10	40	50	H			
55				ML			Brown band at 56.0 ft, color darkens below Organic inclusions										
60				SP-SM		60.0	Loose gray-brown poorly-graded SAND with silt (SP-SM), no odor, very wet, layered with 3 in. clay lenses Loose red-gray poorly-graded SAND, mps 2 cm, no odor, wet Organic layer at 64.0 ft	5	5	5	45	40					
65						65.5	SHALE, dry										
						66.0	BOTTOM OF EXPLORATION 66.0 FT										

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. CCR-AP-12I

Datum

COMMENTS: